A COMMON MARITIME REGIME FOR THE SOUTH CHINA SEA

BY

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University of Cape Town

To my late parents

Chien Sun

Chu-Mei Sun-Chen

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Cape Town August 30 1994

A COMMON MARITIME REGIME FOR THE SOUTH CHINA SEA

Summary

The South China Sea is a semi-enclosed sea in two respects. In terms of the geographical reality, the region is readily separable from the waters surrounding it. Moreover, it falls under the 1982 Law of the Sea Convention, which requires littoral states to cooperate in the maritime sphere. At present, a number of problems beset the region.

At first sight, the dispute over the Spratlies is the most notorious issue which gives delimitation a prominent place. However, there are other matters that demand attention. The first is pollution. Since the Southeast Asian countries are fast industrializing, the problem of contamination of the marine environment is a particularly serious one for them. Under the 1982 Law of the Sea Convention, the sources of pollution are classified under five categories: ie vessels, offshore operations, dumping, land-based sources and air. The second is navigation. Since the region occupies a crossroad position between the Pacific and Indian Oceans, navigation has become an important issue in, *inter alia*, the Malacca Straits and the Philippine and Indonesian archipelagic waters. In this case, a balance is apparently needed to be struck between the interests of maritime powers and those of coastal states. The third is fisheries management. The region is populous and fish is an important source of protein. In view of the fact that the fish stocks in the area are depleting, a more comprehensive fisheries management system should be introduced. Moreover, because marine creatures seldom respect artificial maritime boundaries, regional cooperation is needed. The fourth is marine scientific research. This is essential to an understanding of the marine environment and in most cases it is for the benefit of the whole of mankind. Under the 200nm regime research can be disrupted to a certain extent. This

is particularly detrimental to the task of containing marine pollution. As a result, the states in the region should cooperate in solving the problem. The final problem concerns land-locked Laos. The most pressing issue for Laos is no doubt the right of access to the sea. It is submitted that this should be guaranteed by legal provisions. Moreover, Laos, being a member of the Southeast Asian family, should not be left out of any future regional arrangement on fisheries management and marine scientific research. Briefly, land-locked Laos should be fully incorporated into the future common maritime regime for the region.

In his conclusion, the author proposes that the Association of Southeast Asian Nations be expanded, in terms both of its membership and of its functions, to serve as the institutional infrastructure of the region as a whole. Moreover, states in the area should ratify all relevant international conventions and concentrate their efforts in filling the gaps left by the application of the contemporary legal order. It is the belief of this author that a common maritime regime for the South China Sea not only has a chance of materializing but will eventually become a reality in the not-too-distant future.

Kuan-Ming Sun
Cape Town August 30th 1994

LIST OF ABBREVIATIONS

Ac Jur	Acta Juridica
ACNNR	Agreement on the Conservation of Nature and Natural Resources
AJIL	American Journal of International Law
AMC	American Maritime Cases
ASA	Association of Southeast Asia
ASCOPE	ASEAN Council on Petroleum Exploration
ASEAMS	Association of Southeast Asian Scientists
ASEAN	Association of Southeast Asian Nations
ASEP	ASEAN Subregional Environment Programme
Asi Sur	Asian Survey
ASLP	archipelagic sea lanes passage
AYIL	Australian Yearbook of International Law
BAPMON	Background Air Pollution Monitoring Network
BFSP	British and Foreign State Papers
BYIL	British Yearbook of International Law
Calif WILJ	California Western International Law Journal
CAP	Common Agricultural Policy
CCOP	Committee for Coordination of Joint Prospecting for Mineral Resources in Asian Offshore Areas
CDEM	construction, design, equipment and manning
CFCs	chlorofluorocarbons
CFP	Common Fisheries Policy
CILSA	Comparative and International Law Journal of Southern Africa
CLC	Civil Liability Convention 1969
CLP	Current Legal Problems
CMI	Comite Maritime International
CML Rev	Common Market Law Review
COBSEA	Coordinating Body on the Seas of East Asia
Columbia JTL	Columbia Journal of Transnational Law
Cornell ILJ	Cornell International Law Journal
COST	ASEAN Committee on Science and Technology
CRISTAL	Contract Regarding an Interim Supplement to Tanker Liability for Oil Pollution
CSC	Convention on the Continental Shelf 1958
CYIL	Canadian Yearbook of International Law
CYILA	Chinese Yearbook of International Law and Affairs
DDT	dichloro-diphenyl-trichloro-ethane
DWFNs	distant-water fishing nations
DWR	Deep Water Route
ECAFE	Economic Commission for Asia and the Far East
ECE	UN Economic Commission for Europe
EEZ	Exclusive Economic Zone
Environ Conser	Environmental Conservation
Environ Pol & Law	Environmental Policy and Law

ESCAP	Economic and Social Commission for Asia and the Pacific
EU	European Union
F 2d	Federal Reporter, Second Series
FAO	Food and Agriculture Organization of the United Nations
FEER	Far Eastern Economic Review
FFA	South Pacific Forum Fisheries Agency
GATT	General Agreement on Tariffs and Trade
GEMS	Global Environmental Monitoring System
GEMSI	Group of Experts on Methods, Standards and Intercalibration
Geo Wash JILE	George Washington Journal of International Law and Economics
GIPME	Global Investigation of Pollution in the Marine Environment
GOFS	Global Ocean Flux Studies
Har ILJ	Harvard International Law Journal
Hastings ICLR	Hastings International and Comparative Law Review
HMS	Highly Migratory Species
HSC	Convention on the High Seas 1958
IAEA	International Atomic Energy Agency
ICAO	International Civil Aviation Organization
ICES	International Council for the Exploration of the Sea
ICJ	International Court of Justice
ICLQ	International and Comparative Law Quarterly
ICNAF	International Commission for the Northwest Atlantic Fisheries
IJECL	International Journal of Estuarine and Coastal Law
IJIL	Indian Journal of International Law
IJMCL	International Journal of Marine and Coastal Law
ILA	International Law Association
ILC	International Law Commission
ILM	International Legal Materials
ILO	International Labour Organization
ILR	International Law Reports
IMCO	Intergovernmental Maritime Consultative Organization
IMF	International Monetary Fund
IMO	International Maritime Organization
In Arb	International Arbitrations
INC	Intergovernmental Negotiating Committee
IOC	Intergovernmental Oceanographic Commission
IOPC Fund	International Oil Pollution Compensation Fund
IPCC	Intergovernmental Panel on Climate Change
IPIJ	International Property Investment Journal

IPSR	Indian Political Science Review
ITOPF	International Tanker Owners Pollution Federation
ITQs	individual transferable quotas
JBL	Journal of Business Law
JMLC	Journal of Maritime Law and Commerce
JWTL	Journal of World Trade Law
Km	kilometers
LDC	London Dumping Convention 1972 (It is now called the London Convention)
Ll L Rep	Lloyd's List Law Reports
Lloyd's MCL	Lloyd's Maritime and Commercial Law
Lloyd's Rep	Lloyd's Law Reports
LNG	Liquefied Natural Gas
LNTS	League of Nations Treaty Series
LOSC	Law of the Sea Convention 1982
LOT	load on top system
LRTAP	Convention on Long-Range Transboundary Air Pollution 1979
Maine LR	Maine Law Review
Maphilindo	Malaya, the Philippines and Indonesia
Marit Pol Mgmt	Maritime Policy and Management
MARPOL	International Convention for the Prevention of Pollution from Ships 1973
MEPC	Marine Environment Protection Committee
mm	millimetres
MP	Marine Policy
MSC	Maritime Safety Committee
MSR	marine scientific research
MSY	maximum sustainable yield
NAFO	Northwest Atlantic Fisheries Organization
NASA	National Aeronautics and Space Administration
Nat Res J	Natural Resources Journal
NICs	Newly Industrialized Countries
NILR	Netherlands International Law Review
nm	nautical miles
NYIL	Netherlands Yearbook of International Law
NYLSJICL	New York Law School Journal of International and Comparative Law
NY Times	New York Times
NYUJILP	New York University Journal of International Law and Politics
Ocean YB	Ocean Yearbook
ODC	Oslo Dumping Convention 1972
ODIL	Ocean Development and International Law
OECD	Organization for Economic Cooperation and Development
OILPOL	International Convention for the Prevention of Pollution of the Sea by Oil 1954
OPOL	Offshore Pollution Liability Agreement 1975
P&I Clubs	Protection and Indemnity Clubs

PCBs	polychlorinated biphenyls
PCIJ	Permanent Court of International Justice
PEPAS	Centre for the Promotion of Environmental Planning and Applied Studies
PLATO	Pollution Liability Agreement among Tanker Owners
PRC	People's Republic of China
R Egyptienne droit int'l	Revue Egyptienne de droit international
RIAA	Reports of International Arbitral Awards (UN)
RIRI	Revue iranienne des relations internationales
RMCC	Federal/Provincial Research and Monitoring Coordinating Committee
ROC	Republic of China
RSL	Review of Socialist Law
SALJ	South African Law Journal
SALR	South African Law Reports
SAYIL	South African Yearbook of International Law
Scand SL	Scandinavian Studies in Law
S China Morning Post	South China Morning Post
SCSP	South China Sea Fisheries Devleopment Programme
SDLR	San Diego Law Review
SDR	Special Drawing Right
SEAPOL	Southeast Asian Project on Ocean Law, Policy and Management
SMB	single maritime boundary
SOLAS	Safety of Life at Sea Convention 1948
SRV	Socialist Republic of Vietnam
Syra JIL	Syracuse Journal of International Law
SWCC	Second World Climate Conference
TACs	Total Allowable Catches
Texas ILJ	Texas International Law Journal
TISC	Trade and Industry Sub-Committee
TOGA	Tropical Oceans and Global Atmosphere
TOVALOP	Tanker Owners Voluntary Agreement Concerning Liability for Oil Pollution
TS	TOVALOP Supplement
TSC	Convention on the Territorial Seas and Contiguous Zone 1958
TSS	Traffic Separation Scheme
UCLA Law Rev	University of California Los Angeles Law Review
UHLR	University of Hawaii Law Review
UKC	under keel clearance
UMLR	University of Miami Law Review
UN	United Nations
UNB Law Rev	University of New Brunswick Law Review
UNCED	UN Conference on Environment and Development
UNCLOS I	First United Nations Conference on the Law of the Sea

UNCLOS III	Third United Nations Conference on the Law of the Sea
UNCTAD	UN Conference on Trade and Development
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNEP	United Nations Environment Programme
UNGAOR	United Nations General Assembly Official Records
UN Rep	Reports of International Arbitral Awards, UN Publication
UNTS	United Nations Treaty Series
UNU	United Nations University
UTLR	University of Tasmania Law Review
Vir JIL	Virginia Journal of International Law
VLCC	very large crude carriers
VUWLR	Victoria University of Wellington Law Review
Wash LR	Washington Law Review
WESTPAC	Working Group for the Western Pacific
WHO	World Health Organization
Wit USLR	Witwatersrand University Student Law Review
WLR	Weekly Law Reports
WMO	World Meterological Organization
WOCE	World Ocean Circulation Experiment
WP	World Politics
YBUN	Yearbook of the United Nations
YILC	Yearbook of the International Law Commission
YJIL	Yale Journal of International Law
YJWPO	Yale Journal of World Public Order
Zaö RV	Zeitschrift für Auslandisches Offentliches Recht und Völkerrecht

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1887 Sino-French Treaty

1898 Treaty of Paris (Spain and USA)

1907 Franco-Thai Boundary Treaty and Protocol

1919 Covenant of the League of Nations

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1944 Chicago Convention on International Civil Aviation

1945 United Nations Charter

Statute of the International Court of Justice

1947 General Agreement on Tariffs and Trade

Havana Charter

1949 Convention on the Prevention and Punishment of the Crime of Genocide

1950 European Convention for the Protection of Human Rights and Fundamental Freedoms

1952 Treaty of Peace between the Allied Powers and Japan

Treaty of Peace between the ROC and Japan

1952	Declaration on the Maritime Zone (Chile, Ecuador and Peru)
1954	International Convention for the Prevention of Pollution of the Sea by Oil
	Treaty on Navigation of the Mekong
1958	Geneva Convention on the Continental Shelf
	Geneva Convention on Fishing and Conservation of the Living Resources of the High Seas
	Geneva Conventon on the High Seas
	Geneva Convention on the Territorial Sea and Contiguous Zone
1959	Antarctic Treaty
1960	International Convention for the Safety of Life at Sea
	International Regulation for Preventing Collisions at Sea
	Paris Convention on Nuclear Installation
1965	New York Convention on Transit Trade of Land-Locked States
1966	International Convnetion on Load Lines
1967	The Association of Southeast Asian Nations Declaration
1969	Agreement between the Government of the Republic of Indonesia and the Government of Malaysia relating to the Delimitation of the Continental Shelves between the Two Countries
	Agreement for Cooperation in Dealing with Pollution of the North Sea by Oil
	International Convention on Civil Liability for Oil Pollution Damage
	Vienna Convention on the Law of Treaties
1970	Treaty between the Republic of Indonesia and Malaysia on Delimitation of Boundary Lines of

1970 Territorial Waters of the Two Nations at the Strait of Malacca

1971 Agreement between the Government of the Republic of Indonesia, the Government of Malaysia and the Government of the Kingdom of Thailand relating to the Delimitation of the Continental Shelf Boundaries in the Northern Part of the Straits of Malacca

Agreement between the Government of the Republic of Indonesia and the Government of the Kingdom of Thailand relating to the delimitation of a Continental Shelf Boundary Between the Two Countries in the Northern Part of the Straits of Malacca and in the Andaman Sea

International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage

1972 London Convention on the Prevention of Marine Pollution by Dumping from Ships and Aicraft

Oslo Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft

Stockholm Declaration on the Human Envirnment

1973 Agreement Stipulating the Territorial Sea Boundary Lines Between Indonesia and Singapore in the Strait of Singapore

International Convention for the Prevention of Pollution from Ships

1974 Convention for the Prevention of Pollution from Land-Based Sources (Paris)

Convention on the Protection of the Environment between Denmark, Finland, Norway and Sweden

Convention on the Protection of the Marine Environment of the Baltic Sea Area

1975 Agreement between the Government of the Kingdom of Thailand and the Government of the Republic of Indonesia relating to the Delimitation of the Sea-Bed Boundary between the Two Countries in the Andaman Sea

1976 Convention for the Protection of the Mediterranean Sea against pollution

Convention on Civil Liablity for Oil Pollution Damage resulting from Exploration for and Exploitation of Seabed Mineral Resources

Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft

Treaty of Amity and Cooperation in Southeast Asia

1977 Agreement on Safety of Navigation in the Straits of Malacca and Singapore

Twenty-Five Year Friendship Treaty (Laos and Vietnam)

1978 International Convention on Standards of Training, Certification and Watchkeeping for Seafarers

Kuwait Regional Convention for Cooperation on the Protection of the Marine Enviornment from Pollution

Protocol to the International Convention for the Prevention of Pollution from Ships 1973

1979 Agreements on Cultural, Scientific and Economic Cooperation (Laos and Kampuchea)

Convention on Long-Range Transboundary Air Pollution

Memorandum of Understanding between Malaysia and the Kingdom of Thailand on the Establishment of the Joint Authority for the Exploitation of the Resources of the Sea-Bed in a Defined Area of the Continental Shelf of the Two Countries in the Gulf of Thailand

Memorandum of Understanding between the Kingdom of Thailand and Malaysia on the Delimitation of the Continental Shelf Boundary between the Two Countries in the Gulf of Thailand

South Pacific Forum Fisheries Agency Convention

Treaty between the Kingdom of Thailand and Malaysia relating to the Delimitation of the

1979 Treaty of Peace, Friendship and Cooperation between the Socialist Republic of Vietnam and the People's Republic of Kampuchea

1980 ILC Draft Articles on State Responsibility

Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources

1981 Convention for Cooperation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region

Convention for the Protection of the Marine Environment and Coastal Area of the South-East Pacific

1982 Agreement on Historic Waters of Vietnam and Kampuchea

Law of the Sea Convention

Nauru Agreement Concerning Cooperation in the Management of Fisheries of Common Interest

The Regional Convention for the Conservation of the Red Sea and Gulf of Aden Environment

Treaty relating to the Legal Regime of Archipelagic State and the Rights of Malaysia in the Territorial Sea and Archipelagic Waters as well as in the Airspace above the Territorial Sea, Archipelagic Waters and the Territory of the Republic of Indonesia Lying Between East and West Malaysia

1983 Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region

Protocol for the Protection of the South-East Pacific Against Pollution from Land-Based Sources

1984 Protocol of 1984 to amend the International Convention on Civil Liability for Oil Pollution Damage, 1969

Protocol of 1984 to amend the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971

1985 ASEAN Agreement on the Conservation of Nature and Natural Resources

Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region

Convention for the Protection of the Ozone Layer

Montreal Guidelines for the Protection of the Marine Environment against Pollution from Land-Based Sources

Sulphur-reduction 30% Protocol

1986 Convention for the Protection of the Natural Resources and Environment of the South Pacific Region

Protocol Amending the Convention for the Prevention of Marine Pollution from Land-Based Sources

Protocol for the Prevention of Pollution of the South Pacific Region by Dumping

1987 An Arrangement Implementing the Nauru Agreement Setting Forth Minimun Terms and Conditions of Access to the Fisheries Zones of the Parties

Manila Declaration (of ASEAN)

Montreal Protocol on Substances that Deplete the Ozone Layer

Protocol amending the Treaty of Amity and Cooperation in Southeast Asia

Treaty on Fisheries between the Governments of Certain Pacific Island States and the Government of the United States of America

1988 Aspects concerning the Environment related to Offshore Drilling and Mining within the Limits of National Jurisdiction

Declaration on the 30 Per Cent Reduction of Nitrogen Oxide Emissions

Protocol to the Convention on Long-Range Transboundry Air Pollution concerning Control of

1988 Emissions of Nitrogen Oxides or Their Transboundary Fluxes

1989 Union of Soviet Socialist Republics - United States: Joint Statement with Attached Uniform Interpretation of Rules of International Law Governing Innocent Passage

1989 Kuwait Protocol Concerning Marine Pollution Resulting from Exploration and Exploitation of the Continental Shelf

1990 Agreement between Government of Malaysia and the Government of the Kingdom of Thailand on the Constitution and Other Matters relating to the Establishment of Malaysia-Thailand Joint Authority

Kuwait Protocol for the Protection of the Marine Environment against Pollution from Land-Based Sources

London Adjustments and Amendment to the 1987 Montreal Protocol

1991 A Second Arrangement Implementing the Nauru Agreement Setting Forth Additional Terms and Conditions of Access to the Fisheries Zones of the Parties

1992 Climate Change Convention

International Convention on Civil Liability for Oil Pollution Damage

International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage

Niue Treaty on Cooperation in Fisheries Surveillance and Law Enforcement

LIST OF LEGISLATION

Hong Kong

Ozone Layer Protection Bill of 1989

Indonesia

Act No 4 Concerning Indonesian Waters of 1960

Presidential Decree No 8 Concerning Innocent Passage of Foreign Vessels in Indonesian Waters of 1962

Act No 5 on the Indonesian Exclusive Eonomic Zone of 1983

Kampuchea

Council of State Decree of July 31 1982

Malaysia

Emergency (Essential Powers) Ordinance No 7 of 1969

Exclusive Economic Zone Act of 1984

Mexico

Mexican Civil Code art 1912

Republic of China

Resolution of the Administrative Yuan of September 6 1979

Mainland Relations Act of 1992

Thailand

Declaration of the Office of the Prime Minister Concerning the Inner Part of the Gulf of Thailand of 1959

Decree on Straight Baselines of June 12 1970

The Philippines

Republic Act No 3046 of June 17 1961

Presidential Proclamation No 370 of 1968

Presidential Decree No 1596 Declaring Certain Area Part of the Philippine Territory and Providing for Their Government and Administration of June 11 1978

Presidential Decree No 1599 establishing an Exclusive Economic Zone and for Other Purposes of June 11 1978

United States of America

The Truman Proclamation on the Continental Shelf 1945

Oil Pollution Act 1990

Vietnam

Declaration on Baseline of Territorial Waters of November 12 1982

PART I - INTRODUCTORY PART

CHAPTER 1

INTRODUCTION

Of course it's too soon to tell how the 90s will turn out. But it seems already clear that, compared with the decade just past, they will be a far more turbulent and anxious age. - 'The Age of Anxiety' Newsweek January 7, 1991 18.

At the psychological level, modernization involves a fundamental shift in values, attitudes and expectations. Traditional man expected continuity in nature and society and did not believe in the capacity of man to change or control either. Modern man, in contrast, accepts the possibility of change and believes in its desirability. He has .... a 'mobile personality' that adjusts to changes in his environment. - Samuel P Huntington: Political Order in Changing Societies 13th ed 1977 32.

The twenty-first century is generally regarded as the 'Age of the Far East' because of the importance and potentiality of this region in the world economy. It is projected to be the fastest growing region over the coming two decades by many development economists. - Fong Chan Onn: New Economic Dynamo 1986 xiv.

Things keep on changing. Change is in fact an indispensable feature throughout human history. Even before the Industrial Revolution, history teaches us that there had been continual change, political, economic and social. Change in ancient times might be slow, but nevertheless definitely occurred. Concomitant with the rapid development of technology in this century, we witness rapid change in the human world. Up to the present, mankind has experienced several global upheavals: the establishment of

the communist bloc, nuclear weapons, the First and Second World Wars, to name but a few. The establishment of the communist bloc led to political stalemate and military tension between East and West for several decades. Nuclear weapons placed all of mankind in danger of total destruction. Furthermore, the two World Wars disintegrated human society. There are still too many similar events elsewhere in the world to be detailed. Those events inevitably force one to conclude in the words of an ancient Chinese philosopher that 'the nature of human being is evil'. Such a conclusion, although it might be true to some extent, nevertheless should not prevent one from looking at those same things from other angles. Everything has many side-effects, the implications of which might disturb the purpose intended by us. Perhaps it is better to put it in this way: there is no absoluteness in the human world. Instead, relativity is the principle. For example, the two World Wars did huge damage to the well being of all mankind. We still however learnt lessons from them and ensured justice at the end of them. We must bear in mind the dialectic nature of things. When we look into a matter, we must firstly get a bird-eye view in order not to overlook the other side of the picture. Only when we get the total picture can we make a comprehensive evaluation. Pessimism arising from bias in investigation might hamper the development of a possible alternative to solve the problem, whereas blind optimism might exacerbate the problem due to neglect of negative factors. Both such attitudes should be avoided since they are detrimental to the interests of the parties concerned. To exhaust every possible alternative, therefore, seems to be the prerequisite for a successful solution of the problem. It must be noted however that this by no means indicates that such a comprehensive evaluation will lead to a definite and clear answer to the question. What one can get after such a careful consideration is probably only the best possible solution rather than the

best solution itself. The more careful consideration however, the better the chances of resolving the problem. A 'two-step' procedure could be established for any investigation: firstly, one should adopt an overview of the subject matter in order to see the essence of it from every possible angle; secondly, on completing the first step, one can distinguish the positive elements from the negative ones and evaluate each group respectively. One must not allow one's thoughts to be distorted by one's own negligence! Politicians may have to take sides for practical reasons. It is submitted, however, that it is the duty of academics to identify all relevant factors, the links between them, together with their implications, both positive and negative, in order to help policy-makers make their decisions. This is the distinction between those who actually lay down policy and those who study in a library! Put tersely: academics are theoretical constructors whereas governmental policy-makers use those theories and apply them in practice.

As an academic international lawyer, one must indicate to the government what alternatives are available to it on a specific issue, since governmental officials might not have expertise in the field. This is especially true in modern times on account of the explosion of knowledge and the diversification of scientific disciplines. International relations have also become more and more complicated and are often now beyond the comprehension of the public. There are many disciplines (including of course the International Law of the Sea) of which governmental officials may have no knowledge at all and this is by no means their fault. Nowadays, international relations cover too many fields such as commerce, finance, politics, economics, to name but a few. It is impossible to require governmental officials to be 'omniscient'. For them, the only solution is to cooperate with academics. They can thus eliminate blind

spots in the policy-making process. Hence, theory building scholars should not neglect their duties to the real world. In short, one should always bear in mind the dualistic nature of things. Dickens' famous opening in his A Tale of Two Cities might be considered a cliché but this author nevertheless thinks that this is still true for the modern era:

> 'It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was epoch of belief, it was the epoch of incredulity, it was season of Light it was the season of Darkness, it was the spring of hope, it was the winter of despair, we had everything before us, we had nothing before us, we were all going direct to Heaven, we were all going direct the other way - in short, the period was so far like the present period, that some of its noisiest authorities insisted on its being received, for good or for evil, in the superlative degree of comparison only'.

The purpose of this study is to propose a common maritime regime for the South China Sea. But before the author can proceed any further, he immediately faces two basic questions from critics. The common maritime regime which you will deal with, is it really law? Furthermore, this common maritime regime which you propose, is it really viable in the South China Sea? If the author cannot answer these questions, he will proceed in vain. The first question arises from skepticism concerning the legal nature of international law. Since the international law of the sea is a branch of general international law, it cannot avoid the challenge posed by this skepticism. The second question comes from a generally pessimistic view of Southeast Asia itself. This writer, therefore, has to deal with two questions before discussing a substantive maritime regime. The two questions will now be treated seriatim.

1. International law as positive law: Utopia or reality?
When one deals with a matter of international law (or, international law of the sea), the first question which comes to the fore is: is it really law?[1] Experience shows that international law has sometimes been classified as international politics or international relations, not only by laymen but also by some municipal lawyers. International law might also be criticized as that branch of law with the least legal flavour. The problem is complicated and criticisms are not without substance. The purpose of this study, however, is not to investigate the legal nature of international law as this question has been dealt with elsewhere.[2] Suffice it to say that there are two schools of thought: one school maintains that international law is not real law[3], whereas the other school averts the legal character of international law.[4] Both schools have force in their arguments which are undoubtedly based on facts. In an attempt to settle the issue, the writer will use the abovementioned 'two-step' procedure: firstly, he will consider the nature of international law as a whole rather than deal with the international law of the sea only. This is to get a clear picture of the broad canvas of which the international law of the sea is merely a part. Secondly, he will identify the dualistic features of international law and evaluate them. One must also bear in mind the fact that international law cannot be sustained in a vacuum. It is

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1 Gihl T 'The Legal Character and Sources of International Law' Scand SL 1 1957 53. See also Edwards AB The Legal Nature of International Law: An Historico-Critical Analysis of Legal Positivist Thinking 1984 1.

2 For a detailed discussion in relation to this subject see Edwards n1.

3 For example, John Austin held such an opinion. See Austin J Lectures on Jurisprudence I 4ed 1879 231; see also Edwards n1 53.

4 For example the Post-Austinian positivists maintained such an argument, see Friedmann W Legal Theory 1947 141; see also Edwards n1 172-3.

the 'political, social and economic circumstances which provide the raison d'etre for its norms'.[5] It is against these three basic backgrounds that the examination of international law must take place. Another question is from what standpoint should we start our study? Should it be Austinian theory (ie international is not real law) or Post-Austinian Positivist opinion (ie international law has legal character)? It is the opinion of this author that we should adopt a stricter (or the strictest) position, ie apply the standard of municipal law in our investigation so as to avoid criticism from municipal lawyers. 'The standard of municipal law' would mean that the law is enacted by a legislature[6], sanctions are available to secure observance[7] and compulsory jurisdiction exists for settling legal disputes.[8] To put it another way, if international law is to be qualified as positive law, a procedure for creating 'legislation', ie treaty-making, must exist. It is however to be stressed that not <u>all</u> international law must necessarily be in the form of legislation: customary international law is very often <u>not</u> in a legislative form, ie it has not been written in the form of a treaty. Such a position is also a response to the fact that legal positivism has received more attention from publicists recently.[9] Nonetheless, it must be pointed out that the application of a higher standard against which our examination will be conducted will not, as we shall see, necessarily lead to a less satisfactory result. On the other hand, to play down the importance of any factor mentioned above (ie legislation, compulsory jurisdiction and sanctions) would not necessarily lead to a more palatable outcome either. It is the contention of this author that a

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5 Ibid 212-3.
6 Starke JG <u>An Introduction to International Law</u> 10th ed 1989 18.
7 Ibid 27.
8 Ibid 21.
9 Edwards n1 87.

more rigid examination will necessarily eliminate some, if not all of the loopholes left by a looser approach. Finally, we must bear in mind the fact that things keep on changing. This means that when we investigate a continuous historical sequence, we should pick two examples, one from the past and one from the present. This affords a comparison and the determination of results. Such a comparative study can give an outline of the dynamics of the subject matter. A static description of an event in isolation severed from its context may mislead the investigator and severely limit the relevance and applicability of the event in other cases.

The above may now be summarized. In the following brief investigation this author will adopt: firstly, the `two-step' procedure. This will involve getting a holistic picture of international law and then identifying its features. Secondly, `three basic backgrounds' (ie political, economical and social conditions) will be used to explain the development of international law. Thirdly, `one-criterion', ie legal positivism, will be the baseline from which the legal nature of international law is determined. It must be stressed, nonetheless, that neither the legal nature of international law, nor international law as a whole is the main interest of this author. The following sections dealing with the legal nature of international law as a whole, therefore, will be brief ones and will be used only for guidance in relation to the main subject - a common maritime regime for the South China Sea.

1.1 The vicissitudes of the international political environment

It has already been pointed out that the international law by no means exists in a vacuum and it is the political, social and economic circumstances which shape its substance. To take cognizance of the world political background,

therefore, becomes a sine qua non for understanding international law. The investigation, nevertheless must not be rooted in any specific time in history since changes and evolution must be taken into account.

The modern history of mankind is by no means a peaceful one. Armed conflict seems to be a main feature throughout the modern era. From the First World War, Second World War, Korean conflict to the Vietnam conflict, such human calamities kept appearing on the world stage. Many other similar events occurred elsewhere throughout the globe. The Middle East is a case in point. Even the history of the 90s unfortunately began with the Iraqi invasion of Kuwait. All this seems to indicate, at first sight, that there is no justice amongst nations. Applying the Austinian line of argument, international law is therefore not really law. Although modern history is full of sadness, a gleam of hope however looms large. The 80s may be a transitional period in which certain 'mutations' largely changed the face of world politics. These culminated, as we shall see, in the fully effective operation of the UN for the first time.

Perhaps we should begin with Mikhail S Gorbachev's succession to the leadership of the former Soviet Union, which might be deemed to be the remote cause of the following 'mutations'. Gorbavhev took up the position in March 1985. Unlike his predecessors, he left aside the traditional party line and adopted a policy of glasnost (openness) in 1986. In January 1987 Gorbachev, in a speech to the then Central Committee of the Communist Party, formally proposed the well-known perestroika to restructure extensively the Soviet economy.[10] Such a shift of policy in the former Soviet Union began to reduce tensions between East and West. But things did not stop there. The seeds

10 For a brief explanation see The Europa Year Book II 1988 2684.

had been planted and they blossomed outside the former Soviet Union two years later. The first such 'blossom' appeared in May 1989 when East Germans found their way to Austria via Hungary.[11] The waves of East German refugees elicited a chain of reactions in Eastern Europe. The second event was that the Hungarian Communist Party formally changes its name to a 'Socialist Party'.[12] This could be seen as the signal of the beginning of the fall of communism in Eastern Europe. The scenes which followed were spectacular. On November 9 1989, Germans began to make gaps in the Berlin Wall.[13] Less than three weeks later, ie on November 28 of the same year, Chancellor Helmut Kohl proposed the plan for German reunification to Parliament.[14] At the end of 1989, revolution broke out in Romania which led to the execution of the dictator.[15] In the middle of 1990, all the governments in Eastern Europe had already been taken over by non-communists either wholly or partially.[16] On October 3 1990, we witnessed German reunification.[17] All these events finally led to the dissolution of the Warsaw Pact[18] at the end of the Cold War.[19] It is the latter which should be seen as a turning point in contemporary international politics. On November 19 1990, leaders of all European nations as well as of the United States and Canada,

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11 'A Way Round the Wall' The Economist July 29 1989 26.
12 'Hungary: Pale-pink Danube' The Economist October 14 1989 29.
13 'When the Party's Over' The Economist November 18 1989 25.
14 'The Will to One' The Economist December 2 1989 32.
15 'Enigmas of a Revolution' The Economist January 6 1990 24.
16 'Democracy in Eastern Europe' The Economist June 23 1990 30.
17 'Germany's Subdued Celebration' The Economist September 29 1990 21.
18 'Friends, No Allies' The Economist June 15 1991 37.
19 'A Club for All Europe' The Economist November 17 1990 20.

held a meeting in Paris in which a 'New European Order' was contemplated.[20]

One might argue that such a newly established world order did not prevent depressing human history being replayed in the Iraqi invasion of Kuwait in the second half of 1990. That was, however, a totally different story. Suffice it to say, for the present, that world politics had undergone a dramatic change within a short period of a year and a half or so. Perhaps it happened too quickly to be fully appreciated. Be that as it may, perceptions must now be adjusted to understand the present international law. Concomitant with the rising awareness of the importance of economic construction amongst nations, it has been correctly pointed out that future cleavages in international society, will be economic rather than based on outdated ideologies.[21] Economic competition will also produce tension but it will be different from that created formerly by ideological blocs. From a social perspective also, one must not overlook the fact that spreading democracy greatly reduces the frequent errors of dictatorship.

We have thus witnessed rapid changes politically and economically at the international level around the beginning of 1990. What are the implications of these events for contemporary international law?

1.2 The strengthening function of the UN

After noting the 'abrupt' change in the international political reality, one may now take account of the context of the analysis in which legal positivism will be applied as the yardstick. The following brief examination will be

20 'The Thrill of Europe's Rebirth' The Economist November 24 1990 29-31.

21 Waller D et al: 'Superpowers as Superpartners: Bush Imagines a New World Order - But will Moscow Play Along?' Newsweek September 17 1990 13.

conducted under three titles: international legislation, international sanction and compulsory international settlement as these correspond to the basic elements in a municipal legal system.

1.2.1 International legislation

Talking of legislation assumes a legislature. At the municipal level, the legislature is a parliament or a congress. At the international level one is tempted to associate the UN with a supranational legislature. Is the UN really an international legislative forum? Was it effective in the past in this regard? How does it function for the present? One cannot answer these questions without taking into consideration the functions of the General Assembly and the Security Council.

Firstly, we deal with the Security Council. If the main object of international law is defined as 'to produce an ordered rather than a just system of international relations'[22] then the importance of the Security Council becomes immediately evident. Armed conflict, which constitutes a common feature at every stage in the modern era, is the main stumbling block to 'ordered international relations'. One may easily recall that the Security Council, facing a threat to peace or an act of aggression, is empowered to decide what enforcement measures are to be taken to maintain or restore peace and security[23] and all the members of the UN or some of them, (as the Security Council may determine) shall comply with these measures.[24] The question however is to what extent the Security Council

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22 Starke n6 5.
23 UN Charter art 39. Text of UN Charter can be found in Brownlie I ed Basic Documents in International Law 1983 1-34.
24 UN Charter art 48 para 1.

has the power to bind member states?[25] There seems to be general uncertainty concerning this problem.[26] Nonetheless, as Schwarzenberger argues, one thing is sure that if the Security Council proceeds under Chapter VII of the UN Charter (ie Action with Respect to Threats to the Peace, Breaches of the Peace and Acts of Aggression) then its resolutions may embody binding decisions.[27] Greig also holds the view that this seems to be the original intention of the San Francisco Conference.[28] As far as the binding effect of resolutions made outside the Chapter VII is concerned, there are disputes.[29] Devine even further identifies that Security Council can only make binding legal decisions on four matters:[30]

> 'In the first place, it can make a legally binding determination that certain conduct constitutes an act of aggression. In the second place it can determine a breach of the peace. In the third place it can determine that a situation constitutes a threat to international peace.[31] In the exercise of these three functions we see the Council in an essentially judicial role.[32] In its fourth function we see the Council in an essentially legislative role. After making any of the above determinations the Council may by resolution impose obligations on member States of the United Nations or oblige member States to submit to activities taken by it or some other entity on its behalf.[33] Beyond these functions, however, its judicial and legislative capacities do not extend' (emphasis added).

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25 For a detailed account of this question, see Greig DW International Law 2nd ed 1976 744-751.

26 Ibid 750.

27 Schwarzengberger G International Law III 1976 331.

28 Greig n25 745.

29 For arguments for and against see ibid 746-50.

30 Devine DJ 'The Status of Rhodesia in International Law' Act Jur 1973 161. Footnotes original.

31 UN Charter art 39.

32 In the Advisory Opinion on the Legal Consequences of States of the Continued Presence of South Africa in Namibia (South West Africa) (1971) ICJ Reports para 117, the court would seem to allow general judicial powers to the Security Council and in paras 103, 105, 106 it even appears to go so far as to concede binding judicial powers to the General Assembly!

33 UN Charter arts 25, 39, 41, 42.

Up to this point, one can hardly say that Security Council has any general legislative capacity, ie the ability to create general laws. But it seems permissible to conclude, at least, that as far as matters concerning international peace and security are concerned, the Security Council may act as an international legislative forum. Starke argues, however, that such international legislative machinery is not comparable in efficiency to state legislative machinery.[34] This argument apparently is based upon the fact that the Security Council has suffered from the stasis of Cold War for several decades.[35] What happened to the Security Council in the past was described vividly in a recent article '... the world was divided between East and West and the communist nations would automatically veto any move by the free world'.[36] Under such circumstance, the Security Council for the past 45 years was 'a forum in which the superpowers hurled vetoes at each other'.[37] Although the international political climate was difficult due to the cold war, it is however to be noted that the Security Council still managed to pass several resolutions on the Rhodesian crisis in the 60s and 70s which were indeed legislative. They even authorized force - the Beira Blockade![38] Moreover, the situation mentioned above has been changed since 1990 when the 'mutation' in world politics happened. On November 29, 1990, the Security Council approved a resolution in the Gulf crisis to authorize the use of force to drive Iraq out of Kuwait.[39]

34 See n8.
35 Thomas E et al 'No Vietnam: The Lessons of Southeast Asia Shape the President's Strategy in the Gulf' Newsweek December 10 1990 10.
36 Ibid.
37 See n21.
38 For a detailed discussion of this see Devine DJ 'The Status of Rhodesia in International Law (concluded)' Ac Jur 1979 341-51.
39 Warner MG 'Jim Baker's Biggest Test: His Showdown with Iraq's Negotiator Might be the Last Chance for a

This was described as an unprecedentedly powerful demonstration of international resolve[40] liberated from the East-West stalemate[41] and the unimaginable display of unity[42] and that what the founders of the UN had only dreamed had been achieved: ie true collective security against aggression.[43] It has been pointed out that the Security Council has begun to operate by way the US congress once did.[44] What now takes place in the Security Council is similar to the way in which pork-barrel politicians act in their state parliaments.[45] Such a breakthrough indicates that the UN may start to look like the international policeman its founders intended.[46] The successful Operation Desert Storm, which drove Iraq out of Kuwait, gave collective security a critical boost.[47] International law has, it is submitted, gained new force derived from the dynamics of a newly established international political order. One might still criticize, however, by saying that the Security Council is by no means identical to a state legislature. This is true. But it still has to be stressed that this is an appreciable advance in the operation of the Security Council. In the past, the 'hard norm' was only applicable in those areas of international relations where

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Peaceful Settlement in the Gulf' Newsweek January 14 1991 14. In relation to the general response of the Security Council during the Gulf crisis see Warbrick C 'The Invasion of Kuwait by Iraq' ICLQ 40(2) April 1991 482-92.

40 See n35.

41 Alter J 'Cacophony of Carping: A Guide to Political Posturing on the Gulf' Newsweek December 17 1990 24.

42 Garrard M et al 'Talking Peace and Moving Toward War: At the UN: A Plan to Authorize the Use of Force' Newsweek October 8 1990 16.

43 See n35.

44 See n41.

45 Ibid.

46 See n21.

47 See n35 13.

states perceived their interests to be non-vital.[48] To activities of political significance, including the use of force by nations, only a 'soft norm' was applicable.[49] By 'soft' is meant the normativity of the 'norm' was unlikely to be realized.[50] Perhaps this is the reason why some critics claim, in an extreme manner, that international law is a system without sanctions.[51] However, the norm was applied in such a sensitive issue as the Gulf crisis and did become 'harder' than in the past. This might not satisfy all critics but it still represents a good omen for the '90s. Briefly, as far as the sensitive issues of international peace and security are concerned, the resolutions adopted by the Security Council through its burgeoning Congress-like operation are more of a legislative nature.

We now turn to the General Assembly. Over the years the mass media spared no efforts to expose the most sensitive issues in international politics and focused world-wide attention on the ineffectiveness of the UN Security Council. In the result some less than attractive developments took place at global level during the past several decades. As mentioned above, the 'hard norm' is to prevail in those areas of international relations where states perceive the interests involved to be non-vital. Apparently the 'hard norm' (in contrast with the 'soft norm') means that normativity can actually be realized. Hence, in this century a great mass of international legislation has already come into existence as a result of law-making conventions.[52] It is also argued that the UN General Assembly possess an international

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48 Friedmann W 'The Reality of International Law: A Reappraisal' Columbia JTL 10 1971 51; see also Edwards n1 232.
49 Friedmann n48 51ff; see also Edwards n1 224.
50 Ibid.
51 Starke n6 27.
52 Ibid 19.

legislative function[53] (of course one should not forget other law-creating means such as international conferences not initiated by the UN, bilateral treaties and the like). The General Assembly's powers and functions include the adoption of international conventions.[54] Suffice it to mention that the Genocide Convention 1948 is an early example and the 1969 Vienna Convention on Law of Treaties is a later one. As far as the international law of the sea is concerned, the four 1958 Geneva Conventions and the 1982 Convention on the Law of the Sea (hereinafter cited as LOSC) are cases in point. Such a line of argument can however be challenged in that these treaties cannot bind states not parties to them. As mentioned above, only multilateral treaties binding upon states not parties to them can be qualified as true international legislation. International conventions therefore do not meet the standards of a legislative enactment in a municipal legal system. We encounter two basic problems here: firstly there is no sovereign legislative authority in the international field[55]; secondly treaties do not in principle have legal effect on third parties[56], that is they are only applicable amongst the parties inter se. In this sense, Greig argues, it is inaccurate to deem treaties as a source of international law.[57] We may state these two problems more succinctly. In the former, one is talking about legislation in terms of its formation; in the latter of legislation in terms of its effect. International conventions are neither 'enacted' by a supranational legislature nor do they bind

53 Ibid 642.
54 Ibid 638.
55 See n52.
56 Greig n25 9. Of course we should not forget that a treaty may confer rights upon third parties with their consent or impose obligations upon them with their express acceptance in writing. See arts 35 and 36 of the 1969 Vienna Convention on the Law of Treaties. The text of the Convention can be found in ILM 8(4) July 1969 679-713.
57 Greig n56.

non-parties. The argument, however, might not be absolutely true at all times. It has been suggested that UNCLOS III was a case in which a movement had taken place toward legislation at the international level.[58] Almost all states had taken part in the debates and voted in UNCLOS III. This could be considered similar to the work of a legislature at municipal level. UNCLOS III could thus be seen as an international legislative forum. Hence, it is submitted, LOSC which is the result of UNCLOS III could be deemed to be international legislation in terms of its formation. Even if it is insisted that the model of municipal legislation does not actually exist in the international community, it would still be fair to conclude, as Johnston puts it, that LOSC at least has the status of quasi-legislation.[59] Although we have here a plausible answer to the first question, we still have to face the second thorny problem: the inapplicability of international conventions to non-parties. That is to say international convention cannot be qualified as legislation in terms of effect. It is argued, as mentioned above, that an international convention cannot be regarded as international legislation unless it is able to bind non-parties. For example, although over 150 states signed LOSC, it will not enter into force until November 1994! Thus, one might not consider LOSC to be international legislation. This argument does have some force. On the other hand, however, we should not overlook the fact that some conventions have been ratified by many states. For example, the International Convention for the Prevention of Pollution from Ships 1973 (MARPOL)[60] has been ratified up to now by 67 states.[61] It is true that MARPOL is not

58 Johnston DM 'UNCLOS III: Environmental Issues in Southeast Asia' in Valencia MJ, Gold E, Chia LS and Letalik NG Shipping, Energy and Environment: Southeast Asian Perspectives for the Eighties 1982 213.

59 Ibid.

60 The text of MARPOL can be found in ILM 12(6) November 1973 1319-444.

61 As at June 24 1991. Data provided by IMO.

applicable universally. It is also true that there were only seventy-one states attending the 1973 conference at which MARPOL was adopted.[62] In this respect therefore, MARPOL clearly cannot be qualified as international legislation in terms of its formation. When one elaborates argument to deny the legislative nature of MARPOL one should not however ignore the fact that MARPOL is applicable to nearly half of the nations of the world! With more ratifications, MARPOL will doubtlessly have an ever wider binding force to the growing numbers of states parties. To leave the theoretical or philosophical debates aside, it seems to this author that a treaty which has ab initio binding force upon non-parties to it[63] and a treaty which is ratified by all nations in the world[64] have the same effect in practice. That is, both treaties are binding upon all states. Others might criticize saying that such a crude approach might hamper the investigation into the relations between international law and municipal law. There is, however, no need to resort to further philosophical argument on this subject since there is no orthodox answer to the question.[65] It is therefore submitted that if a treaty was ratified by all states it could be deemed to be de facto legislation in terms of its effect. In the case of MARPOL, the fact is that it has been already ratified by 67 states. According to this line of thinking, it seems permissible to conclude that MARPOL is at least 'half-way' legislation in terms of its effect. If a convention is not universal in

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62 M'Gonigle RM and Zacher MW Pollution, Politics and International Law 1979 112.

63 Apparently this is the case in which international law is regarded as the superior legal order. Kelsen, for example, held this line of argument. See Kelsen H Pure Theory of Law (trasl. by Knight M) 1967 333; see also Edwards n1 124.

64 In this case there is obviously state law supremacy over international law. Triepel, for example, held this line of argument. See Triepel H Völkerrecht und Landesrecht 1899 111; see also Edwards n1 85.

65 Ibid 337.

effect, it may indeed still have different effects at different times depending on the number of ratifications or the number of states whose practice accepts its provisions. It would be difficult to formulate a general proposition here to cover all cases. However, it would seem fair to say, in the opinion of this author, that any treaty in force, if not qualified as legislation in terms of its formation, could still be regarded as de facto legislation more or less according to the number of states ratifying it.

1.2.2 International sanctions

Traditionally international sanctions constitute a problematic issue in international law.[66] Since international law is in fact unenforceable, one might argue that it is not real law but a sort of political dogma. This might be true during the Cold War when polarization was the characteristic of world politics. Experience shows us that international sanctions would hardly be enforced at the time. It is true that there were severe Security Council sanctions in the past against eg Rhodesia[67] (and to an extent against South Africa - eg the arms embargo[68]). But they were few. Any nation sanctioned by one camp of nations (eg the free world) could easily find support and aid from the other camp (ie the community bloc). An example at hand is the Korean conflict, 1950-1953. In that case North Korea was directly supported by the People's Republic of China. One, nevertheless, has to bear in mind that this was only one facet and is not necessarily valid for the present time. As mentioned earlier, following the gradual collapse of political ideologies in the eighties, economic development has become more and more a dominant issue in world politics.

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66 See n51.

67 For a brief account and relevant Security Council resolution. See Harris DJ Cases and Materials on International Law 4th ed 1991 111-2, 887-90.

68 For the relevant Security Council resolution, see ibid 890-1.

Economic development inevitably involves increasing international trade. In these circumstances, interdependence amongst nations is now a fact and not a choice.[69] This in turn implied that there are more effective means available to the UN[70] or to a victimized state to enforce international law or to secure the rights protected by it. In the past, one could in fact do nothing to make a state which was self-supporting and closed to the outside world to observe international rules. The dramatic change in the international political arena has therefore made international law more enforceable than ever before. It must however be pointed out here that to stress the punitive aspect of international law might not be a healthier attitude in handling the matter. Such an attitude could overlook two facts: firstly, common interests amongst competing states could be discounted[71]; secondly, not all states are mala fide all the time. It has been correctly point out that the desire of states to participate in an ordered international community provides the foundation for the existence of international law.[72] In this case, exclusion from such participation itself constitutes a sanction and no further punishment is needed.[73] On the other hand, we should not play down the punitive aspect of sanctions since it is still the mainstay of the continuing observance of international law. Even in the strictest sense

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69 Bilder RB 'International Law and Natural Resources Policies' Nat Res J 20 1980 480.

70 For example, in the Gulf crisis, the UN Security Council adopted resolution 661 on 6 August 1990 to impose economic sanctions against Iraq. See Warbrick n39 483-4. But what is the effectiveness of Resolution 661? It has been said that '... virtually every... sector of society [in Iraq] is suffering'. See Wilkinson R 'Alone in the World: Heart Break and Hardship in Baghdad, the Most Isolated Capital on earth' Newsweek July 22 1991 28.

71 Edwards n1 59.

72 Ibid 329.

73 Friedmann W Legal Theory 5th ed 1967 289; see also Edwards n1 196.

of legal positivism, it can be said that international law is not totally deprived of enforcement measures. Enforcement of international obligation is sometimes delegated to municipal legal systems by international conventions.[74] For example, art 4 of MARPOL stipulates that any violation of the requirements of that convention shall be prohibited and sanctions shall be established therefore under the laws of both the flag state and the coastal state wherever the violation occurs. MARPOL even lays down that the penalties specified under the law of a party must be to such an extent that they shall be adequate in severity to discourage violation of the convention![75] Here the enforcement of international law is handed over to the law enforcement agencies in the municipal legal systems. Such an arrangement not only contributes to securing the actual application of international law at the national level but also greatly improves its effectiveness. Being backed by national enforcement personnel and municipal courts, it might not be fair to argue that international law is a law without sanctions. Of course it must be admitted that international conventional law has not yet developed fully as the law in some developed western countries so as to cover every aspect of international life. Nevertheless, the number of international conventions is growing.[76] It is submitted that international law has been 'positivizing'. Such a development has two implications. The first is that when a convention is ratified by more states, sanctions will be strengthened by a horizontal extension to more of the surface of the globe. The second is that when a variety of conventions have been adopted, more aspects of international

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74 Starke n6 329.

75 Article 4 para 4 of MARPOL.

76 Even if we consider marine law only, we might be surprised by the fact that there are quite a number of international conventions either pending or coming in force. Such a list can be found in Sea Changes 1 1985 and subsequent issues.

life will inevitably fall under the control of international law. The combined effect is that relations amongst nations are becoming subjected to an emerging municipal-like control at the international level. Such a development offers states better international legal protection. At this stage, it is enough to say that the controversy about international sanctions has been gradually reduced by the growing number of international conventions (perhaps we might categorize them as international statutory law) which are enforced municipally.

1.2.3 Compulsory international settlement

The last part of the threefold argument against recognition of international law as law arises from the fact that 'there is no universal compulsory jurisdiction for settling legal disputes between states'.[77] Under such circumstances, international justice cannot be meted out and compulsorily enforced. The lack of such a mechanism inevitably leads to continuing chaos in day-to-day international life. Of course, the chaos mentioned will not necessarily imply armed conflicts. Even minor inconvenience, however, will constitute an intolerable annoyance to ordinary international intercourse. Although there is a World Court called the International Court of Justice, one has to admit that there is a basic limit to its operations. Article 36 para 1 of Statute of the International Court of Justice[78] stipulates that 'the jurisdiction of the Court comprises all cases which the parties refer to it...'. This does not however mean that when one party to a dispute submits it to the Court the other party will automatically fall under the Court's jurisdiction. A more fundamental principle of international law lays down that 'no state can, without its consent, be compelled to submit its disputes with other states either to mediation or to arbitration, or to any

77 See n8.
78 Text can be found in Brownlie n23 387-404.

other kind of pacific settlement'.[79] Therefore, the reference mentioned in art 36 para 1 would normally be made by the notification of a special agreement.[80] In the case of an unilateral reference of a dispute to the Court by one party, the other party or parties to the dispute must give its consent then or subsequently.[81] In contentious cases, therefore, the exercise of the Court's jurisdiction is by and large dependent upon the consents of the parties to the dispute.[82] The Court does however have compulsory jurisdiction under two conditions where the parties are bound by treaties or conventions in which they have agreed that the Court should have jurisdiction over certain categories of disputes[83]; where the parties concerned have declared that they recognize jurisdiction as compulsory ipso facto.[84] Such a stipulation apparently is undesirable since it creates a vacuum in the field of international judicial settlement. The adverse effect in practice flowing from such stipulation is, as Greig describes, 'where jurisdiction is contested, a final decision against the wishes of one of the parties is of limited value'.[85] This sort of arrangement unfortunately reduces substantially the effectiveness of the Court.[86] On the other hand, one should not totally depreciate the fact that the International Court of Justice does have compulsory jurisdiction, no matter how limited and fragmentary. Here one should also pay attention to the emerging trend underlying the contemporary development of international law: ie there are more conventions adopting compulsory judicial mechanisms which in turn can be used to

79 Eastern Carelia Case, PCIJ Reports Ser B No 5 27; see also Greig n25 613-4.
80 Article 40 para 1 of the Statute.
81 Starke n6 495.
82 Ibid.
83 Article 36 para 1 of the Statute.
84 Article 35 para 2 of the Statute.
85 Greig n25 694.
86 Greig even opines that the International Court of Justice in fact becomes a permanently established arbitral tribunal. See ibid.

fill the legal lacuna! MARPOL is an example. It has been described as an achievement at a time of increasing mistrust of the judicial settlement of international disputes.[87] Article 10 of MARPOL stipulates: 'Any dispute between two or more Parties to the Convention concerning the interpretation or application of the present Convention shall, if settlement by negotiation between the Parties involved has not been possible and if these Parties do not otherwise agree, be submitted upon request of any of them to arbitration...' (emphasis added). As mentioned earlier, the international 'hard norm' prevails in the area where states perceive their national interests to be non-vital or non-sensitive. The achievement of MARPOL attests to this proposition since the international control of marine pollution is amongst those which may least be termed 'political'.[88] LOSC is another example. Part XV section 2 of LOSC[89] lays down the 'Compulsory Procedures Entailing Binding Decision' over certain categories of disputes.[90] Apparently the compulsory judicial settlement created by LOSC is not comprehensive and one might argue that it is by no means better than the Statute of the International Court of Justice. It has to be admitted, however, that it is still an advance which supplements the latter in some ways. The creation of the compulsory judicial regime of LOSC is obviously attributed to two developments in international politics: firstly, the atmosphere of rapprochement in general amongst nations greatly reduces the number of sensitive issues and this in turn helps survival of international 'hard norms'; secondly, LOSC itself contains new rules advocated by new states in the Third World and

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87 Timagenis GJ International Control of Marine Pollution II 1980 523.
88 Ibid.
89 Text of LOSC can be found in ILM 11(6) November 1982 1261-354.
90 Part XV s3 subsequently lays down 'limitations and exceptions to applicability of section 2'.

therefore is more acceptable to them.[91] One should not forget that in the past many developing countries opposed certain basic principles of traditional law[92] in whose formulation they had not participated.[93] The fact that LOSC only comes into force on 16th November 1994 should not prevent us from realizing that the adoption of LOSC per se evidences the desirability of a compulsory international judicial regime recognized by most states in the world. The status quo however is by no means satisfactory, nor is it completely hopeless. It is true that there is no universal and comprehensive compulsory judicial settlement which can cover every aspect of international life and the entire surface of the globe. On the other hand, it is also true that there are certain kinds of disputes and some national territories which do fall under a compulsory international settlement regime. After the end of the Cold War, the continuing improvement in international political relations will no doubt give a further boost to developments here. This is the reason for the optimism of this author. We might expect the growth of a compulsory judicial system at the international level during the next decade or two. To argue that there is no international compulsory settlement of any kind at this stage would be, it is submitted, incorrect.

1.2.4 Concluding remarks

The purpose of the above discussion is twofold. Firstly an effort is made to identify changes in the international political environment which enable us to change our perception of international law. Only by using the latest 'edition' of the concept of international law, can one handle contemporary international affairs more accurately.

91 Edwards n1 219.
92 Timagenis n87 524.
93 An observation made by an African delegate at the 1974 Caracas Law of the Sea Conference, see The Times (London) 30 August 1974 4; see also Edwards n1 220.

Secondly, it is always the duty of the academic to advance the treatment of current problems in international law and to keep interested parties, including policy-makers at the national level, informed of developments. This in turn will help to shape a uniform international legal order in the future. In the past, the ineffectiveness of international law was mainly caused by the fact that the international political environment was quite unsympathetic to its application.[94] Logically, any change in the international political arena should necessarily have some impact on the operation of international rules. Due to the diversification of state activities today, Edwards correctly points out that there are two new trends in the development of international law: on the one hand international law has moved into economic concerns; on the other hand the field of public international law and the field of private international law now impinge upon one another.[95] The implication of the former is that more or less sensitive issues (in a relative sense) now come into the sphere of international law and the international community has more opportunities to establish 'hard-norms'. The latter means 'pure' public international law would probably not be enough to handle all problems of an international nature nowadays, for example the problem of compensation in a maritime incident involving transnational oil pollution. This author has also identified three emerging streams, following the international political 'mutations' at the beginning of this decade, in legal development at the international level: the revival of the legislative functions of the UN, the enhencement of international sanctions and the burgeoning of compulsory international settlement. All these discussions point to the fact that the physiognomy of international law is changing. Here it is also worth mentioning that not all municipal legal systems are perfect and without flaw. We

94 Edwards nl 227.
95 Ibid 222.

witness some nations in a state of lawlessness. It is therefore unnecessary to be pessimistic in our efforts to promote a sounder international legal order.

Suffice it to say that while permanent international peace seems to remain Utopian, positive international law seems no longer to be a day dream. Positive international law burgeoned in the eighties and can be expected to grow in the nineties.

2. Viability of a common maritime regime for the South China Sea

Having established the groundwork for this study, we now turn our attention to the South China Sea for which this author will propose a common maritime regime. The exciting conclusion mentioned above, however, does not necessarily warrant the successful construction of such a regime. There are many exceptions to general rules. One might argue that the South China Sea could be one of those exceptions. One might also doubt the viability of a common maritime regime in the region. One could also question the adequacy of choosing the South China Sea as a candidate for such a regime. The prevailing view in the past was that Southeast Asia was one of the laggard areas in the world. Economically speaking, the Southeast Asian states in general were developing countries.[1] (Apparently 'developing countries' mean that they were poorer than their developed western counterparts). One writer even pointed straight out that one of the most tantalizing problems facing the countries of Southeast Asia was the problem of poverty.[2] Socially they faced the challenge of the communists[3] from both within and without. Politically, the region was

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96 Valencia MJ 'National Marine Interests in Southeast Asia' in Kent G and Valencia MJ ed Marine Policy in Southeast Asia 1985 34.

97 Pandey BN South and South-east Asia, 1945-1979 1980 174.

divided into the capitalist camp on the one hand and communist bloc on the other.[99] This clear-cut ideological confrontation had given rise to the political plight of the region for quite a long time. It was against this depressed background that several writers expressly conveyed their pessimism about the possibility of designing a regime applicable to the South China Sea as a whole. Chao clearly pointed out that there were two stumbling blocks to regional cooperation in Southeast Asia: the first was political differences between Indo-China states and the other states in the same regions the second was differing priorities due to different levels of development.[100] The former obviously referred to ideological friction and the latter to the problem of poverty. Others were even more pessimistic. Johnston and Enomoto opined that any regional cooperation would not be politically easy since it would be difficult to extend the plan to communist states, the Republic of China (ROC; Taiwan), Hong Kong, Macao and Brunei.[101] They asserted, therefore, that East Asia was the most audacious of UNEP's designations under its Regional Seas Programme.[102] Boxer argued that UNEP's plan for Southeast Asian waters seemed unrealistic in terms of programme development.[103] Needless to say the political confrontation, social upheaval and economic underdevelopment at that time in the region affected that author's confidence. Valencia, who had spared no effort to promote marine regionalism since the seventies,

99 Valencia MJ 'Southeast Asia: National Marine Interests and Marine Regionalism' ODIL 5(4) 1978 457.

100 Chao HT 'The New Zones of National Jurisdiction in the Law of the Sea: Developmental Implications for Southeast Asia' in Johnston DM et al ed International Symposium on the New Law of the Sea in Southeast Asia 1983 28.

101 Johnston DM and Enomoto LMG 'Regional Approach to the Protection and Conservation of the Marine Environment' in Johnston DM ed Environmental Law of the Sea 1981 350.

102 Ibid 332.

103 Boxer B 'Mediterranean Pollution: Problem and Response ODIL 10 (3/4) 1982 351.

recognized that regional cooperation in the South China Sea could be 'a hopelessly idealistic goal at worst'.[104] The arguments against cooperation in Southeast Asia culminated in Glassner's assertion '...Asia is the least organized. The peoples of this region have the least experience in working together toward common goals. There is nothing here comparable to the Organization of American States, the Organization of African Unity, or the Council of Europe. Nor is there an established subregional organization with broad objectives and legal competence.[105] Such a pessimistic attitude in fact prevailed throughout the eighties and inevitably had an adverse impact upon much academic work accomplished during the decade. Although one might argue that positive cooperation amongst ASEAN[106] states appeared good[107], or even asserted that regional cooperation already existed[108], the harsh fact of poverty had never been overlooked. In discussions on possible cooperation in the South China Sea, economic problems had

104 Valencia MJ 'Southeast Asian Seas: National Marine Interests, Transnational Issues and Marine Regionalism' in MacAndrews C and Chia LS ed Southeast Asian Seas, Frontiers for Development 1981 354.

105 Glassner MI 'The Land-Locked States of South and Southeast Asia and the Exclusive Economic Zone of the Indian Ocean' in Craven JP, Schneider J and Stimson C ed The International Implication of Extended Maritime Jurisdiction in the Pacific 1989 309.

106 ASEAN was founded by a Declaration on August 8 1967 and now has six member states: Indonesia, Malaysia, the Philippines, Singapore, Thailand and Brunei. The text of the ASEAN Declaration can be found in Peaslee J International Governmental Organization, Constitutional Documents I Rev 3rd ed 1974 145-6. As a matter of fact, Brunei is a new member of the Association. Brunei did not join the ASEAN until January 7 1984. See Kittichaisaree K The Law of the Sea and Maritime Boundary Delimitation in South-east Asia 1987 6.

107 Mahmud AA 'The Development of Non-living Resources: Problems and Opportunities for Marine Regionalism in Southeast Asia - the Malaysian Perspective' in Johnston et al ed n100 76.

108 Wisnumurti N 'Regional Cooperation: Some Reflections on its Institutional Aspects' in Johnston et al ed n98 168.

been raised more often than not. For example, caveats like the following were often added to proposals for a common marine pollution regime in the region: either marine pollution concerns enjoyed low priority amongst littoral nations[109] or pollution abatement technologies were too costly and economically not viable.[110] These caveats implied that the whole idea, ie a common legal regime for marine pollution at the regional level, could be jeopardized by economic difficulty at the national level. Taking into account the political and economic realities, one might doubt the viability of any plan designed to apply to the South China Sea as a whole. Under such circumstances, one might ask that whether it is worthwhile endeavouring to design such a regime in the first place? Criticisms might also come from other directions. The following question might be posed: since international political 'mutations' happened mainly in Europe, could a remote area such as Southeast Asia benefit from such events? Another more essential question might be: why is the South China Sea as a whole chosen as the candidate for a common maritime regime? In the following sections, we shall unveil the contemporary panorama in these tropical waters and land areas.

2.1 Regionalism in the South China Sea

Some scholars might be skeptical about the susceptibility of the South China Sea to a regional legal regime. It was once in fact recommended that the region should be divided into a number of subregions.[111] This was also the strategy that UNEP adopted. Under the East Asian Sea Program, UNEP in view of the vastness and heterogeneity of the region decided in the late seventies to limit its initiative to ASEAN states

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109 Valencia n96 42.

110 Sarma AHV 'Environmental Protection in Southeast Asia' in Johnston et al ed n100 119.

111 This recommendation was made at the Penang International Workshop on Marine Pollution in East Asian Waters. See also Johnston and Enomoto n101 332.

only.[112] Such a distinction would not seem desirable at first glance. Although it would seem to be practical to divide the South China Sea in accordance with political or economic criteria into communist/capitalist blocs or poorer/richer areas, the justification for doing so might however be questioned. For example, does 'the division into poorer communist bloc/richer capitalist areas' (communist bloc happens to be the poorer!) imply that lower standards or looser regulations are allowable in the poorer communist block, taking into account the economic severity in the bloc? If this is the reason for the division, it would create more problems than it would solve. If, on the other hand, the only purpose of the division, in accordance with political or economic realities, is merely to facilitate the establishment of subregions and within which uniform standards and regulations would be maintained, then such division would be totally superfluous. There is no need for such a tortuous procedure. In the former case, however, the argument is not totally without substance. The economic problem does constitute a main issue in international cooperation.[113] It is, however, by no means insoluble. Nor has it persisted to the same extent in the region. A turning point for all people in the region is now looming large. But we shall first turn to the reasons for the choice of the South China Sea as a whole for a common maritime regime.

2.1.1 International legal obligation

LOSC lays down the rules concerning cooperation of states bordering enclosed or semi-enclosed seas: art 122 defines 'enclosed or semi-enclosed sea' as:

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112 Ibid 350.

113 For a general account in this regard, please see Anand RP Confrontation or Cooperation? International Law and the Developing Countries 1987, especially chapter 6 thereof.

'For the purpose of this Convention "enclosed or semi-enclosed sea" means a gulf, basin or sea surrounded by two or more States and connected to another sea at the ocean by a narrow outlet or consisting entirely or primarily of the territorial seas and exclusive economic zones of two or more coastal States'.

Article 123 even stipulates the extent to which littoral states must cooperate:

'States bordering an enclosed or semi-enclosed sea should co-operate with each other in the exercise of their rights and in the performance of their duties under this Convention. To this end they shall endeavour, directly or through an appropriate regional organization:

(a) to co-ordinate the management, conservation, exploration and exploitation of the living resources of the sea;

(b) to co-ordinate the implementation of their rights and duties with respect to the protection and preservation of the marine environment;

(c) to co-ordinate their scientific research policies and undertake where appropriate joint programmes of scientific research in the area;

(d) to invite, as appropriate, other interested States or international organizations to co-operate with them in furtherance of the provisions of this article'.

Two observations can be made here.

Firstly, the South China Sea is a semi-enclosed sea. It is a sea bordered by twelve states or political entities: the Republic of China (ROC; Taiwan), the People's Republic of China (PRC), Hong Kong, Macao, Vietnam, Kampuchea (Cambodia), Thailand, Malaysia, Singapore, Indonesia, Brunei and the Philippines. Due to the presence of more than 200 islands and islets in the sea, no point is more than 200nm from land. The entire area of the South China Sea would therefore be subject to coastal state jurisdiction under

200nm regimes.[114] On the other hand, there are many straits connecting the South China Sea with other oceans. For example, the San Bernandino Strait, Verde Island Passage and the Surigao Strait provide shipping routes to the Pacific Ocean[115]; whereas Sunda and Lombok Straits connect the South China Sea with the Indian Ocean.[116] At this juncture, one might argue that this does not seem to conform to art 122 which clearly refers to a 'semi-enclosed sea' as a 'sea... connected to another sea or the ocean by a narrow outlet'. Indeed, the indefinite article 'a' here can hardly mean a number more than one. Fulfillment of this criterion is however doubtful. As a matter of fact, it is equally clear that the first criterion (narrow outlet) and the second (all national zones) in the article are disjunctive for the word 'or' is used between the two in the text. That is, one needs only meet one of them.[117] Alexander therefore considers the South China Sea to be a semi-enclosed sea.[118] Hence the twelve states or entities bordering the South China Sea have the legal obligation to cooperate in relation to the four subjects stipulated in art 123. Could the duty to cooperate in art 123 be customary international law and therefore binding upon littoral states irrespective of the

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114 Dzurek DJ 'Boundary and Resources Disputes in the South China Sea' Ocean YB 5 1985 257. See also Panupong A 'The New Zones of National Jurisdiction in the Law of the Sea: Developmental Implications for Southeast Asia' in Johnston et al ed n100 20; Valencia MJ 'The South China Sea: Prospects for Marine Regionalism' MP April 1978 87; Marr JC 'Southeast Asian Marine Fishery Resources and Fisheries' in MacAndrews and Chia ed n104 79.

115 Morgan JR and Fryer DW 'The Marine Geography of Southeast Asia' in Kent and Valencia ed n96 11.

116 Ibid.

117 Sometimes the 'narrow outlet' criterion is not even taken into account. See eg 'Reference and Finding Tools: Glossary/Directory' in Simmonds KR ed New Directions in the Law of the Sea C January 1989 7 under 'Enclosed or Semi-enclosed Seas'.

118 Alexander LM 'Regional Arrangements in the Oceans' AJIL 71 1977 90-1.

provisions of LOSC? The legal status of the duty to cooperate as customary law is in fact controversial. On the one hand, it is pointed out that international environmental law imposes a general duty on states to cooperate in their use of transboundary natural resources.[119] On the other hand, Meng argues that cooperation is treaty-based and 'there has not yet emerged a duty to cooperate under general international law, desirable as that would be'.[120] Such conflicting views regarding the duty of cooperation render its binding force, as customary international law, highly questionable. However, this is by no means a cul-de-sac. The situation might not be as bad as imagined if one takes into account the fact that there are seven states which signed LOSC (ie Brunei, PRC, Kampuchea, Malaysia, Singapore, Thailand and Vietnam[121]) and two even ratified it (ie Indonesia and the Philippines[122]). The question arises how a convention influences signatories? Article 8 of the Vienna Convention on the Law of Treaties stipulates that a state which has signed the treaty is obliged to refrain from acts which would defeat the object and purpose of that treaty until it shall have made its intention clear not to become a party thereto. O'Connell also points out the signature of a treaty is an act of good faith and not an empty gesture.[123] Good faith, he argues, in the context of international law, is more than 'good form' and 'it has

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119 Hoogstraten SV and Lamners JG International and National Legal Aspects of Transfrontier Pollution Report of the International Environmental Law Group of the NVIR to the 58th ILA Conference 1978 12; see also Brunnee J Acid Rain and Ozone Depletion: International Law and Regulation 1988 104.

120 Meng Q Land-Based Marine Pollution, International Law Development 1987 82.

121 Sea Changes 1 1985 8-9.

122 For Indonesian ratification see Sea Changes 4 1986 9; for Philippine ratification see Sea Changes 5 1987 12.

123 O'Connell DP International Law I 2nd ed 1970 222.

equitable implications that the law cannot ignore'.[124] Schwarzenberger asserts that good faith is one of the fundamental principles of international law.[125] On the other hand, it has been identified that one basic object or purpose of LOSC is to require states to cooperate both on a global and regional basis.[126] Cooperation amongst states, either at global level or regional level, has been categorized as a fundamental obligation of states laid down by LOSC.[127] The nine littoral signatories in the South China Sea are clearly under a legal obligation not to defeat cooperation amongst themselves required by the new law of the sea in terms of either art 18 of the Vienna Convention or fundamental principle of international law. Since the nine signatories are evenly distributed over the whole area, it would be fair to conclude that obligation of cooperation, although in a passive form at the moment, have been imposed upon the region as a whole. Any attempt to establish a subregion, no matter what the reasons may be, while excluding others from participating in any cooperative programme, will not be legally correct. Cooperation in the region as a whole is now legally obligatory and not a political choice. Even at this juncture, however, one might still oppose such a legal formulation. One might argue that art 123 of LOSC only stipulates that states shall endeavour to cooperate rather than 'shall cooperate'. In this sense, therefore, it would seem that art 123 is only of an exhortatory nature rather than enshrining a real obligation.

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124 Ibid. For a brief discussion on the legal effect of signature of a treaty, see Luyt FM 'Signature and Ratification: A Brief Note' Sea Changes 1 1985 124-8.

125 Schwarzenberger G 'The Fundamental Principles of International Law' Hague Recueil 87(1) 1955 195; see Edwards nl 334..

126 Report of the Secretary-General (of the UN) 'Protection and Preservation of the Marine Environment' in Simmonds KR ed New Directions in the Law of the Sea U7.1 February 1990 8.

127 Ibid.

Several writers, for example Boyle[128] and Schneider[129], held such a view. In addressing this problem, Brownlie distinguishes 'obligations of means' from 'obligations of result'.[130] 'Obligation of means' requires the state to perform or to refrain from a specifically determined action; 'obligation of result' only requires a state to bring about a certain situation or result.[131] In the former case, a particular course of conduct is established by international convention[132] in an extremely precise manner.[133] Breach will constitute an internationally wrongful act.[134] In the latter case, a state has freedom to choose the means needed to achieve the result required by the law.[135] Of course, if the state fails to bring about the result that will constitute a breach of international obligation.[136] Apparently art 123 falls within the latter category, that is it imposes an 'obligation of result'. The phrase 'shall endeavour' is somewhat confusing and there are difficulties in establishing its real meaning. Although states are only required to endeavour, the word 'shall' nevertheless is used here. Such phraseology might interfere with the obligation originally intended by the provision. For example, Hakapaa opines that the obligation conveyed by a 'shall endeavour' provision is not a definite one.[137] Brownlie's argument is of particular value in dispelling confusion. The duty to

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128 Boyle AE 'Marine Pollution Under the Law of the Sea Convention' AJIL 79 1985 354.
129 Schneider J 'Protection and Preservation of the Marine Environment: What is New About the Law of the Sea Convention?' in Koers AW and Oxman BH ed The 1982 Convention on the Law of the Sea 1984 571.
130 Brownlie I System of the Law of Nations: State Responsibility I 1983 242.
131 Ibid.
132 Ibid 245.
133 Ibid 254.
134 Ibid 253.
135 Ibid 242.
136 Ibid 263 and 269.
137 Hakapaa K Marine Pollution in International Law 1981 117.

cooperate laid down by art 123 is clearly an 'obligation of result' where as states are left to freely choose any means in their endeavour to achieve cooperation. This assertion is reinforced by the unequivocal statement of Brownlie that the obligation which requires states to take 'all appropriate measures' to achieve a given result without giving an indication of what the appropriate measures may be, is an 'obligation of result.'[138] Obviously states shall try 'all appropriate measures' in their 'endeavours'. The abovementioned example is, therefore, applicable squarely to the case of art 123.

After determining the legal nature of art 123, the conclusion is reached: there is clearly a cooperation obligation amongst littoral states in the region of the South China Sea. Due to the fact that most of these states signed LOSC, they are obliged not to defeat any effort, regardless of the means chosen, to achieve the object of cooperation as a whole. Any attempt to promote cooperation sub-regionally might be unlawful in terms of the new law of the sea. Of course, when LOSC enters into force on 16 November, 1994 and all states in the region have ratified it, they will have to carry out their outstanding obligations fully taking all possible active measures to achieve the goal of cooperation. They will not just be bound by passive 'not to defeat' obligations. In either case, we are necessarily obliged to adopt a holistic approach in dealing with the problems of Southeast Asia.

2.1.2 Practical necessity

In addition to the legal foundation upon which regional cooperation is based, there is another which must receive consideration: practical necessity. Since states in the region of the South China Sea are obliged to cooperate, they

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138 Brownlie n130 257.

must do so in the several specific fields stipulated by art 123 of LOSC: above all, in the management of living resources and the protection of the marine environment. In dealing with these two subjects, it has been point out that any artificial management will not alter the fact that (1) many marine resources are transnational in distribution; (2) the ocean, as a continuous and fluid system, transmits environmental pollutants; (3) many maritime activities transcend the national maritime boundaries.[139] In short, many of the problems facing individual states have causes and effects which transcend political divisions.[140] The importance of regional cooperation in the protection of the maritime environment becomes more evident in an enclosed or semi-enclosed maritime area such as the South China Sea. In this region, a pollutant of any kind entering the maritime environment within one national jurisdiction quickly has a deleterious impact upon neighbours.[141] In other words, pollution problems within the region can readily become international.[142] Under such circumstances, individual efforts to contain a marine pollution incident would easily be rendered futile. The same can be said about the living stocks of the sea. If stock moves freely between national maritime zones, extension of jurisdiction, while barring access to other states, will not by itself solve the problem of resource management.[143] The living resources in the South China Sea by no means restrict themselves to national maritime zones and readily cross artificial political boundaries. There are some highly migratory species which are known to migrate between the waters of two or more

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139 Valencia MJ and Kent G 'Cooperation: Opportunities, Problems and Prospects' in Kent and Valencia ed n96 369.

140 Burbridge PR and Koesoebiono 'Coastal Zone Management in Southeast Asia' in MacAndrews and Chia ed n102 134.

141 Ruddle K 'Pollution in the Marine Coastal Environment of ASEAN Countries' in MacAndrews and Chia ed n102 166.

142 Morgan and Fryer n115 24.

143 Valencia n114 95.

countries.[144] Skipjack, yellowfin and other tunas are example.[145] There are also some species which occur in the waters of two or more countries.[146] These include inter alia mackerel, roundscad and sardine.[147] Even anadromous and catadromous species exist in the region. For example the Indian shad lives its adult life in the ocean and ascends rivers to spawn, like the salmon of North America and Europe.[148] Malaysian prawn, on the other hand lives in rivers and enters the sea to spawn.[149] It goes without saying that to manage all these stocks effectively, all states in whose maritime territories they occur must cooperate in management. Any reckless unilateral exploitation of living resources may damage the interests of the region as a whole. Bilateral or multilateral agreements might not necessarily be enough to tackle this problem. It has been correctly pointed out that such ad hoc agreements would quickly become too numerous and complex for rational management. Hence a single multilateral agreement is preferred for the resolution of all fisheries (resource) management problems in the region.[150] To summarize: it is the physical nature of the subject-matter which dictates cooperation at the regional level. Neither pollutants nor living resources will limit themselves to artificially defined political boundaries. Pooling the efforts of all littoral states is therefore the only way to resolve the problems of an enclosed or semi-enclosed water body effectively. This however is only one facet of the story, the human side should not be overlooked either. The practical needs of management should be taken into account as well.

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144 Marr n114 94.
145 Samson ED 'Fisheries' in Kent and Valencia ed n96 107.
146 See n144.
147 Samson n145 108.
148 Marr n114 181.
149 Ibid.
150 Valencia n114 95.

Managerial approaches in regional cooperation include, amongst other things, concluding international treaties, establishing standing regional management organizations and harmonizing the laws of littoral states on management of their maritime zones.[151] All these approaches involve the need to establish uniform sets of rules and regulations[152] or at least shape the laws of the littoral states so that they are similar or linked[153] in order to achieve efficiency.[154] Efficiency is quite an important factor in management. It should be pursued by the collective efforts of littoral states even in the absence of the supportive traditions of regional cooperation.[155] It is common sense that if there are two distinct or dissimilar sets of rules in an enclosed region, the looser regulations could undermine the efforts of states which adopt a more rigid approach. For example, the adverse effects of an oil pollution incident arising out of the laissez-faire approach of one state could readily spread into the maritime zones of neighbouring states with stricter maritime regimes. The endeavours of the latter are thus negatived by the former, especially when account is taken of the higher cost of enforcing a stricter regime. With an enhanced probability of oil pollution transcending the maritime zones of neighbouring states, states with rigid control might question the utility of having such rigid control. The ineffectiveness of a regime might lead to its abolition with resultant anarchy in the region as a whole. In short, looser regimes could prolong problems rather than resolve them. It should also be pointed out that the states with a laissez-faire attitude will not be net beneficiaries. A

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151 Kent G 'Harmonizing Extended Zone Legislation in Southeast Asia' ODIL 13(2) 1983 248.
152 Alexander n118 108.
153 See n151.
154 Johnston and Enomoto n101 286.
155 Ibid.

state which turns a blind eye to pollution from ships could attract older, substandard ships to its ports and thus derive some commercial benefit from this. The pollution might however cause severe damage to offshore living resources or foul beautiful beaches and thus affects fisheries and tourism. The amount saved by not establishing and enforcing marine pollution regulations could be outstripped by the cost of clean up operation or subsidizing the livelihood of fishermen. If all littoral states manage their maritime affairs in such a way, they cannot be expected to cooperate with each other on the regional level. They simply will not be able to afford the additional cost of this. The laissez-faire approach is not necessary therefore efficient. From an economic or financial point of view, an efficient regime will enjoy long-term support at both national and regional levels. We see here how national regimes and regional arrangements interact. Hence the effort of maximizing national benefit must be conducted in the regional context. At the regional level, uniformity of jurisdictional regimes would greatly simplify and facilitate enforcement.[156] Large sums of money could therefore be saved and channelled for other social and economic purposes.[157] The individual state might not be able to achieve rational management due to inability to isolate itself from the wider environment. It must be borne in mind that the world oceans and seas are in fact one single water system. Well managed regional cooperation can achieve better results with lower costs. In this regard a collective effort in the South China Sea or other enclosed/semi-enclosed water bodies is preferable to individual action. The physical nature of the subject forces cooperation in the management of an enclosed sea. Only an efficient regional programme based upon uniform regime (or

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156 Valencia n114 94.
157 Tangsubkul P ASEAN and the Law of the Sea 1982 63-4.

at least coordinated regimes) can however guarantee success. These two factors are in fact the two sides of one coin.

These practical factors are also reflected in theoretical thinking. Alexander distinguishes three types of marine region: physical regions, management regions and operational regions.[158] By 'physical region' Alexander means ocean basins and semi-enclosed seas and he identifies the South China Sea as belonging to this category.[159] He correctly points out that physical regions represent logical sites for management programmes.[160] It is true that 90% of the circumference of the South China Sea is occupied by land.[161] It can therefore be clearly distinguished from the next water body around it. There is no doubt that any problematic event in this relatively closed marine system would impact upon the littoral states rather than outsiders, especially pollution. Apparently, such geographical features exacerbate the problems by containing the pollutants for a considerable period of time before they can be removed from the region by the natural exchange of water with the open ocean. Under these circumstances it is quite logical to focus on the region as a whole, no more and no less, in dealing with any problem therein. Next Alexander defines 'management region' as a region where there is a well-defined management problem.[162] The problem may be in the area of fisheries, environmental control, scientific research or other ocean activities.[163] Southeast Asia by no means can avoid these problems now considered to be world-wide.[164] It should therefore be dealt with in a holistic

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158 Alexander n118 89-93; Valencia follows this classification n99 422.
159 Alexander n118 89-91.
160 Ibid 91.
161 Alexander n118 87.
162 Valencia n116 92.
163 Ibid.
164 For example, fishing has been identified as a very important source of food supply for Southeast Asian

manner in terms of management. Alexander, however, stresses the key point is that the area where the problems occur, may be distinguished geographically from other maritime areas thereby justifying its treatment as a separate maritime region.[165] Obviously the establishment of a management region is dependent upon the identification of the physical region. The physical region is, at any rate, the foundation of any managerial programme. Finally, Alexander deals with 'operation regions'. By this term he refers to the regions with one or more formal arrangements.[166] When a regional treaty or other arrangement is established recognizing the existence of the management problem therein, then the management region becomes the operational region.[167] It is to be stressed here that the operational region should coincide with the physical region since the operational programme is dedicated to the resolution of problems occurring within the area limits of the latter. One might argue, nonetheless, that not all operational arrangements in practice coincide with geographical characteristics. For example, UNEP's East Asian Seas Programme limits its applicability only to ASEAN states and thus covers only about half of the South China Sea. To this skepticism, Alexander replies acutely that '... unfortunately in many instances the operational area established by decision makers either represents a case of attacking the wrong management issue or else is a case of addressing the right issue but within the wrong geographic limits'.[168] Apparently the South China Sea in toto is not yet an

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nations. See Tangsubkul n155 43. On the other hand, marine pollution has also been identified as a serious problem in the region, see Tangsubkul P 'The New Zones of National Jurisdiction in the Law of the Sea: Developmental Implications for Southeast Asia' in Craven, Schneider and Stimson ed n105 56-7.

165 Alexander n118 92.

166 Ibid 93.

167 Ibid.

168 Ibid

operational region at the moment. It is however the intention of this author to motivate its becoming such a region. Before proceeding however, it is important to ensure that the South China Sea is a basic analytical unit in terms either of its physical feature or its susceptibility to management.

Finally, an oft-overlooked advantage of regional cooperation should be mentioned here. 'Extraregional' nations always constitute a source of 'menace' to 'intraregional' states since the former have much less to gain by obedience to the rules laid down by the latter and enforcement of the various uncoordinated laws might prove difficult or impractical.[169] The situation in the South China Sea is even worse, especially taking into account the generally inadequate means of enforcement possessed by Southeast Asian states.[170] A uniform regime at the regional level might help to subject 'extraregional' states to the control of littoral nations.[171]

The above arguments favour the proposition that Southeast Asian states 'shall' cooperate whether in terms of legal obligation or in accordance with practical necessity. At this juncture, one might ask a crucial question: is this realistic? That is, can the political, economic and social situations in the South China Sea region offer an environment in which regional cooperation can be firmly rooted? As mentioned earlier, international laws do not exist in a vacuum and it is the political, social and economic circumstances which provide the raison d'etre for its norms. Therefore the realities of Southeast Asia do have some relevance for possible future cooperation in the

169 Morgan JR 'Marine Regions and Regionalism in Southeast Asia' MP October 1984 309.
170 Morgan JR and Fryer DW 'Defence' in Kent and Valencia ed n96 234.
171 Valencia n114 94.

area. A favourable environment more is likely to bring with it success.

2.2 Economic environment in the South China Sea

It is true that poverty was a common characteristic of most Southeast Asian states in the eighties. Though poverty was a vicious cycle, the will to fight it was there. Not only did South China Sea states spare no effort to fight it during the last decade, but it was precisely the problem of poverty which elicited such an effort. Even the communist bloc had begun to embark upon economic reform from the beginning of the 80s, not to mention the unremitting endeavour by capitalist counterparts to develop their economies. Such simultaneous efforts made Southeast Asia the fastest growing economic region in the world.[172] On the communist side, it is well-known that the PRC has adopted the 'Open-Door Policy' to improve is lagging economy from about 1980. This policy made the PRC the third top performer in the world of average annual growth of GDP between 1980 and 1989.[173] Although the explosive growth of the population[174]has eroded some (or most) of the fruits of this amazing economic development, the PRC still managed to maintain its GNP per capita at the level of US$300 or so without falling back.[175] The PRC's economic situation has not deteriorated in the least. Vietnam which is to the south of the PRC did not hesitate to take measures to improve its problematic economy either. Its reform programme was initiated in 1986[176] and is starting to bear fruit. Up to now the economic reform has made considerable

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172 'Muck and Brass' The Economist May 5 1990 65.
173 Newsweek July 8 1991 3.
174 At the end of 1990 it was estimated that the population of the PRC was 1.14 billion. See Central Daily News November 2 1990 4.
175 Ibid.
176 Mackay C 'Good Morning Vietnam' Asia Money December/January 1989/1990 26.

progress.[177] Due to the more flexible attitude of the Vietnamese, it has been pointed out that Vietnam is even more promising than China.[178] Chaotic Laos, the only land-locked state in the Southeast Asia, also decided to engage in some economic reform. The Vientiane government finally approved foreign investment laws near the end of the eighties in an effort to bring back capitalist money to Laos.[179] Although the programme has encountered difficulties, there are still optimists. Perhaps we should look at it from the point of view that at least the Laotians are now taking steps to try to end the persistent poverty in their country. There is always hope that such efforts will be successful. In the capitalist camp, the countries perform much better. In addition to Singapore, Hong Kong and the ROC which are now categorized as Newly Industrialized Countries (NICs)[180], the remaining states have also caught up in terms of the rate of economic growth.[181] Amongst them, Thailand is the fastest grower.[182] The following statistics provide a clearer picture of the economic situation in Southeast Asia as a whole.

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177 Ibid 28.
178 Ibid.
179 Davies B 'The Lawless Jungles of Laos' Asia Money December/January 1989/1990 34.
180 Schiarone G International Organizations 2nd ed 1985 367.
181 See n172.
182 Ibid.

Countries	GNP per capita US$	Countries	GNP per capita US$
PRC	304 (1990)[183]	Laos	180 (1988)[184]
ROC	7997 (1990)[185]	Hong Kong	9642 (1988)[186]
Philippines	740 (1990)[187]	Thailand	1377 (1990)[188]
Indonesia	530 (1990)[189]	Singapore	10535 (1990)[190]
Malaysia	2315 (1990)[191]	Kampuchea	50 (1987)[192]
Brunei	14120 (1987)[193]	Macao	3000 (1987)[194]
Vietnam	200 (1989)[195]		

Two observations can be made here. Firstly, we witness an improved regional economy. Poverty is no longer a common feature throughout Southeast Asia. After the efforts of a decade, changes in the economic situation of the region have been realized. According to the World Bank's classification, world economies have been divided into three categories: low-income economies, middle-income economies and high-income economies.[196] Low-income economies are those with a GNP per capita in 1988 of US$545 or less.[197] Middle-income economies are those with a GNP per capita in 1988 of more than US$545 but less than US$6 000. A further division, at GNP per capita of US$2 200 in 1988, is made between lower-middle income and upper-income economies.[198] High-income economies comprise those with a GNP per capita in 1988 of US$6 000 or more.[199] Amongst thirteen states or political entities in Southeast Asia (twelve littoral states

183 Central Daily News November 2 1990 4.
184 Paxton J ed The Stateman's Year-Book 1990-1991 795.
185 The Free China Journal May 17 1991 3.
186 Paxton ed n184 607.
187 Newsweek September 24 1990 42.
188 Ibid 40.
189 Ibid 42.
190 Ibid 39.
191 Ibid 42.
192 The World in Figures 1987 13.
193 Paxton ed n184 239.
194 See n192.
195 Paxton ed n184 1585.
196 The World Bank: World Development Report 1990 x.
197 Ibid.
198 Ibid.
199 Ibid.

and land-locked Laos), four are now high-income economies: the ROC, Brunei, Singapore and Hong Kong. Malaysia and Macao belong to the upper-middle-income economies. The Philippines and Thailand are lower-middle-income economies. The remaining five belong to the low-income group. Today almost half of all Southeast Asian states or entities enjoy living standards of more than upper-middle income. (But this would not be true of the population, for PRC has the majority!) This means that the financial restraint has been greatly relaxed in the region. Capital flows from richer to poorer can not only help the latter to further their economic endeavours but can also help to reduce reliance upon aid from 'extraregional' powers. More important is that the region as a whole is more likely to be able to afford cooperation since more states have better economic capability to meet the financial requirements of cooperative programmes. The economic situation in the region is by no means totally satisfactory. Nevertheless it does provide a more favourable environment for the survival of regional cooperation.

Secondly, economic growth inevitably involves industrial development. This in turn has two implications. On the one hand, in addition to welfare such development also brings some adverse effects. Pollution for example is one of these adverse effects. As a matter of fact, in much of Asia economic progress seems synonymous with severe environmental damage.[200] In this sense, economic development requires urgent international cooperation to contain its side effects so that the fruits of such development should not be dissipated. Apparently a careful balance of interests is desirable here. It would not be reasonable to allow a reckless pursuit of economic growth which at a later stage might be proved wrong in that the cost of removing the

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200 See n172.

damage done by that policy might outstrip the benefit of deriving from it. Hence Brundtland, the former Norwegian Prime Minister, submitted the idea of 'sustainable development' which encapsulates the hope of combining growth with greenery.[201] This reflects exactly the need to balance interests in the policy-making process. On the other hand, industrial development also implies the search for new commercial opportunities to maximize revenue. In this case, economic growth itself may provide an incentive to cooperate. Concomitant with economic progress, the states concerned may be more willing to cooperate at least in the economic field. In practice this might be proved correct, at least in the region of the South China Sea, by the fact that Malaysia has already proposed the establishment of an 'East Asian Economic Community'.[202] This cooperative programme is not yet of course a reality. The motive behind it should not however be overlooked: the desire to further economic growth. The opportunities to cooperate might therefore be found in the momentum of economic development.

In short, economic development creates both the need for cooperation to contain its adverse side-effects and the desire for cooperation to further progress. The improved economic situation in the region of the South China Sea now provides a relatively better milieu in which cooperation becomes a more affordable goal for the littoral states. All of these things indicate a better chance of survival for any future cooperative programme.

2.3 Socio-political environment in the South China Sea

Economic reform cannot be conducted in a political vacuum. Economic development is not possible without political will. When some political effort is diverted at the economy,

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201 'The World Through Green-tinted Specs' The Economist May 19 1990 66.

202 Central Daily News February 11 1991 1.

opportunities to lessen political tension amongst nations are created. Gorbachev's perestroika leading to the end of the Cold War is a case in point. In the region of the South China Sea, there were three traditional stumbling blocks which prevented states from cooperating with each other. The first one was the intransigence between Indo-China communist states (ie Vietnam, Laos and Kampuchea, especially Vietnam) and the ASEAN nations.[203] The second was the full-scale hostility between the PRC and the ROC which constituted the most troublesome political issue in the region.[204] The final one was the isolated status of the ROC[205] owing to the fact that most states in the region were pressured by the PRC not to recognize it as a political entity de jure. The implications of the latter factor were that the ROC on most occasions did not have any opportunity to cooperate with others. Icy relations have however been thawing here.

The first sign of hope emerged in 1983 when Vietnam appeared to agree to hold talks with ASEAN on Kampuchea. The latter had been occupied by Vietnam since 1979.[206] This gesture brought about the possibility of rapprochement between Vietnam and ASEAN for the first time. Furthermore, since Vietnam first flew the banner of economic reform in 1986, relations have improved substantially at least in the economic field. This improvement led to the shift in Thailand's policy in 1988. Thailand declared its intention of turning Indo-China 'from a battle field into a marketplace'.[207] From that time onward, Thailand began to invest in Vietnam, a former enemy.[208] Commercial interest

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203 Valencia n99 458.
204 Ibid 469.
205 Ibid 457.
206 'Lets Talk, Maybe' The Economist March 19 1983 55.
207 'A Golden Thought' The Economist March 4 1989 70.
208 The subjects of Siam-Vietnamese cooperation (joint ventures) included department stores, hotels, shrimp

in Vietnam is by no means however limited to ASEAN states. Others have followed suit. At the end of August 1989, Hong Kong, Thailand and Singapore became respectively the seventh, eighth and tenth biggest investors in Vietnam.[209] What the Vietnamese now want is to be welcomed back into the international community[210] rather than pursue a meaningless ideological confrontation. In addition to such sympathetic moves, the former Soviet Union also used its leverage to get Vietnamese troops out of Kampuchea and joined the United States, France, the United Kingdom and the PRC in approving a UN peace plan to end the Kampuchea civil war.[211] (Here we see how international political changes can affect regional politics.) Here we have a very good prospect in the nineties of removing all political obstacles between Indo-Chinese states and the ASEAN and full-scale cooperation could be expected between these two groups.

Besides the praiseworthy development mentioned above, there is another even more dramatic change on the eastern rim of the region. On May 1, 1991, the ROC formally ended the Period of Communist Rebellion which was adopted in 1948. Thus the ROC unilaterally ended its 43 year old hostility to the PRC. Having ceased to view the Chinese Communist Party as an insurgent group, the ROC now recognizes the PRC as an existing political entity and views the Beijin Government as the 'Chinese Communist Authority'.[212] This decision not only eased legal and ideological constraints on ROC officials and enabled them to adopt a more pragmatic approach, but also created a new atmosphere which will accelerate the pace of interaction and promote closer

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farms, canning factories and commercial banking. See ibid.

209 Mackay n176 27.

210 'Dollar, Please' The Economist September 30 1989 64.

211 See n21.

212 Central Daily News May 2 1991 1.

relations.[213] Nevertheless, this was by no means the starting point. In fact, the official termination of hostility itself was the culmination of a series of previous acts. The origin of the process can be traced back to 1987 when the ROC government officially lifted the ban on mainland visits for family reunion purposes as part of its political and social liberation programme.[214] The immediate effect was a boom in the ROC's indirect trade with the PRC.[215] In 1988, the death of the former President Chiang Ching-Kuo further eased the guiding imperatives of the ruling party in the ROC: ie steadfast anti-communism and the commitment to recovering the mainland.[216] In 1990, the ROC formally permitted the exchange of agricultural and fishery technology with the PRC.[217] By the middle of the same year, the ROC's investment in the PRC had reached US$1.3 billion and indirect trade between them had surged to nearly US$4 billion a year.[218] Although the PRC has not responded more positively to the ROC's conciliatory approach[219], the latter has not abandoned its bona fide unilateral efforts. The ROC has not only drafted a 'Mainland Relations Act' which will govern interactions between the peoples of these two areas[220], but has also established the Straits Exchange Foundation to deal with bilateral issues with the PRC on a semi-official basis.[221] All such unilateral steps will no doubt continue to ease the traditional tension between the two sides of the Taiwan Strait. On the other hand, the PRC has not totally rejected the ROC's efforts. For example, a

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213 'Bridge to the Mainland' FEER May 9 1991 8.
214 'Sweet Sorrows for Those Long Parted' FEER January 14 1988 40.
215 'The Legacy of Reform' FEER January 28 1988 18.
216 'President Lee Unlikey to Win Party Leadership' FEER January 28 1988 22.
217 Central Daily News September 4 1990 1.
218 'The Mainland Dilemma' FEER October 18 1990 29.
219 'Relatively Relaxed' FEER February 28 1991 13.
220 'Narrowing the Gap' FEER August 23 1990 17.
221 See n213.

memorandum on Fishery Cooperation[222] was signed by the two in 1990 including, inter alia, coordinated efforts in conservation of marine resources.[223] The intention of the PRC has become clearer: it is willing to leave political issues aside for the moment to welcome the capital, management skills and other specialized technologies of the ROC.[224] Although barriers have not been totally removed, it has however been correctly pointed out that it will be more difficult in the future for politics to prevent economy-orientated cooperation which benefits both parties.[225] In short, the unilateral effort of the ROC has greatly reduced the tension of more than forty years in the Taiwan Strait. Apparently such a development, once started, would be irreversible.

Another line of development which is helpful to the promotion of a cooperative atmosphere is the improvement of relations between the ROC and the rest of the states in the region. As mentioned earlier, the diplomatic isolation of the ROC thwarted any hope of cooperation in which ROC participation was contemplated. That was a direct result of the dispute over who should represent China, a dispute in which obviously the PRC got the upper hand. Facing enormous pressure exerted by the PRC, the ROC experienced no small difficulty in upgrading its restricted external relations even in Southeast Asia. However, since most states in the region decided to commit themselves to economic development in the eighties, the situation has gradually changed. Tangible commercial interests seem more attractive than

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222 Although the ROC delegates were not officials, nevertheless they were backed by the government. On the other hand, the PRC counterparts were governmental officials. The Memorandum, therefore, could be deemed a semi-oficial document. See Central Daily News September 4 1990 1.

223 Ibid.

224 Ibid.

225 Ibid.

hollow political slogans. The first states in the region to send ministers to the ROC during recent years to attract investment were Malaysia and Indonesia.[226] Such direct contact at official level has proved economically fruitful. For example, as at the end of 1990, the ROC had become the top investor in Malaysia.[227] This in turn instigated Thailand to follow suit. In May 1991, Thailand finally sent its Minister of Finance to the ROC to discuss several economic issues. This was the first time since Thailand severed diplomatic ties with the ROC in the mid-1970s.[228] The Philippines also climbed on the bandwagon and entered into a fisheries agreement with the ROC in July 1991.[229] The official delegate of the Philippines referred to the agreement as an 'agreement between two countries'.[230] All these events represent a diplomatic breakthrough in relation to the total political isolation of the ROC. The determination to pursue economic growth no doubt has helped open up official links between most of the ASEAN states and the ROC, at least to some extent. In addition to the capitalist ASEAN, the ROC is also making headway with communist Vietnam.[231] In the second half of 1990, the two countries sent semi-official or official delegates to each other to discuss economic matters, trade, fishery cooperation[232] and the establishment of air and sea links.[233] The enhancement of cooperation between the two culminated in the visit of the Vietnamese Minister of Civil Aviation to Taipei.[234] This was the first Vietnamese contact with the ROC at ministerial level since the victory

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226 Central Daily News August 2 1990 8.
227 Central Daily News July 15 1991 8.
228 Central Daily News May 11 1991 1.
229 Central Daily News July 6 1991 1.
230 Ibid.
231 'A Trend to Friends' FEER November 29 1990 13.
232 Central Daily News June 6 1990 8 and September 27 1990 8.
233 Central Daily News November 24 1990 7.
234 Central Daily News May 8 1991 2.

of the communist regime in 1975. As a matter of fact, relations between the two countries have improved substantially since 1990. The prevailing attitude now of most states in the region towards the ROC is like the stance adopted by Indonesia, `to deal with the ROC economically and the PRC politically'.[235] In short, the draconian political isolation of the ROC has been greatly relieved and will no longer totally block the way to cooperation in the region of the South China Sea as a whole.[236]

Further detailed description of the development of international politics in the region is not necessary. Suffice it to say that with intransigent ideological stances fading away and national welfare becoming the main concern amongst states, cooperation in the region as a whole is now not totally out of question. At this juncture, one might still argue that the political situation in the region is still not optimistic enough to have full-scale cooperation. It is to be stressed, nevertheless, that regional integration is not the objective of this study. What this author contemplates is only a common maritime regime on several specific subject-matters. At any rate, we do witness a shift in basic values amongst littoral societies which improves the chronic political stasis of this tropical maritime area. Southeast Asia, therefore, has a good starting point in the prosperous decade.

2.4 The physical environment in the South China Sea

Since the South China Sea is the target of this study, some basic background has to be provided for the purpose of

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235 Central Daily News August 8 1990 1.

236 Recently (July 1991) Indonesia sponsored an international conference on possible cooperation in the South China Sea in which the ROC, along with the PRC, had been invited to participate for the first time. This clearly evidenced the view of the author. See Central Daily News July 16 1991 1.

comprehension. In addition to a brief but essential description of the contemporary political and economic environment of the region, a rudimentary knowledge of the physical geography of the South China Sea is also required. All these provide the foundations for the analysis.[237] In the past this requirement could have handicapped study due to the general lack of information in this regard.[238] Fortunately, several basic works appeared in the eighties.[239] We therefore have a relatively solid basis for further academic elaboration. Any future cooperative planning for the region can be expected to derive quite a few benefits from these pioneering efforts.

Southeast Asia extends from approximately 15° S to 25° N latitude and from 92° E to 145° E longitude and is roughly 5 800 km (3596 mi) east to west, 4 500 km (2790 mi) north to south.[240] At the heart of this rectangular area is the South China Sea.[241] The South China Sea is 3.5 million sq km in area[242] and is located between Asia and Australia and between the Pacific and Indian Oceans.[243] It is surrounded by the Philippine Islands in the east, China in the north, the Indo-Chinese and Malay Peninsulas in the west, Borneo in

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237 Morgan and Fryer n115 9.

238 For example, O'Brien asserted that 'too little is known of the geological and physiographic setting [in the area of the South China Sea]...' See O'Brien R South China Sea Oil Two Problems of Ownership and Development 1977 36.

239 For example, Haile NS 'Bathymetry and Geology of Southeast Asian Seas' and Soegiarto A 'The Oceanographic Features of the Southeast Asian Waters; in MacAndrews and Chia ed n104; Morgan JR and Valencia MJ ed Atlas for Marine Policy in Southeast Asian Seas 1983; and Morgan and Fryer n115.

240 Morgan and Fryer n115 11.

241 Morgan n169 304.

242 Valencia MJ Southeast Asia: An Overview 1981 13; see also Meith N and Helmer R 'Marine Environment and Coastal Resources in Southeast Asia: A Threatened Heritage' Ocean YB 4 1983 262.

243 Soegiarto n239 20.

the south.[244] It therefore forms a geographical unit.[245] In oceanographical terms, this body of water is part of the Pacific Ocean[246] since it is mainly filled with waters from the latter.[247] From a bathymetrical point of view, the area is extremely complex since nearly all types of topographical features can be found in it: shallow continental shelves; deep sea basins; troughs; trenches; continental slopes; volcanic and coral islands.[248] The complexity of the region is by and large due to its location at the junction of four moving tectonic plates colliding with and pushing under or past each other: the Eurasian; Indo-Australian; Pacific and Philippine Plates.[249] Viewed as a whole, the South China Sea is a sea basin with relatively high edges and a deep sunken centre.[250]

The relatively high edges refer to the continental shelves which enclose the area from all directions except the Philippine side.[251] These include mainly Mainland and Sunda shelves.[252] The Mainland Shelf extends from Taiwan Strait and narrows to about 50nm south of Hainan.[253] It includes all of the Gulf of Tonkin and narrows off the coast of Vietnam ending at Cam Ranh Bay from where the Sunda Shelf begins.[254] The Mainland Shelf between Taiwan and Hainan is as much as 278 km wide[255] and reaches a maximum depth of

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244 Yuan PC 'China's Offshore Oil Development Policy and Legislation: An Overall Analysis' IJECL 3(2) 1988 110.
245 See n243.
246 Ibid.
247 Morgan and Valencia ed n239 14; see also Morgan and Fryer n115 14-5.
248 Soegiarto n239 23.
249 Haile n239 4.
250 See n244.
251 Chiu H and Park CH 'Legal Status of the Paracel and Spratly Islands' ODIL 3(1) 1975 5.
252 Valencia n114 88.
253 Morgan and Fryer n115 13.
254 Ibid.
255 Morgan and Valencia ed n239 6.

278m.[256] Generally speaking, this section is relatively featureless.[257] Depths are 60-80m in the Taiwan Strait and 20-40m in the Hainan Strait.[258] The floor of the Gulf of Tonkin exhibits a central valley 70m deep opening toward the mouth of the Gulf.[259] The Sunda Shelf, being an area of 2.2 million sq km in extent, underlies the Gulf of Thailand, the southern part of the South China Sea, the Malacca Strait and the Java Sea.[260] It reaches a maximum width of 216nm.[261] At the southern part of the South China Sea, the continental shelf is about 40m deep at its periphery and up to 100m deep in the middle, whereas the adjoining Gulf of Thailand is about 70m deep in the middle.[262] Although the continental shelf is relatively flat, a number of island groups rise from the floor including, inter alia, the Natuna and Anambas groups on the Indonesian portion of the shelf.[263] The continental slope is spread out under the water at depths of between 170m and 3 600m, reaching a depth of 3 600m at the abyssal plain where the South China Sea Basin begins.[264] Being the central depression in the region, the Basin covers about 580 000 sq km[265] and varies in depth from 4 300m in the central[266] to 5 420m in the deepest part.[267] A seamount province of volcanic origin crosses the central portion of the Basin from the northeast to the southwest.[268] In the shallower southern part, many of these seamounts emerge as coral reefs, atolls and banks[269] of which the Paracels and

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256 See n249.
257 Ibid; see also n255.
258 See n253.
259 See n255.
260 Haile n239 8.
261 See n253.
262 Soegiarto n239 26.
263 See n253.
264 See n244.
265 Dzurek n114.
266 Haile n239 15.
267 Zhang L Marine Geology 1980 83; see also n244.
268 See n114.
269 See n266.

the Spratlies are the most well known.[270] In spite of the reduced steepness of the topography in this southern area, the depth drops suddenly to almost 1 000m around the Paracels and to almost 3 000m at some points northeast of the Spratlies.[271] Furthermore, the water depth plunges to the east in the Palawan Trough from 2 900m to 3 400m.[272] This runs parallel to the islands of Palawan and Borneo for 550km.[273] In the north of the Palawan Trough, there is a 5 000m deep Manila Trench off western Luzon[274] which cuts away most of the continental shelf on the western side of the Philippines. Finally, the North Luzon Ridge between Taiwan and the Philippines, connecting the island of Taiwan with the Batan Islands and Luzon, closes the northeastern gate of the South China Sea Basin to the Pacific.[275] Geographically speaking, this sea basin has quite an independent topography.[276] In addition to the central South China Sea Basin, the other two major sea basins are the Sulu and Celebes Basins. The Sulu Sea is surrounded by the Mindanao in the east, Sulu Archipelago in the south, Sabah in the southwest, Palawan in the northwest and is largely under Philippine jurisdiction.[277] The sea floor is divided by the Cagayan Ridge veering to the northeast.[278] The northwest part of the basin is occupied by terraces 1 500m and 2 000m deep[279], whereas the part southeast of the Cagayan Ridge reaches a depth of 5 000m forming the Sulu

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270 Katchen MH 'The Spratly Islands and the Law of the Sea: "Dangerous Ground" for Asian Peace' Asi Sur 17(12) December 1977 1170; see also Cheng T 'The Dispute Over the South China Sea Islands' Texas ILJ 10 1975 266; Yuan n244 111; Morgan and Fryer n253.

271 See n251.

272 See n266.

273 See n114.

274 Morgan and Valencia ed n239 8.

275 Ibid.

276 The South China Sea Basin has been described as 'a sea basin in its own right'. See n244.

277 Morgan and Fryer n115 31.

278 Haile n239 17.

279 Ibid; see also n274.

Trough.[280] The Celebes Sea lies between Mindanao and Sulawesi and is surrounded by Philippine and Indonesian archipelagic waters in all directions. Most of the Celebes Basin is over 4 000m deep.[281] Other smaller depressions of the sea floor in the region include, inter alia, the Makassar Basin and the Flores Basin. The former, between the Sulawesi and the Borneo, is shallower and less than 2 500m deep.[282] The latter which is located between Sulawesi and the Island of Flores reaches depths more than 5 000m in the centre.[283]

The South China Sea region is situated almost between the Tropic of Cancer and the Equator and is strongly influenced by the monsoons.[284] In the northern hemisphere summer (May to September) the atmospheric pressure over the sea is greater than over the land, therefore winds are predominantly from seas to land.[285] This means the south-west monsoon prevails.[286] During the northern hemisphere winter (December to March) the high pressure system is over the Asian mainland whereas the oceans have relatively low pressure. Winds, therefore, are predominantly from the northerly quadrant.[287] In other words, north-easterly winds dominate at this time.[288] In the southern hemisphere, conditions are the reverse.[289] Surface currents in the South China Sea are greatly influenced by the monsoon regime.[290] During the south-west monsoon, north-easterly currents dominate the surface flow.[291] Whereas during the

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280 Ibid.
281 See n278.
282 See n274.
283 Ibid.
284 Valencia n114 88-9.
285 Morgan and Fryer n115 14.
286 Morgan and Valencia n239 15.
287 See n285.
288 See n286.
289 Soegiarto n239 30 at n5.
290 Valencia n114 89.
291 Ibid.

north-east monsoon, the condition is reversed.[292] Just as the monsoons change direction twice a year, the oceanic circulation is also reversed over the region.[293] Such highly regular occurrences nevertheless lead to an undesirable outcome in that flushing rates of surface layer pollutants tend to be low.[294] This means that pollutants in some surface waters may remain in the same region indefinitely.[295] The oceanic circulation in the Gulf of Tonkin and the Gulf of Thailand is also weak[296] and gives rise to the same result. Apparently, such a natural endowment makes the region of the South China Sea especially vulnerable to marine pollution from any kind.

In addition to the circulatory current which helps maintain the pollution when it happens, there are a number of other natural phenomena which may precipitate incidents of pollution. Even natural phenomenon itself is a source of marine pollution. Morgan and Valencia classify four kinds of natural phenomena in the region as 'destructive natural hazards' by which they mean 'events that result in property damage or loss of life': volcanic eruption; earthquakes; tsunamis and typhoons.[297] The region of the South China Sea is a focus of volcanic activity. The 1883 eruption of Krakatao in the Sunda Strait exemplified the potentially violent nature of this kind of activity.[298] It was described as follows: 'the noise of this eruption was heard 3 000 miles (4 831 km) away and the ash cloud rose 50 miles and circled the earth'.[299] A recent example was the powerful eruption of Mount Pinatubo in the Luzon, the

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292 Ibid.
293 Soegiarto n239 31.
294 See n290.
295 Morgan and Fryer n115 15.
296 Ibid.
297 Morgan and Valencia n239 16-7.
298 Morgan and Fryer n113 19; see also Morgan and Valencia n239 16.
299 Ibid.

Philippines in 1991. Fist-size lumps of pumice were thrown as far as 25 miles.[300] The region is also subject to seismicity which is mainly concentrated along the Indonesian Archipelago, the Philippines and Taiwan.[301] This natural phenomenon is not limited to land, since it may be felt by ships at sea in several regions.[302] On the other hand, if earthquake and volcanic eruption happen under the sea then tsunamis will be caused which have struck coasts in the Philippines and Indonesia.[303] For example, the abovementioned 1883 eruption of Krakatao in the Sunda Strait caused a wave more than 30m high in the vicinity.[304] Finally, typhoons are the most destructive of natural hazards in this region.[305] The typhoon season is mainly from July through November and an average of 8.9 occur each year.[306] They are, nevertheless, observed only over the northern part of the South China Sea and the Philippines.[307] Typhoons damage ships at sea with high winds, violent waves, storm surges and torrential rains.[308] In addition to these four 'destructive natural hazards', there are, in accordance with the classification of Morgan and Valencia, four others of 'a more continuous and routine nature'[309] which might precipitate maritime casualties. 'Sumatras' or heavy rain squalls happen in the Straits of Malacca and Singapore during the southeast monsoon.[310] The sumatras are

300 'Awake after 600 Years' Newsweek June 24 1991 35.
301 Morgan and Valencia n239 16.
302 The regions include, for example, the maritime areas off Hong Kong and Macao, off the southeast coast of Taiwan, off the north and southwest coasts of Luzon, off the east coast of Borneo, off the north coast of Java. See Morgan and Valencia n239 15-6.
303 See n298.
304 See n301.
305 Ibid.
306 Ibid.
307 Soegiarto n239 30.
308 See n301.
309 Morgan and Valencia n239 80.
310 Chia LS 'The Straits of Malacca and Singapore: Navigational, Resource and Environmental Considerations' in MacAndrews and Chia ed n104 254.

accompanied by thunder, lightning, rain[311], short spells of winds up to 80km per hour[312] and reduced visibility[313], lasting less than an hour's duration.[314] They frequently occur during the pre-dawn hours and tend also to occur in spells of several consecutive days.[315] Another natural phenomenon in the Straits of Malacca and Singapore which may jeopardize the navigation therein is the moving sand waves at the bottom.[316] These unpredictable movements of the sea floor no doubt will constitute a menace to deep-draft vessels, especially taking into account the shallowness of the Straits. Strong tidal currents in some inshore areas are additional hazards.[317] For example, tidal currents of 2.5-3 knots have been recorded in the Straits of Malacca and Singapore.[318] In the narrower portions of Lombok Strait, there are tidal currents even up to 6 knots.[319] The final physical feature which may hamper marine communication in the region is the shallow waters within some specific areas.[320] The 'Dangerous Ground', which refers to the Spratly Islands, is a well known as being hazardous for shipping. [321] Numerous coral reefs rise above or lie just below the sea level.[322] The situation is further aggravated by the human factor in that the area is poorly surveyed.[323] All these natural phenomena, whether destructive or not, will to some extent have an impact upon the marine activities in the region. In designing a common maritime

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311 See n309.
312 See n310.
313 Morgan and Fryer n115 27.
314 See n310.
315 Ibid.
316 Ibid 252.
317 See n313.
318 See n309.
319 Ibid.
320 Ibid.
321 See n252; see also Katchen n270 1169-70; Prescott JRV The Maritime Political Boundaries in the World 1985 218.
322 Dzurek n114.
323 See n309.

regime for regulating activities at sea, all relevant limits imposed by nature should not be overlooked.

Finally, there is an intriguing geological characteristic which itself constitutes a source of pollution. In the western part of the Gulf of Tonkin, oil seeps have been observed on the surface of the sea for more than a century and in more than forty locations over a 10 sq km area.[324] Such natural seepage will inevitably aggravate the difficulties of implementing the regime of marine pollution control.

The following conclusions may now be stated. (1) There is an international obligation incumbent upon all littoral states in the South China Sea to cooperate with each other. (2) Practical necessity impels the need for cooperation in the region as a whole. (3) Improved economic conditions make more littoral states capable of affording regional cooperation. (4) The improved socio-political environment now allows all states or political entities in the region to meet and discuss cooperation. (5) The acquisition of basic data on physical geography will help to shape the future common maritime regime. Having drawn these conclusions, one now has to treat the following two questions: firstly, what will the precise politico-geographical extent of the contemplated regime be? Secondly, what subject matter should it cover?

3. Main concerns of this thesis

The answers to the above two questions will be treated in the reverse order.

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324 Valencia MJ 'Oil and Gas Potential, Overlapping Claims and Political Relations' in Kent and Valencia ed n96 175.

3.1 Problems which the Common Maritime Regime needs to address

Article 123 of LOSC, which imposes an international legal obligation of cooperation upon littoral states in the South China Sea, clearly stipulates that four subjects should be included in arrangements at the regional level: management, conservation, exploration and exploitation of the living resources of the sea; protection and preservation of the marine environment; marine scientific research and cooperation with extraregional states or international organizations.

The first problem which needs to be tackled immediately in the region is, it is submitted, marine pollution. The region is beset with environmental problems which are causing serious damage to its aquatic ecosystem.[325] The South China Sea has long been described as a 'sick sea'.[326] Contemporary marine pollution is not limited to vessel source pollution as one would have taken for granted in the past. Under LOSC, marine pollution includes pollution from land-based sources, from sea-bed activities subject to national jurisdiction, by dumping, from vessels and from or through the atmosphere.[327] Obviously three of these

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325 Mushkat R 'International Environmental Law in the Asia-Pacific Region: Recent Developments' Calif WILJ 20 1989 21.

326 M'Gonigle and Zacher n62 28; see also Meese SA: 'When Jurisdictional Interests Collide: International, Domestic and State Efforts to Prevent Vessel Source Oil Pollution' ODIL 12 (1/2) 1982, 80.

327 Articles 207, 208, 210, 211 and 212 of LOSC. Although pollution from activities in the Area (ie the International Seabed) is also included in art 209, this does not concern the region of the South China Sea. Due to the presence of more than 200 islands and islets in the sea, no point is more than 200nm from land. The entire area of the South China Sea would be subject to coastal state jurisdiction under 200nm regimes. Under art 76 of LOSC which entitles a coastal state to claim a continental shelf of 200nm even if the outer edge of the continental margin does not extend to that

directly contaminate sea water. Land-based pollution and air pollution also have however substantial impacts upon the marine environment. The seriousness of land-based pollution is indicated by the fact that 75-85% of detectable pollutants in the ocean are traceable to sources on land.[328] It is also increasingly recognized that there is a great deal of interaction between air and water in the environment.[329] Airborne pollutants can be carried across national boundaries by winds and further distributed by surface currents.[330] Because of this inter-relationship, air pollution has emerged as a factor deteriorating the aquatic environment.[331] The basic objective of LOSC is to prevent any sort of pollution[332] (the mandate for 'clean seas').[333] Exclusion therefore of any of the five pollutants mentioned above from coastal state regulation would be fatal to that fundamental goal. The ocean is a continuous and fluid medium. Hence, any common regime for marine pollution control in the region must deal with these five matters simultaneously. In addition to black-letter international law, environmental reality in the region also impels littoral states to take coordinated action without delay and in a holistic manner to redress the problems. The Southeast Asian milieu is threatened from all sides by human activities - from the land, from the sea and from the

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distance, there would be no international seabed left in this region. See n112.

328 Remond-Gouilloud M 'Land-based Pollution' in Johnston ed n101 230; see also Kwiatkowska B 'Marine Pollution from Land-based Sources: Current Problems and Prospects' ODIL 14(3) 1984 315-6.

329 Report of the UN Secretary-General n126 21.

330 Jaafar AB and Valencia MJ 'Marine Pollution: National Responses and Transnational Issues' in Kent and Valencia ed n96 274.

331 Brunnee n119 14.

332 Hakapaa n137 126.

333 Gold E 'New Directions in Ship-generated Marine Pollution Control: The New Law of the Sea and Developing Countries' Ocean YB 8 1988 201.

atmosphere.[334] There is oil pollution from offshore drilling[335], not to mention that coming from ships which renders the water 'sick'. There is also wide spread land-based pollution. This has already hit regional fisheries and tourism.[336] Waste dumping is becoming a major environmental issue amongst littoral states.[337] The problem is further complicated by the environmental malpractices of transnational corporations. These tend to dominate key and environmentally sensitive sectors in some developing countries in the area.[338] Air pollution giving rise to acidification has also been reported from China[339] and ASEAN states.[340] The problem has come to the point where 'China alone, by burning its dirty coal and making polluting refridgerators, could torpedo everybody else's efforts to stop the build-up of atmospheric carbon and damage to the ozone layer'.[341] The practical reason for handling all these problems together is rather that they already exist than a fear of creating loopholes by leaving some of them unregulated.

Because of the obligation imposed by LOSC and the critical and horizontal nature of the problems, the pollutants from all five sources will be dealt with in Part I of this thesis. Choice of alternatives and institutional

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334 Meith and Helmer n242 294.
335 Jaafar and Valencia n330 272.
336 Whipple Jr W 'Land-based Sources of Marine Pollution and National Controls' in Charney JI ed The New Nationalism and the Use of Common Spaces, Issues in Marine Pollution and the Exploitation of Antarctica 1982 58-9.
337 Mushkat n325 22-3.
338 Ibid 23; see generally ESCAP Transnational Corporations and Environmental Management in Selected Asian and Pacific Developing Countries 1988.
339 Zhao D and Sun B 'Air Pollution and Acid Rain in China' AMBIO 15(1) 1986 2-5 see also Brunnee n119 11.
340 Ibid 11 and 30.
341 'Survey: The Environment' The Economist September 2 1989 6.

arrangement for dealing with the problems will also receive brief attention. International customary law will not be overlooked since it may supplement conventional law in those areas not covered by the latter.

Equally important issues in the region concern fisheries. Two reasons account for their prominence. The first one is that they are indispensable to the livelihood of people in the littoral states. Fisheries have not only been a very important source of food supply for Southeast Asian nations, but also play an essential part in the overall economic development of the region.[342] The marine catch is about 11 percent of total world catch and there are at least five million people directly dependent upon fishing for their subsistence.[343] No less than twenty-five million people will be affected by decisions concerning the fishing industry in the area.[344] On average, the citizens in the region obtain 13% of their protein from marine products.[345] Any dispute over fisheries amongst littoral states, owing to the magnitude of potential consequences, will be a mjaor problem at both municipal and international levels. The more parties involved in a dispute, the more a regional issue it becomes. It would therefore be unthinkable to exclude fisheries issues when constructing a common maritime regime for the region. The second reason resides in the provisions of LOSC on EEZ fisheries.[346] LOSC, though unratified, nevertheless imposes one obligation on signatories. A state which signs must not act against the fundamental objects of the Convention. The fundamental

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342 Tangsubkul n157 43; see also Marr n114 75.
343 Samson n145 101.
344 Ibid.
345 Dzurek n114 258.
346 Bearing in mind that with the establishment of the EEZs, there will be no 'high seas' in the South China Sea. The regime of LOSC in relation to fisheries on the high seas, therefore, will become irrelevant here. See n114.

objective of the EEZ fishery regime of LOSC is to 'ensure... the living resources in the exclusive economic zone is not endangered by over-exploitation'.[347] It would be inconceivable for a state to try to achieve that basic goal without cooperating with its neighbours. Living resources are such that they cannot be divided by invisible lines drawn by men.[348] Fish caught in one zone will therefore affect both the quality and quantity of catches in neighbouring zones.[349] In this sense, enforcement with cooperation or in accordance with a regional approach is absolutely necessary.[350] The EEZ fisheries regime of LOSC is based upon this idea.[351] The requirement of cooperation is further reinforced by art 123 para (a) which obliges states bordering an enclosed or semi-enclosed sea 'to coordinate the management, conservation, exploration and exploitation of the living resources of the sea'. For these two reasons, fishery problems will be dealt with in Part II of the thesis which deals with non-pollution-related issues. It should be pointed out, however, that the EEZ fisheries regime of LOSC is by no means without flaw. The EEZ is a concept of relatively recent origin in the international law of the sea.[352] This 'new division' or 'new development'[353]

347 Article 61(2) of LOSC; see Edeson WR and Pulvenis J The Legal Regime of Fisheries in the Caribbean Region 1983 24.

348 Tangsubkul P and Lai F 'Possible Effects of the Law of the Sea on Devleopment in Southeast Asia' in Johnston et al ed n100 215.

349 Ibid.

350 Ibid.

351 For example: art 63 (stocks occurring within the EEZs of two or more coastal states or both within the exclusive economic zone and in an area beyond and adjacent to it) para 1, art 64 (highly migratory species) para 1, art 65 (marine mammals), art 66 (anadromous stocks) para 3(b) and art 67 (catadromous species) para 3; all of them stress cooperation in the management of living resources in the EEZ.

352 Barrie GN 'Fisheries and the 1982 United Nations Law of the Sea Convention' Act Jur 1986 44.

353 Robertson Jr HB 'Navigation in the Exclusive Economic Zone' Vir JIL 24(4) 1984 865.

necessarily implies that there are neither theoretical antecedents[354] nor uniformly long-standing state practices behind it.[355] Such a background, against which the EEZ fisheries regime of LOSC was adopted, may not only render the regime de lege ferenda[356] but may also give rise to substantial ambiguities therein.[357] It has been argued that state practice will play an important role in clarifying the meaning of the provisions.[358] It is doubtful however whether an ambiguous text will give birth to offspring in the form of uniform state practice. The result may be the reverse. An ambiguous EEZ regime in LOSC may give rise to diversified state practices.[359] Such diversity will undermine rather than promote the uniformity of the new LOSC regime which was originally intended. Special effort will therefore be made to sort out (in the words of Kwiatkowska) the 'obscured clarity of meaning' and the 'over-simplified concept'.[360]

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354 O'Connell DP The International Law of the Sea I 1982 570.

355 Burke conducted a survey before the formal adoption of LOSC in 1982 and asserted that '... economic zone concept is already established in international law because of multiple adoption of legislation claiming... such zones... [H]owever, elements in such legisalation differ... from one state to another...'. See Burke WT 'National Legislation on Ocean Authority Zones and the Contemporary Law of the Sea' ODIL 9(3/4) 1981 290.

356 Kwiatkowska B 'Conservation and Optimum Utilization of Living Resources' in Clingan Jr JA ed The Law of the Sea: What Lies Ahead? 1988 247.

357 Barrie even argues that the EEZ fisheries regime of LOSC lacks 'any substantive law'. See Barrie n352 46.

358 Ibid 43; see also n356.

359 This has been confirmed by a survey conducted by Juda in 1986, four years after the adoption of LOSC. In that survey, Juda observed that 'Though there is general agreement that the EEZ is already or is fast becoming an accepted doctrine in international law, there are differences in terms of exactly what this acceptance entails and what specific rights and duties it encompases'. See Juda L 'The Exclusive Economic Zone: Compatibility of National Claims and the UN Convention on the Law of the Sea' ODIL 16(1) 1986 2.

360 Kwiatkowska n356 246.

Before fully addressing the problems of fisheries, however, the maritime jurisdictional issues will be discussed in Part II. A number of such problems are found throughout the region.[361] Disputes over maritime boundaries always economically significant[362] and inevitably hamper the marine development of coastal states to some extent. It has been argued that none of the problems are of acute urgency at the moment.[363] Huge economic losses might however accumulate out of such events. In fact, it is precisely this which impels the states not to abandon their efforts at trying to resolve disagreements about maritime limits. On the other hand, one characteristic of the relations between maritime boundaries and exploitation of natural resources may have some relevance to the legal arrangement of the former. In practice, settlement of maritime boundaries is not necessarily a panacea for all maritime problems. In some cases, even though the boundaries are clearly demarcated, many resource-related policies still cannot be implemented unilaterally.[364] This is especially true in the case of fisheries. The location of fishery resources cannot be fixed or constant. Jurisdictional boundaries are therefore not entirely adequate for regulation.[365] Marine boundaries are of course more meaningful in the development of non-living resources on and under the continental shelf. Owing to the stationary nature of mineral and hydrocarbon deposits, boundary settlements have a greater significance in bringing about certainty in mineral and energy

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361 Prescott JRV 'Maritime Jurisdictional Issues' in Kent and Valencia ed n96 79.
362 Tangsubkul P 'The New Zones of National Jurisdiction in the Law of the Sea: Developmental Implications for Southeast Asia' in Craven, Schneider and Stimson ed n105 55.
363 See n361.
364 See n348.
365 Unar M 'Distributional Factors in the Fisheries of Southeast Asia' in Johnston et al ed n100 53.

exploitation than is the case with fisheries.[366] This means that the need for cooperation in this regard is relatively reduced. There are, of course, straddling deposits which defy dispute-free delimitation[367] not to mention those in the disputed areas. In many places basins bearing oil and gas do extend into areas of overlapping claims.[368] This phenomenon, however, is by and large confined to five specific areas with boundaries disputes in the South China Sea.[369] It is not a general characteristic of the region. Therefore coastal state strategy to exploit the non-living resources on and under the continental shelf is 'to proceed with seabed oil development in undisputed near-shore waters and to gradually expand their operation seaward'.[370] There is in general no need to cooperate with neighbouring states for a coastal state to exploit hydrocarbon resources within undisputed maritime limits. Nor does LOSC impose such a general obligation to cooperate here.[371] It is therefore argued that resolution of boundaries (or muting of boundary disputes) may be a prerequisite for development of hydrocarbon resources.[372] For this reason oil and gas issues will not form a separate topic in this thesis. They will be referred to briefly in the same chapter on boundary disputes. Finally, although boundary issues have less to do

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366 Kusumaatmadja M 'The New Zones of National Jurisdiction in the Law of the Sea: Developmental Implications for Southeast Asia' in Johnston et al ed n100 10.

367 See n348.

368 Valencia n324 155.

369 They are: Gulf of Thailand (eastern and southwestern parts), the area north, west and east of Natuna, offshore Brunei, 'Dangerous Ground' and the Gulf of Tonkin. See ibid 165.

370 Park CH 'Offshore Oil Development in the China Seas: Some Legal and Territorial Issues' Ocean YB 2 1980 316.

371 Unlike the EEZ fisheries regime, no general obligation of cooperation has been mentioned in the provisions concerning the continental shelf (Part VI, from art 76 to 85). One should also note that even art 123 on states bordering enclosed or semi-enclosed seas excludes this kind of cooperation.

372 Valencia n324 165.

with management of fisheries they are not totally irrelevant in every situation. In some cases, complicated disputes about boundaries in a very large maritime area could hamper the utilization of living resources. The problematic area of the Spratly Islands is the example. Being an area of 240 000 sq km or so[373], its 'very complicated'[374] boundary disputes in fact constitute a substantial stumbling block to the development of fisheries, not only in some industrial states but also to the region as a whole. Therefore, some comment on possible solutions of fishery problems in the Spratlies will be made while maritime jurisdictional issues therein are being discussed.

The remainder of Part II will be devoted to the following subjects: 'Protection of the rights of land-locked Laos under international law', 'Navigation through straits in the South China Sea' and 'Regional cooperation on Marine Scientific Research'. Land-locked Laos has been linked with the South China Sea in two ways. The first is geographical in that the Mekong River serves as the medium. The second is legal. LOSC, Part X, confers a general right of transit on land-locked states.[375] Since Laos[376] and all its four neighbouring coastal states[377] have signed LOSC, the latter will be legally obliged to deal with the problem of access to sea by Laos. To realize its full potential here LOSC should be ratified by transit states.[378] However, the transit states who signed it are still obliged not to defeat its fundamental objects. One of the basic goals of LOSC Part X, as identified by Van Zyl, is that a right of access

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373 Dzurek n114 259.
374 Prescott n361 83.
375 Churchill RR and Lowe AV The Law of the Sea 2nd ed 1988 327.
376 See n121 9.
377 That is: the PRC, Vietnam, Kampuchea and Thailand. Burma is excluded since it borders the Andaman Sea.
378 Van Zyl U 'Access to the Sea for Land-Locked States' Sea Changes 6 1987 127.

to the sea must be recognized for land-locked states.[379] Thus even at this stage the four neighbouring coastal states of Laos have to deal with the problem, although passively (ie not to defeat the object of LOSC). Article 69 of LOSC also gives land-locked states participation rights in the exploitation of an appropriate part of the surplus of the living resources of the EEZs of coastal states in the same subregion or region. There is therefore no justification for the exclusion of the problems of land-locked Laos from any future common maritime regime for the region. The penultimate issue (which cannot be overlooked) relates, of course, to navigation. For maritime powers unhindered passage through the seven seas is vital, both from a security point of view and from a commercial point of view.[380] Extension in a seaward direction by coastal states threatens these interests.[381] The South China Sea occupies a crossroads position between the Indian and Pacific Oceans and lies on the important trade routes of Europe, Africa, the Middle East, Japan and other Far Eastern nations.[382] However, because all littoral states except China have extended their maritime jurisdiction to a distance of 200 nm[383], the traditional absolute freedom of navigation on the high seas has been greatly reduced in the region. A more serious issue is that some critical straits and sea lanes important to marine communication are now either encompassed by the archipelagic claims of the Philippines and Indonesia[384], or fall within the 12nm territorial waters of

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379 Ibid 126-7.

380 Devine DJ 'Southern Africa and the Law of the Sea: Problems Common, Uncommon and Unique' Act Jur 1986 32.

381 Ibid.

382 Morgan and Valencia n239 93.

383 However, the PRC is considering national legislation concerning the EEZ at the moment. This means that the PRC will probably extend its offshore jurisdiction as well in the near future. See Yu M 'Marine Fishery Management in PR China' MP January 1991 30.

384 Valencia MJ and Marsh JB 'Access to Straits and Sealanes in Southeast Asian Seas: Legal, Economic and

littoral states.[385] Two groups with opposite interests are involved in the dispute. User states and strait states compete here.[386] Fortunately a compromise has been reached in LOSC between these interests.[387] A separate chapter will be dedicated to the examination of regional implementation of the solution contained in LOSC in relation to navigation through straits. Finally, it should be pointed out that marine scientific research is now becoming an area of concern in the contemporary international law of the sea.[388] On the one hand, it is a sine qua non for protecting the marine environment[389], for harnessing fishery resources and for exploration and exploitation of hydrocarbon and mineral resources.[390] On the other hand, Third World countries have exhibited an acute fear for this sort of marine activity.[391] The issue is by no means less sensitive in the South China Sea. Littoral states are greatly concerned that information gathered by research vessels may be used to their detriment.[392] It is against this background of conflicting interests that LOSC provisions regarding marine scientific research and their implementation in the region will be reviewed briefly.

Strategic Considerations' JMLC 16(4) October 1985 513-7.

385 This refers to the Malacca/Singapore Straits. See Vertzberger Y 'The Malacca/Singapore Straits' Asi Sur 22(7) July 1982 610; see also n309.

386 Sanger C Ordering the Oceans: the Making of the Law of the Sea 1986 90.

387 See n380.

388 Soons AHA Marine Scientific Research and the Law of the Sea 1982 1.

389 Kindt JW 'The Claim for Limiting Marine Research: Compliance with International Environmental Standards' ODIL 15(1) 1985 13.

390 Kusumaatmadja n366 13.

391 Kindt n389 14.

392 Olson HF and Morgan JR 'Enforcement of Maritime Jurisdiction' in Kent and Valencia n96 349.

3.2 The politico-geographical coverage of the Common Maritime Regime

Since it is a maritime regime for the South China Sea, the water body will be the subject matter of the future legal dispensation. This body of waters may be considered, in accordance with Marr's definition, to extend from a south-western boundary along the 3° 00's parallel between Borneo and Sumatra, north-east to an imaginary line drawn from the northern tip of Taiwan to the Fukien coast of the PRC.[393] Naturally all twelve littoral states or political entities in the region (ie the ROC, the PRC, Hong Kong, Macao, Vietnam, Kampuchea, Thailand, Malaysia, Singapore, Indonesia, Brunei and the Philippines) would be included in this regional arrangement, since they have both the right to conduct and the responsibility to regulate certain specific activities in their extended maritime zones. Bearing in mind that when individual state jurisdiction is extended to 200nm, all the South China Sea will fall within national claims. At this juncture one might dispute the appropriateness of including ROC and PRC (together with the colonies of Hong Kong and Macao) from a purely geographical perspective, for they are not traditionally regarded as a part of Southeast Asia.[394] It has been pointed out, however, that ROC and PRC (with Hong Kong and Macao) are in fact regional powers since their national interests impinge directly on the sea waters of the region.[395] Therefore, it has been suggested that these four states or political entities should join with others in the region with a view

393 Marr JC 'Fishery and Resource Management in Southeast Asia' Resources for the Future Paper No 7 in a series prepared for the Programme of International Studies of Fishery Arrangements, February 1976 4; see also Valencia n114.

394 Traditionally only the Philippines, Indonesia, Bruenei, Malaysia, Singapore, Thailand, Kampuchea and Vietnam are regarded as comprising Southeast Asia. See Lim JJ 'The South China Sea: Changing Strategic Perspectives' in MacAndrews and Chia ed n104 230.

395 Ibid 231.

to forming an enlarged Southeast Asia.[396] On the other hand, landlocked Laos should not be excluded from the contemplated regional scheme either. In addition to the two reasons already stated in the preceding section (3.1), the inclusion of Laos is especially relevant here in terms of marine pollution control. The Mekong River which connects Laos with the South China Sea pours some 475 billion m^3 of water a year into the latter.[397] Although Laos is classified as one of the 29 least-developed countries[398], it could become a major polluter through its economic development programme set in motion in 1986.[399] Unregulated industrial activities in that country, for example possible oil mining[400], might severely pollute the Mekong River and this in turn might contaminate the South China Sea. The waywardness of land-locked Laos might undermine the efforts of littoral states to contain the problems. Laos therefore should be accepted as a member of the littoral community to ensure that the regime will not fail.

4. Present state of regional cooperation in the South China Sea and its prospects for the future

Although the purpose of this study is to propose a common maritime regime for the South China Sea, this does not imply that the entire region is a legal vacuum or that cooperation is altogether lacking. Neither are the states in the region totally unconscious of the problems, nor do they hesitate to make efforts to redress them.[401]

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396 See n394.
397 Hiebert M 'The Common Stream' FEER February 21 1991 24.
398 Kurian GT Encyclopedia of the Third World II 3rd ed 1987 1136.
399 Gunn GC 'Laos in 1989: Quiet Revolution in the Marketplace' Asi Sur 30(1) January 1990 81.
400 Davies n179 37.
401 Valencia and Kent n139 365.

First of all, there does exist a regional cooperative scheme. The ASEAN covers six states out of a total of thirteen nations or political entities in the area.[402] Founded in 1967 with a view to promoting economic growth[403], ASEAN does not exist in name only. There have been substantive achievements. An 'Agreement on ASEAN Preferential Trading Arrangements' was concluded in 1977. This is a significant step in economic cooperation.[404] Although progress in cooperation is slow[405], it is much better than in the past.[406] The organization is not of course completely free from constraint.[407] It nonetheless provides a good opportunity for us to explore the possibility of utilizing its existing international machinery as infrastructure for the implementation of the provisions of the new law of the sea.[408] The littoral states in the region are by no means more insensitive to the common problems than those of other regions. As far as marine pollution is concerned, the problem in fact has already been identified as a main issue in the region from an early stage. In 1978, experts from ASEAN states agreed that protection of the marine environment should be the top priority.[409] In 1981, the ASEAN adopted an action plan

402 See n106.
403 Shee PK 'A Decade of ASEAN 1967-1977' Asi Sur 17(8) August 1977 755.
404 Ibid 757.
405 Ibid 761.
406 Fifield RH National and Regional Interests in ASEAN 1979 63 and 75-80; Watts D 'Why ASEAN is Commanding the Attention of Other Powers' The Times January 2 1981 14; see also Syatauw JJG 'Asean - Unexpected Progress in Asian Regional Organization' in Girardot RG, Ridder H, Sarin ML and Schiller T ed New Directions in International Law 1982 533.
407 Shee n403 764.
408 See n108.
409 In a meeting held in Jakarta, Indonesia, from 18-20 December 1978, environmental experts identified four areas as having top priority: (1) protection and management of the marine environment; (2) environmental development, especially the development of methodologies for environmental impact assessment; (3)

sponsored by UNEP for the protection and development of marine and coastal areas.[410] Although the countries of Southeast Asia are traditionally skeptical of international conventions on marine pollution control[411], nevertheless more such conventions are now being ratified by more littoral states and are being applied to more national maritime zones in this area.[412] It has been pointed out, therefore, that the regional response in this respect is 'probably no worse than the response of a number of other regions around the world'.[413] In relation to fisheries, several UN programmes are involved and have consciously promoted the regional approach with partial success.[414] The littoral states also have experience of bilateral cooperation in this field. For instance, Indonesia has made ad hoc agreements with the ROC and Thailand enabling the fleets of the latter to exploit the resources in the EEZ of the former.[415] Vietnam not only signed an agreement on fisheries cooperation with Kampuchea in 1984[416], but is also seeking such an agreement with Thailand.[417] The PRC also

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water and urban air quality monitoring; and (4) pollution control technologies. See Thacher PS and Meith N 'Approaches to Regional Marine Problems: A Progress Report on UNEP's Regional Seas Program' Ocean YB 2 1980 175-6.

410 UNEP 'East Asian Seas Action Plan 1989' Ocean YB 8 1989 517.

411 Jaafar and Valencia n330 303.

412 For detailed accounts, see Chapters of Part II infra.

413 Johnston DM and Letalik NG 'Emerging Legislative Trends in Southeast Asia' in Valencia, Gold, Chia and Letalik ed n58 239.

414 Samson n145 139.

415 Wisnumurti N 'Some Impacts of the 1982 Convention on the Law of the Sea Maritime Jurisdiction: An Indonesian Perspective' in Craven, Schneider and Stimson n105 47.

416 McDorman TL and Tasneeyanond P 'Increasing Problems for Thailand's Fisheries: Malaysia's New Fisheries Law' MP July 1987 211.

417 Le KC 'The Socialist Republic of Vietnam and Her Exclusive Economic Zone in Relations with Neighbouring Countries in Southeast Asia' in Craven, Schneider and Stimson n105 61. See also Valencia MJ 'Vietnam:

has experience in cooperation with Thailand on fishing joint ventures.[418] The latest example, as mentioned earlier, is the 1991 fishery agreement between ROC and the Philippines. ASEAN even started to introduce uniform regulation in 1981 with a common position on fish quarantine.[419] Cooperation in exploiting living resources in the EEZ's is by no means unusual in the region. On thorny maritime boundary issues, the states of the region have shown a flair for conflict avoidance through the use of several techniques.[420] Of course they have not yet resolved all boundary disputes. Their efforts, however, have paved the way for solving similar or more complex issues in the future. The established boundary arrangements could serve as good precedents in this connection. In so far as navigation through straits is concerned, Malaysia, Singapore and Indonesia successfully established a traffic separation scheme in the Malacca/Singapore Straits which came into effect on 1 May 1981.[421] This has been described as 'a victory for regionalism'.[422] There are also other kinds of cooperation in this maritime area including, inter alia, cooperation on marine scientific research[423] and joint naval

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Fisheries and Navigation Policies and Issues' ODIL 21(4) 1990 435-6.

418 Song YHB 'China's Ocean Policy: EEZ and Marine Fisheries' Asi Sur 29(10) October 1989 997.

419 Samson n145 150.

420 They are: joint development agreements (Malaysia-Thailand); cross-boundary unitization arrangements (Malaysia-Brunei); uncoupling of shelf boundaries from fisheries boundaries (Indonesia-Australia) and the negotiation of bilateral boundary treaties (a total of 15). See McDorman TL 'Implementation of the LOS Convention: Options, Impediments and the ASEAN States' ODIL 18(3) 1987 294-5.

421 Lauriat G 'Shipping' in Kent and Valencia ed n96 225.

422 Ibid.

423 The ROC and the Philippines jointly accomplished a project of marine scientific research in December 1990. It was reported that there still would be ten similar projects of cooperation in this regard between the two countries in the following four years. See Central Daily News December 29 1990 7.

patrolling.[424] There is no need to detail all the above events at this stage. They will be fully discussed in the latter part of this thesis. Suffice it to say that some groundwork has already been laid by the littoral states in the past years upon which the contemplated common maritime regime for the region could be based.

Finally, a key question may be asked. Given that there is an international legal obligation upon coastal states to cooperate in the region of the South China Sea and that the environment (political, social and economic) is relatively favourable to its development, what is the factor which will stimulate states to fulfil their legal duty and take advantage of the friendly milieu? Put another way: what will the catalyst be for the whole process of cooperation in the regime? The answer will provide momentum to the contemplated common maritime regime. It has been correctly pointed out that: 'the situation in the world today with respect to international flows of hazardous waste, marine pollution, or dwindling forest cover is comparable, problems born from decades of neglect and abuse may soon reach political crisis proportions and elicit a massive international reparations effort'.[425] This prediction has already been underlined by the fact that few governments (especially those of developing countries) now deny that the appeal of environmental movements is growing at home.[426] Such development trends are also a reality in Southeast

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424 For example, Indonesia and Malaysia have such arrangement in patrolling their common South China Sea border areas. Indonesia and the Philippines also have conducted joint naval surveillance in Celebes border waters. See Morgan JR and Fryer DW 'Defence' in Kent and Valencia ed n96 235.

425 Gaines SE 'International Principles for Transnational Environmental Liability: Can Developments in Municipal Law Help Break the Impasse?' Har ILJ 30(2) Spring 1989 332.

426 Greenberg SH et al 'Grass-roots Greens' Newsweek April 22 1991 39.

Asia. Several governments in the region, especially those of Thailand, Malaysia, the Philippines, ROC and Indonesia have experienced political pressure exerted by environmental groups from within.[427] It is precisely this sort of political pressure which presses the governments to take action at both municipal and international level. The political pressure is in this sense a result of environmental crisis. The more serious the crisis is, the more political pressure it brings about and in turn the more governmental action will be taken.[428] Governmental actions on the international plane are evidenced by ratifications of international conventions on pollution control. Hence, the political crisis stemming from serious pollution problems is the catalyst for the process of international cooperation. Most of the Southeast Asian states seem to be on the verge of reaching such political crises, hence the regional cooperation on marine pollution control may be envisaged in the not too distant future. At this juncture one might

427 Ibid 39-43. For a detailed account of the case of Thailand, see Hirsch P and Lohmann L 'Contemporary Politics of Environment in Thailand' Asi Sur 29(4) 1989 439-451. For the case of the Philippines with special reference to its deforestation problem, see Lynch Jr OJ and Talbott K 'Legal Responses to the Philippine Deforestation Crises' NYUJILP 20 1988 679-713. In relation to the recent development of environmental movement in the ROC, see Chang CJ 'When Victims Become Environmentalists' Sinorama May 1990 96-105; and Chang CJ 'Why Don't They Work Within the System?' Sinorama May 1990 106-113.

428 The relation between the environmental crises and the environmental movements which gives rise to political pressures upon governments is vividly described in the following three paragraphs 'The fight against ecological destruction is finally being taken up by those most endangered by it: the men and women whose children are dying of respiratory disease and whose habitats are being demolished by developers'; 'Most newcomers to the environmental movement are galvanized by the imminent prospect of losing their homes or livelihoods to the chain saws and bulldozers of progress' and 'In some places, pollution has become so blatant that people can no longer remain silent' (emphasis added). See Greenberg n426 38-40.

argue that such crises may not involve some underdeveloped states, like the three in the Indo-Chinese peninsula, since they do not have many industries for the moment. Without a catalyst for those states, a loophole may be created in the future regional regime. This argument is not totally without substance. Nevertheless Vietnam, a desperately poor country[429], ratified MARPOL on 29 May 1991.[430] A reasonable explanation for this even could be:

> 'For the environment is what poor countries live off. Typically, primary production - farming, forestry, fishing, mining - accounts for more than a third of their GNP, more than two thirds of employment and over half their export earnings. Their natural resources are their main assets. ... If nature turns sour, poor countries have far more to lose than the rich'. [431]

For this reason, people in poor countries have stopped seeing environmental protection as something that only rich countries can afford.[432] The Vietnamese example could be used to persuade other poor countries in the region, ie Kampuchea and Laos, to follow suit. In fact, every state in the region is now forced to deal with environmental problems for one of the two reasons mentioned above. There is a very good prospect, therefore, of establishing a common regional regime on marine pollution control in the nineties.

In relation to fishery disputes in the region, there is also a good prospect of solving them. The momentum for solution derives from the fact that governments cannot just bypass the issues without provoking local fishing communities and industries. The problems could easily become critical. This in turn would force authorities to enter into mutual agreements one way or another. Other issues might not constitute imminent crises in the region. One should not,

429 'Hello, Vietnam' Newsweek June 10 1991 36.
430 Information provided by IMO.
431 'Survey' n341 5.
432 Ibid.

however, overlook their collective importance (especially delimitation of maritime boundaries and marine scientific research) to the development of the South China Sea as a whole. On the one hand, developmental need could serve as a catalyst in speeding up cooperation in solving these problems. On the other hand, cooperation on marine pollution control and fisheries could greatly facilitate the solution of other regional issues.

PART II - POLLUTION RELATED TOPICS

CHAPTER 2

CHOICE OF ALTERNATIVES AND INSTITUTIONAL ARRANGEMENT

It was pointed out in the previous chapter that a need for regional cooperation on marine affairs definitely exists both because of international legal obligations imposed by LOSC and practical necessity. As far as marine pollution control is concerned, however, neither does LOSC provide detailed rules regarding the manner in which the states concerned should cooperate nor do the states in the region of the South China Sea as a whole have the experience of tackling the problem in a coordinated and collective manner. Legally speaking, the provisions on marine pollution in LOSC are of general nature and only establish guidelines to be followed in the course of further development of the law on marine pollution.[1] In addition to art 192 laying down a general obligation that states shall 'protect and preserve the marine environment', other provisions on marine pollution in the Convention only ambiguously require states to cooperate with each other in such a way that

> 'States, acting especially through competent international organizations or diplomatic conference, shall establish global and regional rules, standards and recommended practices and procedures (in the case of pollution from vessels, international rules and standards only) to prevent, reduce and control pollution...'.[2]

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1 Timagenis GJ International Control of Marine Pollution II 1980 599; see also Gold E 'The Control of Marine Pollution from Ships: Responsibilities and Rights' in Clingan Jr TA ed The Law of the Sea: What Lies Ahead? 1988 286.

2 Articles 207 (Pollution from land-based sources) para 4, 208 (Pollution from sea-bed activities subject to national jurisdiction) para 4, 210 (Pollution by dumping) para 4, 211 (Pollution from vessels) para 1 and 212 (Pollution from or through the atmosphere) para 3.

It has been pointed out that such wording is general[3], not comprehensive and much less than holistic.[4] If these provisions are to be put into practice, detailed methods and procedures will have to be developed and used.[5] Since the marine pollution regime of LOSC does not elaborate much in this regard, a more strategic approach is obviously necessary.[6] Since LOSC does not specify the means by which states shall fulfil the obligation to cooperate, they will have to decide upon their own strategy. Practically speaking, pollution in Southeast Asian seas remains a policy frontier in terms of scientific understanding and monitoring as well as implementation of controls.[7] Although the region is not totally devoid of legal control on marine pollution, to summon however all states in the region to engage in the construction of a concerted regional scheme to combat marine pollution problems would be a new challenge for all of them. No precedent exists which could be used as a guide in the development of a regional marine pollution regime. Against these two backgrounds one crucial question must be posed: what strategy should be adopted in the South China Sea for developing such a regional regime? Without a firm policy foundation, a subsequent regime could be jeopardized by ill-considered decision-making. It is therefore necessary to

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3 Boyle AE 'Marine Pollution Under the Law of the Sea Convention' AJIL 79 1985 350.

4 Johnston DM and De Klemm C 'The Environmental Law of the Sea: Conclusions and Recommendations' in Johnston DM ed Environmental Law of the Sea 1981 391.

5 Peet G 'Sea Use Management for the North Sea' in Brown ED and Churchill RR ed The UN Convention on the Law of the Sea: Impact and Implementation 1987 430.

6 Kindt JW 'International Environmental Law and Policy: An Overview of Transboundary Pollution' SDLR 23 1986 588.

7 Ruddle K 'Pollution in Marine Coastal Environment of ASEAN Countries' in MacAndrews C and Chia LS Southeast Asian Seas, Frontiers for Development 1981 136; see also Jaafar AB and Valencia MJ: 'Marine Pollution: National Responses and Transnational Issues' in Kent G and Valencia MJ ed Marine Policy in Southeast Asia 1985 267.

shed some light on the problem before we attempt to construct such a regime.

2.1 Choice of alternatives

As mentioned in the previous chapter, pollution problems in the region can readily become international events.[8] Domestic legislation is certainly not sufficient by itself.[9] Hence international cooperation and the creation of international rules have become inevitable.[10] In nearly forty years[11], this international legal reality has not changed. Today there are many global as well as regional conventions either in force or pending. Although some semi-enclosed seas have adopted their own regional conventions[12], this approach is not totally satisfactory. This kind of pollution regulation has certain problems.[13] The basis of regulation is territorially limited. This leads to conflict with maritime interests[14], in spite of the expectation that the 'vision of ecological holism' might possibly have a

8 Morgan JR and Fryer DW 'The Marine Geography of Southeast Asia' in Kent and Valencia n7 24.

9 Fleischer CA 'Liability for Oil Pollution Damage Resulting from Offshore Operations' Scand SL 1976 138.

10 Devine DJ and Erasmus G 'International Environmental Law' in Fuggle R and Rabie MA ed Environmental Management in South Africa 1992 157.

11 Boyle has identified the 1954 International Convention for the Prevention of Pollution of the Sea by Oil as the first serious attempt by the international community to cope with the increasing scale of marine pollution. See Boyle n3 347. Boczek holds the same point of view. See Boczek BA 'The Concept of Regime and the Protection and Preservation of the Marine Environment' Ocean YB 6 1986 284.

12 For example areas of the Baltic Sea, the Caribbean Sea, the Red Sea and Gulf of Aden, Persian Gulf and the Mediterranean Sea have adopted this approach. In the Baltic Sea however the approach was initiated by the Finnish government while the others were sponsored by UNEP. All these regional conventions will be referred to briefly in the following chapters of this Part for the purpose of comparative study.

13 Tulokas M 'The Baltic Sea and Pollution' Scand SL 1981 208.

14 Ibid.

chance of success within the regional framework of a semi-enclosed sea.[15] It has also been criticized on the ground that it is a disjunctive approach to constructing marine environment regimes and may not accord with a holistic treatment.[16] On the other hand, international conventions on marine pollution control also encounter difficulties. They are frustrated by the political consensus process which restrains their momentum.[17] Thus bringing them into force has become a slow process.[18] IMO conventions in general have taken close to a decade to enter into force. This means that they are often partially outdated before they become binding.[19] Some instruments have barely fulfilled the minimum requirements for entering into force, whereas many others which are in force have not been accepted by a majority of states.[20] Since both approaches have disadvantages and neither is perfect there is no better choice immediately available to the parties which is evident. Thus states would have to choose between these two alternatives after careful consideration. Although several other regional seas have adopted their own regional arrangements, this does not necessarily imply that the South China Sea would have to follow suit, especially taking into account the legal vicissitudes which have taken place at both international and regional levels. The establishment

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15 Haas EB 'Why Collaborate? Issue-linkage and International Regimes' WP 32(3) 1980 367; see also Boczek n11 282.

16 Ibid.

17 Meese SA 'When Jurisdictional Interests Collide: International, Domestic and State Efforts to Prevent Vessel Source Oil Pollution' ODIL 12(1/2) 1982 87.

18 See n13.

19 Grolin J 'The Stability of the Environmental Regime in the 1982 Law of the Sea Convention' in Koers AW and Oxman BH ed The 1982 Convention on the Law of the Sea 1984 609.

20 Report of the UN Secretary-General 'Protection and Preservation of the Marine Environment' September 18 1989, in Simmonds KR ed New Directions in the Law of the Sea U7 February 1990 23.

of regional convention is not totally excluded here either. What one has to do at this stage is to search for a convincing justification for defending whatever decision is made. So far the discussion may cause confusion. Shouldn't a regional convention be adopted for the purpose of regional cooperation in combating marine pollution? There is an undeniable international obligation incumbent upon the littoral states to cooperate in marine pollution control, but the means to achieve that goal are not pre-determined. Regional cooperation can be accomplished by ratification of existing international conventions by all coastal states in the region or by adopting a regional convention dealing with the problems. Ratification of international treaties creates less problems since it coincides with mainstream international environmental law development. A regional convention would however be more flexible agreeing with its international counterparts or not. As far as the South China Sea is concerned, the cooperation obligation imposed by LOSC is beyond any doubt and some sort of legal regime must exist to help states to achieve that goal. The precise content and nature of this are however left to the littoral states. The states in the region, therefore, will have three options for their regional arrangement: to reflect international conventions precisely; to establish a legal regime independent of the international; or to adopt a composite approach consisting of (i) selected international provisions on some topics and (ii) specific regional rules on other topics, ie a 'mixed' system. The task then is to define the precise nature the future regime should have rather than to argue about whether the cooperation obligation in LOSC exists. Should the future regional regime fit in with the international regime or be independent of it? The task is not as simple. Decision-makers would have to consider all the realities (political, economic, social and legal) and balance all interests before selecting the alternative which suits them.

Academic writers overwhelmingly advocate that states adhere to existing international anti-pollution conventions. For example, Meese[21], Johnston and De Klemm[22], Reinecke[23], Churchill and Lowe[24], Lachs[25], Abecassis[26], Hakapaa[27], Meng[28], Soni[29] and Lauriat[30] hold this point of view. This view is by no means the preserve of scholars and solely theoretical. The strategy has also been applied by international organizations. Since 1969 FAO and subsequently UNEP, have strongly urged states to ratify conventions on marine pollution control as a first step toward improving the Mediterranean marine environment.[31] In 1972, the Stockholm Conference on the Human Environment adopted Recommendations 86 and 92 calling on states to accept and implement existing instruments on the control of marine pollution.[32] Due to this Sub-Committee III of the UN Sea-Bed Committee dealing with the marine environment shifted its position. Marine regional arrangements should

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21 Meese n17 101.

22 Johnston and De Klemm n4 327.

23 Reinecke PR 'Legal Problems Resulting from Pollution' in UCT Law of the Sea: Proceedings of the Symposium on the Law of the Sea April 21-22 1980 87.

24 Churchill RR and Lowe AV The Law of the Sea 2nd ed 1988 282.

25 Lachs M 'The Challenge of the Environment' ICLQ 39 July 1990 669.

26 Abecassis D 'IMO and Liability for Oil Pollution from Ships: A Retrospective' Lloyd's MCL 1983 55.

27 Hakapaa K Marine Pollution in International Law 1981 292.

28 Meng QN The International Law on Vessel Source Pollution and the Caracas Convention (unpublished LLM thesis, Dalhousie University) 1982 225.

29 Soni R Control of Marine Pollution in International Law 1985 106.

30 Lauriat G 'Comment' in Valencia MJ, Gold E, Chia LS and Letalik NG ed Shipping, Energy and Environment: Southeast Asian Perspectives for the Eighties 1982 73.

31 Boxer B 'Mediterranean Pollution: Problem and Response' ODIL 10(3/4) 1982 327.

32 Timagenis GJ International Control of Marine Pollution I 1980 106; see also Boyle n3 349.

not be supplementary and preliminary to a general treaty on marine pollution control.[33] Instead arrangements to prevent and control marine pollution should be integrated into a holistic scheme of rules and standards involving all levels concurrently.[34] This position was adopted by UNCLOS III and LOSC.[35] In January 1982, the IMO Assembly also adopted a resolution on objectives for the 1980s. This showed a shift in emphasis from adopting new instruments to the consolidation, application and enforcement of existing ones.[36] In November 1984, an International Conference for the Protection of the North Sea was organized in Germany. The initiative to organize the conference announced in June 1982 indicated that the conference should not try to develop new legal regimes for the North Sea.[37] The Dutch government reacted by saying that it would be better to implement and further develop existing arrangements.[38] At the end of 1987, the second meeting of experts on the East Asian Seas action plan organized by UNEP specifically recommended that the ASEAN states should ratify all pollution-related international conventions for the protection of marine areas.[39] The Secretary-General of the UN also urged states to adhere to existing conventions and treaties in his report.[40] The above indicates that the mainstream of contemporary thought on marine pollution control supports a

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33 UN Doc A/AC 138/62 1971 5; see also Johnston DM and Enomoto LMG 'Regional Approaches to the Protection and Conservation of the Marine Environment' in Johnston ed n4 321.

34 UN Doc A/AC 138/84 1972 7; see also Johnston and Enomoto n33.

35 Johnston and Enomoto n33 322-3.

36 See n26.

37 Peet n5 431.

38 Minister Van Verkeer en Waterstaat. Harmonisatie Noordzeebeleid deel c: regeringbeslissing, Lower House Parliament session 1983 - 1984 17408 No 7-8, The Hague, March 1984; see also Peet n5 435.

39 'UNEP East Asian Seas Action Plan, 1989' Ocean YB 8 1989 522.

40 See n20.

holistic international approach. Nevertheless, there is some support for regions establishing their own regimes despite the enormous influence exerted by 'internationalists'. For example, Wang suggests the establishment of a regional enforcement system[41] and Brunnee calls for increased support of UNEP's Regional Seas Programme.[42] Kindt also advocates the formulation of regional arrangements.[43] At this juncture, however one may encounter a legal difficulty. If the international approach is to prevail, there would be less room left to manoeuvre for independent regional settlement. Johnston and Enomoto point out that the role of regional arrangement constituted a problem in the development of the new law of the sea.[44] The question is what should be the status of regional arrangements in the holistic approach? Or how should relations between regional schemes and international conventions be regulated? The answer to this question is of great significance to the region of the South China Sea since it would provide a theoretical basis upon which a choice among alternatives can be made. The question however seems to receive little treatment by scholars. A solution would help to settle issues about management in marine pollution control. This in turn would help the further development of international environmental law.

Although regional arrangement on its own is not totally satisfactory, it is not totally worthless either. Such programmes foster 'stability of expectation' for developers. Industry knows what environmental controls to expect.[45] Even LOSC lays down the cooperation obligation on a regional

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41 Wang CP 'A Review of the Enforcement Regime for Vessel-Source Oil Pollution Control' ODIL 16(4) 1986 335.
42 Brunnee J Acid Rain and Ozone Layer Depletion: International Law and Regulation 1988 149.
43 Kindt n6 595.
44 Johnston and Enomoto n33 323.
45 See n43.

basis.[46] Could the South China Sea however adopt a regional anti-pollution convention different from existing international ones? The answer is probably no. Several observations can be made here.

Firstly, one should not overlook vicissitudes in the development of international environmental law over the last decade. Here UNEP's Regional Seas Programme is pertinent. UNEP has been a member of the family since 1973.[47] Since it was obviously impracticable to secure the total involvement of UNEP in all environmental issues, it was decided at an early stage to establish programmes in certain designated areas of priority[48] in the global process relating to pollution prevention and control.[49] The purpose was to develop regional action plans for parts of the ocean where such plans did not yet exist.[50] Each plan would be followed by a general framework convention, supplemented by appropriate protocols.[51] The UNEP scheme in fact covers the marine areas of the Southeast Asian region. The draft action plan was drawn up by UNEP in 1979[52] and was formally adopted by the ASEAN states in 1981.[53] The plan targets the

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46 Article 197 of LOSC.
47 Johnston and Enomoto n33 324.
48 Ibid.
49 Meng n28 32.
50 UNEP Achievements and Planned Development of UNEP's Regional Seas Programme and Comparable Programmes Sponsored by Other Bodies UNEP Regional Seas Reports and Studies No 1 1982 2; see also Meng QN Land-Based Marine Pollution, International Law Development 1987 113.
51 Johnston and Enomoto n33 325.
52 Thacher PS and Meith N 'Approaches to Regional Marine Problems: a Progress Report on UNEP's Regional Seas Progrmme' Ocean YB 2 1980 177.
53 Generally see UNEP Action Plan for the Protection and Development of the Marine and Coastal Areas of the East Asian Seas Region UNEP Regional Seas Reports and Studies No 24 1983. See also 'Action Plan, 1989' n39 517.

Southeast Asian Seas for a Mediterranean-type protocol.[54] The 1976 Convention for the Protection of the Mediterranean Sea against Pollution (Barcelona Convention)[55] is one of a series of framework conventions successfully established under the auspices of UNEP.[56] Tulokas argues that the merit of such an approach is to achieve results faster than world-wide conventions.[57] However, there seems to be some inherent restraints in this policy. Generally speaking, the provisions in such conventions are of a general nature.[58] For example, the provision dealing with pollution from ships in the 1976 Barcelona Convention[59] is very general[60] to the extent that it has to resort to the global instruments, mainly MARPOL, to deal with the problem in detail.[61] The same convention also tackles the problem of dumping quite generally. It only calls on parties to take all appropriate measures to prevent and abate pollution caused by dumping.[62] As far as dumping issues are concerned, however, the 1976 Barcelona Convention is accompanied by a protocol called the Barcelona Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft.[63] It is intriguing to note here that this protocol is in fact modelled on the 1972 Convention on the Prevention of Marine Pollution by Dumping Wastes and Other Matter (London Dumping

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54 UNEP Report of the Intergovernmental Meeting on the Protection and Development of the Marine Environment and Coastal Areas of the East Asian Region, Manila April 27-29 1981 Annex IV - Action Plan 23 para 22.2.2; see also Jafaar and Valencia n7 298.
55 Text in ILM 15(2) March 1976 290-300.
56 The list of these regional conventions can be found in Report n20 15.
57 Tulokas n13 208.
58 See n56.
59 Article 6 of the said Convention.
60 Churchill and Lowe n24 251.
61 Hakapaa n27 91.
62 Article 5 of the said Convention.
63 Text in ILM 15(2) March 1976 300-6.

Convention or LDC).[64] This way of dealing with marine pollution problems adopted by UNEP is expedient. It puts existing international conventions into operation at the regional level before they enter into force. This is especially true in the case of international control of pollution from ships taking into account the fact that MARPOL 1973 took ten years to enter into force.[65] On the other hand, one should not overlook one feature of this approach. The texts of such regional conventions are couched in general terms. Detailed regulation of specific kinds of pollution is left to special protocols.[66] The protocols may be, as we have seen above, based upon existing international conventions. This kind of convention accompanied by detailed protocols may be a direct and effective way to fill the legal vacuum at regional level at a particular stage (say the seventies) when most international anti-pollution instruments had not yet entered into force and few states had ratified them. It may however be a tortuous way when most international conventions on marine pollution control have already entered into force and many littoral states have also ratified them in regions such as the South China Sea.

We should recall that in the case of UNEP's Regional Seas Programme, it is up to the detailed protocols to maximize the convention's effectiveness. Handl clearly points out that in the absence of specific standards, prevention and control of pollution of the global commons cannot succeed.[67] Nevertheless, if the protocols to a regional convention are to mirror the practice of existing international treaties,

64 Letalik NG 'Pollution from Dumping' in Johnston ed n4 227; see also Churchill and Lowe n24 270. Text of LDC in ILM 11(6) November 1972 1293-313.
65 Churchill and Lowe n24 252.
66 Boczek n11 281.
67 Handl G 'The Environment: International Rights and Responsibilities' in American Society of International Law: Proceedings of the 74th Annual Meeting 1981 228.

wouldn't this be a duplication of action in a region where many nations have already ratified the global instruments? It is to be emphasized that the initial idea of UNEP was, as mentioned earlier, to bring regional control of marine pollution into existence where there was none whereas in the South China Sea this is not so. On the other hand UNEP advocated ratification of existing global marine pollution conventions[68] and legal development of marine pollution control in the region goes squarely in that direction. Several international anti-pollution treaties are applicable to certain parts of the maritime area in the region. For example, six states or political entities, ie the PRC, Singapore, Hong Kong, Vietnam, Indonesia and Brunei, have acceded to MARPOL.[69] Three (the PRC, Philippines and Hong Kong) have ratified LDC.[70] As far as airborne pollution control is concerned, Singapore[71], Hong Kong[72], Malaysia and the PRC[73] have approved the 1985 Convention for the Protection of the Ozone Layer (Vienna Convention).[74] One cannot therefore say that there is no legal control over marine pollution. In the past it would have been praiseworthy for UNEP to utilize its Regional Seas Programme to speed up the establishment of a pollution control regime at the regional level while the international counterparts were being frustrated by municipal political processes. The end should not however be confused with the means. UNEP is to promote a global process rather than adhere to isolated regional programmes irrespective of the international context. The fact that UNEP has acted upon the guidelines laid down in the Stockholm Declaration[75] which adopted a

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68 See n31.
69 As of 24 June 1991. Data provided by IMO.
70 Bruce M 'The London Dumping Convention, 1972: First Decade and Future' Ocean YB 6 1986 300-1.
71 Sea Changes 10 1989 13.
72 Commonwealth Law Bulletin October 1989 1139.
73 Sea Changes 11 1990 16.
74 Text in ILM 26(6) November 1987 1529-40.
75 See n42.

holistic approach to the solution of marine pollution problems[76] clearly attests to this. Moreover, the similarity between regional arrangements sponsored by UNEP[77] reinforces the global nature of the latter's Regional Seas Programme. When there wasn't much progress in the development of a global regime, UNEP's strategy could easily dominate the scene and prevent us from seeing through it. Though one can appreciate a specific focus, one should not lose sight of the whole picture. Two things must be stressed here. On the one hand we should bear in mind at all times the real motive behind the programme. On the other hand, we should also realize that the raison d'etre for UNEP's planning has been gradually removed, at least in the region of the South China Sea, not only in that most international conventions have entered into force, but also in that several of them are now applicable in certain parts of the maritime areas of the region. In the present situation, the South China Sea is not an area of legal anarchy in toto nor is there an urgent need for UNEP to make efforts to try to bring into operation those conventions which are already in force. It would seem to this writer that, at the moment, Southeast Asian states should not establish a regional convention ignoring their international commitments. To convene a regional conference on marine pollution control and adopt detailed protocols which exactly copy existing international conventions might not be more effective than for those states in the region simply to ratify them. The former would be more costly. International conferences are by no means as cheap. Adoption of a regional convention could also have a negative impact in that it could draw attention away from the urgent need to approve existing global instruments. For these reasons this writer must join others in calling on those states in the region which have not yet acceded to global treaties to commit

76 See n33.
77 See n50.

themselves to such international efforts. Such an approach is also supported by two other factors worthy of mention. One is especially concerned with vessel-source pollution. Due to the inherently global nature of navigational activities[78], it has been pointed out by Kindt that the regional approach is generally inapplicable to pollution of this sort.[79] The other is that the alternative reference to regional rules and standards has actually been discouraged by LOSC.[80] O'Connell indicates that unless they mirror the provisions of global conventions, regional agreements are likely to be confined to pledges to avoid pollution, to monitor it, for cooperation between states in reporting oil slicks, investigating them and their movements, requesting and granting help to deal with them and otherwise rendering assistance.[81] It is not the intention of this writer to try to depreciate or even negate UNEP's strategy, since it worked quite successfully in the past.[82] Nevertheless, all the arguments made above led to the conclusion that there seems to be a need to clear up some blind spots therein. In the present case of the South China Sea, it would seem more appropriate to place stress upon ratification of global legal regimes rather than the establishment of a regional convention which disregards the former. An appeal should be made for participation by all states in the region in globally uniform efforts to combat marine pollution from all sources. It is submitted that UNEP's Regional Seas Program need not be phased out in the South China Sea. It can still play an auxiliary role enhancing the international rules.

Secondly, we have to take into consideration the economic implications of uniform international rules and standards.

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78 Hakapaa n27 90.
79 Kindt n6 602.
80 O'Connell DP The International Law of the Sea II 1984 1015.
81 Ibid.
82 Brunnee n42 148.

Pollution standards must be uniform in order to avoid distortion of competition.[83] Devine and Erasmus point out that the imposition of differing standards for environmental protection creates non-tariff barriers and discrimination in international trade.[84] Furthermore, a mosaic of different pollution regulations would inhibit transnational activities such as the shipping of oil.[85] On the one hand, it would hardly be possible economically for a state to impose high pollution standards on its industry if that means losing market share internationally.[86] On the other hand, environmentally conscious states do not even bother to impose lower regulations since this would not help much in stopping the continuous deterioration of their milieu although it might be of great advantage to their economic development. Obviously a balance has to be struck here. A set of uniform standards accepted internationally seems to be the only realistic solution in the sense that it is able to ensure that domestic and foreign products compete on an equal basis.[87] In short, the economic factors in the international control of marine pollution will become more important in the future due to the fact that world politics is increasingly dominated by international trade issues.

Thirdly, many different agencies of the UN, each set up to deal with a particular interest, have a mandate to deal with ocean matters whereas there is no formal coordination amongst them.[88] Such a state of affairs is highly undesirable since they may easily contradict one another and thus undermine each other's efforts. To support UNEP's

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83 See n19.
84 Devine and Erasmus n10 158.
85 Jaafar and Valencia n7 302.
86 See n19.
87 See n84.
88 Beauchamp KP The Management Function of Ocean Boundaries: Prospects for Cooperative Ocean Management Between Canada and the United States 1981 (unpublished LLM thesis, Dalhousie University) 141.

regional scheme in even an only marginally different way from, say IMO's international conventions may create new problems while solving the old ones. To avoid this specific problem stemming from lack of coordination amongst various UN organs, adherence to conventions of global nature is desirable. This is especially true in the South China Sea. Southeast Asian states should not allow technical ramifications to detract from their hardly achieved marine pollution control.

Fourthly, law represents a balance of various interests irrespective of the level, whether international or domestic. More often than not global instruments suffer from textual ambiguities. An independent regional approach, however, might not necessarily solve this problem. We can take the EU which is considered one of the few success stories in the field of regional cooperation and integration[89] as an example. EU pollution control measures are imprecise or ambiguous due to political compromise.[90] Boehmer-Christiansen points out that a regional approach like that of EU is not necessarily the most effective way of combating marine pollution.[91] In view of this one should not be averse to global conventions. They are able to accommodate more interests and their application may cause fewer conflicts.

Fifth, the serious pollution problems of the South China Sea underline the urgent need for ratification of global instruments. To establish a regional convention would be a tortuous way as mentioned earlier. A regional conference

89 Syatauw JJG 'ASEAN - Unexpected Progress in Asian Regional Organization' in Girardot RG, Ridder H, Sarin ML and Schiller T ed New Directions in International Law 1982 517.

90 Boehmer-Christiansen S 'Marine Pollution Control in Europe: Regional Approaches', 1972-80' MP 8(1) January 1984 55.

91 Ibid.

would not only be more costly but would also be a time-consuming process. The latter is particular disadvantageous to combating marine pollution in the region. From a cost/benefit point of view, the appropriateness of establishing a Mediterranean-type convention in the region at this stage would be questionable.

Sixth, the global treaties such as LDC and various IMO conventions are considered by and large enough to ensure the seas from pollution[92] if universally adhered to.[93] Developing a new convention at this stage may be questioned. It is doubtful whether states that did not ratify the present conventions would be willing to approve a new one.[94] In addition, any new legal regime would only add to the complexity of existing legal arrangements.[95] Lutz correctly points out that environmental problems have gone beyond the normative stage and are now at a stage of implementation.[96] Kazi holds a similar opinion in claiming that '... we are moving from a decade of preparation to a decade of action - for now we have the environmental concept, the environmental awareness and the requisite institutions and legislation that are necessary for the countries to undertake action programmes'.[97] Churchill and Lowe also argue that the time

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92 According to a press release of the German Ministry of the Interior in June 1982, this was the official opinion of the government of the Federal Republic of Germany when it initiated the organization of the International Conference for the Protection of the North Sea. See Peet n5 431. Abecassis DW and Jarashow RL Oil Pollution from Ships 1985 8.

93 Ibid.

94 Peet n5 435.

95 See Peet n92.

96 Remark of Lutz Jr RE in 'Discussion [on Ten Years After Stockholm - Internationational Environmental Law]' American Society of International Law: Proceedings of the 77th Annual Meeting 1985 435.

97 Kazi J 'The Approach to Development Strategy and Regional Cooperation' in Johnston DM et al ed International Symposium on the New Law of the Sea in Southeast Asia 1983 173.

has now come for a period of consolidation.[98] Instruments of a global nature, therefore, should have priority and be reconsidered when Southeast Asians reflect on a contemporary strategy for combating pollution.

To conclude, it is time for Southeast Asian states to take advantage of the existing global legal infrastructure to do something about the problem. They should not simply attend international conferences symbolically and pay lip service. Of course, there are still gaps in the legal network at the global level.[99] For example, there are no treaties dealing with marine pollution from land-based sources and sea-bed activities.[100] A better strategy, nonetheless, would seem to be the 'formulation of regional programmes on a worldwide basis'.[101] Here this writer would like to convey two messages. On the one hand, future regional cooperation in the South China Sea should fully mirror contemporary global environmental law. On the other hand, regional efforts may be focused on the development of rules and regulations in those specific fields which have not yet been covered by global environmental law with a view to the establishment of a comprehensive legal regime on marine pollution control on the universal plane.

2.2 Institutional arrangements

After deciding strategy, we now search for 'organizational muscles' or formal enforcement mechanisms to carry it out. The successful implementation of the former depends upon the support of the latter.[102] It is also pointed out that a considerable percentage of environmental problems,

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98 See n24.
99 Boczek n11 283.
100 Churchill and Lowe n24 246.
101 See n43.
102 Mushkat R 'International Environmental Law in the Asia-Pacific Region: Recent Developments' Calif WILJ 20 1989 38.

especially in developing countries, are in fact managerial problems.[103] Since we have urged states in the region to accede to global conventions, we may ask whether we can simply delegate the relevant international organizations to perform the task? This suggestion might at first glance be considered reasonable. It has been pointed out however that the resources of international organizations may be limited and that they may be too large to be effective.[104] Basically the idea of enforcement by international organizations could be impractical. They are not at the moment enforcement agencies and it is unlikely that they will become such. Priority should therefore be given to the establishment of regional mechanism.[105] In doing so, nevertheless, we have to bear in mind two things. Firstly regional integration is not the purpose. Hence we are not seeking to establish a new supranational body in the region. Secondly we should carefully eschew the pattern of organizational development in the UN. The problem of coordination of actions of the various international organizations following their proliferation in the UN system has become prominent and has been recognized by the UN for some time.[106] It would therefore seem better to utilize existing networks to avoid possible coordination difficulties arising out of the imposition of new organizational structures upon the original ones. Johnston therefore recommends that organization initiatives should be taken within the ASEAN framework.[107] The functions of a Southeast Asian regional management mechanism, the steps

103 Taubenfeld H 'Environment and Development' in Proceedings n96 424.
104 Johnston and De Klemm n4 399.
105 Ibid 398.
106 Beesley JA 'An Action Plan for Competent International Organizations on Marine Pollution' in Koers and Oxman ed n19 590.
107 Johnston DM 'SEAPOL International Conference - Ocean Development and Management in Southeast Asia: Prospects of Implementation of the UN Convention on the Law of the Sea, Discussion Paper' MP 12(1) January 1988 53.

necessary for its formation and its institutional nature have in fact been extensively reviewed and the conclusion reached that this could most appropriately be formed under the aegis of ASEAN.[108] This writer, therefore, is going to examine in the following section ASEAN's operations and the possibility of their expansion to cover all states in the region. Of course, other specialized agencies of the UN involved in marine pollution control in the region will not be overlooked and will be reviewed briefly. A detailed investigation of the historical development and organizational structure of these international organizations and their functions will not however be conducted here. That would be beyond the scope of this thesis.

2.2.1 The ASEAN system

Founded in the 60s[109], ASEAN is now the major international organization in Southeast Asia.[110] ASEAN was created partially with a view to replacing its predecessors - the Association of Southeast Asia (ASA) and Maphilindo which failed to function as viable regional organizations.[111] ASA was formed in 1961 by the then Malaya, the Philippines and Thailand. It subsequently collapsed due to the conflict between Malaya and the Philippines over territorial claims to Sabah.[112] Maphilindo, an acronym created from the words Malaya, the Philippines and Indonesia[113], was proposed in 1963 but never institutionalized because of President Sukarno's (of Indonesia) confrontation policy toward

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108 Marr JC 'Southeast Asian Marine Fishery Resources and Fisheries' in MacAndrews and Chia ed n7 103.
109 Shee PK 'A Decade of ASEAN, 1967-1977' Asi Sur 17(8) August 1977 753.
110 Kent G 'Harmonizing Extended Zone Legislation in Southeast Asia' ODIL 13(2) 1983 255.
111 Shee n109 754.
112 Ibid.
113 Syatauw n89 534 at n1.

Malaysia (1963-1965).[114] The downfall of Sukarno after a coup in 1965 and the 'new order' declared by his successor in both domestic and foreign policy were the factors created real chances for the formation of ASEAN.[115] The organization developed out of a Declaration of August 9, 1967 of the foreign ministers of Indonesia, Thailand, Malaysia, Singapore and the Philippines.[116] Its fundamental purpose, as set out in the Declaration, is 'Desiring to establish a firm foundation for common action to promote regional cooperation in South-East Asia in the spirit of equality and partnership and thereby contribute towards peace, progress and prosperity in the region'.[117] To achieve this goal (of regional cooperation) ASEAN shall 'promote active collaboration and mutual assistance on matters of common interest in the economic, social, cultural, technical, scientific and administrative fields.'[118] Nevertheless, economic cooperation was supposed to be one of the main bases for its coming into existence.[119] Its structure is described as 'extremely simple'[120] and 'fairly traditional'.[121] The operational machinery of the ASEAN is stipulated by the third article of the Declaration:

> '(a) Annual Meeting of Foreign Ministers, which shall be by rotation and referred to as ASEAN Ministerial Meeting. Special Meetings of Foreign Ministers may be convened as required.

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114 See n111.
115 Ibid.
116 Bowett DW The Law of International Institutions 1982 235. Text of the Declaration can be found in Peaslee AJ International Governmental Organization, Constitutional Documents I Rev 3ed 1974 145-6.
117 Para 3 of the Preamble.
118 Para 3 of the Second Article.
119 Shee n109 755.
120 See Bowett n116.
121 ASEAN Secretariat 10 Years ASEAN 1978 15; see also Syatauw n89 522.

(b) A Standing Committee, under the chairmanship of the Foreign Minister of the host country or his representative and having as its members the accredited Ambassadors of the other member countries, to carry on the work of the Association in between Meetings of Foreign Ministers.

(c) Ad Hoc Committees and Permanent Committees of specialists and officials on specific subjects.

(d) A National Secretariat in each member country to carry out the work of the Association on behalf of that country and to service the Annual or Special Meetings of Foreign Ministers, the Standing Committee and such other committees as may hereafter be established.'

The organizational structure has however invited criticism. First it is pointed out that ASEAN is based on a less formal declaration instead of a formal treaty.[122] A new international organization, with a separate identity from its member states, can only survive in practice if its aims, structure and powers were made crystal clear so that its very existence is not continuously menaced by differences of opinion on the meaning of crucial provisions.[123] Therefore, the informality of ASEAN's working methods which have served so well until now, may come under considerable strain in the future.[124] Secondly, it is argued that ASEAN is a loose decentralized organization in its structural performance.[125] This organizational characteristic has affected to some extent ASEAN's effectiveness and its structure needs to be improved.[126] One may therefore pose the question whether ASEAN can be used as an effective coordinating body in the region of the South China Sea? The question involves two sub-questions: is ASEAN able to extend its membership to cover non-ASEAN states in the region? Can ASEAN expand its

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122 Ibid 518-9.
123 Ibid 519.
124 Ibid 533.
125 Shee n109 763.
126 Ibid 765.

functions to include marine pollution control? Valencia opines that it is capable of doing so.[127] Evidence can in fact be found in the text of the Declaration to support this point of view. As far as the first sub-question is concerned, the answer is firmly 'yes'. The fourth article of the Declaration clearly stipulates 'that the Association is open for participation to all States in the South-East Asian Region subscribing to the aforementioned aims, principles and purposes'. If the term 'South-East Asian Region' is interpreted as referring to the 'Enlarged Southeast Asia' which comprises not only those countries traditionally regarded as comprising Southeast Asia (ie the Philippines, Indonesia, Brunei, Malaysia, Singapore, Thailand, Kampuchea and Vietnam) but also the PRC and ROC[128] then the Declaration can easily extend its membership to all states in the region without giving rise to difficulties. Taking into account the contemporary political situation in the region which is generally favourable to regional cooperation, there would seem to be no reason not to adopt such an interpretation. Nonetheless, future regional cooperation in the South China Sea as a whole will not be a one-man show by ASEAN. The question is whether non-ASEAN states are willing to join the ASEAN given that the latter is open to them. Although a conservative attitude is possible, this is not out of the question. There is even a better prospect for Indo-Chinese states to take part in ASEAN from a legal point of view. The Treaty of Peace, Friendship and Cooperation between the Socialist Republic of Vietnam and the People's Republic of Kampuchea, 1979[129] paved the way for cooperation between these two blocs. Article 5 stipulates:

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127 Valencia MJ 'Southeast Asia: National Marine Interests and Marine Regionalism' ODIL 5(4) 1978 454.
128 Lim JJ 'The South China Sea: Changing Strategic Perspectives' in MacAndrews and Chia ed n108 230.
129 Text in ILM 18(2) March 1979 394-6.

> '... being countries in South-East Asia, the Socialist Republic of Vietnam and the People's Republic of Kampuchea persistently pursue a policy of friendship and good neighbourliness with Thailand and the other countries in South-East Asia, and actively contribute to peace, stability and prosperity of the South-East Asian Region...'.

Thus a solid and almost omnipresent legal network already exists in the South China Sea upon which regional cooperation can be based. States belonging to the two blocs should therefore discharge this obligation rather than create other superfluous legal instruments. The answer to the second sub-question should be affirmative as well. As mentioned earlier, the ASEAN Declaration requires member states to cooperate 'on matters of common interest in the economic, social, cultural, technical, scientific and administrative fields'. It seems quite logical to include pollution control under 'economic field' since economic progress will inevitably involve industrial development of which pollution is a by-product. Furthermore, there are two provisions in the Declaration which are of particular significance to the protection of the marine environment. Firstly, the fifth paragraph of the preamble states that

> '... the countries of South-East Asia share a primary responsibility for strengthening the economic and social stability of the region and ensuring their peaceful and progressive national development...'.

The term 'primary responsibility', although used in a legal document of more than two decades standing, is in fact quite capable of reflecting contemporary developments in international environmental law. When the ILC adopted a plan for its future work on state responsibility in 1970[130], it distinguished 'primary obligations' and 'secondary

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130 Akehurst MB 'International Liability for Injurious Consequences Arising out of Acts not Prohibited by International Law' NYIL 16 1985 3.

obligations'.[131] The former were defined as 'rules imposing on States, in one or another sector of inter-state relations, obligations the breach of which can be a source of responsibility'. The latter were described as those which 'purport to determine the legal consequences of failure to fulfil obligations established by the "primary" rules.'[132] Liability established by a primary rule of obligation, therefore, implies a duty to repair harm that is not contingent upon a violation of an international obligation.[133] In the field of international environmental law, one such primary obligation the breach of which will give rise to liability is expressed in the maxim '_sic utere tuo ut alienum non laedas_' (so use your own property as not to injure another's).[134] On the other hand, the ILC proposed a 'compound primary obligation' referring to a four-fold duty to prevent, to inform, to negotiate and to repair.[135] It is submitted, therefore, that para 5 of the preamble of the Declaration is highly desirable and can enhance the legal status of the obligation to protect the marine environment to a substantial extent in the region.

131 Pinto MCW 'Reflections on International Liability for Injurious Consequences Arising out of Acts not Prohibited by International Law' NYIL 16 1985 20.

132 Report of the ILC to the General Assembly 31 UNGAOR Supp (No 10) UNDoc A/31/10, 1976 at 165. See also 'Report of the ILC on the Work of its Twenty-Fifth Session' YILC 2 1973 169; Handl G 'Liability as an Obligation Established by a Primary Rule of International Law: Some Basic Reflections on the International Law Commission's Work' NYIL 16 1985 50; Magraw DB 'Transboundary Harm: the International Law Commission's Study of International Liability' AJIL 80 1986 306-7.

133 Handl n132 50 at 5. For a detailed discussion, see section 3.4 in Chapter 3.

134 Pinto n131 34.

135 Fourth Report on International Liability for Injurious Consequences Arising out of Acts not Prohibited by International Law. UNDoc A/CN4/373/Corr 1, 1983 at 29. See also Magraw DB 'The International Law Commission's Study of International Liability for Nonprohibited Acts as it Relates to Developing States' Wash LR 61 1986 1043.

Secondly, the second article of the Declaration requires all member states of ASEAN

> 'to promote regional peace and stability through abiding respect for justice and the rule of law in the relationship among countries of the region and adherence to the principles of the United Nations Charter'.

If marine pollution control does fall under the functions of ASEAN, then the 'rule of law' may greatly increase the viability of anti-pollution conventions in the region. The value of this requirement lies not only in the concept of legal control rather than other loose types of control, but also in the deployment of international legal instruments. The requirement is favourable to the further development of legal protection of the marine environment since the rule of law in that field is to be encouraged in the long term.[136] In short, ASEAN may extend its membership to other states in the region and expand its functions to include marine pollution control without much legal difficulty. It therefore can serve as a satisfactory basis for cooperation in the region in the future.

At this stage one might still not be satisfied with the 1967 ASEAN Declaration. But things did not remain static and subsequent developments have been more than intermittent. At the legal level, the Treaty of Amity and Cooperation in Southeast Asia came into force in July 1976.[137] Article 4 stipulates that:

> 'The High Contracting Parties shall promote active cooperation in the economic, social, cultural, technical, scientific and administrative fields as well as in matters of common ideals and aspirations of international peace and stability in the region and all other matters of common interest'.

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136 See n25.
137 Text in ILM 27(3) May 1988 610-2.

This article by and large reiterates the second article para 3 of the Declaration mentioned above. The implication is that the article redresses to some extent the previously criticized flaw that regional cooperation in ASEAN is based on a less formal declaration. It thus provides the latter with a formal legal basis. On the other hand, this Treaty follows the 'open-door' policy of its predecessor by restating in art 18 that 'It shall be open for accession by other States in Southeast Asia'. It seems to this writer that the 1976 Treaty substantially upgraded the legality of regional cooperation within ASEAN. In 1987 member states adopted a Protocol Amending the Treaty of Amity and Cooperation in Southeast Asia.[138] In that document ASEAN once again expressed its bona fides in respect of regional cooperation by calling on other states in the region to join its efforts. The Preamble of the Protocol clearly states that:

> 'Desiring to further enhance cooperation with all peace-loving nations, both within and outside Southeast Asia and, in particular, neighbouring states of the Southeast Asia region'

and para 2 of art 1 of the same instrument stipulates that 'It shall be open for accession by other states in Southeast Asia'. The 1987 Protocol not only reaffirms the determination of ASEAN to cooperate with others in the region, but also strengthens the legal basis for doing so. On the organizational level expansion has also occurred to cope with the explosion of activities which followed the creation of ASEAN.[139] One such is the institutionalization of the Meeting of Heads of Government, not only as an additional organ but as the highest ASEAN authority.[140] The

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138 Text in ILM 27(3) May 1988 609-10.
139 Syatauw n121.
140 Syatauw n89 523.

Meeting would be convened 'as and when necessary' to review past events and to give general directions for future activities.[141] Other expansions include an ever-increasing number of permanent, ad hoc and special committees[142] and the establishment of the ASEAN Central Secretariat in 1976.[143] Under the present structure the Central Secretariat assumes mainly administrative and coordinative functions, although it once wanted to play a policy-oriented role with strong power and leadership delegated to the Secretary-General.[144] Last but not least, ASEAN has even established its own mechanism for pacific settlement of disputes. It was instituted by the 1976 Treaty, art 14 of which stipulates that:

> 'To settle disputes through regional processes, the High Contracting Parties shall constitute, as a continuing body, a High Council comprising a Representative at ministerial level from each of the High Contracting Parties to take cognizance of the existence of disputes or situations likely to disturb regional peace and harmony.'

Although art 15 confines the High Council to good offices, mediation, inquiry and conciliation falling short of compulsory arbitration, it is still a positive step in the development of dispute settlement in the region. Though good offices, mediation, inquiry and conciliation have been criticized as being less formal than judicial settlement and arbitration[145], their institutionalization in a formal treaty may gradually lead to the adoption of the latter which are not popular amongst ASEAN states at present.[146]

141 Ibid.
142 Ibid.
143 Ibid 524.
144 Shee n109 764.
145 Starke JG An Introduction to International Law 10ed 1989 512.
146 O'Brien R South China Sea Oil Two Problems of Ownership and Development 1977 45; Tangsubkul P 'The New Zones of National Jurisdiction in the Law of the Sea: Developmental Implications for Southeast Asia' in

The Treaty nevertheless provides these four means a contractual basis and thus increases their binding effect. They have legal force under this multilateral treaty, breach of which will give rise to state responsibility. They are not therefore completely valueless. Generally speaking, we have witnessed the mushroom growth of the ASEAN since its inception.

In addition to the developments of general nature mentioned above, some specialized agencies and legal instruments of the ASEAN also deal specifically with marine pollution problems. Among the specialized agencies is the ASEAN Council on Petroleum Exploration (ASCOPE) which deals mainly with the environmental consequences of exploration for petroleum and natural gas.[147] ASCOPE has been discussing standardization of environmental and safety regulations for offshore drilling and the local complexities of containing transboundary oil spills.[148] Another is the ASEAN Expert Group on Marine Pollution which is concerned with vessel-borne pollutants, in particular oil and other hazardous substances.[149] This group has organized a Contingency Plan for the Control and Mitigation of Marine Pollution which provides for an effective reporting system to alert the member countries in case of a major oil spill; a programme of identification and exchange of information on existing anti-pollution operational capabilities within each member country; and a system for rendering mutual assistance to cope with an oil spill which a member country alone cannot

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Craven JP, Schneider J and Stimson C ed The International Implication of Extended Maritime Jurisdiction in the Pacific 1989 58.

147 Ruddle n7 174; see also Soegiarto A 'The Potential Impact of Pollution on Indonesian Coastal Resources with Special Reference to the Major Emerging Shipping Routes' in Valencia, Gold, Chia and Letalik n30 131; Jaafar and Valencia n7 297.

148 Ibid.

149 See n147.

handle.[150] It has also developed a proposal for an ASEAN Subregional Environmental Programme (ASEP)[151] and is coordinating its approach with the Regional Seas Programme of UNEP.[152] It is worth mentioning here that the ASEP has adopted the 'rule of law' approach and a call has been made for laws and regulations to protect the marine environment.[153] Others which are not directly involved in marine pollution control may however be indirectly implicated in this regard. For instance the ASEAN Committee on Science and Technology (COST), one of the permanent committees, has spawned an informal committee on pollution.[154] Other examples would be the ASEAN Committee on Transport and Communication whose function it is to harmonize national maritime transport policies and to provide the framework for cooperative arrangements at the operational level[155], the Federation of ASEAN Shipowners' Association sponsored by the Federation of ASEAN Shippers' Council the purpose of which is to present a united bargaining position for transport of goods between Europe and Asia.[156] Although these two are mainly concerned with the interest of commercial shipping, it seems to this writer however that they can easily place marine pollution control on their agenda when determining maritime insurance policy. Civil liability arising from marine pollution is now an important aspect of maritime law. As far as legal control of marine pollution is concerned, ASEAN has unambiguously

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150 Ibid.
151 Valencia MJ 'National Marine Interests in Southeast Asia' in Kent and Valencia ed n7 56; see also Jaafar and Valencia n7 298, Thacher and Meith n52 175-6.
152 Valencia n151; see also Jaafar and Valencia n151.
153 Thacher and Meith n52 176.
154 Valencia n151 55-6; see also Valencia MJ 'Southeast Asian Seas: National Marine Interests, Transnational Issues and Marine Regionalism' in MacAndrews and Chia ed n108 342.
155 Bouayad A 'Co-operation Among Developing Countries in World Shipping' Marit Pol Mgmt 14(4) 1987 269.
156 Valencia n151; see also n127.

expressed its determination to tackle the problem by adopting the Agreement on the Conservation of Nature and Natural Resources[157] (ACNNR) in 1985. The underlying spirit of the ACNNR is to recognize

> '... that the interrelationship between conservation and socio-economic development implies both that conservation is necessary to ensure sustainability of development and that socio-economic development is necessary for the achievement of conservation on a lasting basis'.[158]

Article 20 para 1 lays down the fundamental rule of marine pollution control for member states of ASEAN

> 'Contracting Parties have in accordance with generally accepted principles of international law the responsibility of ensuring that activities under their jurisdiction or control do not cause damage to the environment or the natural resources under the jurisdiction of other Contracting Parties or of areas beyond the limits of national jurisdiction'.

The environmental issue has also been raised in the subsequent Manila Declaration of 1987.[159] Although one might consider this superfluous especially taking into account the fact that protection of marine environment has already become a legal obligation incumbent upon the member states of ASEAN in terms of the 1985 ACNNR, the 1987 Declaration nevertheless still has the value of consolidating the provisions of its predecessor thus entrenching their legal status. Paragraph 20 in the title 'Functional Cooperation' states that

> 'In the area of environment, ASEAN shall cooperate in promoting the principle of sustainable development and systematically integrating it into all aspects of development and shall focus on the need for policy

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157 Text in Environ Pol & Law 15(2) November 1985 64-9.
158 Para 3 of the preamble of the ACNNR.
159 Text in ILM 27(3) May 1988 603-5.

guidelines to protect ASEAN's common resources and environment'.

By 'sustainable development' according to the the subsequent Joint Press Statement means[160], '.. development based on the sustained availability of needed natural resources which seeks continuous improvements in the level of income, the quality of life and environment'.[161] The same Statement also reaffirms 'the need to actively involve all sectors and levels of the ASEAN community in promoting cooperation in the fields of health... environmental management, ..., law, ...'.[162] These developments subsequent to the formation of the ASEAN provide substantial, if not comprehensive and detailed, groundwork upon which more specific actions can be based in the future.

At this stage, two observations can be made. Firstly ASEAN is indeed capable of serving as a regional coordinating body in the South China Sea area as a whole in relation to combating marine pollution. This is not only because ASEAN has already accepted other states in the region as its legal associates, but also because protection of the marine environment has already been incorporated into treaty provisions and thus becomes an undisputed legal obligation for all its member states. This writer, therefore, feels obliged to join Johnston and others[163] in supporting the idea that ASEAN should be the future coordinating body in the region of the South China Sea as a whole. Secondly, we have witnessed the proliferation of specialized organs of ASEAN. Thus if we are to take advantage of the existing ASEAN system we have to start coordinating various parts of it. It seems that the exhortation not to establish a new organization purposely, which would inevitably add to the

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160 Text in ILM 27(3) May 1988 605-9.
161 Ibid 608.
162 Ibid.
163 See n107-8 and accompanying texts supra.

n107-8 → X

difficulties of coordination[164] is applicable not only outside ASEAN but also within it. Any further expansion without trying to eliminate possible duplication in ASEAN would undermine its advantage as a competent regional mechanism and would mean that there would be no difference between using existing frameworks and creating new structures. Both would lead to the same result, administrative inefficiency because of lack of coordination between numerous bureaucratic organs. Coordination within ASEAN may even become an important issue in this decade not to mention the creation of another regional organization which would definitely complicate the whole task. Finally ASEAN is not alone in the region. As far as marine pollution control is concerned, there are a number of international organizations who have a stake in the area. Their contributions and assistance should not be overlooked in this regard. These will be succinctly reviewed in the following sections.

2.2.2 The UN system

2.2.2.1 UNEP

UNEP has been identified as one of the two international organizations, the other is the ESCAP (Economic and Social Commission for Asia and the Pacific), which are most concerned with marine pollution problems in the region.[165] The involvement of UNEP began with its Regional Seas Programme initiated in the mid-1970s.[166] The region of the East Asian Seas (including the Malacca Straits) formed a part.[167] It was recommended at an early stage that this region (East Asian Seas) should be divided into a number of 'sub-regions' to reduce the problem to a manageable size: the Bay of Bengal, the Straits of Malacca, the Gulf of

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164 See n106 and accompanying text supra.
165 Mushkat n102 23-4.
166 Ibid.
167 Johnston and Enomoto n33 327.

Thailand, the South China Sea, the Sea of Japan, the Yellow and East China Seas and the Sea of the Eastern Archipelago.[168] Since then sufficient developments have taken place in the Southeast Asia sector.[169] The Governing Council of UNEP decided in 1979 that 'steps are urgently needed to formulate and establish a scientific programme involving research, prevention and control of marine pollution and monitoring' for a Regional Seas Programme in Asia.[170] In 1978, environmental experts from ASEAN met in Jakarta, Indonesia and requested assistance from UNEP in the formulation of an action plan for the protection and development of the marine environment and coastal areas of the Southeast Asian region.[171] The task was completed by UNEP in March 1979 and a draft action plan drawn up consisting of environmental assessment, environmental management, legal components plus a fourth section on institutional and financial arrangements.[172] The plan also targets the Southeast Asian Seas for a Mediterranean-type protocol for the 'ASEAN Seas'.[173] Participation is, as in ASEAN itself, open to other states in the region.[174] In April 1981 ASEAN states officially adopted this Action Plan for the East Asian Seas.[175] The adoption was not merely nominal. To implement the plan, ASEAN established the Coordinating Body on the Seas of East Asia (COBSEA) in December 1981 and requested UNEP to continue providing secretariat services and technical coordination.[176] The annual meeting of COBSEA proved an effective mechanism for

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168 This division of the region was recommended at the IOC/FAO/UNEP International Workshop on Marine Pollution in the East Asian Waters held in Penang, Malaysia in April 1976. See Johnston and Enomoto n33 332-3.
169 Ibid 333.
170 'Action Plan, 1989' n39 517.
171 Thacher and Meith n52 176.
172 Ibid 176-7.
173 See n54.
174 Jaafar and Valencia n151 299.
175 Jaafar and Valencia n151.
176 See n170.

implementation.[177] UNEP also encouraged experts to form an Association of Southeast Asian Scientists (ASEAMS) which could in the future serve as an advisory body to UNEP on environmental problems relevant to the action plan.[178] It has also established a regional office in Bangkok, for Asia (and the Pacific)[179]. In addition to direct involvement of UNEP, the region has also been covered by the Global Environmental Monitoring System (GEMS) of the same organization.[180] Two programmes are particularly relevant. Firstly there is the Background Air Pollution Monitoring Network (BAPMON). This aims at global monitoring of trends in the chemical composition of the atmosphere. It has however been pointed out that the network in Asia needs improvement.[181] Secondly, in Asia and the Pacific UNEP cooperates with a branch of WHO - the Centre for the Promotion of Environmental Planning and Applied Studies (PEPAS) - to collect and analyze environmental data (on air and water pollution).[182]

2.2.2.2 ESCAP

ESCAP (formerly called ECAFE or Economic Commission for Asia and the Far East[183]) was established in 1947[184] with a view to promotion of regional cooperation[185] on marine related problems.[186] With its headquarters in Bangkok[187] and

177 Ibid.
178 Ibid 518.
179 Smith Jr GP 'The United Nations and the Environment: Sometimes a Great Notion?' Texas ILJ 19 Winter 1984 343; see also Brunee n42 145, Valencia n151.
180 For details on GEMS see Gwynne MD 'The Global Environmental Monitoring System (GEMS) of UNEP' Environ Conser 9 Spring 1982 35; see also Brunnee n42 146.
181 Gwynne n180 35-6; see also Brunee n180.
182 Ibid 147.
183 Johannas A 'Activities of the Committee for Co-ordination of Joint Prospecting for Mineral Resources in Asian Offshore Areas (CCOP) 1966-1981' in Johnston et al ed n97 90.
184 Johnston and Enomoto n33 341.
185 Kibria SAMS 'Remarks' in Johnston et al ed n97 15.
186 See n184.

functioning mainly as a regional coordinator and communicator[188], it has nevertheless been increasingly putting environmental issues on its agenda.[189] One of its distinguished activities covering Southeast Asia is those of the Committee for Coordination of Joint Prospecting for Mineral Resources in Asian Areas (CCOP/EA).[190] Established in 1966, its initial task was offshore exploration and development of mineral resources.[191] The CCOP/EA sponsors annual meetings where each member country is represented by one permanent representative together with delegates from all national agencies participating in the CCOP/EA programme.[192] The main function of the sessions is to review the activities taking place in the member countries' areas of interest, exchange information on new techniques and theories regarding marine mineral and energy resources, including legislation and prepare regional and national programmes for the future etc.[193] In its operations, CCOP/EA is assisted by a Technical Advisory Group consisting of experts from developed countries, UN and other international scientific and professional organizations.[194] The latter include, inter alia, IOC (Intergovernmental Oceanographic Commission), UNEP and UNDP (United Nations Development Programme).[195] In addition to pioneering work on offshore prospecting, CCOP/EA for some years now has been engaged in supporting scientific research in the protection of the marine environment.[196] In the region, CCOP/EA has established close cooperation with ASCOPE since all member countries of ASEAN are also members of CCOP/EA.[197] A joint

187 Ibid.
188 Brunee n42 217.
189 Ibid.
190 See n183.
191 Ibid.
192 Ibid 91.
193 Tangsubkul n146 57-8.
194 Johannas n183 91.
195 Ibid.
196 Kibria n185 16.
197 Tangsubkul n146.

CCOP/EA-ASCOPE International Steering Committee has been approved, the purpose of which is to develop and coordinate the implementation of work projects of joint interest[198] including inter alia the marine environment.[199] The CCOP/EA programme is also carried out as a part of the Regional Seas Programme of UNEP.[200] Generally speaking CCOP/EA is one of the most successful regional programmes of ESCAP.[201]

Apart from the above, ESCAP itself has directly conducted activities vis-a-vis marine pollution issues in the region as well. It sponsors intergovernmental or expert meetings.[202] For example, an Intergovernmental Meeting on the Integration of Environment into Development was organized by ESCAP in November 1984.[203] It resulted in the formulation of several recommendations stressing the link between development and environment, the necessity of long-term planning, the need for a comprehensive legal framework and agencies with adequate financial means and qualified personnel.[204] Similar recommendations were made by the Expert Group. This was also under the aegis of ESCAP. It met in Tokyo in the same year.[205] A general commitment to the principle of environmentally sound and sustainable development in the Asian and Pacific region has been expressed recently in Resolution XLIV adopted by ESCAP in its April 1988 session.[206] Although it is believed that ESCAP can exercise its function most usefully in the field

198 Ibid.
199 Johannes n183 95.
200 See n196.
201 Johannes n183 104.
202 See n187.
203 Mushkat n102 28.
204 Tolentino Jr AS 'Legal Aspects of Programme' Environ Pol & Law 14(1) March 1985 11-2. See also n187.
205 For details see 'Recommendations of the Expert Group Meeting, Tokyo, June 5-11 1984' in ESCAP: Integration of Environment into Development: Institutional and Legislative Aspects 1985 3; see also n203.
206 ESCAP Environment News 6 April-June 1988 5-6; see also Mushkat n102 30.

of marine environmental protection[207], it is also pointed out that ESCAP results here have been somewhat fragmented and uncoordinated.[208]

2.2.2.3 Other specialized agencies

There are some other UN agencies which are partly involved in the prevention of marine pollution in the region. IMO comes immediately to mind.[209] Initially IMO was called IMCO.[210] IMCO was established in 1958 as a UN Agency[211] with a view to moving the laissez-faire shipping regime into a much more regulated era by its principle of 'Safe Ships and Clean Seas'.[212] Its early story was a sad one.[213] Numerous reservations which are attached to the IMCO Convention were designed to ensure that it would confine itself to a consultative, advisory and administrative role in matters of a technical nature.[214] However, in May 1982, the organization's name was changed to the present one indicating that it is no longer a consultative body.[215] It assumed wide-ranging responsibilities as the preeminent maritime body in the UN system.[216]

IMO now exercises certain supervisory functions in relation to the convention concerning pollution from ships adopted

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207 See n185.
208 'SEAPOL International Conference: Report of the Rapporteurs on the Technical Workshop (26-28 April 1987)' MP 12(1) January 1988 60.
209 Johnston DM and Letalik NG 'Emerging Legislative Trends in Southeast Asia' in Valencia, Gold, Chia and Letalik n30 235.
210 Meng n28 31.
211 Johnston and Enomoto n33 345; see also Meese n17 86, Gold E 'New Direction on Ship Geneated Marine Pollution Control: The New Law of the Sea and Developing Countries' Ocean YB 7 1988 194.
212 Ibid 191.
213 M'Gonigle RM and Zacher MW Pollution, Politics and International Law 1979 327; see also Wang n41 312.
214 Gold n211 195.
215 Meng n28 31-2.
216 See n214.

under its auspices.[217] IMO's three main organs, the Assembly, the Council and the Maritime Safety Committee (MSC) and two other subsidiary bodies, the Legal Committee and the Marine Environment Protection Committee (MEPC), determine the effectiveness and comprehensiveness of the organization's work on marine pollution.[218] The Legal Committee was created by the Assembly after the Torrey Canyon disaster in 1967 whereas MEPC was established in 1973.[219] The latter has two responsibilities: environmental considerations relating to shipping and responsibility for the implementation and amendment of the 1973 MARPOL.[220] Although IMO is a global agency[221], it nevertheless does participate in regional activities. For example IMO was involved in UNEP's East Asian Action Plan. It prepared reports on existing contingency planning, on development of regional contingency plans and on toxicity testing of oil dispersants.[222] In fact IMO has contributed more to protection of regional marine environments than would be expected from its original mission to facilitate safety of navigation.[223]

IOC, a division of UNESCO[224] has also been implicated in the region.[225] In the field of marine pollution monitoring, its Global Investigation of Pollution in the Marine Environment (GIPME) covers East Asian waters inter alia.[226] In 1977 IOC

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217 Churchill and Lowe n24 246.
218 For details see Mankabady S ed The International Maritime Organization 1984 Chapter 1; see also n214.
219 Gold n211 196.
220 Ibid.
221 Gold n211.
222 Meith N and Helmer R 'Marine Environment and Coastal Resources in Southeast Asia: A Threatened Heritage' Ocean YB 4 1983 261.
223 Johnston and Enomoto n33 346.
224 Ibid 344.
225 See n222.
226 Four regional and twenty subregional projects were proposed at the International Workshop on Marine Pollution in East Asian Waters held in Penang,

established the Working Group for the Western Pacific (WESTPAC) the programmes of which include coastal transport of pollutants and marine pollution research.[227] In the second half of 1989 IOC organized a practical workshop on the use of sediments in marine pollution research and monitoring through the IOC-UNEP Group of Experts on Methods, Standards and Intercalibration (GEMSI) within the framework of GEPME, at the Institute of Marine Environmental Protection, Dalian, the PRC.[228] Recently IOC was also prepared to give technical backing, advice, cash contribution and contributions in kind to the new 'umbrella' project on oil pollution monitoring in the region proposed by Indonesia.[229] In short, IOC's regional involvement may be considered an alternative to UNEP's Regional Seas Programme![230]

Founded in 1944, FAO was the first specialized agency of the UN.[231] Like IMO and IOC, FAO was involved with UNEP's East Asian Seas action plan as well.[232] Since marine pollution is one of the main reasons for the decrease of fish stocks in the oceans, the protection of which is the main task of FAO, marine pollution prevention is naturally one of its concerns.[233] Although FAO has not directly participated in project activities since the adoption of the action plan[234], it nevertheless played a coordinating role in the preparation of the report on the state of the marine environment in the region. This was reviewed by COBSEA in

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Malaysia, April 7-13 1976. See IOC Biennial Report for 1976-1977, UN Doc IOC/INF-376 August 30 1978; see also n224.

227 Meith and Helmer n222 260-1.

228 'Action Plan, 1989' n53 528.

229 Ibid.

230 Johnston and Enomoto n211.

231 Meng QN Land-Based Marine Pollution, International Law Development 1987 112.

232 See n228.

233 See n231.

234 See n228.

1987 and 1988.[235] Recently this organization expressed its interest in the implementation of some projects in the region concerned with marine environmental protection.[236] FAO is in fact considered as one of the two agencies (the other being UNEP) that have made the most important contributions to the control of marine pollution from land-based sources.[237] UNDP was created in 1965 and supports numerous development assistance projects in Asia.[238] It does not ignore environmental protection . For instance, it (with CCOP/EA and UNEP) organized a regional workshop on coastal areas development and management in Southeast Asia. The aim was to assist governments incorporate environmental considerations into development planning and to identify conflicts between activities on land and protection of marine resources.[239] A late example is the mangrove training network in Southeast Asia (shared with UNESCO).[240] WHO, as a technical agency with long-standing expertise in environmental health and sanitation, worked bilaterally with several coastal states on coastal water quality standards and sanitary controls.[241] For example, it instituted a survey of pollutants from land-based sources in metropolitan agglomerations in the region in 1980.[242] Recently, as mentioned earlier, WHO cooperated with UNEP in Asia to collect and analyze environmental data. WMO, because of its scientific and technical mission, is similarly well placed to contribute to the development of regional environmental monitoring.[243] Since 1974, it (together with UNEP and WHO) has carried out monitoring projects gathering

235 Ibid 519.
236 See n228.
237 See n231.
238 1976 YBUN 30 1979 367; see also n223.
239 Thacher and Meith n52 178.
240 Hanson AJ 'Coastal and Ocean Resource Management: the Vietnam Case' Ocean YB 7 1988 261.
241 Boxer B 'Mediterranean Pollution: Problem and Response' ODIL 10(3/4) 1982 327-8.
242 See n239.
243 See n241.

data on sulphur dioxide, total suspended particulate matter and smoke in about 200 stations world-wide (in 50 countries).[244] IAEA, although not a specialized agency, has been brought into a working relationship with the UN and with specialized agencies having a particular interest in atomic energy.[245] It is heavily involved in the control of disposal of radioactive waste from ships - a form of pollution by dumping.[246] ILO, through its concern for the welfare of seafarers and the condition of ships seafarers are working on, has made indirect contributions to prevent oil pollution.[247] Both IAEA and ILO are considered as having contributed to marine regionalism by educating those involved with the marine environment.[248] Finally, UNU (United Nations University), with its headquarters in Tokyo, is no doubt able to assume the mission of training anti-pollution personnel from Southeast Asian states and it has in fact already done so.[249]

In the light of the above brief examination of institutional arrangements at international level connected with the South China Sea in relation to marine pollution control, at least two characteristics of which can be discerned. The first is that there seems to be a plethora of organizations involved

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244 Gwynne n180 37; see also Brunnee n42 147.
245 Starke n145 651 at n2.
246 Boehmer-Christiansen SA 'Dumping Nuclear Waste into the Sea: International Control and the Role of Science and Law' MP 7(1) January 1983 25.
247 Wang n41 314.
248 Johnston and Enomoto n33 348.
249 For example UNU launched a coastal studies project to be carried out at the Indonesian Institute of Oceanology as early as 1978. The project focused on marine living and hydrocarbon resources the results of which were scheduled for presentation to government decision-makers. For details see 'Coastal Zone Studies to Begin to Indonesia' UNU Newsletter 2(4) June 1978 2; see also Johnston and Enomoto n33 347 and Vallejo SMA 'Development and Management of Coastal and Marine Areas: An International Perspective' Ocean YB 7 1988 217-8.

time to receive and develop applicable general principles.[12] The result is that customary law contains few rules relevant to the question of marine pollution.[13] It is considered inadequate to sustain effective action against pollution,[14] since the problems of the latter are too complex and controversial to be easily governed by the former.[15] Even if the final conclusions might be questioned, the search for such rules is still however of value because they serve to form the basis for the elaboration of effective standards in multilateral conventions.[16]

Of course customary law and treaties are not the only sources of international law. Article 38 para 1 of Statute of the International Court of Justice[17] stipulates that

> 'The Court, whose function is to decide in accordance with international law such disputes as are submitted to it, shall apply: (a) international conventions, whether general or particular, establishing rules expressly recognized by the contesting states; (b) international custom, as evidence of a general practice accepted as law; (c) the general principles of law recognized by civilized nations; (d) ... judicial decision and the teaching of the most highly qualified publicists of the various nations, as subsidiary means for the determination of rules of law'.

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12 Abecassis DW and Jarashow RL Oil Pollution from Ships 1985 12; see also Hakapaa n5.

13 Churchill and Lowe n2 245.

14 Ibid. See also Brunnee J Acid Rain and Ozone Layer Depletion: International Law and Regulation 1988 141; Anand RP Confrontation or Cooperation? International Law and the Developing Countries 1987 167; Kuwabara S The Legal Regime of the Pollution of the Mediterranean Against Pollution from Land-Based Sources 1984 29-30.

15 Fitzmaurice G Livre du Centenaire 1973 201; see also Edwards AD The Legal Nature of International Law: An Historico-Critical Analysis of Legal Positivist Thinking 1984 221.

16 Abecassis and Jarashow n12.

17 Text in Brownlie I ed Basic Documents in International Law 1983 387-404.

mostly of customary rules[6] which were clearly established and respected long before the creation of conventions.[7] It is therefore submitted that a definite body of customary law on the general protection of the environment from pollution does exist.[8] The application of this body of law, however, has its own problems. On the one hand, as Devine has pointed out, it may sometimes be difficult to identify particular rules.[9] The North Sea Continental Shelf Cases set up four precedent conditions for a conventional rule to acquire the status of customary law: the presence of a 'fundamentally norm-creating character such as could be regarded as forming the basis of a general rule of law'; 'a very widespread and representative participation in the convention'; evidence of the extensiveness and uniformity of state practice reflecting opinio juris; and the passage of some time, short though it may be.[10] Obviously, the extraction of an international customary rule from the mass of heterogeneous documentation on state practice, state judicial decisions etc will be an arduous and difficult task.[11] On the other hand, environmental issues have only reached the forefront of international relations in the latter half of this century. This implies that international law has had relatively little

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6 Starke JG An Introduction to International Law 10ed 1989 35.

7 Devine DJ and Erasmus G 'International Environmental Law' in Fuggle RF and Rabie MA ed Environmental Management in South Africa 1992 156. Starke even considers custom rather than treaties as the prime source of international law. See Starke ibid 32.

8 Meng QN Land-Based Marine Pollution, International Law Development 1987 64. See also Schafer BK 'The Relationship Between the International Law of Armed Conflict and Environmental Protection: The Need to Reevaluate What Types of Conduct are Permissible During Hostilities' Calif WILJ 19 1989 298.

9 Devine DJ 'Southern Africa and the Law of the Sea: Problems Common, Uncommon and Unique' Ac Jur 1986 30.

10 1969 ICJ Reports 41-44; see also Lee LT 'The Law of the Sea Convention and Third States' AJIL 77 1983 561-2.

11 Starke n6 41.

CHAPTER 3

INTERNATIONAL CUSTOMARY LAW, GENERAL PRINCIPLES OF LAW AND CASE LAW ON MARINE ENVIRONMENTAL PROTECTION

3.1 Introductory remark

Although this writer advocates coastal state ratification of existing international anti-pollution treaties as the basis for a future regional regime to combat marine contamination, it is also recognized that existing international controls are neither perfect nor free from difficulty. This assertion is based upon two factors. Firstly, the international regime is still incomplete in certain respects.[1] For example, there are no general multilateral treaties dealing with marine pollution from land-based sources and seabed activities.[2] Secondly, despite the existence of several international conventions regulating specific sources of pollution, their is resistance by states to defining the details of liability with any precision[3], notwithstanding that the law of state responsibility is of acute importance in affording protection and redress to states affected by pollution.[4] Existing law contains loopholes. Unlike in the case of the Ozone Layer, loopholes in the black-letter law will not however fatally affect the very existence of international marine pollution control. In the absence of conventional law, the answer to a specific legal question may be found in customary rules.[5] Thus, even if there were no treaty whatsoever applicable to the South China Sea, the region would not necessarily be a legal vacuum. Until recent times international law consisted

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1 Boyle AE 'Marine Pollution Under the Law of the Sea Convention' AJIL 79 1985 347.
2 Churchill RR and Lowe AV The Law of the Sea 2nd ed 1988 246.
3 Noyes JE and Smith BD 'State Responsibility and the Principle of Joint and Several Liability' YJIL 13(2) 1988 237.
4 Boyle n1 349.
5 Hakapaa K Marine Pollution in International Law 1981 130.

competent private institutions which could be of service regionally. The private sector no doubt can play an important role in the future common regime.

The conclusions for this section (2.2) are briefly as follows. As far as institutional arrangements for a future common regime are concerned, ESCAP could prove to be a useful global mechanism governing marine affairs in Asia.[260] ASEAN should however be the regional coordinating body in carrying out the programmes of ESCAP or other UN specialized agencies. Finally, the resources of the private sector should be fully taken into consideration in the arrangement as well.

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260 Park holds this point of view. See n250. Nevertheless, there would seem no reason to prevent one from choosing UNEP to assume the same task. The key point here is that one must make a choice between ESCAP and UNEP. The situation would be highly undesirable if the overall responsibility were split and falls on two organizations, since that would give rise to coordination problems in the future.

here, either directly or indirectly. The second is that there may be even more sub-agencies under UN specialized organizations and the sophisticated web of cooperation between them may be even more difficult to sort out. It is clear that the future task should be securing effective coordination in this organizational jungle rather than rushing into the establishment of a new UN agency for the South China Sea only. One might however still argue that all these agencies and sub-agencies may not be good enough to cover every aspect of marine affairs in the region. The writer submits however that national facilities such as national research institutes, universities and especially the private sector should be mobilized to fill the remaining loopholes.

2.2.3 The private sector

Lai has correctly pointed out that cooperation involving the private sector is more often than not overlooked.[250] He argues that such cooperation would be particularly useful and even necessary in the fields of environmental protection and shipping.[251] As far as the South China Sea is concerned, two examples may be mentioned. The first is the the P&I Clubs (Protection and Indemnity Clubs). Growing up in the middle of the 19th century[252], the P&I Clubs are simply insurance companies which are organized on a mutual basis so that in any one policy year all those receiving cover contribute to the total proven claims of all the assured.[253] Some of the clubs are in London and others in Bermuda and Luxembourg.[254] Their significance when oil pollution occurs lies in their speedy and professional treatment of the

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250 'SEAPOL International Conference: Report' n208 59.
251 Ibid.
252 Bessemer-Clark A 'The Role of Protection and Indemnity Associations in Oil Pollution' in UCT: Proceedings n23 89-90.
253 Abecassis and Jarashow n92 6.
254 See n252.

accident. (Of course, nobody will deny their importance in administering compensation after the disaster). The first action of P&I Clubs is invariably to call in the technical department of the International Tanker Owner's Pollution Federation. This has established an outstanding reputation in the field of oil pollution prevention and clean-up.[255] The representative of that department, expedited to the site, will either monitor the operation carried out by the local authority or more usually provide active advice and assistance to all parties involved in the clean-up and in some instances even control the whole clean-up response.[256] A good illustration of the latter was the Irene Serenade disaster in which the Greek government looked to the P&I Club to mount, organize and control the whole operation.[257] There would seem to be no reason why Southeast Asian countries should not benefit from the technical expertise of P&I Clubs in pollution incidents. The other example is SEAPOL (Southeast Asian Project on Ocean Law, Policy and Management). It was formed in Bangkok with funding from the International Development Research Centre in Canada in February 1983.[258] The primary purpose of SEAPOL is to develop a network of Southeast Asian specialists in the law of the sea and related sectors of ocean development and management.[259] Obviously this research arrangement is quite capable of assuming the task of helping nations in the region to understand fully the existing international law on marine pollution control. It will, therefore, not only strengthen the global effort in this regard but also contribute to its further development. There must also be many other similar examples which are not yet known to the policy-makers. Perhaps some regional attention should be given to the preparation of a table listing all the

255 Ibid 95.
256 Ibid 95-6.
257 Ibid 96.
258 Johnston n107 49.
259 Ibid.

As far as the 'general principles' are concerned, there are differences about their material characteristics. The term has been defined by one writer as being equally composed of general principles of international law and of principles common to national legal systems.[18] Another writer refers to them as 'certain principles intrinsically legal in nature'[19] which have clear overtones of a 'natural law' philosophy.[20] The latter has been criticized in as much as one might question whether there actually are in existence binding norms of international law not identifiable as rules either of conventional or customary law.[21] Hakapaa argues that this term would be covered by the separate references to international conventions and international custom.[22] This argument is in fact quite in line with several other writers' opinions. Waldock construes the term as simply the general principles recognized in the legal systems of independent states.[23] Starke states that the 'general principles' could be derived by selecting concepts recognized by all systems of municipal law and applied by analogy.[24] Noyes and Smith also follow this line of argument.[25] The reason for these writers focusing on municipal law might be that, since both treaty law and custom are mentioned separately in the provision, one has to presume that the specific reference to 'general principles of law' does not encompass such 'principles' as are already

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18 Rousseau C Droit International Public, Tome I : Introduction et Sources 1970 370-97; see also Hakapaa n5 134.

19 Cheng B General Principles of Law Applied by International Courts and Tribunals 1953 24; see also Hapapaa n5 135.

20 Ibid.

21 Ibid.

22 Ibid 136.

23 Generally see Waldock CHM 'General Course of Public International Law' Hague Recueil 106 (2) 1962 54-69. See also Harris DJ Cases and Materials on International Law 4ed 1991 50.

24 Starke n6 33.

25 Noyes and Smith n3 249.

incorporated in conventional or customary law.[26] This explanation however may encounter one legal difficulty. What does it mean by 'already incorporated in conventional or customary law'? Of course, for those principles already unambiguously established or identified to be construed as such will meet with little opposition. But, can those principles which are implicitly subsumed in the former and not yet identified or firmly established be so categorized? If such principles emerge, no matter by what means, should they be deemed inherently part of conventional and customary law, or the so-called 'general principles'? Here one might resolutely support the idea that those implicit principles should form an integral part of the treaty or custom in which they are subsumed. This assertion however may give rise to disputes. One might rebut it by saying that if it were so then either the 'general principles' provision would be superfluous[27] or at least it should be clearly indicated as such in art 38 of the Statute in the first place (for example, by laying down 'general principles of municipal law' in its para (c) to exclude thoroughly the general principles of international law). On the other hand, one might argue that those implicitly subsumed principles should not be equated with their well established counterparts. Sometimes treaty provisions and customary law themselves are subject to controversy, not to mention those principles newly derived from them. In these circumstances, it would not be unreasonable for one to insist that the latter should not be included in the former. At the practical level, one might also be able to argue that for the principles initially subsumed to surface at a later stage and be counted as a part of treaty or custom it would be necessary for them to go

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26 Hakapaa n1 134.

27 Kelsen claimed that any international dispute can be settled on the basis either of conventional or customary law, therefore the whole notion of 'general principles' is 'superfluous'. Kelsen H Principles of International Law 2ed 1967 540; see also n26.

through the same process of creation as the latter. Before this stage, the inclusion of the former in the latter would only add to the difficulty of applying the latter. If one holds this view while maintaining that 'general principles' should be confined to those of municipal law, then a legal vacuum will be created: the newly derived burgeoning principles of international law will find no place in the global legal system since there will be no legal foundation for their application. Such outcome will be highly undesirable since it will not only reduce the possibilities of legal settlement of international disputes but also inhibit the growth of international law. At this juncture it would seem necessary to adopt an eclectic approach between these two extreme standpoints (ie internationalist and municipalist). Devine and Erasmus' definition that 'general principles of law is a method for extending rules by inferring broad principles from more specific rules and by borrowing from municipal-law rules'[28] would be a sounder and more accurate interpretation. The value of this viewpoint lies not only in that it will help to unlock the dilemma mentioned above by covering those burgeoning international legal principles, but also that it will secure the future development of international law. Generally speaking, the 'general principles' are less of a material source of international law.[29] These principles, however, obtain greater importance in the light of the growing demand for applicable legal criteria stemming from increasing environmental threats and the deficiencies of existing norms.[30] 'General principles' include procedural, evidentiary as well as substantive law.[31] Theoretically they may perform the function of providing an additional basis upon which a court can base its decision[32] - a flexible element which

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28 Devine and Erasmus n7.
29 Ibid. See also Starke n6 35.
30 Hakapaa n5 136.
31 Starke n6 3.
32 See n24.

strengthens the court's competence.[33] General principles can indeed guide adjudications[34] in achieving a substantive determination of specific international rights and duties.[35]

Judicial decisions and the works of academic writers tell us what the law is rather than really create the law.[36] It has been pointed out that international courts and especially the World Court should have pride of place in the hierarchy of the elements of law-determining agencies.[37] Although art 59 of the Statute lays down that '[t]he decision of the Court has no binding force except between the parties and in respect of that particular case' the Court, however, does use its prior decisions for guidance as to the law in order to illustrate or distinguish the application of particular rules.[38] The main flaws of the law deriving from this source vis-a-vis the protection of the marine environment are that: it rests upon inference from a handful of arbitral and judicial decisions which are concerned only incidentally with marine pollution[39]; it has been formulated at a high level of generality which gives rise to uncertainty.[40] Even though the case law has been so criticized, it still has merit. For example, courts may be able to formulate abstract general rules through their

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33 Waldock n23 64; see also Harris n23 49.
34 It is pointed out that the Trail Smelter arbitration is the pioneering decision of this sort. See Gaines SE 'International Principles for Transnational Environmental Liability: Can Developments in Municipal Law Help Break the Impasse?' Har ILJ 30(2) Spring 1989 314.
35 Handl G 'The Environment: International Rights and Responsibilities' American Society of International Law: Proceedings of the 74th Annual Meeting 1981 227.
36 Devine and Erasmus n7.
37 Schwarzenberger G International Law I 3ed 1957 30; see also Harris n23 54.
38 Starke n6 47.
39 Boyle n1 349.
40 Ibid.

reasoning[41] and thus pertinent rules can be developed with reference to a wide range of judicial decisions.[42]

In short, there are sources of law, other than conventions, capable of providing some protection where treaties do not exist. We now turn to the main concern of this chapter: the present state of international non-conventional law on marine environmental protection. In dealing with the topic, one may pose several basic questions, such as what is the nature of this non-conventional regime? What are the legal principles which establish states' duties and rights? Under what circumstances can a victim state claim for reparation for a transnational pollution incident and how? (or in other words, to what extent will the polluting state be held liable?) and so on. Answers might be found, by and large, in the law of state responsibility.[43]

3.2 The approach of ILC and the non-conventional regime of state responsibility

The importance of the non-conventional regime of state responsibility lies in the fact that conventional law has not yet developed an overall liability regime for the protection of the marine environment. For example Principle 21 of the 1972 Stockholm Declaration[44] stresses the necessity to develop international law regarding liability and compensation for victims and LOSC lacks concise rules on the subject.[45] ILC

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41 Remark of Sohn L in 'Discussion and Question' in Krueger RB and Riesenfeld SA ed The Developing Order of the Oceans 1985 190.

42 Combacau J and Alland D 'Primary and Secondary Rules in the Law of State Responsibility: Categorizing International Obligations' NYIL 16 1985 85.

43 Meng n8 84.

44 Text in Ruster B and Simma B ed International Protection of the Environment Treaties and Related Documents I 1975 118-146.

45 Brunnee n14 113.

did however note the problem and addressed it.[46] ILC's 1980 Draft Articles on State Responsibility[47] define the bases of international responsibility as follows:

> 'Draft Article 1. Responsibility of a State entails the international responsibility of that State.
> Draft Article 3. Elements of an internationally wrongful act of a State. There is an internationally wrongful act of a state when:
> (a) conduct consisting of an action or omission is attributable to the State under international law; and
> (b) the conduct constitutes a breach of an international obligation of the State.'

According to the above , for the responsibility of a state to be engaged there must exist three elements: conduct (an act or omission) causing harm or loss; the conduct must be attributable to the state under international law; and the conduct must constitute a breach of an international obligation of the state.[48] The provision concentrates on defining the 'secondary rules' which determine the legal consequences of failure to fulfil obligations established by 'primary rules'.[49] As pointed out in the previous chapter, 'primary rules' impose upon states obligations the breach of which can be a source of responsibility.[50] ILC at this stage does not define when a state's conduct is not in conformity with international law. The determination of this is left to 'primary rules'.[51] The line of demarcation between primary and secondary rules is that 'there is no breach of an international obligation (and thus no engagement of the secondary rules of state responsibility) until a state fails

46 The ILC has embarked upon this work since 1970. See Akehurst MB 'International Liability for Injurious Consequences Arising Out of Acts Not Prohibited by International Law' NYIL 16 1985 3.
47 Text in Brownlie I System of the Law of Nations State Responsibility Part I 1983 284-291.
48 Pinto MCW 'Reflections on International Liability for Injurious Consequences Arising Out of Acts Not Prohibited by International Law' NYIL 16 1985 21.
49 YILC II 1980 (Part 2) 67; see also Brunnee n14 112.
50 See n132 and accompanying text in Chapter 2.
51 Pinto n48 22.

to repair'.[52] On the other hand, the 1980 Draft Articles do not prescribe the 'mental state' or degree of advertence required of state organs involved.[53] ILC appears to consider that the degree of advertence on the part of state officials will depend not upon a general principle but upon the precise formulation of each international obligation. It would therefore be pointless to embark upon an examination of the question - framed in global terms - whether state responsibility is founded upon fault or strict liability.[54] However, reasons remain for examining the role of fault in the context of state responsibility, taking into account that the majority of authors view fault as the source of and a requirement for responsibility for the breach of any international obligation.[55] Furthermore, where the particular rule or practice gives no clear indication as to the degree of fault required, the existence of a general rule is still significant.[56] Briefly, the ILC's 1980 Draft Articles should be given due attention as the outcome of attempts to codify state practice, precedent and doctrine which have long existed.[57] In doing so, however the fundamental question as to what extent the Draft Articles reflect customary law arises.

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52 Magraw DB 'Transboundary Harm: the International Law Commission's Study of "International Liability"' AJIL 80 1986 316.

53 Brownlie n47 38.

54 Ibid 40.

55 'Force majeure and "Fortuitous Event" as Circumstances Precluding Wrongfulness: Survey of State Practice, International Judicial Decisions and Doctrine' YILC II 1961 186-193; see also Smith BD State Responsibility and the Marine Environment: The Rules of Decision 1988 14-5.

56 See the proposal of the Swiss delegation to the Hague Codification Conference, March 19 1930; Repertoire suisse III 1695; see also Brownlie n47 40-1.

57 For history of codification by ILC in this regard, see Brownlie n47 13-21. It should be however noted that the 1980 Draft Articles have been much criticized. See eg Allott P 'State Responsibility and the Unmaking of International Law' Har ILJ 29(1) Winter 1988 1-26; and Gray C 'Is There an International Law of Remedies?' BYIL 56 1985 25-47.

To question the present status of customary law on state responsibility is understandable since it has been surrounded by uncertainty and doubt.[58] Some argue that the principle of state responsibility is emerging as a doctrine of customary international law.[59] Some claim that there exists a traditional state responsibility regime in international law which imposes an obligation on the respondent state to make good any violation of that law producing injury.[60] While others maintain that international law has general principles of responsibility for environmental damage due to state action or inaction.[61] It has been pointed out that it is accepted practice in all legal systems that if damage cannot be avoided in the first place then whatever has been damaged must be restored to its undamaged position and losses arising out of

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58 See n4.

59 See eg Restatement (Third) of the Foreign Relations Law of the United States 1987 ss601, Reporters' note 1. See also Nanda VP 'Global Warming and International Environmental Law - A Preliminary Inquiry' Har ILJ 30(2) Spring 1989 392. Gündling concludes that the principle of state responsibility is undergoing a process of development and consolidation, but it is not yet to be considered to have hardened into a rule of international law. See Gündling L 'Verantwortlichkeit der Staaten für Grenzüberschreitende Umweltbeeinträchtigungen' Zeitschrift für Ausländisches öffentliches Recht und Völkerrecht 45 1985 275, see also n45. Lykke argues that responsibility and liability for any damage that may result from using the world's oceans is a developing principle of international environmental law, see Lykke E 'The Law of the Sea Convention and Disposal of Nuclear Waste' in Koers AW and Oxman BH ed The 1982 Convention on the Law of the Sea 1984 605.

60 Eagleton C The Responsibility in International Law 1928 22; see also Meng n8 85, Anand n14, Combacau and Alland n42.

61 O'Connell DP The International Law of the Sea II 1984 986; see also Brownlie n47 226, Fleischer CA 'Liability for Oil Pollution Damage Resulting from Offshore Operations' Scand SL 1976 122. Report of the Secretary-General of the UN 'Protection and Preservation of the Marine Environment' September 18 1989 in Simmonds K ed New Directions in the Law of the Sea U7 February 1990 13.

the damage must be compensated.[62] There are also writers holding that international responsibility is customary law.[63] Finally, one writer has indicated that though the primary source of the law of state responsibility has classically been custom, yet general principles of law have long played a role in areas such as state responsibility where custom may not be very developed.[64] Despite the mosaic of arguments mentioned above, which might confuse one's perception of the whole picture for a moment, it would seem permissible to conclude that a state responsibility regime indeed exists in the non-conventional legal arena ie either in customary law or under general principles of law or both. The next question is: what are the elements and content of this regime? It is interesting to note that majorities in the recent Iran-United States Claims Tribunal appear to have accepted the ILC's 1980 Draft Articles as dispositive.[65] Perhaps, therefore, we should take the Draft Articles into account rather than discard them altogether.

3.3 The nature and basis of state responsibility

The value of rules on international liability is that they can serve a function similar to that of a worldwide treaty when the latter is not yet in existence.[66] They are intended to internalize the cost of harm, to ensure adequate compensation or make other acts of reparation to the victim and (through deterrence) to prevent repetition and compel the maintenance of safe conduct for the future.[67] Gaines adds another justification for liability: to vindicate the 'rights' of the

62 Gold E 'Compensation for Ship-Source Marine Pollution: A Hypothetical Case Study' in Valencia MJ, Gold E, Chia LS and Letalik NG ed Shipping, Energy and Environment: Southeast Asian Perspectives for the Eighties 1982 201.

63 Whiteman MM Digest of International Law VIII 1967 780. See also Kuwabara n14 118, Schater n8 299, Boyle n1 357.

64 Caron D 'Remarks [on Attribution Issues in State Responsibility]' in American Society of International Law: Proceedings of the 84th Annual Meeting 1991 70.

65 Ibid 71.

66 Magraw n52 321.

parties through peaceful adjudication.[68] State responsibility is essentially a form of civil responsibility.[69] At this stage criminal responsibility of states is very doubtful.[70] 'Responsibility' denotes specifically the juridical position of a delinquent state following its breach of an international obligation.[71] Implicit in it is a corresponding legal obligation to provide reparation or compensation.[72], This has long been recognized by international law.[73] ILC has listed three elements of state responsibility mentioned above.[74] It seems however that this formulation is not totally reflected

67 Pinto n48 31.
68 Gaines n34 320.
69 For authoritative accounts, see Charles de Visscher Bibliotheca Visseriana II 1924 89-119; see also Brownlie n47 23.
70 Ibid 32. It is however to be noted that some attempts have been made to create state crimes! A considerable number of writers and the resolutions of non-governmental bodies envisaged the criminal responsibility of states as early as 1920. Lately, Draft Article 19(2) of ILC's 1980 Draft Articles on State Responsibility states that 'An international wrongful act which results from the breach by a state of an international obligation so essential for the protection of fundamental interests of the international community that its breach is recognized as a crime by that community as a whole, constitutes an international crime'. Moreover the UN General Assembly since 1978 and ILC since 1982 have also been concerned with the subject of international criminal responsibility, to be formulated in a Code of Offences against the Peace and Security of Mankind (to include inter alia, the crime of apartheid and that of racial discrimination). For detailed discussion and citation, see ibid 32-33; Starke n6 294-5.
71 See generally Garcia-Amador FV 'State Responsibility Some New Problems' Hague Recueil 94(2) 1958 376; see also Smith n55 5.
72 Gaines n34 311.
73 In the 1928 Chorzow Factory (Indemnity) case, the Permanent Court held that '... it is a principle of international law and even a general conception of law, that any breach of an agreement involves an obligation to make reparation'. See PCIJ Reports, Ser A No 17 29; see also Harris n23 461-2, Kuwabara n14 123, Handl n35 233, Smith n55 48, Kasoulides GC 'State Responsibility and Assessment of Liability for Damage Resulting from Dumping Operations' SDLR 26 1989 516.
74 See n48 and accompanying text supra.

in practice. For example Meng points out that 'fault' has sometimes been considered as another condition for state responsibility.[75] Remond-Gouilloud argues that a victim must prove not only loss but also the origin of the loss ie the source of pollution and causation between it and the damage.[76] He also points out that most legal systems require the victim to prove that the pollution complained of is a result of a wrongful act or omission involving fault. In the absence of this the party causing the damage is not liable to make reparation.[77] Dubais is of a similar opinion. The modern action is based on a duty of diligence (duty to take care) on the part of the author of the damage with respect to the victim. The duty includes the obligation to foresee the damaging consequences of the act. The tort-feaser must have transgressed the duty.[78] The connection between these elements must be established beyond doubt.[79] Finally, Kuwabara clearly indicates that a claimant state, in submitting a liability claim, is normally required by the general law of liability to establish three things:

> (a) that the damage sustained was prohibited by law, namely 'unlawful' damage by reference to a treaty or customary international law obligation;
>
> (b) that the damage was caused by discharges emanating from the territory of a defendant state;
>
> (c) that the act or omission of the defendant state associated with the damage entailed its fault or negligence. In addition, if the claimant state seeks compensation for the damage sustained, further proof is required that the damage is 'compensable' damage.[80]

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75 Meng n8 85.
76 Remond-Gouilloud M 'Pollution from Seabed Activities' in Johnston DM ed Environmental Law of the Sea 1981 254-5.
77 Ibid 255.
78 Dubais BA 'Compensation for Oil Pollution Damage from Exploration and Exploitation of Hydrocarbons on the Seabed' JMLC 6(4) July 1975 561.
79 Ibid.
80 Kuwabara n14 125.

The real picture is apparently more complex. A plaintiff state may be expected to prove more than the factors in the ILC's 1980 Draft Articles. For example, it may be also obliged to prove loss, causation between loss and the defendant's conduct and the defendant's fault (here the burden of proof is yet another element in the process). These extra prerequisites (in the sense that they are not included in the Draft Articles) are not without force. They are rooted in 'most legal systems', 'modern jurisprudence' or the 'general law of liability' even if not in customary international law. Even if the Draft Articles were in force, these 'extra' legal elements would not cease to exist. They would clarify uncertainties left unresolved by the Draft Articles. It would therefore seem necessary to deal with all the above elements in order to give effect to both theory and practice and to treat the more difficult situations in practice.

3.3.1 The state as an actor

Theoretically states are the main subjects of international law so that rules of conduct prescribed by the latter are those which states are to observe.[81] In practice states are the ultimate respondents for breaching such rules.[82] As a legal entity however its functions are performed through its agents, be they individuals or groups of individuals.[83] We therefore have to ask what conduct (act or omission) is attributable to the state for the purpose of determining its responsibility under international law.[84] The rules generally look for an agency relationship between the actor and the state.[85] Attribution is not however susceptible of easy demarcation for two reasons. Firstly controversies surround

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81 Starke n6 58.
82 See n64.
83 Brownlie n47 37.
84 Christenson GA 'Remarks [on Attribution Issues in State Responsibility]' in Proceedings n63 51.
85 Caron n63 67.

this topic.[86] Brownlie follows Quadri's argument that imputability would seem superfluous. The issue is whether there has been a breach of duty. The context of 'imputability' will vary according to the particular duty, the nature of the breach and so on.[87] Kuwabara also opines that the question of attribution does not really exist when a state is bound by specific treaty provisions to comply with certain obligations.[88] The issue is determination of the content of the obligation rather than its imputability.[89] In the recent Iran-United States Claims Tribunal, successful claimants did however submit proof in this regard.[90] Theory and practice would appear inconsistent. Secondly the question involves a tedious exposition of agency, acts of organs and their political subdivisions and acts of officials within their apparent authority in accordance with law.[91] There seems to be no simple way out.

Three underlying principles have been derived from recent codifications and restatements. The first principle says that a state acts through people exercising its machinery of power and authority. The second principle is that international law does not attribute conduct of a non-state character, such as acts or omissions of private persons, mobs, associations, corporations, trade unions or unsuccessful insurgents, to a state as such. The third principle is that a state may act through its inaction when an international obligation requires it to act in relation to non-state conduct.[92] More concretely, Smith has identified five situations in which

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86 Lillich RB 'Remarks [on Attribution Issues in State Responsibility]' in Proceedings n64 51.
87 Quadri R 'Cours général de droit international public' Hague Recueil 113(3) 1964 457-9; see also Brownlie n47 36.
88 Kuwabara n4 114.
89 Ibid.
90 See n85.
91 See n84.
92 Christenson n84 52.

conduct may be attributed to the state: state organs of one state are - with respect to specific conduct - treated as the agents of another state; collective institutions perform 'public' functions while maintaining a legal identity separate from the state; private conduct of a 'public' character; and the ultra vires conduct of state officials.[93] As far as the conduct of a state organ is concerned, the reason for attribution is that 'the State is seen only in its unity and not divided into its different powers'.[94] The ILC's 1980 Draft Articles lay down the rules relating to state organs engaging state liability:

> 'Draft Article 5. Attribution to the State of the conduct of its organs.
>
> For the purpose of the present articles, conduct of any State organ having that status under the internal law of that State shall be considered as an act of the State concerned under international law, provided that organ was acting in that capacity in the case in question.
>
> Draft Article 6. Irrelevance of the position of the organ in the organization of the State.
>
> The conduct of an organ of the State shall be considered as an act of that State under international law, whether that organ belongs to the constituent, legislative, executive, judicial or other power, whether its functions are of an international or an internal character and whether it holds a superior or a subordinate position in the organization of the State.'

The last sentence of draft art 6 is particularly relevant to the question whether there should be state responsibility for the acts of 'minor officials'. Brownlie observes that the overwhelming evidence of state practice and arbitral

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93 For general accounts for each of the five see the following materials in order: ILC 'Report to the General Assembly' in YILC II 1973 191; Ago R 'Third Report of State Responsibility' in YILC II 1971 267ff; Amerasinghe CF State Responsibility for Injury to Aliens 1967 102; Ago supra 264; and Brownlie n93 248; see also Smith n55 23.

94 Ago n93 248; see also Smith n55 23.

jurisprudence supports the article.[95] He points out three reasons: first, from a practical viewpoint international standards are related to consequences rather than the source of the harm; secondly, the application of policies is normally in the hands of subordinate officials; and thirdly, an administration is, for legal purpose, to be seen as integral and thus a system of government.[96] Generally speaking, 'official' or 'organ' status is prima facie evidence of responsibility, though it is not a conclusive determinant.[97] What is an 'organ of state' is essentially a question of fact unrelated to formal and regular tests provided by a constitution or other local law.[98] In relation to the second case identified by Smith, in which organs of one state are treated as the agents of another state, the draft articles stipulate as follows:

> 'Draft Article 9. Attribution to the State of conduct of organs placed at its disposal by another State or by an international organization.
>
> The conduct of an organ which has been placed at the disposal of a State by another State or by an international organization shall be considered as an act of the former State under international law, if that organ was acting in the exercise of elements of the governmental authority of the State at whose disposal it has been placed.'

Several cases reflect this rule.[99] In the Chevreau Case, the negligent loss of certain documents by the British Consul in Persia, while temporarily in charge of the French Consulate, could only be attributed to France, as the state on whose behalf the conduct had occurred.[100] In so far as collective institutions performing 'public' functions yet maintaining a

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95 Brownlie n47 135.
96 Ibid.
97 Ibid.
98 Ibid 136.
99 Smith n55 27.
100 The Chevreau Case (1931) (France v Great Britain) RIAA 2 1113; see also Smith ibid.

legal identity separate from the state are concerned, Smith points to subsidiary governments within the state as the clearest example.[101] The Draft Articles deal with this problem in a similar way.

> 'Draft Article 7. Attribution to the State of the conduct of other entities empowered to exercise elements of the governmental authority.
>
> 1. The conduct of an organ of a territorial governmental entity within a State shall also be considered as an act of that State under international law, provided that organ was acting in that capacity in the case in question.
>
> 2. The conduct of an organ of an entity which is not part of the formal structure of the State or of a territorial governmental entity, but which is empowered by the internal law of that State to exercise elements of the governmental authority, shall also be considered as an act of the State under international law, provided that organ was acting in that capacity in the case in question'.

A subsidiary issue of great significance in the environmental context, given the industrial or commercial source of most pollution, is the application of the concepts of 'public' authority and function to commercial activity. This has not been dealt with directly by ILC.[102] A para-statal is such a case, being is defined as

> '... any entity organized with separate legal personality, established or otherwise owned or controlled by the state. ...[It] may be wholly or partly owned by the state and... carry out clearly sovereign functions (for example a central bank). It might exercise a state monopoly (like a state trading company or national oil company), or it could operate entirely in the private sector'.[103]

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101 Ibid 27-8.
102 Ibid 28.
103 Chalmers J 'Remarks [on Attribution Issues in State Responsibility]' in Proceedings n63 60.

A para-statal may be subject to control by the state through the presence of government officials on its board of directors, through legislative requirements that it implement government policy, or through government control of its budget or other inputs.[104] It would be quite logical to say that, when the state plays a central role in a para-statal, it ought to be treated as a 'public' representative of the state.[105] In practice however, arbitral and judicial decisions in the United States on this issue hold, to the contrary, that states cannot be held responsible for the para-statal's acts, except in extraordinary circumstances, eg where it is a sham used to promote injustice.[106] The US Supreme Court has decided that corporate status, which implies limitation of liability, must be respected.[107] What is worse is that a number of international arbitrations have followed this line of thought paying homage to the sanctity of the corporate form.[108] The standard justification for the high threshold for piercing the corporate veil in the private sector is that, without the protection of limited liability, investors would not put their money into the productive enterprises which are the foundation of modern economies.[109] It has been pointed out however that a para-statal is different from a corporation in three respects: the sovereign shareholder does not require legal presumptions in its favour to induce it to create entities that will attract foreign capital; states need no artificial legal protection to induce them to put their own resources into developmental enterprises; the essentially commercial justification for limitation of liability may simply not be appropriate where the presumption of commercial motivation

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104 Ibid.
105 Amerasinghe CF 'Imputability in the Law of State Responsibility for Injuries to Aliens' R Egyptienne droit int'l 22 1966 102-3; see also Smith n55 30.
106 Chalmer n103 61-2.
107 The Bancec Case ILM 22(4) July 1983 840-54. See also Chalmers n103 61.
108 Ibid.
109 Ibid 63.

loses its force to political considerations.[110] Chalmers therefore suggests that the corporate veil analysis should apply where a state - while holding an ownership interest in a private company - is not a controlling shareholder, but not where para-statals are created to carry out traditional sovereign functions which are indistinguishable from government agencies, except that they have been organized in a corporate form.[111] In short, the current law on attribution in this respect is quite controversial.

On the question of ultra vires conduct of state officials, there are no major disputes regarding the attribution of such conduct to the state[112] except in relation to the determination of the proper limits of such conduct.[113] In the Caire Case[114], Verzijl, the President of the Commission, recites two tests which are most frequently propounded.[115]

> 'But in order to be able to admit this so-called objective responsibility of the State for acts committed by its officials or organs outside their competence, they must have acted at least to all appearances as competent officials or organs, or they must have used powers or methods appropriate to their official capacity...'.[116]

ILC's Draft Articles have also envisaged this problem:

> 'Draft Article 10. Attribution to the State of conduct of organs acting outside their competence or contrary to instructions concerning their activity.
>
> The conduct of an organ of a State, of a territorial governmental entity or of an entity empowered to exercise elements of the governmental authority, such organ having acted in that capacity, shall be considered as an act of

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110 Ibid.
111 Ibid 64.
112 Brownlie n47 145; see also Smith n55 32.
113 Ibid.
114 The Caire Case (1929) (France v Mexico) RIAA 5 516ff (in French); for English translation, see Harris n23 468-70.
115 See Smith n111.
116 For French text see RIAA 5 530; see also Harris n23 469.

> the State under international law even if, in the particular case, the organ exceeded its competence according to internal law or contravened instructions concerning its activity'.

It has been stressed that this rule accords generally with a regime of objective responsibility.[117] This is, according to Verzijl in the Caire Case, 'the responsibility for the acts of the officials or organs of a State, which may devolve upon it even in the absence of any 'fault' of its own'.[118] Thus the Commission stated in the Youmans Case[119] that

> 'Soldiers inflicting personal injuries or committing wanton destruction or looting always act in disobedience of some rules laid down by superior authority. There could be no liability whatever for such misdeeds if the view were taken that any acts committed by soldiers in contravention of instructions must always be considered as personal acts'.[120]

In the category of private conduct of a public character, the key to attribution is the 'public character of the function or mission in the performance of which the act or omission contrary to international law was committed, rather than the formal link between the State organization and the person whose conduct is in question'.[121] The Draft Articles deal with this theme in the following provision:

> 'Draft Article 8. Attribution to the State of conduct of persons acting in fact on behalf of the State.
>
> The conduct of a person or group of persons shall also be considered as an act of the State under international law if:
>
> (a) it is essential that such person or group of persons was in fact acting on behalf of that State; or

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117 Brownlie n112.
118 Harris n23 468.
119 The Youmans Case (1926) (US v Mexico) RIAA 4 110ff; for a brief review see Harris n23 483-5.
120 RIAA 4 116; see also Harris n23 484-5.
121 Ago n93 264; see also Smith n11 31.

(b) such person or group of persons was in fact exercising elements of the governmental authority in the absence of the official authorities and in circumstances which justified the exercise of those elements of authority'.

Here one important question immediately arises regarding the legal position of the state vis-a-vis other acts of private natural or legal persons?[122] It has been argued that there seems to be a consensus that a state is virtually accountable for transboundary harm arising from all private activities within its territory[123] since its authorities retain ultimate control over the carrying on as well as the modalities governing the activity concerned.[124] This proposition may however be limitated.[125] Generally speaking, the state must first exercise 'due diligence' to prevent conduct which, if the state were the actor, would breach its international obligations.[126] If such conduct nevertheless occurs, the apprehension and punishment of the offenders must be 'diligently' pursued.[127] State responsibility will arise only for failure to perform with 'due diligence' the tasks of prevention and punishment.[128] In general terms the test is that of physical control[129] and 'due diligence' means the amount of control which ought to have been exercised in the particular circumstances rather than the amount of actual control.[130] Several criteria have been identified for the

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122 Brownlie n47 159.
123 Magraw n52 323.
124 Handl n35 231.
125 See n123.
126 See eg Alabama Claims (1872) (US v UK) Moore JB In Arb 1 495; the St Albans Raid Case (1873) (US v UK) Moore In Arb 4 4042; the Home Missionary Society Claim (1920) (US v UK) RIAA 6 42; see also Smith n55 36.
127 See eg the Janes Case (1925) (US v Mexico) RIAA 4 82; the Massey Case (1927) (US v Mexico) RIAA 4 155; see also Smith ibid.
128 Ibid 38.
129 Namibia Opinion, ICJ Reports 1971 54 para 118; see also Brownlie n47 165.
130 See eg Case of Ireland against the United Kingdom, Europ Ct of HR January 18 1978, Judgment para 158-9; the Mallen

practical determination of 'due diligence'. Foreseeability of private conduct is a factor frequently playing a principal and explicit role in the decisions of arbitral tribunals.[131] International minimum standards is another consideration. Conduct of a state falling below such standards gives rise to responsibility.[132] The interests at stake in the particular case constitute yet another factor.[133] Brownlie stresses, however, that 'responsibility for the acts of private persons' is not a special category but is subject to the normal principles of international law applicable to the particular situation.[134] Another question is to what extent will a state be responsible for the unlawful conduct of its private citizens committed outside its territory? Some confusion is apparent in this respect. Kasoulides argues that the obligation to prevent harm is not limited to harm arising out of territorial conduct and a state remains accountable for the harmful consequences of its conduct in any location (eg on the high seas) if the state is in a position to take preventive measures with respect to such conduct.[135] Brownlie however points out that while in general a state can be responsible for events occurring within its territory, it is not under a duty to control the activities of private individuals (being its nationals) beyond the bounds of state territory.[136] Thus a state is not responsible for the delinquencies of vessels flying its flag.[137] He nevertheless asserts that it is

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Case (1927) (US v Mexico) RIAA 4 173; see also Brownlie n47 147.

131 See eg the Alabama Claims n125, the Home Insurance Co Case (1926) (US v Mexico) RIAA 4 52; see also n127.

132 Dupuy R 'Due Diligence in the International Law of Liability' in OECD Legal Aspects of Transfrontier Pollution 1977 375-6; see also Smith n55 40.

133 Ibid.

134 Brownlie n47 163.

135 Kasoulides n73 503.

136 Brownlie n47 165.

137 Ibid.

possible to prescribe duties to control such activities by convention.[138]

Finally, it is important to take note of modern developments with respect to the status of individuals in international law. Traditionally international law binds states in their relationships with other states. This is however not absolute. For example, in the field of human rights, a state can commit a breach of a duty imposed by international law but owed to individuals.[139] In this case, individuals can be the holders of rights conferred by international law.[140] The relevance of this development to the control of marine pollution is that the right of individuals to enjoy an unpolluted marine environment may be in the process of becoming an addition to the charter of human rights under customary international law.[141] This trend has been confirmed by art 1 para (4) of LOSC in which individual rights are clearly referred to:

> '"[P]ollution of the marine environment" means the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazardous to human health, hindrance to marine activities, including fishing and other legitimate

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138 Ibid.

139 Devine DJ 'International Customary Law as a Possible Source of Actions in Delict' SALJ 106 1989 310. At n12 Devine gives an example of this nature 'Under the European Convention on Human Rights and Fundamental Freedoms 1950 the parties undertake to respect the listed human rights in relation to persons within their jurisdiction. In the majority of the states that are parties, individuals have a right of petition to the European Commission on Human rights'.

140 Starke n6 63.

141 Timagenis GJ International Control of Marine Pollution I 1980 70-2; see also Boczek BA 'The Concept of Regime and the Protection and Preservation of the Marine Environment' Ocean YB 6 1986 290.

uses of the sea, impairment of quality for use of sea water and reduction of amenities.' (Emphasis added).

The significance of the evolution of customary international law (or even conventional law) in this direction for the future are two-fold: first, customary international law on human rights will then be able to offer direct protection from marine pollution to individuals who are definitely the ultimate victims, even in the absence of conventional rules; and secondly, future legal arrangements of this sort will be able to provide a more effective enforcement mechanism - a living person will definitely be more susceptible to environmental contamination than an abstract entity such as a a state. Thus the opportunities for taking action by private individuals may be expected to increase[142], even through the state of which they are nationals.[143] Such developments may serve to facilitate the task of marine pollution control in the long term.

3.3.2 Wrongful act

As pointed out, an act is wrongful when it constitutes a breach of an international obligation.[144] Certain behaviour has been sanctioned by the legal order.[145] The legal order

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142 This proposition is especially true in the region of the South China Sea. See n421-4 and accompanying text in Chapter 1 supra.

143 Starke points out that there is widely recognized rule of international practice that an individual cannot generally assert his own right against a state before an international tribunal or be answerable to a state in the same jurisdiction for failing in his obligations, but only through the state of which he is a national. He also indicates that the European Court of Human Rights does not represent an exception to the rule, as the parties to the European Convention for the Protection of Human Rights and Fundamental Freedoms and the European Commission of Human Rights alone have the right to bring a case before the Court. Individuals cannot of their own motion invoke the Court's jurisdiction. See Starke n6 63-4.

144 See n48 and accompanying text supra.

145 Edwards n15 124.

may be conventional or customary.[146] Uncertainties exist however as far as the customary law on marine pollution control is concerned. Timagenis argues that, although there was no general rule for the protection of the marine environment, contemporary customary law imposes a general obligation upon states to protect the marine environment from pollution.[147] If one is reluctant to accept this as being too 'radical', a more conservative viewpoint, such as Meng's, may prove more acceptable. According to Meng there are rules of customary international law on the protection of the environment from pollution into which the special characteristics of the different types of pollutants, sources, pathways and targets have been subsumed.[148] The remaining paragraphs of this section (3.3.3) will be devoted to identifying existing rules of international law, both substantive and procedural, on transboundary pollution the breach of which will give rise to state responsibility.

3.3.2.1 Substantive rules of international law

3.3.2.1.1 Sic utere tuo ut alienum non laedas

This Latin maxim imposes an obligation in municipal law to use one's property in a way that does not prejudice the rights of others.[149] Despite its private law nature, it has been applied by analogy on several occasions at international level. In the Trail Smelter Arbitration[150], the tribunal stated that

> '...under the principles of international law, as well as of the law of the United States, no state has the right to use or permit the use of its territory in such a

146 Brownlie n47 601; see Kasoulides n73 504. The Secretary-General of the UN has emphasized in his recent report that a state breaching its customary obligations would be in breach of international law. See Report n61 7.

147 Timagenis n141 25-6.

148 Meng n8.

149 Van Meurs LH Marine Pollution 1986 8.

> manner as to cause injury by fumes in or to the territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence'.[151]

In the Corfu Channel Case[152] the International Court of Justice confirmed that 'every State's obligation not to allow knowingly its territory to be used for acts contrary to the rights of other States' is a 'general and well-recognized principle'.[153] This maxim has also been identified in Principle 21 of the 1972 Stockholm Declaration:

> 'States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states or of areas beyond the limits of national jurisdiction'.

It has been argued that this principle represents customary international law[154] or, at least, a general principle of law.[155] A recent incorporation of this principle in conventional law is reflected in art 194 para 2 of LOSC which reads as follows:

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150 The Trail Smelter arbitration (1938 and 1941) (US v Canada) RIAA 3 1905ff; for a brief extract see Harris n23 245.

151 RIAA 3 1965; see also Harris n23 245.

152 Corfu Channel Case (1949) (UK v Albania) ICJ Reports 1949 4ff; for a brief extract see Harris n23 470-4.

153 ICJ Reports 1949 22; see also Harris n23 472.

154 Devine and Erasmus n7 160; see also Smith n55 76; Kuwabara n14 30; Remond-Gouilloud 'Prevention and Control of Marine Pollution: I Introduction' in Johnston ed n76 21; Brunnee n14 92; Kindt JW 'International Environmental Law and Policy: An Overview of Transboundary Pollution' SDLR 23 1986 593; Churchill and Lowe n2 245; Meng n8 68.

155 Soni R Control of Marine Pollution in International Law 1985 143; see also Hakapaa n5 136; Lachs M 'The Challenge of the Environment' ICLQ 39 July 1990 665; Abecassis and Jarashow n12. Lykke opines that Principle 21 of the Stockholm Declaration evidences 'generally accepted concepts of international environmental law'. See Lykke n59.

> 'States shall take all measures necessary to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other States and their environment, and that pollution arising from incidents or activities under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights in accordance with this Convention'.[156]

Nevertheless, there are two hurdles in the way of practical application of this principle. The first derives from conflict with another principle of international law: territorial sovereignty.[157] In the Island of Palmas Case[158], Arbitrator Huber defined the term as '[s]overeignty in the relations between States signifies independence. Independence in regard to a portion of the globe is the right to exercise therein, to the exclusion of any other State, the functions of a State.'[159] This definition can just as well read that a state has the right to use its territory in whatever way it deems suitable even if such use could cause environmental harm beyond its territory.[160] No doubt tension always mounts.[161] In fact, the first half of Principle 21 of the Stockholm Declaration applied the principle of sovereignty.[162] Devine and Erasmus nevertheless remind us of the dual character of state sovereignty, that sovereignty does not permit uses of national territory that result in violations of another's

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156 Although Boyle has not expressed his view with respect to the legal status of the principle 'sic utere tuo', he maintains that the provision, which an exact reflection of that principle, is a customary rule. See Boyle n1 367.

157 Magraw DB 'The International Law Commission's Study of International Liability for Non-prohibited Acts as it Related to Developing States' Wash LR 61 1986 1043; see also Gaines n34 3117.

158 Island of Palmas Case(1928) (The Netherlands v US) RIAA 2 829ff; for a brief extract, see Harris n2 173-80.

159 RIAA 2 829; see also Harris n23 173.

160 Brunnee n14 86.

161 Ibid.

162 Devine and Erasmus n154.

sovereignty.[163] They argue that on this basis all states may demand that their own environments shall not be polluted from outside sources.[164] This is quite a logical solution which allows one in fact to overcome the first obstacle. The second hurdle is the uncertain content of the principle itself. Hakapaa argues that the maxim is too general to qualify even as a general principle of law.[165] It is not clear, for example, whether the rule protects only the territory of other states or also the high seas and whether the economic and infrastructural resources of the state affect the level of the duty.[166] On the other hand, Handl argues that Principle 21 inherently entails certain procedural restraints on unilateral state conduct: ie the duty to notify; the duty to consult; and the duty to devise environmental assessment.[167] He points out that the first two are now parts of general international law whereas it is questionable whether the third one is widely accepted.[168] Boczek however claims that the duty to devise environmental assessment is an emerging rule of customary international law[169]. Handl maintains that in such a well-established procedural system even relatively abstract notions such as sic utere tuo can be fruitfully employed to arrive at a substantive determination of international rights and duties.[170] According to him, this principle can be an effective tool in both preventing and resolving transnational environmental disputes provided its procedural implications are duly heeded.[171]

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163 Ibid 4.
164 Ibid.
165 Hakapaa n5 137.
166 Abecassis and Jarashow n12 15.
167 Handl n35 224-6.
168 Ibid.
169 Boczek n140.
170 Handl n35 227.
171 Ibid 228.

3.3.2.1.2 Abuse of rights

Several municipal systems of law adopt the doctrine of abuse of rights.[172] For example, article 1912 of the Mexican Civil Code states that

> 'When damage is caused to another by the exercise of a right, there is an obligation to make it good if it is proved that the right was exercised only in order to cause the damage, without any advantage to the person entitled to the right'.[173]

In general, this doctrine imposes limits upon the exercise of rights when: (a) interference with the correlative rights of other states results; (b) the exercise is for a reason other than that for which the right was conferred; or (c) the exercise is otherwise arbitrary.[174] It has been argued that this doctrine is a general principle of law[175] but does not exist in positive law.[176] The basic difficulty with the doctrine lies in its ambiguous content since it does not distinguish in substantive terms the unlawful from the lawful.[177] Hakapaa nevertheless points out that this doctrine is at least applicable in situations either specifically characterized by lack of detailed definition of the rights involved or where a certain activity fully corresponds to the letter of a broadly formulated rule of law yet ignores its true spirit and purpose.[178] Brownlie therefore concludes that it is a useful agent in the progressive development of the

172 Ago n93 221-2; see also Brownlie n47 51.
173 Ibid.
174 Taylor GDS 'The Content of the Rule Against Abuse of Rights in International Law' BYIL 46 1972-3 341; see also Smith n55 84.
175 See n155 and n166. The ILA similarly opines that 'abuse of rights' may form a general principle of law, provided that abuse is a deliberate and malicious act. See Report of the ILA Committee on Legal Aspects of the Conservation of the Environment, ILA Report 1978 404; see also Hakapaa n5 140. Brownlie holds this viewpoint as well. See Brownlie n47 70.
176 Ibid 52.
177 Hakapaa n5 138.
178 Ibid 138-9.

law.[179] Recently this doctrine has been codified in LOSC and this facilitates its recognition within the system of customary international law as well:[180]

> 'Article 300. Good faith and abuse of rights. States parties shall fulfil in good faith the obligations assumed under this Convention and shall exercise the rights, jurisdiction and freedoms recognized in the Convention in a manner which would not constitute an abuse of right'.

3.3.2.1.3 Good neighbourliness

The principle of good neighbourliness has found its most specific application in the law of international rivers and lakes.[181] Its basis is said to be the fact that where two or more states share a natural system (usually water systems) it should be done in such a manner that use by the other state or states (the 'neighbours') is respected.[182] Sometimes it is argued that the relationship between good neighbourliness and abuse of rights is indistinct.[183] It has nevertheless also been pointed out that 'abuse of rights has secured the greater measure of doctrinal support as a concrete rule of decision'[184], whereas good neighbourliness 'implies a more positive obligation for cooperation'.[185] The principle is clearly referred to in the UN Charter. The preamble underlines the determination of member states to 'live together in peace with one another as good neighbours'. Article 74 also states:

> 'Members of the United Nations also agree that their policy in respect of the territories to which this Chapter applies, no less than in respect of their metropolitan areas, must be based on the general principle of good neighbourliness, due account being

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179 Brownlie n47 52.
180 Hakapaa n179.
181 Kuwabara n14 33; see also Devine and Erasmus n7 161.
182 Ibid.
183 Smith n55 84.
184 Ibid.
185 Kuwabara n181.

> taken of the interests and well-being of the rest of the world, in social, economic and commercial matters'.

The principle has also been given concrete expression in case law.[186] In the International Commission of the River Oder Case[187], the court held that '... community of interest in a navigable river becomes the basis of a common legal right'.[188] In the Lac Lanoux Case[189], the tribunal ruled that

> 'In any case, we do not find ... in customary international law, any rule that prohibits one State, acting to safeguard its legitimate interests, to put itself in a situation that would permit it in effect, in violation of its international pledges, to injure a neighbouring State even seriously'.[190]

It also stated that

> 'the upstream State has, according to the rule of good faith, the obligation to take into consideration the different interests at stake, to strive to give them all satisfactions compatible with the pursuit of its own interests, and to demonstrate that, on this subject, it has a real solicitude to reconcile the interests of the other riparian with its own'.[191]

Two obstacles exist which may hamper the application of the principle. The first is its vague content.[192] Nevertheless, if we take into account that the doctrine purports to determine whether certain rights exist and that it seems capable of encompassing both intentional and unintentional conduct[193], the problem may be mitigated to some extent. The

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186 Ibid.
187 The International Commission of the River Oder Case (1929) (UK et al v Poland) PCIJ Report Ser A No 23. For a brief extract see BYIL 11 1930 213-6 and Hackworth GH Digest of International Law I 1940 600-1.
188 BYIL n187 215; see also Hackworth n187 601.
189 The Lac Lannoux Case (1957) (France v Spain) AJIL 53 1959 156-171. For a description see Devine and Erasmus n7 162.
190 AJIL n189 163.
191 Ibid 169.
192 Hakapaa n5 142.
193 Ibid.

second derives from criticism that the principle cannot be linked directly to environmental protection.[194] Burnnee points out that it can at least serve as a frame of reference in an international neighbourhood situation.[195] These two obstacles should not lead to a complete denial of the rule. Generally speaking, the principle of good neighbourliness is considered a 'basic norm'[196] or a 'prevailing proposition of law'.[197]

3.3.2.1.4 Self-defence and other more specific rules

Two points arise here. The first is the right of self-defence for every state in customary international law.[198] The relevance of this to marine pollution control is its invocation in intervention on the high seas (or in space beyond national control) to prevent or mitigate the effects of pollution.[199] The application of this right in the environmental context is, however, subject to controversy.[200] Theoretical difficulties probably arise out of art 51 of the UN Charter in which the right is limited to cases of armed attack:

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194 Kuwabara n14 34; see also Brunnee n14 88.
195 Ibid.
196 Report of the ILC on the Work of its Thirty-Fifth Session, UN GAOR Thirty-Eighth Sess, Suppl No 10 (A/38/10) 1983 197; see also Handl G 'Liability as an Obligation Established by a Primary Rule of International Law' NYIL 16 1985 77.
197 Hakapaa n5 143.
198 Devine and Erasmus n154. See also Starke n6 539; Harris n23 849; McHugh JJ 'Forcible Self-Help in International Law' in Lillich RB and Moore JN ed US Naval War College International Law Studies II 1980 143; Brownlie I International Law and the Use of Force by States 1963 251-5; Schwarzenberger G The Fundamental Principles of International Law 1955 341.
199 Devine and Erasmus n154. On self-help applied in internal waters to ships in distress, see Devine DJ 'The Cape's False Bay: A Possible Haven for Ships in Distress' SAYIL 16 1990/91 81-91. In principle this should be no different to intervention on high seas as in both cases the ship interfered with has a right to be where it is.
200 Smith n55 220; Boyle n1 369.

> 'Nothing in the present Charter shall impair the inherent right of individual or collective self-defence if an armed attack occurs against a Member of the United Nations, until the Security Council has taken measures necessary to maintain international peace and security...'

A restrictive view contends that the right of self-defence which has received general acceptance in the most recent times has a content identical with the right expressed in the article.[201] O'Connell argues that customary international law does not afford much authority for threatened coastal states to intervene.[202] Abecassis and Jarashow also conclude that self-defence cannot support intervention in most cases.[203] On the other hand a broader view maintains that the above article in no way restricts the traditional right of self-defence so

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201 See eg Brownlie n198 280.

202 O'Connell n61 1006; O'Connell, following Brown's opinion, considered that the argument to justify the intervention based on self-defence is not plausible. See also Brown ED 'The Lessons of the Torrey Canyon International Law Aspects' CLP 21 1968 126-7.

203 Abecassis and Jarashow's conclusion is based upon Bowett's argument. Bowett argues that 'the essence of self-defence is a wrong done, a breach of a legal duty owed to the state acting in self-defence... The breach of duty violates a substantive right, for example the right to territorial integrity and gives rise to the right of self-defence. It is this precondition of delictual conduct which distinguishes self-defence from the "right" of necessity'. Starting from this premise, Abecassis and Jarashow point out that there are two difficulties in applying self-defence in those international cases. Firstly, the duty of the flag state probably goes no further than the making of appropriate legal rules and exercising reasonable efforts to enforce them. In most cases of serious casualties, this duty will not have been breached. Secondly, it is doubtful whether the injury suffered by the coastal state constitutes violation of a sufficiently substantive right. For Bowett's argument, see Bowett DW Self-Defence in International Law 1958 9. For Abecassis and Jarashow's elaboration, see Abecassis and Jarashow n12 116-7.

as to exclude its application in other situations.[204] In the Caroline Case[205], the then American Secretary of State formulated a test which has commonly been accepted as indicating when the customary international law right of self-defence could be exercised.[206] A government invoking the right must

> 'show a necessity of self-defence, instant overwhelming, leaving no choice of means, and no moment for deliberation. It will be for it to show, also, that the ... authorities... did nothing unreasonable or excessive; since the act, justified by the necessity of self-defence, must be limited by that necessity, and kept clearly within it'.[207]

Waldock considers that legitimate self-defence under customary international law has three main requirements: (1) an actual infringement or threat of infringement of the rights of the defending state; (2) a failure or inability on the part of the other state to use its own legal powers to stop or prevent the infringement; and (3) acts of self-defence which are strictly confined to the object of stopping or preventing the infringement and are reasonably proportionate to what is required for achieving this object.[208] Furthermore, he particularly points out that this right is exercisable on the high seas.[209] As a result, Van Meurs asserts that intervention on the high seas is an international customary rule.[210] Hakapaa even says that the 'customary right of intervention clearly covers emergencies involving any type of

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204 Bowett n203 191-2. See also Greig DW International Law 2ed 1976 893-4; and Waldock CHM 'The Regulation of the Use of Force by Individual States in International Law' Hague Recueil 81(2) 1952 497.
205 BFSP 29 1137-8 and BFSP 195-6. For a brief, see Harris n2 848.
206 Ibid 849 See also McHugh n198 143.
207 Harris n205.
208 Waldock n204 563-4.
209 Ibid 466.
210 Van Meurs n149 54.

substances if only the danger is grave enough'.[211] Under these circumstances it would seem safer to take an eclectic stance: intervention on the high seas constitutes at least an emerging rule of customary international law.[212] The nature of intervention on the high seas is 'to destroy a foreign flag vessel while still on the high seas in order to avert threatened pollution of the territorial sea or the territory of the government taking the action'.[213] A more crucial question here is whether self-defence (or intervention) is applicable where pollution stems from the territory of another state.[214] This question is of great significance to the region of the South China Sea. The entire area would be subject to coastal state jurisdiction under the 200nm regimes. Thus no high seas at all would be left![215] Intervention on the high seas would be irrelevant to the region in most cases. Yet the answer is probably no. Intervention in territory is different from that on the high seas for it is an interference (use of force perhaps) against the territorial integrity of a state under art 2(4) of the UN Charter![216]

The second point to be stressed is that, in addition to those substantive rules of a very general nature mentioned above,

211 Hakapaa n5 273.
212 Churchill and Lowe n2 262.
213 Healy NJ 'Marine Pollution: Prevention, Liability, Compensation' in Symposium: New Directions in Maritime Law Dalhousie University 1978 145; see also n210.
214 Devine and Erasmus n154.
215 See n112 and accompanying text in Chapter 1.
216 As a matter of fact, this point of view has derived some support from case law. In the Corfu Channel Case (Merits), the court rejected the UK's plea of self-help and held that 'Between independent States, respect for territorial sovereignty is an essential foundation of international relations. The Court recognises that the Albanian Government's complete failure to carry out its duties... But to ensure respect for international law, of which it is the organ, the Court must declare that the action of the British Navy constituted a violation of Albanian sovereignty'. See ICJ Reports 1949 35; see also Harris n23 374-5. Brownlie however argues to the contrary. See Brownlie n198 376.

some specific conventional rules have probably evolved into customary international law. First, it might be submitted that the 1973 MARPOL be considered to have acquired that status,[217] this being especially true of the total prohibition on discharge within the 50nm limit which is applicable to nearly all tankers.[218] LDC has had that status for some time as well.[219] The prohibition on dumping of, inter alia, organohalogen compounds, mercury and cadmium is now a norm of customary law.[220] The International Convention on Civil Liability for Oil Pollution Damage 1969 (CLC)[221] with 69 parties representing 83.16% of world tonnage[222] may also be regarded as customary law. If it is not so, as one writer has put it, 'then it is difficult to think what would be'.[223] The Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage 1971 (Fund Convention)[224] with 45 parties representing 62.77% of world tonnage[225] may be difficult to regard as such. It is submitted, however, that it is at least on its way to becoming customary international law. In short, the implications of the evolution of specific treaty provisions into customary rules is that it will gradually reduce the uncertainties in customary law[226] and thus enable the latter to provide more

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217 MARPOL 1973 which entered into force on October 2 1983 has obtained 67 ratification (as at June 24 1991) and now covers 89.4% of the world's tanker tonnage.

218 Hakapaa n5 132; see also Abecassis and Jarashow n12 20.

219 Boyle n1 355-6.

220 Hakapaa n218, especially at n14 thereof.

221 Text in Ruster B and Simma B ed International Protection of the Environment Treaties and Related Documents I 1975 470-81.

222 As at June 24 1991.

223 Abecassis and Jarashow n218.

224 Text in Ruster B and Simma B ed International Protection of the Environment Treaties and Related Documents II 1975 510-519.

225 As at June 14 1991.

226 Brownlie argues that customary law is sometimes uncertain and nebulous and that the 'uncertainty' stems from the fact that rules lack specific standards and principles. See Brownlie n47 86.

effective protection to states in situations where treaties are not available.

3.3.2.2 Procedural rules of international law

3.3.2.2.1 The duty to notify

The duty to notify is indispensable to the international regime on marine pollution control.[227] It was initially developed in the context of the development of international law applicable to international drainage basins.[228] In the Corfu Channel Case, the court clearly referred to it.

> 'The obligations incumbent upon the Albanian authorities in notifying for the benefit of shipping in general, the existence of a minefield in Albanian territorial waters and in warning the approaching British warships of the imminent danger to which the minefield exposed them. Such obligations are based...on certain general and well-recognised principles, namely: elementary considerations of humanity...; the principle of freedom of maritime communications; and every State's obligation not to allow knowingly its territory to be used for acts contrary to the rights of other States'.[229]

Writers' opinions on the legal status of this obligation seem quite uniform. Handl argues that it is inherently subsumed in the sic utere tuo principle and is thus part of general international law.[230] Meng[231] and Brunnee[232] opine that the duty is 'generally accepted' while others hold that it is customary international law.[233] It has been pointed out, however, that the duty to notify is limited to cases of

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227 Handl G 'Environmental Protection and Development in Third World Countries: Common Destiny - Common Responsibility' NYUJILP 20 1988 616.
228 Meng n8 72.
229 ICJ Reports 1949 22; see also Harris n23 385.
230 See n167-8 and accompanying text supra.
231 Meng n8 77.
232 Brunnee n14 105.
233 Abecassis and Jarashow n12 129; see also Boyle n1 369; Smith n11 82.

emergencies only.[234] Article 198 of LOSC squarely reflects this state practice:

> 'When a State becomes aware of cases in which the marine environment is in imminent danger of being damaged or had been damaged by pollution, it shall immediately notify other States it deems likely to be affected by such damage, as well as the competent international organizations'.

Furthermore, there are some difficulties attending its application in practice. The most serious obstacle is perhaps the fact that there is no general agreement on the legal effect of breach of the duty.[235] Smith suggests that violation of the duty to notify may (a) affect 'blameworthiness' for the purpose of apportioning the reparation and (b) give rise to obligations of cessation of the breach (ie to commence to inform) and of providing appropriate reparation (likely in the form of satisfaction).[236] However, even if Smith's suggestions were correct there would still be the almost insoluble problem of causation (ie to what extent did the delay in notification cause the damage to the other state?) and quantification of damage.[237] It has even been pointed out that it is not clear what degree of harm or risk is necessary to actually 'activate' the duty.[238] Although the abovementioned legal problems associated with the duty should not be overlooked, it is also important to realize that this rather minimal obligation is extremely unlikely to be violated in practice so that discussion of potential state responsibility in

234 Meng n8 76. In Brunnee's words, the duty will operate where significant transfrontier environmental damages can be foreseen. See n232.
235 Abecassis and Jarashow point out that there are no rules which are really specific or objective enough to be of much use in this context. See Abecassis and Jarashow n12 180. Smith indicates that this question has not yet been answered. See Smith n233.
236 Ibid 49, 50, 56, 82-3.
237 Abecassis and Jarashow n235.
238 Brunnee n14 108.

connection therewith is somewhat academic.[239] In short, the growing danger to which the planetary ecosystem is subjected by pollution[240] necessarily implies that the duty to notify will play a more important role in future international regimes addressing the problem.

3.3.2.2.2. The duty to consult

The duty to consult also owes its origin to the law on international drainage basins.[241] In that context, the duty is widely accepted as a rule of customary international law.[242] It has also been recognized by the International Court of Justice in the North Sea Continental Shelf Cases[243] and the Fisheries Jurisdiction Case.[244] In the former cases

> '... the Court would recall not only that the obligation to negotiate..., must be considered as having propounded the rules of law in this field, but also that this obligation merely constitutes a special application of a principle which underlies all international relations, and which is moreover recognized in Article 33 of the Charter of the United Nations as one of the methods for the peaceful settlement of international disputes...'.[245]

In the latter case, the court held that:

> 'The obligations to negotiate thus flows from the very nature of the respective rights of the parties; to direct them to negotiate is therefore a proper exercise of the judicial function in this case. This also corresponds to the Principles and provisions of the Charter of the

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239 See n235.
240 Meng n8 80.
241 Ibid 79.
242 ILA Report n179 407; see also n238.
243 North Sea Continental Shelf Case (1969) (Federal Republic of Germany v Denmark; Federal Republic of Germany v the Netherlands) ICJ Reports 1969 3ff; see also ILM 8 (2) March 1969 340-433.
244 Fisheries Jurisdiction Case (1974) (Iceland v UK) ICJ Reports 1974 3ff; see also ILM 13(5) September 1974 1090-114.
245 ICJ Reports 1969 47; see also ILM 8(2) March 1969 379.

United Nations concerning peaceful settlement of disputes...'.[246]

The two judgments have been criticized. They were really concerned with the settlement of disputes after the disputes had arisen, not before the state concerned was allowed to engage in a preemptive act.[247] Meng points out that the duty to consult has not yet been generally accepted.[248] On the other hand, Handl argues that the duty seems to be a general international legal obligation.[249] Brunnee concludes that, although state practice does not support the existence of a general rule of prior consultation, there is a rule of customary international law obliging states to consult with concerned neighbouring states in cases of air pollution which cause or threaten to cause significant transboundary harm.[250] ILA maintains an eclectic point of view by stating that the obligation is only inchoate as to general environmental matters.[251] This dispute over the legal status of the obligation fortunately does not have much adverse impact upon the task of marine environmental protection in the region of the South China Sea, since consultation has already become a customary procedural rule at least amongst ASEAN states.[252] It has been codified further in 1985 ACNNR art 20 which stipulates:

'3) ... they shall endeavour

(b) to notify in advance the other Contracting Party or Contracting parties concerned of pertinent details of plans to initiate, or make a change in,

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246 ICJ Reports 1974 31-2; see also ILM 13(5) September 1974 1103.
247 Van Lier IH Acid Rain and International Law 1981 122; see also Meng n8 79.
248 Ibid.
249 Handl n25 224.
250 Brunnee n14 111.
251 ILA Report n175 407-8; see also Smith n55 182.
252 Syatauw JJG 'ASEAN - Unexpected Progress in Asian Regional Organization' in Girardot RG, Ridder H, Sarin ML and Schiller T ed New Directions in International Law 1982 522.

activities which can reasonably be expected to have significant effects beyond the limits of national jurisdiction;

(c) to enter into consultation concerning the above-mentioned plans upon request of the Contracting Party or Contracting Parties in question;'

The obligation is nevertheless only one to consult or to negotiate in good faith and not to actually reach an agreement. Thus far states have not accepted such a caveat to their sovereignty.[253] There are also difficulties in application, as in the case of the duty to notify. What has been said about applying the duty to notify is applicable here as well.

3.3.2.2.3 The duty to cooperate

Cooperation has become a sine qua non for states' survival in the modern world where transnational economic activities dominate international relations. This is even more important in the field of marine pollution control. The viability of cooperation in this respect lies in the fact that protection of human environment is not politically sensitive to states. There is no harm to a state if the human environment is preserved and improved.[254] Writers therefore assert that cooperation in the protection of the human environment is now an existing rule of international law.[255] However, one of the most intractable difficulties is to demonstrate the breach of an obligation to cooperate where a state takes no action at all.[256] The only solution seems to be the concretization of

253 See n250.
254 Meng n8 81.
255 See eg Sohn L 'Implications of the Law of the Sea Convention Regarding the Protection and Preservation of the Marine Environment' in Krueger and Riesenfeld ed n41 103 and Johnston DM and De Klemm C 'The Environmental Law of the Sea: Conclusions and Recommendations' in Johnston ed n76 396. Meng however argues that this duty is treaty-based and has not yet emerged as a rule of general international law. See Meng n8 82.
256 Pinto n48 38.

the legal content of the 'duty to cooperate'.[257] One writer defines cooperation as serious investment in joint activities involving the expenditure of funds, the adoption of long-term commitments and the cession of decision-making rights to some multinational organization.[258] Another writer indicates that cooperation clearly requires sharing information and collaborating in resolving problems peacefully.[259] Based upon these pioneering thoughts, one may expect a more detailed elaboration in the future. In short, the law of international cooperation is quite well advanced.[260] The record of accomplishments in international non-seabed cooperation in the past two decades, both within and outside of the UN, are indeed considerable.[261]

3.3.3 Locus standi

As mentioned earlier, in an international delictual action the plaintiff must show damage suffered by him to have locus standi.[262] One crucial question immediately arises here: to what extent shall evidence of the alleged damage be admitted by the court? Generally speaking, general principles of international law maintain that damage which adversely affects territorial or related interests of another state has to be substantial.[263] This rule is reflected in the Trail Smelter Case in which the tribunal required the case to be 'of serious consequence' and the injury to be 'established by clear and convincing evidence'.[264] Lowe regards the case as exclusively concerned with physical injuries directly inflicted upon

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257 Ibid 40.
258 Alexander LM 'The Cooperative Approach to Ocean Affairs: Twenty Years Later' ODIL 21(1) 1990 108.
259 Remark of Robinson NA in 'Discussion [on Transfrontier Environmental Damage]' in Proceedings n64 28.
260 Ibid.
261 Alexander n258 109.
262 See n76-80 and accompanying text supra.
263 Kuwabara n14 45.
264 See n151 and accompanying text supra.

territory.[265] The case has however been criticized, at least in two respects. Firstly the award was intended to answer the question 'whether the Trail Smelter should be required to refrain from causing damage in the state of Washington in the future'. Thus it did not concern existing injury.[266] Secondly this decision offers little guidance on the standards used in judging the case to be 'serious'?[267] The 'substantial' requirement indeed creates difficulties in assessing damage.[268] Another intractable problem is whether proof of moral injury - a violation of sovereignty - can be equated with substantial damage.[269] The Corfu Channel Case has given rise to confusion here. The court held that the mine sweeping operation conducted by British ships in Albanian territorial waters 'constituted a violation of Albanian Sovereignty' and such declaration was 'in itself appropriate satisfaction'.[270] Mere violation of sovereignty was deemed sufficient for reparation.[271] Handl, however, points out that the violation of sovereignty in this case was per se prohibited by a specific rule of international law and liability arose without proof of substantial injury.[272] After a detailed survey, he writes that international law requires proof of material damage as a precondition for a polluting state's responsibility. The affected state cannot therefore succeed with a claim based on moral injury. In the Nuclear Tests Cases[273], Australia based its claim on moral injury: '[t]he deposit of radioactive fall-out on the territory of Australia

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265 Lowe AV 'Reflections on the Waters Changing Conceptions of Property Rights in the Law of the Sea' IJECL 1(1) 1986 5.
266 Meng n8 66.
267 Soni n155 141.
268 Kuwabara n14 126.
269 Handl G 'Territorial Sovereignty and the Problem of Transnational Pollution' AJIL 69 1975 60.
270 ICJ Reports 1949 35; see also Harris n23 375.
271 Handl n269 65; see also Brunnee n14 116.
272 Handl n269 6.
273 Nuclear Tests Cases (1973) (Australia v France, New Zealand v France) ILM 12(4) July 1973 749-73.

and its dispersion in Australia's airspace without Australia's consent... violates Australian sovereignty over its territory'.[274] France later stated however that no more tests would be carried out. The court therefore considered that the dispute had disappeared and declared the case moot.[275] In short, a majority of publicists agree that interference with territory constitutes a wrongful act only when it produces substantial injury.[276] Finally the inadmissibility of environmental damage has been universally recognized.[277] There is one exception however. In the case of Commonwealth of Puerto Rico v SS Zoe Colocotroni[278], the court on appeal found that damages could not be limited simply to the loss of the real estate affected. It held:

> 'The loss... is not only to certain plant and animal life but, perhaps more importantly, to the capacity of the now polluted segments of the environment to regenerate and sustain such life for some time into the future... In recent times mankind has become increasingly aware that the planet's resources are finite and that portions of the land and sea which at first seem useless, like salt marshes, barrier reefs and other coastal areas often contribute in subtle but critical ways to an environment capable of supporting... human life...'.[279]

This dictum clearly states the case for the preservation of the environment and the need for the award of damages for harm to the environment.[280] Although environmental damage is hardly yet considered part of the general principles of

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274 Ibid 752.
275 Devine and Erasmus n7 163.
276 Meng n8 67.
277 Gold n62 262.
278 Reported in Gallagher JJ 'Notes on Recent Cases: Damages Recoverable for Environmental Harm Caused by an Oil Spill; Jurisdiction Over Foreign Based Insurers Sued Under a "Direct Action" Statute: Commonwealth of Puerto Rico v SS Zoe Colocotroni, - F-2d- 1980 AMC (1st cit 1980)' JMLC 12 1981 263-70.
279 Ibid 268; see also Van Meurs n149 19.
280 Ibid.

international law, one writer nevertheless opines that it is inevitable that the courts will accept it in the long run.[281]

In addition to the requirement that the damage must be substantial, claimants must show a direct causal link with the conduct of a defendant state.[282] State practice confirms this general trend.[283] However, the international law on causation has received little discussion in efforts to restate the law and in scholarly literature. It is therefore quite underdeveloped.[284] This leads to difficulties. Brownlie argues that if due diligence would have prevented the injury, a causal connection between breach and injury exists.[285] States with more jurisdiction to control conduct have a greater causal connection with the consequences of such conduct.[286] One may also say that 'the causa proxima is the cause proximate in efficiency and not necessarily the cause nearest in time'.[287] In the Dix Case[288], the US-Venezuelan Commission stated to similar effect that 'Governments like individuals are responsible only for proximate and natural consequences of their acts'.[289] If we take into account the subtle relationship between causation and attribution, the question may become even more complicated. It is clear that

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281 Bessemer-Clark A 'The Role of Protection and Indemnity Associations in Oil Pollution' in UCT Law of the Sea: Proceedings of the Symposium on the Law of the Sea April 21-22 1980 103.

282 See n80 and accompanying text supra.

283 Christenson n84 57; see also Fleischer n61 124; Tulokas M 'The Baltic Sea and Pollution' Scand SL 1981 210; Van Dyke JM 'Ocean Disposal of Nuclear Wastes' MP 12(2) April 1988 93.

284 Caron n64 68.

285 Brownlie n47 45.

286 Ibid 63. See generally Handl G 'State Liability for Accidental Transnational Environmental Damage by Private Persons' AJIL 74 1980 531-4.

287 Lambeth RJ Templemann on Marine Insurance: Its Principles and Practice 6ed 1986 190.

288 Dix Case (1903) (US v Venezuela) in Hackworth GH ed Digest of International Law V 1943 691-2.

289 Ibid 691; see also Caron n64 68.

causation serves to limit the scope of state responsibility for attributable acts.[290] Caron nevertheless points out that the rule of attribution limits state responsibility to 'the proximate and natural consequences of a state's acts'. This means that responsibility is still possible despite the presence of potentially independent private actors in the chain of causation.[291] The limitation on the scope of such liability is that the act of the actor in the chain should be a foreseeable consequence of the act initiating the chain.[292]

The confusion and complexity surrounding the contemporary law of causation may become a stumbling block to its application. This is especially so in environmental cases. More often than not, a number of concurrent transboundary sources contribute to the causation of damage. In addition the pathways and interaction of pollutants involved in causing the damage are not always known.[293]

An associated question is whether private victims would be required to exhaust local remedies in the country from which the pollutants originate.[294] Generally speaking the rule seems to be that no state should intervene or claim in respect of an alleged denial of justice to a national or other wrong until all legal remedies open to that national have been exhausted without result.[295] Is this rule applicable to transfrontier pollution? At first glance the answer seems unclear.[296] Handl, however, asserts that the reply is clearly 'no'. There is no voluntary link between the injured individual and the polluting state which is a key rationale

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290 Ibid.
291 Ibid.
292 Ibid 70.
293 Kuwabara n14 126.
294 Meng n8 89; see also Handl n35 232.
295 Starke n6 310.
296 For example Meng n291.

for the applicability of the rule in cases of injuries to aliens within a respondent state's territory.[297]

Lastly, it is worth mentioning the actio popularis. This action allowed any person to approach the court in matters where public interest was concerned to champion the cause of the public.[298] However, international law is obscure in this regard.[299] In the South West Africa Cases[300], the Court ruled that, although the 'actio popularis may be known to certain municipal systems of law, it is not known to international law as it stands at present'. Nor was the Court able to regard it as imported by the 'general principles of law' referred to in art 38 paragraph 1(c) of its Statute.[301] In the Barcelona Traction Case[302], the Court seemed to hold to the contrary:

> '33... In particular, an essential distinction should be drawn between the obligations of a State towards the international community as a whole, and those arising vis-a-vis another State in the field of diplomatic protection. By their very nature the former are the concern of all States. In view of the importance of the rights involved, all States can be held to have a legal interest in their protection; they are obligations erga omnes.
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> 34. Such obligations derive, for example, in contemporary international law, from the outlawing of acts of aggression, and of genocide, as also from the principles and rules concerning the basic rights of the human person, including protection from slavery and racial discrimination. Some of the corresponding rights of protection have entered into the body of general international law...; others are conferred by

297 Handl n291.
298 Rabie A and Eckard C 'Locus Standi: The Administration's Shield and the Environmentalist's Shackle' CILSA 9(2) 1976 156.
299 Smith n55 84.
300 South West Africa Cases, Second Phase (1966) (Ethiopia v South Africa, Liberia v South Africa) ICJ Reports 1966 6ff; for a brief extract see Harris DJ Cases and Materials on International Law 1st ed 1973 114-21.
301 ICJ Reports 1966 47; see also Harris n300 120.

> international instruments of a universal or quasi-universal character'.[303]

Although we have seen earlier that the right to an unpolluted marine environment is now a human right[304], it would still be difficult to apply the actio popularis in cases of marine pollution on the strength of this judgment since the Court had not specifically referred to it. Confusion arises here.[305] In the Nuclear Tests Case, the joint dissent of Judges Onyeama, Dillard, Jimenez de Arechaga and Waldock expressed an eclectic view:

> 'Although we recognise that the existence of a so-called actio popularis in international law is a matter of controversy, the observations of this Court in the Barcelona Traction, Light and Power Company Limited case suffice to show that the question is one that may be considered as capable of rational legal argument and a proper subject of litigation before this Court'.[306]

It is therefore argued that the actio popularis represents at least a credible, if disputed, doctrine in international law deserving of greater consideration.[307]

3.3.4 Reparation, joint and several liability

The juridical consequence of the breach of any international obligation is the creation of a duty to compensate.[308] The classic formulation of the duty is expressed in the Chorzow Factory Case '... reparation must, as far as possible, wipe out all the consequences of the illegal act and re-establish

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302 Barcelona Traction Case (1970) (Belgium v Spain) ICJ Reports 1970 3ff; for a brief extract see Harris n23 580-96.
303 ICJ Reports 1970 32; see also Harris n23 580.
304 See n139-41 and accompanying text supra.
305 Harris poses the question: how does this (the judgment in the Barcelona Traction Case) compare with the statements made by the same Court in the South West Africa Cases? See Harris n300 399.
306 ICJ Reports 1974 370; see also Smith n55 96.
307 Ibid.
308 See n67 and accompanying text supra. See also n73.

the situation which would, in all probability, have existed if that act had not been committed'.[309] Three categories of reparation exist: restitution, compensation and satisfaction.[310] Restitution, in the broad sense of restitutio in integrum, represents the obligation to eliminate the effects of the breach - to restore the situation to its pre-breach state.[311] Some writers opine that restitutio in integrum is the basic principle and thus the primary right of the claimant state.[312] Restitution in kind, which means the return of persons or property wrongfully taken, is a specific aspect of the general restitutio obligation.[313] Noyes and Smith view restitution in kind as the primary right of claimant states.[314] Restitutio in integrum and restitution in kind, however, should be discarded when there is absolute impossibility of envisaging specific performance, or when an irreversible situation has been created.[315] Another form of restitutio is, for example, a declaration that an offending treaty or act of the executive, legislature or judicial organs of the respondent state is a nullity in international law.[316] Brownlie points out that, whilst it is safe to assume that specific restitution as a form of redress has a significant place in the law, yet it is difficult to state the conditions for its application with any certainty.[317] In practice, restitution is exceptional. The award of monetary compensation is much more common as a means of 'wiping out the consequences

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309 PCIJ Reports Ser A No 17 47; see also Harris n23 491.
310 Noyes and Smith n3 238.
311 Ibid.
312 See for example Schwarzenberger n37 656, O'Connell DP International Law II 2ed 1970 1114.
313 See n310.
314 Noyes and Smith n3 239.
315 Texaco Overseas Petroleum Co/Cal Asiatic Oil Co v Government of the Libyan Arab Republic ILM 17(1) 1978 36; see also Smith n55 48-9 and n311.
316 Brownlie n47 210.
317 Ibid 232.

of the illegal act'.[318] The Chorzow Factory Case defines this kind of reparation as

> '... payment of a sum corresponding to the value which a restitution in kind would bear; [or] the award, if need be, of damages for loss sustained which would not be covered by restitution in kind or payment in place of it...'.[319]

Although it is claimed that international rules on the award of such compensation are far from clear[320], certain rules have nevertheless been identified. Perhaps the overriding principle is that the cost of repairs and other allowable expenses may not exceed the value of the article before the incident.[321] It has been pointed out that this is a general principle of law.[322] Several other factors also play a key role in the determination of damages. Firstly, expenses incurred must be 'reasonable', a requirement having its basis in traditional and existing law.[323] However, it would be difficult to apply this rule, especially in the environmental context, since it is unclear what would be considered 'reasonable' in order to restore a certain environment to a particular condition.[324] Secondly, the traditional tests of causation come into play.[325] One may say that governments are responsible 'only for the proximate and natural consequences of their acts'.[326] Thirdly, the rule on remoteness of damage, including such tests as reasonable foresight etc, may be involved.[327] For example, reasonably foreseeable loss of profit is regularly

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318 Harris n233 493.
319 PCIJ Reports Ser A No 17 47; see also Harris n273 491.
320 See n318.
321 Smith n35 50-1; see also Fleischer n61 123.
322 Ibid 122.
323 Ibid 124.
324 Ibid.
325 Ibid.
326 See n288-9 and accompanying text supra.
327 Fleischer n61 125.

allowed as an aspect of compensation.[328] Generally speaking, in a pollution incident the cost of operations to limit damage and minimize the risk of further damage is compensable.[329] It has been argued that this is derived from general principles of international law.[330] The third form of reparation, satisfaction, is defined as 'any measure which the author of a breach of duty is bound to take under customary law or under agreement by the parties to a dispute, apart from restitution or compensation'.[331] The forms of satisfaction may include formal apology or declaration of responsibility, guarantees against repetition, punishment of individual actors and other measures fashioned appropriately to the facts.[332]

One intractable problem associated with reparation is that of multi-state responsibility. Here the relevance of multi-state responsibility arises in two contexts. Firstly state practice presents a host of cases in which polluting activity makes its consideration inevitable.[333] Secondly multi-state responsibility will influence the determination of pecuniary

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328 In the Norwegian Shipowners Claims, the tribunal held that 'Just compensation implies a complete restitution of the status quo antes, based, not upon future gains of the United States or other powers, but upon the loss of profits of the Norwegian owners as compared with other owners of similar property'. See Norwegian Shipowners Claims (1922) (Norway v US) RIAA 1 338; see also Harris n300 398 and Brownlie n47 225.

329 Ibid.

330 In the Canadian Claim for Damage Caused by Soviet Cosmos 954 (1978), the Canadian Government stated that 'In calculating the compensation claimed, Canada has applied the relevant criteria established by general principles of international law according to which fair compensation is to be paid, by including in its claim only those costs that are renewable, proximately caused by the intrusion of the satellite and deposit of the debris and capable of being calculated with a reasonable degree of certainty'. Brownlie n47 282; for the whole Canadian statement, see ibid 277-83.

331 Ibid 208.

332 Ibid; see also Smith n55 49; Noyes and Smith n3 240.

333 Ibid 226.

compensation.[334] The circumstances in which multi-state responsibility may arise fall into two categories. The first and simpler one consists of those situations in which states engage in concerted conduct in breach of an international obligation.[335] For example, two states may participate in a commercial joint venture that causes environmental damage in a third state.[336] The second category consists of those situations in which states engage in independent breaches of obligation with respect to a single event.[337] For example a state may be responsible for complicity when it renders aid to a state that breaches an obligation, or several states may independently pollute the environment in a way that, in the aggregate, seriously damages another state.[338] At the level of municipal law, the general consequence of multiple responsibility is that:

> 'where a logical basis can be found for some rough practical apportionment, which limits a defendant's liability to that part of the harm which he has in fact caused, it may be expected that the division will be made. Where no such basis can be found, and any division must be purely arbitrary, there is no practical course except to hold the defendant liable for the entire loss, notwithstanding the fact that the other causes have contributed to it'.[339]

Although joint and several liability has received significant treatment in all legal systems[340], multiple responsibility in delict is almost completely non-existent in state

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334 Smith submits that in relation to all forms of reparation other than pecuniary compensation, the circumstances of multiple state responsibility should exert no effort on the determination of reparation. See Smith n55 50.
335 Ibid 44.
336 Noyes and Smith n3 229.
337 Smith n55 44.
338 See n336.
339 Prosser W The Law of Torts 4ed 1971 313-4 and 465; see also Smith n55 52-3.
340 Prosser n339 291-323; see also Smith n55 51.

relations.[341] International law is underdeveloped here and judicial or arbitral decisions on claims that other states share responsibility are essentially unknown.[342] State practice is to the effect that only the state materially at fault is responsible (de minimis rule) and issues of joint and several liability and contribution do not arise with respect to the excluded state.[343]

3.3.5 Fault liability

The general law requires a claimant state to prove fault on the part of defendant state.[344] The term 'fault' includes both intention (dolus) and negligence (culpa).[345] Brownlie refers to culpa as describing types of blameworthiness based upon reasonable foresight, or foresight without desire of consequences (recklessness, culpa lata).[346] In transboundary marine pollution of a continuous kind, the source state is likely to know or might be presumed to know of the transborder flow of pollutants. Such knowledge will be increasingly presumed as states begin to establish quality standards for the protection of human health and welfare and of natural resources.[347] In such circumstances, the source state will clearly be held liable for the resulting damage.[348] Where, by way of contrast, no intent can be inferred, the source state must still be deemed to have acted wrongfully if the evidence indicates that it had both knowledge of the risk of

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341 Brownlie n47 189. Smith argues that the position of international law on the subject of compensation in a multiple responsibility context is quite obscure. See Smith n55 54.
342 Noyes and Smith n3 225.
343 Handl n286 534-5; see also Noyes and Smith n3 267.
344 See n76-80 and accompanying text supra; see also Lachs n155 665.
345 Stewart A 'Civil Liability for Oil Pollution Damage Caused by the Discharge of Oil from Vessels - Some Aspects of International and South African Law' Sea Changes 4 1986 126
346 Brownlie n47 44-5.
347 Handl n196 58.
348 Ibid 58-9.

transnational harm and the ability to avoid it.[349] However, the main stumbling block to the international application of a fault regime is that subjectivity on the basis of cultural and economic differences may preclude international consensus on a liability system that operates through ex post facto determination of the legal standard of care.[350] There is another difficulty. A victim who lives far from the origin of pollution in another state would find it difficult to show dolus or culpa on the part of that state.[351] Some writers suggest the adoption of the common law res ipsa loquitur rule or the continental rule (in France and Germany) on the presumption of fault in environmental pollution damage.[352] The merit of the res ipsa loquitur rule lies in its two characteristics: it implies a presumption of fault on the part of the defendant with, as a corollary, a reversal of the burden of proof.[353] It is only a procedural device and does not by itself change the basic rules of fault liability.[354] This rule, it is argued, is more appropriate for environmental protection since the defendant is in a better position than the plaintiff to explain the incident causing damage.[355]

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349 Ibid 59. Remond-Gouilloud, on the other hand, argues that negligence may be inferred from state acts in issuing licences, in issuing safety regulations and of supervision and control. He also points out that negligence may consist in the 'inadequacy of an organizational system' to ensure a successful task of marine pollution control. See Remond-Gouilloud n76 258.

350 Gaines n34 335.

351 See n78; or to put it in this way: one of the disadvantages of a fault regime - which is generally peculiar to environmental problems - is that it assumes knowledge, or at least access to knowledge, that one is being harmed by pollution. See McManus RJ 'Legal Aspects of Land-based Sources of Marine Pollution' in Charney JI ed The New Nationalism and the Use of Common Spaces, Issues in Marine Pollution and the Exploitation of Antarctica 1982 101.

352 Kuwabara n14 132; see also Dubais n78 564.

353 Ibid.

354 Kuwabara n14 126.

355 Dubais n78 564.

Nevertheless, it does not seem likely that major source countries would favour such a shift at present.[356]

At this juncture, the legal status of strict liability in general international law must also be examined. Brownlie defines this regime as 'essentially a prima facie responsibility and various defences or justifications may be available' and the essence of which in common law is the shift of the burden of proof.[357] Van Meurs defines it in a much simpler manner: proof of the fact and cause of the harm will permit a claim, but a defence of 'Act of God' or independent act by third party will prevail.[358] Strict liability does not however exist in international customary law.[359] It derives little support from the decisions of international tribunals. In the Trail Smelter Case the basis of liability was not raised at all, since Canada had agreed to accept liability by agreement prior to submission to arbitration.[360] In the Corfu Channel Case the Court, in addition to its known passage '... not to allow knowingly...'[361] (which seems to point in the direction of fault) clearly stated that:

> 'But it cannot be concluded from the mere fact of the control exercised by a State over its territory and waters that that State necessarily knew, or ought to have known, of any unlawful act perpetrated therein, nor yet that it necessarily knew, or should have known, the authors. This fact, by itself and apart from other circumstances, neither involves prima facie responsibility nor shifts the burden of proof'[362] (emphasis added).

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356 Brunnee n14 119.
357 Brownlie n47 44.
358 Van Meurs n149 55 at n56.
359 Handl n35 230; see also Meng n8 89. Smith argues that the place of strict liability as a current principle of customary law remains highly controversial. See Smith n55 19.
360 Kuwabara n14 119; see also Brunnee n14 118.
361 See n153 and accompanying text supra.
362 ICJ Reports 1949 18; see also Harris n27 471.

The last sentence firmly attests to the fact that the Court adopted the fault rather than strict liability regime. In the Lac Lanoux Case, 'the question presented by the Compromis relates solely to the Treaty [of Bayonne] and to the Additional Act of 1866'[363] and thus is not directly relevant here. The Tribunal nevertheless did mention that '[i]t cannot be alleged that, despite this pledge, Spain would not have a sufficient guarantee, for there is a general and well-established principle of law according to which bad faith is not presumed'[364] (emphasis added). These words can hardly be considered as implying strict liability as presumption of fault is an essential component of the regime. In the Gut Dam Arbitration[365] the question of fault or negligence was not raised either, due to the fact that Canada had agreed beforehand to compensate US victims for any damage attributable to Gut Dam.[366] Although strict liability has no general place in international customary law, the notion that ultra hazardous or abnormally dangerous activities entail strict liability for damage is common to most developed national legal systems.[367] A state's strict international liability for transnational pollution damage due to such an activity might therefore be invoked as a general principle of law.[368] This standard would almost certainly be applied to injury from nuclear materials as well.[369] Strict liability

363 AJIL 53 1959 160.
364 Ibid 162.
365 The Gut Dam Arbitration (1969) (US v Canada) ILM 8(1) 1969 138ff.
366 Ibid 139. See also Kuwabara n14 120.
367 Handl n35 230.
368 Ibid; see also Smith n55 120.
369 Van Dyke 283; Lykke argues that it is now recognized that high-level radioactive wastes cannot be dumped into the oceans and this rule has enjoyed wide international practice and observance over a sufficiently long period of time. See Lykke n59, Lachs argues to the contrary 'Existing customary law and general principles do not seem to cover the issue of the nuclear power stations and other nuclear devices'. See Lachs n155 667. Anand also holds a negative viewpoint in this regard and asserts that according to the traditional view nuclear

also has some value in marine environmental protection. In addition to shifting the burden of proof to the defendant, it may serve as a sounder means to control the consequences of novel technologies.[370] In short, it would not be unreasonable to conclude that this concept is at least of growing importance[371] and no doubt deserves more attention.

3.3.6 Law on evidence

Finally, it is necessary to mention briefly the present state of international law on evidence. A case has to be proved by admissible evidence. Strictly speaking however, there are no rules of evidence in international law.[372] Analogies are therefore drawn from municipal law. The ordinary rule is that a party seeking to establish a point has the burden of proof.[373] The object of evidence may refer either to facts[374] (in cases of marine pollution the facts, of course, will relate to environmental degradation[375]) or to the existence or non-existence of a rule of law.[376] As far as the former is concerned, the Court in the Corfu Channel Case ruled that:

> 'On the other hand, the fact of this exclusive territorial control exercised by a State within its frontiers has a bearing upon the methods of proof available to establish the knowledge of that State as to such events. By reason of this exclusive control, the

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catastrophes would not attract strict, not to say absolute, liability. He further points out that 'nor does customary international law seem to provide other doctrines for the regulation or restraint of activities which have very high risks of catastrophic and polluting accidents'. See Anand n14.

370 Gaines points out that even intense regulation of some new technologies cannot guarantee that unintended consequences will not occur. It may be wise, therefore, to adopt strict liability at the outset. See Gaines n34 332-3.

371 Brunnee n14 119.

372 O'Connell n312 1096; see also Timagenis GJ International Control of Marine Pollution II 1980 543.

373 O'Connell n312 1097; see also Timagenis n372.

374 Timagenis n372 544.

375 Kuwabara n14 32.

> other State, the victim of a breach of international law, is often unable to furnish direct proof of facts giving rise to responsibility. Such a State should be allowed a more liberal recourse to inferences of fact and circumstantial evidence'.[377]

With respect to the degree of evidence which may convince a court, however, there seems to be a discrepancy between municipal law and international law. In the municipal law of torts, the onus is on the party seeking to establish a cause of action or a defence to produce the evidence that will convince and satisfy the court, on a balance of probabilities, or on the preponderance of the evidence - but not 'beyond a reasonable doubt' as in criminal matters - that the claim or defence has been established.[378] International law has however adopted a much higher threshold for the evidence.[379] In the Corfu Channel Case, the Court held that '[t]he proof may be drawn from inferences of fact, provided that they leave no room for reasonable doubt'[380] (emphasis added). It goes without saying that this requirement is highly unfavourable in relation to transnational marine pollution. Considering that it took six years for fact-finding in the Trail Smelter Case, Gaines argues that international liability law cannot rely upon such a system to resolve a relatively simple transboundary damage claim.[381] The astronomical cost of protracted international litigation also limits it to extreme cases and perhaps only to disputes between countries which can afford it.[382] Perhaps relaxation of the standard of evidence should be seriously considered in the future development of international environmental law.

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376 See n374; see also n371.
377 See n362.
378 See for example Friedman GHL Introduction to the Law of Torts 1978 260.
379 Gaines n34 337.
380 See n362.
381 Gaines n34 339.
382 Ibid.

3.4 ILC's new approach - state liability for lawful acts

In 1974 the topic entitled 'International Liability for Injurious Consequences Arising Out of Acts Not Prohibited by International Law' was placed upon the general programme of the ILC.[383] Since 1980, the ILC has been actively working on it.[384] This topic was initially conceived as one which would deal with liability - perhaps strict liability - for 'ultrahazardous' but socially desirable activities affecting the physical environment, such as nuclear reactors and space objects whose operation creates a risk of harm to states having no control or right of control over them.[385] Some members of ILC have however since argued that the topic should not be so restricted and should be expanded to encompass such different problems as those in the field of international economic law.[386] In this context, ILC even made a distinction between 'responsibility' and 'liability':

> 'the term "responsibility" should be used only in connection with internationally wrongful acts, with reference to the possible injurious consequences arising out of the performance of certain lawful activities, the more suitable term "liability" should be used'.[387]

In 1984, the late Quentin-Baxter (then the Special Rapporteur to ILC) submitted five draft articles.[388] Draft article 1 defines the scope:

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383 Brownlie n47 49.

384 Cates MB 'Offshore Oil Platforms Which Pollute the Marine Environment: A Proposal for an International Treaty Imposing Strict Liability' SDLR 21 1984 705.

385 McCaffrey SC 'International Environmental Law and the Work of the International Law Commission' in American Society of International Law: Proceedings of the 77th Annual Meeting 1985 417.

386 Ibid.

387 YILC I 1973 211. See also Pinto n48 24.

388 Text in Quentin - Baxter RQ Fifth Report on International Liability for Injurious Consequences Arising Out of Acts Not Prohibited by International Law UN Doc A/CN4/383/Add 1 1984 1-2.

> 'These draft articles apply with respect to activities and situations which are within the territory or control of a State, and which do or may give rise to a physical consequence affecting the use or enjoyment of areas within the territory or control of any other State'.

According to this provision, three conditions must be present in order to engage a state's liability for its lawful acts. Firstly, there must be a transboundary effect, ie the effect must be felt within the territory or control of one state, but it must arise as a consequence of an activity or situation occurring wholly or partially within the territory or under the control of another state.[389] Secondly there must be a physical consequence, ie the activity or situation must have a physical effect and a physical quality and that effect must flow from that quality via a 'physical linkage' such as atmosphere, water or earth.[390] Thirdly, there must be an effect on use or enjoyment by the affected state.[391] Quentin-Baxter also indicated that 'situations' refer to both man-made (eg oil slicks) and natural (eg fire, flood, pests, disease) events and that the relationship between 'situations' and 'activities' can be intimate and intricate.[392]

This approach has however attracted much criticism. Brownlie argues that it is fundamentally misconceived.[393] He points out that the nature of the misconception is such that the contagion may induce a general confusion with respect to the principles of state responsibility. Misunderstanding relates to those principles and is not confined to a certain area of problems.[394] The reference to the Trail Smelter Case and the Corfu Channel Case in the ILC's Report for 1980 in fact confirms that there is confusion between primary and secondary

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389 MaGraw n52 314.
390 Quentin-Baxter n388 12-4; see also n389.
391 Ibid.
392 Quentin-Baxter n388 27-8; see also n389.
393 Brownlie n47 50.
394 Ibid.

rules.[395] Brownlie indicates that in the former case the carrying-out of industrial activity is prima facie lawful and in the latter case the laying of mines in a territorial sea is equally lawful without more.[396] Akehurst also notes that ILC's focus on lawful activities is somewhat surprising, since most rules of international environmental law spell out duties not to damage the environment.[397] He correctly reminds us that while operating a smelting plant is permitted by international law, not necessarily all acts performed in the course of that activity are permitted.[398] Some may therefore feel that this new approach of ILC tramples over the parameters of the Trail Smelter principle.[399] Gaines is of opinion that ILC has been distracted from the more fundamental question of what activities or situations give rise to liability at all.[400] He suggests that international law may advance the cause of environmental protection more effectively by identifying damaging activities, making them 'unlawful' and adopting a per se rule that their unlawfulness carries with it legal liability.[401] In fact, recent developments in international environmental law go squarely in this direction. The new custom which appears to be in the process of formation through treaty practice lays down generally that pollution per se (defined with reference to objective standards), wherever it occurs and from whatever source, is unlawful and attracts liability.[402] In short, reparation in the absence of wrongfulness has no obvious foundation in international law.[403] Neither the practice of states nor the jurisprudence of international tribunals support the concept of liability

395 Ibid. For the distinction between primary and secondary rules please see n130-5 and accompanying text in Chapter 2.
396 See n393.
397 Akehurst n46 8.
398 Ibid.
399 See n385.
400 Gaines n34 314.
401 Ibid 335.
402 Kuwabara n14 45.
403 Handl n196 52.

for lawful activities[404], nor does it exist in general international law.[405]

404 See n393.

CHAPTER 4

POLLUTION FROM VESSELS

4.1 Present state of vessel-source pollution in the region

Due to the inherently global nature of navigational activities[1], the problem of vessel source pollution is necessarily an international issue. Generally speaking, ships account for only a relatively small part, perhaps 20%[2] or 10%[3], of the pollution of the marine environment. Ship-generated pollution nevertheless constitutes one-third of the total volume of oil pollution.[4] It derives mainly from normal operational practices rather than accidents.[5] It is believed that chronic pollution of the seas with smaller quantities of oil may be as serious a problem in many areas as the problems posed by large single spills.[6] Oil (especially crude oil) is not the most dangerous substance carried by sea.[7] If it remains on the surface of water for several hours, evaporation will eliminate most of the toxicity.[8] It will eventually be broken down by marine

1 Hakapaa K Marine Pollution in International Law 1981 90.

2 Schneider J 'Protection and Preservation of the Marine Environment: What is New About the Law of the Sea Convention?' in Koers AW and Oxman BH ed The 1982 Convention on the Law of the Sea 1984 569.

3 Gold E 'The Protection of the Marine Environment: Compatibility Through Cooperation' in Johnston DM et al ed International Symposium on the New Law of the Sea in Southeast Asia 1983 121.

4 Curtis CE 'Recent Developments Under Special Environmental Conventions' in Krueger RB and Riesenfeld SA ed The Developing Order of the Oceans 1985 119.

5 Chapman KR 'Shipbuilding and Energy Materials: Trends of Research Design and Development' in Valencia MJ, Gold E, Chia LS and Letalik NG ed Shipping, Energy and Environment: Southeast Asian Perspectives for the Eighties 1982 58.

6 UK Department of the Environment Accidental Oil Pollution of the Sea Pollution Paper 8 1976 76-82; see also Isaak DT 'The Future of the Supertanker' in Valencia, Gold, Chia and Letalik n5 47.

7 Schneider J 'Pollution from Vessels' in Johnston DM ed Environmental Law of the Sea 1981 205.

8 Ruddle K 'Pollution in the Marine Coastal Environment of ASEAN Countries' in MacAndrews C and Chia LS ed

bacteria.[9] However, when an organism is exposed to it as when fresh oil is incorporated into sediment, severe biological damage can take place.[10] For example, it can kill sea birds, fish and other marine life and foul beaches.[11] It is also generally accepted that 'gallon for gallon, oil is one of the most persistent and destructive pollutants found in the environment in large quantities'.[12] Of course, not all sea areas are subject to pollution threats to the same degree. Areas which are less frequented by ships are naturally under less threat from pollution.

Unfortunately, the South China Sea falls outside this category. Lying between the Indian and Pacific Oceans, it is a throughway for ship traffic[13] serving three main functions. Foremost among them is that the water provides a convenient route for exporting Southeast Asian crudes to countries in the region.[14] There are also through flows of petroleum products between the Persian Gulf and Japan and other countries in the Pacific Basin.[15] Lastly there is the

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Southeast Asian Seas, Frontier for Development 1981 156.

9 Churchill RR and Lowe AV The Law of the Sea 2nd ed 1988 244.

10 See n8.

11 See n9; see also Hakapaa n1 41-2.

12 Anderson AW 'National and International Efforts to Prevent Traumatic Vessel Source Oil Pollution' UMLR 30 1976 990-2; see also Kindt JW 'Marine Pollution Hydrocarbons: The Goal of Minimizing Damage to the Marine Environment' Calif WILJ 14 1984 258.

13 Morgan JR and Fryer DW 'The Marine Geography of Southeast Asia' in Kent G and Valencia MJ ed Marine Policy in Southeast Asia 1985 23.

14 This is particularly true amongst countries of ASEAN. Some Chinese crude has also been exported to Thailand and the Philippines as well. See Chia LS 'Marine Carriage of Petroleum in Southeast Asia: A Preliminary Survey' in Valencia, Gold, Chia and Letalik n5 81.

15 Ibid. The South China Sea is the most important 'oil route' for Japan. See Lim JJ 'The South China Sea: Changing Strategic Perspectives' in MacAndrews and Chia ed n8 236; see also Valencia MJ 'National Marine

movement of Japanese purchases of liquified gas from Australia.[16] Approximately 2.1 billion barrels of crude oil (or, 300 million tons) per year are shipped to or through the Southeast Asia region.[17] Assuming this oil was transported in VLCC (supertankers) averaging 250 000 tons, there would be at least 1 200 supertanker passages a year through the Southeast Asian region, or three supertankers entering and leaving the region each day.[18] Such intense traffic cannot entail a low risk of pollution. Furthermore, vessel-source pollution may be considered more intractable in three ways. Firstly the impact of pollutants on the tropical marine environment may be quite different from the effect on temperate waters.[19] The rates of metabolic processes are higher in organisms inhabiting tropical waters. Dissolved pollutants should therefore concentrate in the biota more rapidly in the tropics. This is reinforced by the greater solubility of oil in warm water which may reach higher concentrations in the region.[20] It is also well established that in a shallow tropical marine ecosystem the success of a species depends more on its adaption to and interactions with other species than on its adaption to the physical environment. Any new stress that eliminates a particularly sensitive species will be felt throughout the ecosystem and will probably lead to the elimination of interacting species.[21] Secondly, the use of VLCCs as the major means of transportation of oil[22] and the

Interests in Southeast Asia' in Kent and Valencia ed n13 53.

16 Chia n14.

17 Valencia MJ and Marsh JB 'Access to Straits and Sealanes in Southeast Asian Seas: Legal, Economic and Strategic Considerations' JMLC 16(4) 1985 528.

18 Ibid.

19 Ruddle n8 137.

20 Ibid.

21 Ibid 138.

22 For example, Japanese industry relies primarily on VLCCs for import needs. See Isaak n6 46. Indonesia also uses VLCCs to transport its oils to Japan and other ASEAN countries. See Soegiarto A 'The Potential

movement of LNG (liquified natural gas)[23] in the region create additional variables in the control of vessel-source pollution. The tanker route lies along the western margins of the China Sea Basin during the southwest monsoon (May to August) and the eastern margins during the northeast monsoon (December to March).[24] Needless to say, VLCCs pose more of a threat of accidental pollution disaster than smaller tankers. The 1975 Showa Maru accident is a case in point. A Japanese supertanker the 237 698 dwt Showa Maru grounded just three miles from Singapore harbour and caused a 10km long oil slick of 7 300 tons threatening the island of Singapore, the west coast of Malaysia and the fishing grounds of the Riauw Islands chain in Indonesia.[25] LNG is another time bomb in the region. It is however argued that '[e]nvironmental damage of a spill many miles from shore may be minor because of the quick evaporation of LNG'[26] and, hence, 'LNG accidentally discharged at sea presents minimal

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Impact of Pollution on Indonesian Coastal Resources with Special Reference to the Major Energy Shipping Routes' in Valencia, Gold, Chia and Letalik ed n5 125. Some other VLCCs moving through the region are destined for Taiwan and South Korea. See Chia n14 84-5.

23 In addition to the Japanese purchases of LNG from Australia which pass through the South China Sea, Brunei and Indonesia are the two main countries in the region which also produce LNG. See Chia n14 79. Malaysia finds gas in Sarawak as well and has ordered five LNG carriers to meet its transportation needs. See Suan R 'Comment' in Valencia, Gold, Chia and Letalik ed n5 34. Thailand also has at least one field in the Gulf of Thailand which is presently producing natural gas. See Valencia MJ 'Oil and Gas Potential, Overlapping Claims and Political Relations' in Kent and Valencia ed n13 165.

24 Chia n14 85.

25 Danusaputro M 'Elements of an Environmental Policy and Navigational Scheme for Southeast Asia, with Special Reference to the Straits of Malacca' in Johnston DM ed Regionalization and the Law of the Sea 1978 182.

26 Staff of Senate Comm. on Com. Sci and Transp. 95th Cong. 2d sess. 'Liquefied Natural Gas: Safety, Siting and Policy Concerns' Comm. Print 1978 (hereinafter cited at LNG Report) 127; see also Kindt n12 268-9.

threats to the ecology'.[27] LNG nevertheless freezes human skin on contact and may asphyxiate workers when it evaporates.[28] Moreover, LNG can explode simply by coming into contact with water[29] which will probably cause serious destruction and loss of human life. Due to its highly hazardous nature[30], Kindt therefore calls for IMO to begin formulating regulations in this regard.[31] Thirdly, maritime transportation of oil is expanding not only geographically but also in terms of the variety of substances carried by sea. States are more concerned with factors such as reliability of supply and flexibility in operations than transport cost. Transport cost is only a small fraction of the total delivered cost since the 1973 oil price rise.[32] Maximum freedom is better achieved by employing a large fleet of small and medium tonnage ships than operating or chartering a few ultra-large carriers.[33] Smaller vessels may however venture onto many sea lanes that are closed to supertankers, thus diffusing hazards into new waters![34] As far as the latter is concerned, the amount of refined products moved by sea is likely to increase in the near future.[35] Such products are generally more toxic than crude oil and many light and medium distillates are soluble enough in seawater to cause extensive fish mortality and chronic poisoning of shellfish and benthic organisms.[36] The

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27 Chapman n5 69.
28 LNG Report n26 41; see also Kindt n12 267.
29 Ibid 266.
30 Greenwald ranks the hazards of substances transported by water from zero to four - with zero indicating no hazard and four indicating maximum hazard. The LNG risk should probably be rated between three and four. See Greenwald GB 'LNG Carrier Safety: A Guide to the System of Federal Regulation' JMLC 9(2) January 1978 159; see also Kindt n12 267.
31 Ibid 268.
32 Isaak n6 44.
33 Ibid.
34 Ibid 47.
35 Ibid 45.
36 See n34.

implications are twofold. Firstly states will be pressed to take immediate action to deal with the old problems in order to avoid the burgeoning ones becoming prominent and thus causing damages. This will necessarily increase existing complications in the control of marine pollution from vessels as a whole. Secondly states are reminded to broaden their regulations to contain new possibilities of marine pollution resulting from the expansion of the maritime transportation of oil in the near future.

The fatal mistake of Southeast Asian states in treating the problem is that they did not take action in time. In fact, only now have they started to address it! The direct result of such a slow response is that vessel-source pollution is already present in the region. The South China Sea is now a 'sick sea'.[37] The greatest source of tanker-related oil pollution is the discharge of tank washings.[38] This results in major concentrations of ballast discharge at each end of the Malacca Strait, in the western Java Sea, west of Madura, off Balikpapan and off Brunei and Sabah. Also, plumes of tank washings are generated along the two major tanker routes.[39] The highest hydrocarbon concentrations are found in areas off southern and eastern Vietnam and in the Makassar Strait.[40] Tar balls also have been reported as beached along both coasts of the Gulf of Thailand, both coasts of the Malay Peninsula and in Pulau Seribu north of Jakarta.[41] On the eastern side of the region, the PRC faces the same difficulty. Ships and oil tankers discharge annually from five to six million tons of oil into the sea[42]

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37 See n326 and accompanying text in Chapter 1.
38 Valencia and Marsh n17 531.
39 Ibid.
40 Jaafar AB and Valencia MJ 'Marine Pollution: National Responses and Transnational Issues' in Kent and Valencia ed n13 274.
41 Ibid.
42 Yang et at Zhonghua Renmin Gonghegou Haiyang Huanjing Baohu Fa Qianshuo (transl. from Chinese Talks on the

and 21 000 tons of crude entered Chinese coastal waters between 1978 and 1987 as a result of 18 shipping accidents.[43] In the Philippines, chronic and localized oil pollution from shipping is also reported to have occurred at several locations.[44] One characteristic of this kind of pollution which exacerbates the whole situation is that vulnerable and valuable marine resources coincide exactly with pollution or the threat of pollution.[45] These examples are by no means exhaustive. It is submitted however that they are indeed enough to support the argument that vessel source pollution is already overwhelming all over the region. By and large, these reasons account for the coastal state inaction in the region leading to the present highly undesirable state of affairs. First and foremost, the fleets of these countries are relatively old.[46] For example, the average age of inter-island vessels is about eighteen years in the Philippines and more than twenty years in Indonesia[47] and Thailand.[48] Even in Singapore, more than 60% of its merchant fleet is over fifteen years of age.[49] This problem is further complicated by the use of flags-of-convenience, which is the prevailing practice in PRC, Hong Kong and Singapore.[50] It is in the interest of countries

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Marine Environmental Protection Law of the People's Republic of China) 1983 3; see also Silk MA 'China's Marine Environmental Protection Law: The Dragon Creeping in Murky Waters' RSL 11 1985 252.

43 Song YH 'Marine Scientific Research and Marine Pollution in China' ODIL 20(6) 1989 616.

44 Meith N and Helmer R 'Marine Environment and Coastal Resources in Southeast Asia: A Threatened Heritage' Ocean YB 4 1983 290.

45 Valencia and Marsh n17 535.

46 Suan n23 35; see also Lauriat G 'Shipping' in Kent and Valencia ed n13 220.

47 Ibid.

48 Valencia n15 50; see also Valencia MJ 'Southeast Asian Seas: National Marine Interests, Transnational Issues and Marine Regionalism' in MacAndrews and Chia ed n8 325.

49 Suan n23 35.

50 Lauriat n46 215.

concerned to encourage the practice and registration fees are a major source of foreign exchange.[51] One cannot therefore expect the flag-of-convenience state to reject ships repeatedly.[52] Some ships have never even entered such states![53] The combination of old vessels and flags-of-convenience means that enforcement of international environmental standards agsinst shipping is definitely detrimental to coastal state interests in the region. The second reason which hinders Southeast Asian states from engaging the problem is that poor infrastructure in most of the countries poses obstacles in coping with international requirement.[54] Finally, the unavailability of up-to-date hydrographic information would seem to be the third factor hampering a positive reaction by coastal states to the problem.[55] In short, all these circumstances make Southeast Asian countries traditionally skeptical of international conventions, particularly those for the management of ship-generated pollution.[56]

The emphasis in maritime policy, up until the late 1970s, amongst most Southeast Asian states was on building a merchant fleet.[57] This process is however ending now.[58] The region is now entering a period of qualitative improvement in shipping services.[59] This shift of policy

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51 Ibid 219.
52 Ibid.
53 For example about two-thirds of Singapore's registry comprise foreign-owned ships, some of which have never sailed into Singapore. See n49.
54 Ibid.
55 For example, Vietnam and Kampuchea are unable to provide such information. See Morgan J 'Navigational Hazards of Southeast Asian Waters' in MacAndrews and Chia ed n8 197; see also Hanson AJ 'Coastal and Ocean Resource Management: The Vietnam case' Ocean YB 7 1988 249.
56 Jaafar and Valencia n40 303.
57 Lauriat n46 228.
58 Ibid.
59 Ibid.

may motivate states to consider seriously the problem of vessel-source pollution. In practice this is also the case. For example ASEAN states and the PRC have begun to show genuine concern in this regard for the first time.[60] Even Vietnam, which does not have a large or medium-sized commercial shipping fleet, has started to worry about the discharge of pollutants from ships, especially oily wastes from ballast discharge and the washing of holds along its offshore areas.[61] Furthermore, some states have taken steps to ratify anti-pollution conventions. As pointed out, the better strategy to contain marine pollution in the South China Sea is to urge states to accede to all relevant international instruments.[62] At present the regional efforts to control vessel source pollution go exactly in that direction. The 80s could be deemed to be a turning point in Southeast Asia. There is also no reason to expect that this process will be slowed down in the 90s as long as the new policy (ie to improve the quality of shipping services) is still in force. One might even foresee that the process will spill over into other areas following the overall raising of living standards in the region. One may however also criticize the steps taken by the coastal states in the region as being too late to prevent pollution from occurring from the beginning. This writer is of the opinion that they can at least arrest further deterioration by marine pollution and prevent any new pollutants from entering sea waters. Finally, it is worth mentioning that in Kampuchea, international shipping is almost non-existent.[63] A timely Kampuchean accession to conventions on vessel-source pollution will no doubt enable it to achieve the admirable goal of preventing from the outset contamination of the marine environment by ships.

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60 Jaafar and Valencia n40 296.
61 Hanson n55.
62 For a detailed argument, see Section 2.1 of Chapter 2.
63 Lauriat n46 209.

In the following sections, the writer will examine how the above process has been advanced and will identify some legal problems which should be treated by all states or entities in the region.

4.2 MARPOL 73/78

International collective efforts to control vessel-source pollution can be traced back to the 50s, much earlier than the adoption of MARPOL. The formation of the UN greatly facilitated progress. In April 1954 a conference convened by the UK adopted the International Convention for the Prevention of Pollution of the Seas by Oil (OILPOL).[64] In the region of the South China Sea, the Philippines and Singapore ratified this convention.[65] The fundamental idea of OILPOL, which is laid down in art III and Annex A, is to prohibit the discharge of oil and any oily mixture having an oil content of more than 100 parts per million within fifty miles of land and in certain special areas such as the North Sea, Baltic and Black Sea. In the case of ships other than tankers, this prohibition did not apply if the ship was making for a port not equipped with reception facilities for oily residues. Although OILPOL has now been by and large superseded by MARPOL[66], it is still in force for parties which have not yet joined the latter.[67] It would seem unnecessary to discuss it for three reasons. First, it did not establish any enforcement system other than flag state

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64 ROCC 'MARPOL 73/78: The International Convention for the Prevention of Marine Pollution From Ships, 1973 as modified by its Protocol of 1978' Ocean YB 6 1986 574. Text in Ruster B and Simma B ed International Protection of the Environment, Treaties and Related Documents I 1975 332-345.

65 Jaafar and Valencia n40 287-8.

66 Churchill and Lowe n9 350.

67 Boczek BA 'The Concept of Regime and the Protection and Preservation of the Marine Environment' Ocean YB 6 1986 277.

enforcement[68] and many flag states were reluctant to prosecute where violations were detected.[69] Secondly, it was not designed for the control of pollution under modern conditions of tanker operations.[70] Thirdly, it has already been incorporated into and expanded by MARPOL Annex I.[71]

Generally speaking, OILPOL was considered technically out of date[72] and thus could no longer satisfy the demands of a much more environmentally conscious world.[73] The convention was a failure.[74] It is therefore more appropriate to concentrate on MARPOL which is more comprehensive than its predecessor.[75]

MARPOL is the result of general dissatisfaction with OILPOL.[76] In 1969 the IMCO Assembly, inspired partly by the Torrey Canyon disaster of two years before, decided to arrange an international conference to consider a completely new convention.[77] The conference duly met in London in 1973 at which MARPOL was formally adopted.[78] MARPOL is intended to deal with all forms of intentional pollution, other than

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68 Gold E 'The Control of Marine Pollution from Ships: Responsibilities and Rights' in Clingan TA Jr ed The Law of the Sea: What Lies Ahead? 1988 276. See also Kasoulides GC 'The Port State Enforcement Regime Through International Organizations' in Soons AHA ed Implementation of the Law of the Sea Convention Through International Institutions 1990 423-4.

69 Churchill and Lowe n9 248.

70 Boyle AE 'Marine Pollution Under the Law of the Sea Convention' AJIL 79 1985 356.

71 O'Connell DP The International Law of the Sea II 1984 1004.

72 Gold n68 280. Boyle also opines that this Convention is now 'obsolescent'. See n70.

73 Gold n72; see also ROCC n64 576.

74 Churchill and Lowe n9 249.

75 Boczek n67 279. MARPOL has also been described as 'the most ambitious international treaty covering maritime pollution ever adopted' see ROCC n73.

76 Gold n72.

77 ROCC n73.

78 Ibid.

dumping. Detailed pollution standards are set out in five annexes. These are concerned with oil (Annex I), noxious liquid substances in bulk (Annex II), harmful substances carried by sea in packaged forms (Annex III), sewage (Annex IV) and garbage (Annex V). Acceptance of Annexes I and II is obligatory for all contracting parties, but the others are optional. Although in 1978 a Protocol was adopted, its nature prevents it from being a separate instrument. It has in fact absorbed the parent convention.[79] States which ratify the Protocol must also give effect to the provisions of the 1973 MARPOL Convention. Thus there is no need for a separate instrument of ratification for the latter,[80] MARPOL 1973 and the 1978 Protocol should therefore be read as one instrument which is usually referred to as MARPOL 73/78.[81] MARPOL 73/78 (with Annexes I and II) entered into force on October 2, 1983. For the time being[82] the following Southeast Asian states or entities have ratified it: Brunei[83]; PRC[84]; Indonesia[85]; Singapore[86]; Hong Kong[87] and Vietnam.[88] Annex V to MARPOL also entered into force on December 31, 1988. PRC is the only party in the region.[89] Although ROC cannot accede to the Convention because of its uncertain international status, it actually incorporated by and large the 1973 MARPOL (especially Annexes I and II) into its municipal law entitled 'Control Rule on Pollution of Sea Water' on March 23, 1981.[90]

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79 ROCC n64 578.
80 Ibid 578-9.
81 Ibid 579.
82 As at June 24 1991.
83 On October 23 1986.
84 On July 1 1983.
85 On October 21 1986.
86 On November 1 1990.
87 On April 11 1985.
88 On May 29 1991.
89 PRC ratified Annex V on November 21 1988.
90 For a partial account of this law, see Sun K 'Some Legal Problems Regarding Control of Marine Pollution from Offshore Oil and Gas Development of the Republic of China' Sea Changes 11 1990 73-6.

4.2.1 Legal obligations incumbent upon parties

4.2.1.1 General obligation

The Convention lays down the fundamental guiding rule:

> 'The Parties to the Convention undertake to give effect to the provisions of the present Convention and those Annexes thereto by which they are bound, in order to prevent the pollution of the marine environment by the discharge of harmful substances or effluents containing such substances in contravention of the Convention'.[91]

This comes from MARPOL's primary object which is

> 'the complete elimination of intentional pollution of the marine environment by oil and other harmful substances and the minimization of accidental discharge of such substances'.[92]

4.2.1.2 Substantive obligations

All five annexes are said to be 'substantive'[93] and the main rules for the control of vessel-source pollution lie in the general prohibition of discharges.[94] In controlling oil pollution from ships, Annex I lays down the rules of vital importance:[95]

> '...any discharge into the sea of oil or oily mixtures from ships to which this Annex applies shall be prohibited except when all the following conditions are satisfied:
>
> (a) for an oil tanker, except as provided for in sub-paragraph (b) of this paragraph:
>
> (i) the tanker is not within a special area;

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91 MARPOL art 1(1).

92 The fourth paragraph of the preamble to the Convention. This has been identified by Curtis as the primary objective of MARPOL. See Curtis n4 121.

93 Ibid.

94 Timagenis GJ International Control of Marine Pollution II 1980 406.

95 MARPOL Annex I Regulation 9(1).

(ii) the tanker is more than 50 nautical miles from the nearest land;

(iii) the tanker is proceeding en route;

(iv) the instantaneous rate of discharge of oil content does not exceed 60 litres per nautical mile;

(v) the total quantity of oil discharged into the sea does not exceed for existing tankers 1/15 000 of the total quantity of the particular cargo of which the residue formed a part and for new tankers 1/30 000 of the total quantity of the particular cargo of which the residue formed a part; and

(vi) the tanker has in operation... an oil discharge monitoring and control system and a slop tank arrangement...;

(b) from a ship of 400 tons gross tonnage and above other than an oil tanker and from machinery space bilges excluding cargo pump room bilger of an oil tanker unless mixed with an oil cargo residue:

(i) the ship is not within a special area;

(ii) the ship is more than 12 nautical miles from the nearest land;

(iii) the ship is proceeding en route;

(iv) the oil content of the effluent is less than 100 parts per million; and

(v) the ship has in operation an oil discharge monitoring and control system, oily-water separating equipment, oil filtering system or other installation...'.

As far as noxious liquid substances are concerned, Annex II generally prohibits their discharges at a distance of less than 12nm from the nearest land and, for most of them, in a depth of water of not less than 25 metres.[96] Annex IV basically forbids the discharge of sewage except when

'the ships is discharging comminuted and disinfected sewage... at a distance of more than four nautical miles from the nearest land, or sewage which is not

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96 MARPOL Annex II Regulation 5

comminuted or disinfected at a distance of more than 12 nautical miles from the nearest land...'[97]

On disposal of garbage from ships, Annex V prohibits the disposal into the sea of all plastics including but not limited to synthetic ropes, synthetic fishing nets and plastic garbage bags. It also stipulates that dunnage, lining and packing materials which will float shall not be disposed within 25nm from the nearest land. Food wastes and all other garbage including paper products, rages, glass, metal, bottles, crockery and similar refuse may not be thrown into the sea within 12nm. The disposal of the latter however may be permitted when it has passed through a comminuter or grinder and afterwards is capable of passing through a screen with openings no greater than 25mm, but in any case it is prohibited within 3nm from the nearest land.[98]

There are of course exceptions to all the substantive regulations mentioned above. Annex I and Annex II in fact speak almost identically[99] (exceptions in Annexes III, IV and V are by and large similar to these two provisions, although subject to minor variation):

'Regulation[s]... of this Annex shall not apply to:

(a) the discharge into the sea of oil or oily mixture [noxious liquid substances or mixtures containing such substances] necessary for the purpose of securing the safety of a ship or saving life at sea; or

(b) the discharge into the sea of oil or oily mixture [noxious liquid substances or mixtures containing such substances] resulting from damage to a ship or its equipment:

(i) provided that all reasonable precautions have been taken after the occurrence of the damage or

97 MARPOL Annex IV Regulation 8.
98 MARPOL Annex V Regulation 3.
99 MARPOL Annex I Regulation 11 and Annex II Regulation 6.

discovery of the discharge for the purpose of preventing or minimizing the discharge; and

(ii) except if the owner or the Master acted either with intent to cause damage, or recklessly and with knowledge that damage would probably result; or

(c) the discharge into the sea of substances containing oil [noxious liquid substances or mixtures containing such substances]... when being used for the purpose of combating specific pollution incidents in order to minimize the damage from pollution...'.

4.2.1.3 Procedural obligations

MARPOL lays down three procedural obligations: ie duty to report, duty to negotiate and duty to cooperate. The Convention stipulates that 'a report of an incident shall be made without delay to the fullest extent possible...'.[100] Protocol I to the Convention elaborates detailed rules on this duty requiring the master of a ship involving an incident to report by radio whenever possible, but in any case by the fastest channels available at the time the report is made.[101] It spells out when the reports shall be made:[102]

'The report shall be made whenever an incident involves:

(a) a discharge other than as permitted under the present Convention; or

(b) a discharge permitted under the present Convention by virtue of the fact that:
(i) it is for the purpose of securing the safety of a ship or saving life at sea; or
(ii) it results from damage to the ship or its equipment; or

(c) a discharge of a harmful substance for the purpose of combating a specific pollution incident or for

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100 MARPOL art 8(1).
101 MARPOL Protocol I art II.
102 MARPOL Protocol I art III.

purposes of legitimate scientific research into pollution abatement or control; or

(d) the probability of a discharge referred to in sub-paragraphs (a), (b) or (c) of this Article'.

Each report shall contain, in particular, a description of the harmful substances involved, an estimate of their quantities and concentrations, a description of the packaging and identifying marks and the name of the consignor, consignee or manufacturers.[103] The Convention does not explicitly establish a duty to negotiate. It stipulated however that

> 'Any dispute between two or more Parties to the Convention concerning the interpretation or application of the present Convention shall, if settlement by negotiation between the Parties involved has not been possible, and if these Parties do not otherwise agree, be submitted upon request of any of them to arbitration...'.[104]

Apparently negotiation here is given priority over other methods of settling disputes. Finally, the Convention promotes technical cooperation by requiring parties to support others who request technical assistance for, inter alia, '...(b) the supply of necessary equipment and facilities for reception and monitoring; (c) the facilitation of other measures and arrangements to prevent or mitigate pollution of the marine environment by ships'.[105]

4.2.1.4 Other technical requirements

The provisions on technical requirements of the Convention are too complex to be examined in detail here. They can only be briefly summarized at this stage. The cornerstone

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103 MARPOL Protocol I art IV(2).
104 MARPOL art 10.
105 MARPOL art 17.

is the load-on-top (LOT) system.[106] Oil tankers of 150 tons gross tonnage and above shall be provided with slop tank(s) and oil discharge monitoring and control system shall be fitted. The slop tank(s) shall have a capacity necessary to retain the slops generated by tank washing, oil residues and dirty ballast residues but the total shall not be less than 3% (in two exceptional conditions, 2% is permitted) of the oil carrying capacity of the ship. The oil discharge monitoring and control system shall be fitted with a recording device to provide a continuous record of the discharge in litres per nautical mile and total quantity discharged or the oil content and the rate of discharge. This record shall be kept for at least three years. The system shall also ensure that any discharge of oily mixture is automatically stopped when the instantaneous rate of discharge of oil exceeds that permitted. Oil tankers of less than 150 tons gross tonnage are required to retain oil on board and discharge all contaminated washings at reception facilities.[107] The Convention also provides that segregated ballast tanks shall be constructed for certain types of ships. The basic idea is that if oil and water

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106 Timagenis n94 422. The load-on-top procedure basically consists of the following steps: 1. After discharge of cargo from the cargo tanks, sea water is taken on as ballast in some tanks. Other tanks are washed with sea water. 2. The cargo tank washings are transferred through 'stripping' pipes to a slop tank. These washings are allowed to settle in the slop tank. 3(a) Clean ballast water is pumped into the cleared tanks. (b) The dirty ballast water taken on at the start has by now partially settled, so the lower layer of water is discharged into the sea. 4. The residual oil and water is stripped to the slop tanks to settle. 5. After further settling in the slop tank the water layer is discharged into the sea. 6. A new cargo is loaded on top of the slop tank oil residues. See Abecassis DW and Jarashow RL Pollution From Ships 1985 25. An operational guide to load-on-top is published by OCIMF/ICS: Clean Seas Guide for Oil Tankers: The Operation of Load on Top 1973.

107 MARPOL Annex I Regulation 15.

never mix, there is no problem separating them.[108] Therefore 'every new oil tanker of 70 000 deadweight and above shall be provided with segregated ballast tanks...'.[109] However, the threshold of 70 000 tons has been lowered to 20 000 tons by the 1978 Protocol.[110] Furthermore, it is stipulated that every new crude oil tanker of 20 000 tons deadweight and above shall be fitted with a cargo tank cleaning system using crude oil washing.[111] The only substance which does not present problems of separation after tank washing is oil itself.[112] The 1978 Protocol, on the other hand, requires that 'an inert gas system shall be provided in every cargo tank and slop tank...'.[113] This obligation is based on the fact that crude oil washing creates a considerable volume of hydrocarbon vapour in the tank. The ship therefore must be fitted with such a system to reduce the risk of an electrostatic discharge causing an explosion.[114] The Convention provides that 'any ship of 400 tons gross tonnage and above shall be fitted with an oily-water separating equipment or filtering system'.[115] The purpose is to 'ensure that any oily mixture discharged into the sea... shall have an oil content of not more than 100 parts per million'.[116] It further lays down that any ship of 10 000 tons gross tonnage and above shall be fitted either with an oil discharge monitoring and control system in addition to an oily-water separating equipment or filtering system, or with both an oily-water separating equipment and an effective filtering system.[117] The function of the

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108 Abecassis and Jarashow n106 34.
109 MARPOL Annex I Regulation 13(1).
110 MARPOL 1978 Protocol Annex I Regulation 13(1).
111 MARPOL 1978 Protocol Annex I Regulation 13(6).
112 Abecassis and Jarashow n106 32.
113 MARPOL 1978 Protocol Annex I Regulation 13B(3).
114 See n112.
115 MARPOL Annex I Regulation 16(1).
116 MARPOL Annex I Regulation 16(6).
117 MARPOL Annex I Regulation 16(2).

filtering system shall be to 'accept the discharge from the separating system and produce an effluent the oil content of which does not exceed 15 parts per million'.[118] Finally, to provide reception facilities MARPOL states that

> '... the Government of each Party undertakes to ensure the provision at oil loading terminals, repair ports, and in other ports in which ships have oily residues to discharge, of facilities for the reception of such residues and oily mixtures...adequate to meet the needs of the ships using them without causing undue delay to ships'.[119]

This stipulation is said to be an indispensable practical part of the solution to the problem of vessel source pollution.[120]

4.2.2 Enforcement

As far as enforcement is concerned, the fundamental rule is that both flag state and coastal state shall prohibit any violation of the Convention and establish sanctions to the extent that they 'shall be adequate in severity to discourage violations...'.[121]

4.2.2.1 The scope of the Convention

The Convention can be said to regulate ships rather than areas.[122] Article 2(4) defines 'ship' as 'a vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft and fixed or floating platforms'. The legal effect is that the Convention is even applicable to internal waters.[123] Four types of pollutants fall under the control of the Convention. First and

118 MARPOL Annex I Regulation 16(7).
119 MARPOL Annex I Regulation 12(1).
120 Abecassis and Jarashow n106 22.
121 MARPOL art 4.
122 Timagenis GJ International Control of Marine Pollution I 1980 332.
123 Ibid.

foremost, 'oil' is defined as 'petroleum in any form including crude oil, fuel oil, sludge, oil refuse and refined products...'.[124] 'Noxious liquid substances' are divided into four categories - A, B, C and D - in accordance with the degree of hazard to the marine environment.[125] By 'sewage' is meant drainage and other wastes from any form of toilet, urinal, WC scuppers; from medical premises via wash basins, wash tubs and scuppers located in such premises; from spaces containing living animals; or other waste waters containing the said drainages.[126] 'Garbage' means 'all kinds of victual, domestic and operational waste, excluding fresh fish and parts thereof, generated during the normal operation of the ship and liable to be disposed of continuously or periodically...'.[127] As pointed out the Convention is concerned with all forms of intentional pollution. Article 2(3) provides that:

> '(a) "Discharge"... means any release howsoever caused from a ship and includes any escape, disposal, spilling, leaking, pumping, emitting, or emptying.
>
> (b) "Discharge" does not include:
>
> (i) dumping within the meaning of the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, done at London on 13 November 1972; or
>
> (ii) release of harmful substances directly arising from the exploration, exploitation and associated off-shore processing of sea-bed mineral resources; or
>
> (iii) release of harmful substances for purpose of legitimate scientific research into pollution abatement or control'.

On the geographical coverage of the Convention, art 4(2) stipulates that 'Any violation of the requirements of the

124 MARPOL Annex I Regulation 1(1).
125 MARPOL Annex II Regulation 3.
126 MARPOL Annex IV Regulation 1(3).
127 MARPOL Annex V Regulation 1.

present Convention within the jurisdiction of any Party to the Convention shall be prohibited and sanctions shall be established...'. Article 9(3) says that 'the term "jurisdiction" in the present Convention shall be construed in the light of international law in force at the time of application or interpretation of the present Convention'. Timagenis therefore submits that MARPOL covers all jurisdictional zones of the coastal state including inter alia the EEZ.[128]

4.2.2.2 Preventive measures

The Convention provides for three measures for preventing oil discharge. First, surveys and inspections come to the fore. Every oil tanker of 150 gross tonnage and above and every other ship of 400 tons gross tonnage and above shall be subject to surveys: an initial survey leading to the issue of an International Oil Pollution Prevention Certificate; periodical surveys at intervals not exceeding five years and a minimum of one intermediate survey which shall be held not before six months prior, nor later than six months after the midpoint in the Certificate's period of validity.[129] Furthermore, the flag state is required to arrange unscheduled inspections during the period of validity of the Certificate. However, if the flag state establishes mandatory annual surveys then the unscheduled inspections will not be obligatory.[130] Powers of surveyors are: to require repairs to a ship; to carry out surveys if requested by a port state; to take corrective action and withdraw the Certificate.[131] The second preventive measure is the oil discharge monitoring and control system[132] which will automatically stop discharge when it exceeds the

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128 Timagenis n94 522.
129 MARPOL 1978 Protocol Annex I Regulation 4(1).
130 MARPOL 1978 Protocol Annex I Regulation 4(3)(b).
131 MARPOL 1978 Protocol Annex I Regulation 4(3)(c) and (d).
132 See Section 4.2.1.4 supra.

permitted rate. The final measure is the Oil/Cargo Record Book.[133] In either book a number of items shall be fully recorded without delay. Each section shall be signed by the officer or officers in charge of the operations concerned.[134] The Oil Record Book shall be preserved for a period of three years. The Cargo Record Book shall be preserved for two years after the last entry was made.[135]

4.2.2.3 Remedial measures

The basic rules are in art 4:

> '(1) ... If the Administration [of the ship] is informed of such a violation and is satisfied that sufficient evidence is available to enable proceedings to be brought in respect of the alleged violation, it shall cause such proceedings to be taken as soon as possible in accordance with law.
>
> (2) ... Whenever such a violation occurs, that Party shall either:
>
> (a) cause proceedings to be taken in accordance with its law; or
>
> (b) furnish to the Administration of the ship such information and evidence as may be in its possession that a violation has occurred'.

It is thus clear that coastal state jurisdiction prevails over flag state jurisdiction. Initiation of legal proceedings is in the hands of the former.

How does coastal state enforcement actually function? In oil pollution, the starting point is the 'sheen' test[136] which is defined as '... visible traces of oil... observed on or below the surface of the water in the immediate

133 MARPOL Annex I Regulation 20 and Annex II Regulation 9.
134 MARPOL Annex I Regulation 20(2) and (4); and Annex II Regulation 9(2) and (5).
135 MARPOL Annex I Regulation 20(5) and Annex II Regulation 9(6).
136 Schoenbaum TJ Admiralty and Maritime Law 1987 534.

vicinity of a ship or its wake...'.[137] This raises a presumption[138] which means that governments concerned will 'to the extent they are reasonably able to do so, promptly investigate the facts bearing on the issue of whether there has been a violation...'.[139] The investigation shall be a full scale one[140] and may be followed by proceedings including arrest and seizure[141] (of course, dependent upon the outcome of the investigation). This process (ie 'sheen' test, full scale investigation and proceedings), however, is only applicable within the national jurisdiction of the coastal state.[142] The Convention also introduces port state enforcement against violations committed beyond the limits of national jurisdiction.[143] The port state is however much restricted. It may inspect a ship to verify whether the ship has discharged any harmful substances in contravention of the Convention either on its own initiative[144] or at the request of a third state party.[145] This can take place only in port.[146] Inspection of ships beyond port waters does not

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137 MARPOL Annex I Regulation 9(3). There is a similar rule with respect to discharge of sewage in Annex IV which stipulates:'... the effluent shall not produce visible floating solids in, nor cause discolouration of, the surrounding water [of the ship]...'. See MARPOL Annex IV Regulation 8(1)(b). The 'sheen' test, however, does not exist in the remaining Annexes.

138 Timagenis n94 468.

139 MARPOL Annex I Regulation 9(3).

140 See n138.

141 Timagenis n94 473.

142 This case is clearly covered by art 4(2) of the Convention which states 'Any violation of the requirements of the present Convention <u>within the jurisdiction of any Party</u> to the Convention shall be prohibited and sanctions shall be established...' (emphasis added).

143 Kasoulides n68 422-3.

144 MARPOL art 6(2).

145 MARPOL art 6(5).

146 Kasoulides n68 423. See also Timagenis n94 510-11; M'Gonigle RM and Zacher MW <u>Pollution, Politics and International Law</u> 1979 231.

seem to be allowed.[147] Discovering evidence of a discharge violation leads only to reporting and forwarding evidence to the state concerned or requesting that state to take appropriate action.[148] This is not a full scale investigation. It relates only to inspection of the vessel. Other acts of investigation, including examination of witness, may not be conducted by the port state.[149]

The enforcement power of port states also covers the design, construction and equipment of ships. The port state may inspect the International Oil Pollution Prevention Certificate of a ship.[150] If there are clear grounds for believing that the condition of the ship or its equipment does not correspond substantially with the particulars of that Certificate, or the ship does not carry a valid certificate at all, the state carrying out the inspection 'shall take such steps as will ensure that the ships shall not sail until it can proceed to sea without presenting an unreasonable threat of harm to the marine environment'.[151] The Convention, however, does not define the phrase 'clear grounds'. On the other hand, the port state has a general right to deny a foreign ship entry to ports or off-shore terminals under its jurisdiction because the ship does not comply with the Convention.[152] Finally inspection and investigation carried out in ports or off-shore terminals must not hamper innocent passage.[153]

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147 Wang CP 'A Review of the Enforcement Regime for Vessel-Source Oil Pollution Control' ODIL 16(4) 1986 319.
148 MARPOL art 6(2) and (5).
149 Timagenis n94 466.
150 MARPOL art 5(2).
151 Ibid.
152 MARPOL art 5(3). The right to deny foreign vessles access to ports also exists in customary international law since ports form part of internal waters over which complete sovereignty exists. See Starke JG Introduction to International Law 10th ed 1989 203.
153 Timagenis n94 464 472.

4.2.3 Judicial settlement of disputes

4.2.3.1 The burden of proof and evidence

As mentioned above, the Convention prohibits discharges generally but under certain circumstances it is allowed.[154] The authorities requiring compliance with the rule or punishing an alleged violation have the burden of proving that the requirements for the prohibition were present. The requirements to establish an exception must be proved by the defendant.[155] One of the exceptions in the Convention is that prohibition does not apply to discharges 'necessary for the purpose of securing the safety of a ship or saving life at sea'.[156] Timagenis points out that this does not refer to the safety of the carrying ship only, but includes any other ship which might be in danger.[157] He argues that no distinction is drawn between the lives of those on board the particular ship and those on any other ship or at sea.[158]

As far as admissible evidence is concerned, the question as to evidential force of the two records and one document required by the Convention is of interest. As mentioned above, certain ships are required to be fitted with an oil discharge monitoring and control system in which a recording device is installed to provide a continuous record of the discharge in litres per nautical mile and the total quantity discharged or the oil content and rate of discharge.[159] To what extent can such a record be admitted in court? Since reliable monitoring devices have not yet been successfully developed[160], IMO's Assembly adopted Resolution A543(13) on November 17, 1983 which recognized that measurement of the

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154 For a detailed account see Section 4.2.1.2 of this Chapter supra.
155 Timagenis n94 451.
156 MARPOL Annex I Regulation 11(a) and Annex II Regulation 6(a).
157 Timagenis n94 453.
158 Ibid.
159 See n107 and accompanying text supra.
160 M'Gonigle and Zacher n146 262. See also Wang n147 315.

oil content in oily water mixtures being discharged may not be accurate and invited governments:

> '... to recognize that oil content, instantaneous rate of discharge of oil content and the total quantity of oil discharged, recorded by the existing oil monitoring and control system.. cannot by itself constitute sufficient evidence of... contravention, but should be taken into account together with other evidence collected, when contemplating any action against ships alleged to have contravened the discharge requirements...'.[161]

On the other hand, certain ships are obliged to keep an Oil/Cargo Record Book on board which is 'admissible in any judicial proceedings as evidence of the facts stated in the entry'.[162] Obviously the Convention gives probative force to this evidence.[163] Timagenis points out that the Book may be used both against and in favour of the ship and may be rebutted by other evidence.[164] He suggests that Record Books should be visaed and stamped by port authorities at every port of call to strengthen the evidence derived from them.[165] Finally, as mentioned above, each state party is to issue certificates to certain ships after surveying them in accordance with the Convention.[166] The issuing state 'assumes full responsibility for the Certificate'.[167] When a dispute over the document arises between state parties, the complainant state may invoke the settlement procedure provided for by the Convention, which may lead to compulsory arbitration.[168] Should compulsory arbitration occur, it is

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161 Abecassis and Jarashow n106 43.
162 MARPOL Annex I Regulation 20(1) and (b) and Annex II Regulation 9(1) and (7).
163 Timagenis n94 481.
164 Ibid 480-1.
165 Ibid 480.
166 MARPOL Annex I Regulation 5(1) and Annex II Regulation 11(1).
167 MARPOL Annex I Regulation 5(2) and Annex II Regulation 11(2).
168 The mechanism for settlement of disputes under MARPOL will be fully discussed in Section 4.2.3.2. infra.

submitted that the Certificate may be used as prima facie evidence against the issuing state. However, the issuing state should be allowed to present its case. (After all, the Convention does not oblige issuing state to be strictly or absolutely responsible for the Certificate).

4.2.3.2 Compulsory arbitration

As far as compulsory arbitration is concerned, art 10 of the Convention lays down that 'Any dispute between two or more Parties to the Convention concerning the interpretation or application of the present Convention shall, if settlement by negotiation between the Parties involved has not been possible and if these Parties do not otherwise agree, be submitted upon request of any of them to arbitration..'. (emphasis added). It is clear, as already pointed out, that negotiation has been given priority over arbitration. An arbitral tribunal must first examine whether settlement through negotiations 'has not been possible'.[169] Generally speaking, the party initiating arbitration has the burden of proving such impossibility.[170] The proof may be based on lack of diplomatic relations, mutual non-recognition or even the unwillingness of a party (including perhaps the party initiating arbitration) to negotiate.[171] On the other hand, the decision of the Tribunal should not depend on the objective possibility of finding a solution through negotiation since such a possibility may always exist.[172] Timagenis argues that the Tribunal should take into account the particular characteristics of the dispute and of the parties to the dispute, the efforts made prior to the submission and the time consumed for this purpose.[173]

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169 Timagenis n94 528.
170 Ibid 528-9.
171 Ibid 529.
172 Ibid 528.
173 Ibid.

The Tribunal shall consist of three members: one Arbitrator nominated by each party to the dispute and a third Arbitrator shall be nominated by agreement between the first two named and shall act as the Chairman.[174] The Chairman, however, shall not be or have been a national of one of the parties concerned except with the consent of the other party.[175] The decision of the Tribunal shall be taken by majority vote and the absence or abstention of one of the members shall not constitute an impediment to the Tribunal reaching a decision. In cases of equal voting the vote of the Chairman shall be decisive.[176] The Tribunal shall render its award within a period of five months from the time it is established unless it decides, in case of necessity, to extend the time for a further period not exceeding three months. The award of the Tribunal shall be final and the parties shall immediately comply with it.[177] The award, it has been suggested, may either direct the parties to act in a particular manner, refrain from certain acts in the future or be of a purely declaratory nature (clarifying the meaning of the provision in dispute).[178] Claims for damages however fall outside the jurisdiction of the Tribunal.[179] The drafters of the Convention considered that this was beyond the competence of the conference. It was dealt with to a certain extent by CLC. MARPOL therefore does not deal with matters of responsibility, liability matters or compensation for damage caused.[180] Furthermore, there are two flaws inherent in the Convention which might hamper arbitration. The Convention does not specify whether disputes should concern interpretation or application directly or indirectly.[181] Article V of Protocol II also stipulates that

174 MARPOL Protocol II art III.
175 MARPOL Protocol II art IV(4).
176 MARPOL Protocol II art IX(1).
177 MARPOL Protocol II art X.
178 Timagenis n94 530.
179 Ibid 531.
180 Ibid.
181 Ibid 530.

'The Tribunal may hear and determine counter-claims arising directly out of the subject matter of the dispute'. Timagenis points out that this is a more serious defect since in most cases disputes concerning interpretation or application will not have a 'subject matter'.[182] Finally the decision of the Tribunal may have a probative or even law-making effect by virtue of art 38 para 1(d) of the Statute of the International Court of Justice.[183]

4.2.4 Evaluations

MARPOL has been applauded and criticised. Generally speaking, it contains a rather well balanced scheme of pollution abatement. If effectively implemented it would seem to meet fairly high environmental requirements.[184] Technically speaking, the major accomplishment of the Convention is the adoption of a significant set of technological requirements for the design and construction of oil tankers.[185] The control system is established with precision and does not have loopholes which could lead to unwarranted interpretations.[186] Legally, the application of the Convention to the vessels of non-parties greatly increases its effectiveness in combating pollution. Ordinary international law would allow a port state to enforce against foreign ships in its ports even if the relevant events have taken place elsewhere (eg in EEZ or on the high seas). In the Lotus Case[187], the court decided that there was no rule of international law which prohibited a state from exercising jurisdiction over a foreigner in respect of an offence committed outside its territory.[188] The Convention indeed reflects this line of thought and

182 Ibid 532.
183 Ibid 547.
184 Hakapaa n1 292-3.
185 Schoenbaum n136 547.
186 Timagenis n94 410.
187 The Lotus Case (1927) (France v Turkey) PCIJ Reports Ser A No 10.
188 Ibid 19.

stipulates that parties shall apply the Convention as may be necessary to ensure that 'no more favourable treatment' is given to ships of non-parties.[189] The customary international law status of the Convention[190] in fact affords a solid basis for doing this. Practically speaking, the detailed enforcement techniques and compulsory arbitration will no doubt help to reduce the possible disputes stemming from its application. This is an achievement in an area where there is increasing mistrust of judicial settlement of international disputes.[191] Furthermore, it is now possible to amend the detailed pollution regulations contained in the annexes much more quickly due to the adoption of the tacit amendment procedure.[192] Although amendments to MARPOL do not bind

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189 MARPOL art 5(4).

190 See n217 and accompanying text in Chapter 3.

191 Timagenis n94 523.

192 MARPOL art 16(2)(f) stipulates: '(ii) an amendment to an Annex to the Convention shall be deemed to have been accepted in accordance with the procedure specified in sub-paragraph (f)(iii)...; (iii) an amendment to an Appendix to an Annex to the Convention shall be deemed to have been accepted at the end of a period to be determined by the appropriate body at the time of its adoption, which period shall be not less than ten months, unless within that period an objection is communicated to the Organization [ie IMO] by not less than one-third of the Parties or by the Parties the combined merchant fleets of which constitute not less than 50 per cent of the gross tonnage of the world's merchant fleet whichever condition is fulfilled'.

non-parties[193], it is nevertheless still an improvement which has made the system more flexible and responsible.[194]

However, the applause should not prevent us from hearing the other side of the story. Firstly, there are still some technical ramifications which stand in the way of smooth application of the Convention. For example, MARPOL rules would require as much as 30% of hull space to be devoted to ballast tanks. Economically this is difficult to achieve.[195] Reliable monitoring devices have not yet been successfully developed.[196] Some standards (such as that a tanker should not discharge more than 60 litres of oil per nautical mile) are in fact difficult, if not impossible, to enforce.[197] The greatest problems relating to oil residues are in developing nations where, understandably, reception facilities have been placed fairly low on the list of social priorities.[198] The situation in Southeast Asia, however, seems to have improved gradually. For example, Dumai, which is Indonesia's largest port, has already been provided with deballast facilities.[199] It is submitted that a more intractable problem relating to reception facilities is

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193 Generally speaking, the amendments enter into force as follows: (i) in the cases of express acceptance (Articles, Protocol II and, in some cases, Annexes and Protocol I) the amendment enters into force for the states which have expressly accepted the amendment; and (ii) in the cases of tacit acceptance (Appendices and, in some cases, Annexes and Protocol I) the amendment enters into force for all the parties except those who objected or those which stated that their express approval is required. See MARPOL art 16(2)(g).

194 Grolin J 'The Stability of the New Environmental Regime of the 1982 Law of the Sea Convention' in Koers and Oxman ed n2 610.

195 Lauriat G 'Comment' in Valencia, Gold, Chia and Letalik n5 73-4.

196 See n160.

197 Wang n147 319.

198 Horrocks JCS 'The 1973 Marine Pollution Convention: Problems and Solutions' MP 1(1) January 1977 57.

199 Jaafar and Valencia n40 272.

derived from the Convention itself. Regulation 12 of Annex I stipulates that

> `... the Government of each Party undertakes to ensure the provision at oil loading terminals, repair ports, and in other ports in which ships have oily residues to discharge, of facilities for reception of such residues...'.

Here it is not clear whether `undertakes to ensure' can be equated with `shall'. Timagenis argues that the text indeed imposes a concrete obligation.[200] He also points out however that there is no time limit for establishing such reception facilities. This brings the system close to an optional one.[201] Such a state of affairs is highly undesirable. It not only increases the possibility of physical contamination of sea water but also complicates any future legal settlement. The uncertainty in the provision is in fact not necessarily advantageous to the port state. A port state, invoking this de facto optional provision to delay the construction of reception facilities in its ports, might be presumed to have the knowledge that the ships will discharge dirty ballast or tank wastes somewhere else at sea if not at the terminals. If the latter culminates in an international pollution incident causing damage, the port state could be liabile for its negligence here. The quality and reliability of ship classification societies are also variable and thus the methods of inspection require scrutiny.[202] Finally LNG has been omitted by the Convention. This may be a loophole in the prevention and control of vessel-source pollution in the region of the South China Sea, as there are a number of LNG carriers plying there.[203]

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200 Timagenis n94 417.
201 Ibid.
202 Wang n147 320.
203 See n26-31 and accompanying text supra.

A second category of criticisms mainly concerns enforcement problems. An immediate difficulty is uncertainty relating to penalties allowed by the Convention. Article 4 stipulates that state parties shall establish sanctions to the extent that they 'shall be adequate in severity to discourage violations...'. It is unclear whether this refers to fines or imprisonment or both. Different interpretations of 'adequate in severity' are bound to give rise to disputes[204], although such disputes could go to arbitration as mentioned earlier.[205] There is also no requirement for flag states to inspect their vessels for discharge violations. This is another flaw.[206] This writer is of the opinion, however, that the main defects lie in enforcement by coastal states. This (ie the 'sheen' test followed by full-scale investigation and proceedings[207]) has in fact been watered down by language to the effect that states 'should, to the extent they are reasonably able to do so, promptly investigate'.[208] In reality it is by no means easy for a coastal state to verify a discharge violation in an offshore area far from its coast, especially taking into account the fact that most offshore areas in the South China Sea are important international shipping routes. Compact traffic and already polluted sea waters will necessarily make the task more difficult, if not impossible. This in fact highlights the problem. The most intractable part of the enforcement regime is proof of an offence.[209] As mentioned, under the Convention the authorities have the

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204 For example, one might consider that a considerable fine is enough to constitute a penalty 'adequate in severity'. Reinecke however points out incarceration of the person is an effective deterrent - far more so than a fine. See Reinecke DR 'Legal Problems Resulting from Pollution' in UCT Law of the Sea: Proceedings of the Symposium on the Law of the Sea April 21-22 1980 76.

205 See Section 4.2.3.2 supra.

206 See n197.

207 See n136-40 and accompanying text supra.

208 MARPOL Annex I Regulation 9(3).

209 Timagenis n94 467; see also n71.

burden of proving the offence.[210] It is submitted that this burden may be too heavy in many cases, if not in every one. A South African case, State v Peppas[211], illustrates this dilemma.

In that case, a Greek vessel anchored about fifteen miles off the South African coast (north-east of East London), discharged oil which formed an oil slick near its stern. This oil slick extended for an estimated 1 600 yards and its width was approximately 50 yards. In the meantime a South African patrol vessel found the discharge and took three large buckets of the contaminated sea water from three different locations in the midst of the slick as samples. Afterwards the captain of the patrol vessel poured the water in the three buckets into three aluminium jugs separately and then, once again, poured the water in the three jugs into three separate bottles respectively. These three bottles were delivered to a laboratory for analysis. The then South African law prohibited discharge in certain maritime areas of any kind of mineral oil, of mixtures of mineral oil and water or any other substance which contained more than 100 parts of oil in a million parts of the mixture. The onus of proof was firmly on the State. In this it failed. The court held:

> 'Since it is common cause that the mixture of oil and water is an unstable emulsion from which oil rapidly rises to the top and is not an even, consistent blend of oil and water, it goes without saying that, in regard to its oil content, the mixture in the jug was in all probability not identical with the mixture in the bucket, the mixture in the bottle not identical to the mixture in the jug and the mixture analyzed in the laboratory not identical with the mixture in the bottle. Not only, therefore, was the mixture analyzed... not the mixture discharged..., but it was not necessarily the mixture as taken from the sea'.[212]

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210 See n155 and accompanying text supra.
211 State v Peppas SALR 2 1977 463.
212 Ibid 651.

It therefore concluded that:

> '... the mere fact that a sample or samples taken from the sea contained a proportion of oil higher than the permissible proportion, justified an inference that the mixture discharged from the ship necessarily contained a higher than permissible proportion, I disagree.
>
> ...This may be an unfortunate result. There is certainly much to be said in favour of the State on the probabilities, but proof beyond reasonable doubt is another matter.
>
> [B]ecause ... the onus is firmly placed on the State to establish the necessary proportion of oil in a mixture discharged from a ship it will very often be extremely difficult, if not impossible, for the State to prove the commission of an offence in such cases... The position would be entirely different if it were left to the accused to show, when it had been established that a mixture containing oil was discharged from a ship in a prohibited area of the sea, that the proportion of oil in such mixture was less than 100 parts of oil in one million parts of the mixture...'.[213]

In short, it is highly probable that the apportionment of the burden of proof under the Convention will hamper its application. Although the doctrine res ipsa loquitur has been suggested, it may give rise to disputes unless uniform interpretation amongst state parties is reached beforehand.

Finally it is to be stressed that MARPOL is the only yardstick with respect to vessel-source pollution control of a really international nature to which all states should adhere. Most regional conventions deal with the problem in a very general way only.[214] The only exception containing detailed regulations is the Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1974 (the Baltic Convention).[215] The Baltic Convention however

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213 Ibid 652-3.
214 Churchill and Lowe n9 251.
215 Ibid; see also Boczek n67 280. Text in ILM 13(3) May 1974 546-90.

actually follows MARPOL almost word for word.[216] There is no need, therefore, for coastal states in the region to consider alternatives to MARPOL.

4.3 CLC

There was no international convention dealing with liability for oil pollution from ships before 1969.[217] It was the Torrey Canyon disaster in March 1967 which highlighted the need for a new international regime in this regard.[218] Maritime states and the oil and shipping industries, spurred on by intense public scrutiny of the physical impacts of discharging 100 000 tons of crude oil on the British coastline, responded with relative alacrity to fill the vacuum in international law.[219] Diplomatic representatives of some 49 countries gathered in Brussels from November 10-28, 1969 to attend the International Legal Conference convened by IMO (then IMCO) at which CLC was formally adopted.[220] The Convention entered into force on June 19, 1975. The following Southeast Asian states or entities have acceded to it[221]: PRC[222], Indonesia[223], Singapore[224] and Hong Kong.[225] Generally speaking, CLC provides a comprehensive and uniform scheme to compensate the victims of pollution damage[226] and adequately meet all claims[227] by

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216 O'Connell n71 1016.
217 Abecassis DW 'IMO and Liability for Oil Pollution from Ships: A Retrospective' Lloyd's MCL 1983 45.
218 Abecassis and Jarashow n106 194.
219 Stewart A 'Civil Liability for Pollution Damage Caused by the Discharge of Oil from Vessels - Some Aspects of International and South African Law' Sea Changes 4 1986 106.
220 Healy NJ 'The International Convention on Civil Liability for Oil Pollution Damage 1969' JMLC 1(2) January 1970 317.
221 As at June 24 1991.
222 On January 30 1980.
223 On September 1 1978.
224 On September 16 1981.
225 On April 1 1976.
226 Becker GL 'A Short Cruise on the Good Ships: TOVALOP and CRISTAL' JMLC 5(4) July 1974 631.

working substantial justice.[228] Although it is far from perfect[229], it has nevertheless been pointed out that CLC has the inestimable advantage of providing one system for the resolution of all disputes.[230]

4.3.1. The scope of the Convention

Since the Convention is exclusively concerned with liability for oil pollution, oil therefore becomes the object of regulation. It has been defined as 'any persistent oil such as crude oil, fuel oil, heavy diesel oil, lubricating oil and whale oil, whether carried on board a ship as cargo or in the bunkers of a ship'.[231] Abecassis and Jarashow particularly point out that slop and bilge oils should also be included in this definition.[232] The oil must also be from a 'ship' which means 'any sea-going vessel and any seaborne craft of any type whatsoever, actually carrying oil in bulk as cargo'.[233] If therefore the vessel carries oil in bulk as cargo, the Convention applies to oil pollution caused by any oil emanating from it (whether cargo, bunker or slop oil) and not just to oil cargo.[234] Excluded from the ambit of the Convention are cases such as, inter alia, ships carrying oil in the form of residues or bunkers, tank washings[235], tankers on ballast voyages, dry cargo ships (unless they carry oil cargo in their deep tanks), river and lake vessels (since they are not sea-going), offshore

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227 Gold E 'Compensation for Ship-source Marine Pollution: A Hypothetical Case Study' in Valencia, Gold, Chia and Letalik ed n5 275. Abecassis is of similar opinion and argues that CLC is wide enough to cover the vast majority of oil pollution cases. See Abecassis n217 48.

228 Ibid 59.

229 Gold n227 273. See also Stewart n219 107.

230 Bessemer-Clark A 'The Role of Protection and Indemnity Associations in Oil Pollution' in Proceedings n204 98.

231 CLC art 1(5).

232 Abecassis and Jarashow n106 196.

233 CLC art 1(1).

234 Abecassis and Jarashow n106 195.

235 Stewart n219 111.

installations and stationary tankers storing oil.[236] Furthermore, for the Convention to apply the oil must have 'escaped or been discharged from the ship as a result of the incident'.[237] It has been pointed out that the requirement that there has been an escape or discharge covers both accidental and intentional discharges but excludes a burst in a pipe connecting a tanker to a terminal or other installation and what are known as 'pure threat' situations.[238] The other requirement 'incident' is widely defined as 'any occurrence, or series of occurrences having the same origin, which causes pollution damage'.[239] The question of when the lapse of time would interrupt a series of occurrences is not elaborated and so would be for the courts to decide in each case.[240] On geographical limits the Convention stipulates that it 'shall apply exclusively to pollution damage caused on the territory including the territorial sea of a contracting state and to preventive measures taken to prevent or minimize such damage'.[241]

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236 Abecassis and Jarashow n106 195-6. The last category however constitutes a more difficult case: are they really 'actually carrying oil in bulk as cargo'? Abecassis and Jarashow point out that most would probably take 'cargo' to be something which is on board with a view to being moved by that ship, rather than something which is on board for the purpose of being stored prior to movement by another ship. On this basis such vessles would be excluded. See ibid 196. The relevance of this category is that the conversion of redundant tankers into reception facilities has been actually suggested. See Horrocks n198 56.

237 CLC art III(1).

238 Abecassis and Jarashow n106 198.

239 CLC art 1(8).

240 For example, Castillo del Bellver, a Spanish flag 220 000 ton VLCC, exploded off Cape Town, South Africa on August 7 1983 and subsequently broke in two. The bow section containing a substantial quantity of oil was towed out to deep water and sunk. The stern section sank in situ. Both sections could leak oil after a period on the seabed. See Abecassis and Jarashow n106 199.

241 CLC art II.

Territoriality is thus the sole criterion for damage[242] whereas preventive measures need not be taken within territory or territorial seas to be compensable under the Convention.[243] CLC is therefore flexible and is not necessarily limited by territorial considerations in all cases.

4.3.2 Liability under the Convention

CLC is considered as the primary tier of compensation for oil pollution victims.[244] The fundamental principle is that the ship-owner shall be strictly liable for oil pollution damage, subject only to certain very limited exceptions.[245] The pivotal device to ensure implementation is compulsory insurance. The owner of a ship registered in a contracting state and carrying more than 2 000 tons of oil as cargo is required to maintain insurance or other financial security.[246] He is, however, free to chose the type of guarantee subject only to certain administrative criteria.[247] A certificate attesting that insurance or other financial security is in force in accordance with the

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242 Abecassis and Jarashow n106 204; see also Stewart n219 113 and Fleischer CA 'Liability for Oil Pollution Damage Resulting from Offshore Operations' Scand SL 1976 129.

243 In the 1971 plenipotentiary conference held under the auspices of IMO (then IMCO) in Brussels, all delegates agreed on this point. See Doud AL 'Compensation for Oil Pollution Damage: Further Comment on the Civil Liability and Compensation Fund Conventions' JMLC 4(4) July 1973 535. See also Jacobsson M and Trotz N 'The Definition of Pollution Damage in the 1984 Protocols to the 1969 Civil Liability Convention and the 1971 Fund Convention' JMLC 17(4) October 1986 486.

244 Jacobsen DA and Yellen JD 'Oil Pollution: The 1984 London Protocols and the Amoco Cadiz' JMLC 15(4) October 1984 472.

245 Abecassis and Jarashow n106 194; see also Stewart n219 109.

246 CLC art VII(1).

247 Dubais BA 'The 1976 London Convention on Civil Liability for Oil Pollution Damage from Offshore Operations' JMLC 9(1) October 1977 67.

Convention shall be issued to each ship by the appropriate authority of the state.[248]

4.3.2.1 Causes of action: definition of pollution damage

Article III(1) imposes liability on the ship-owner for pollution damage. This is defined by art I as follows:

> '6. "Pollution damage" means loss or damage caused outside the ship carrying oil by contamination resulting from the escape or discharge of oil from the ship, wherever such escape may occur, and includes the costs of preventive measures and further loss or damage caused by preventive measures.
>
> 7. "Preventive measures" means any reasonable measures taken by any person after an incident has occurred to prevent or minimize pollution damage'.

The definition is very imprecise and constitutes one of the most problematic aspects of the Convention.[249] For example, it is dubious to what the term 'contamination' actually refers. One writer suggests that the utility of this term may be to distinguish 'pollution damage' from damage by fire.[250] Others agree and argue that the Convention does not cover loss or damage caused by fire or explosion.[251] However, it still leaves unsettled the question whether damage occasioned by the detritus of a fire resulting from the escape or discharge of oil from ships is compensable.[252] It is argued that the answer would seem to be proof of

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248 CLC art VII(2).

249 Stewart n219 112. This problem is even further exacerbated by the fact that there are very few court decisions on the interpretation of the provisions of CLC (including the definition of 'pollution damage') as most of the cases are settled out of court by the P & I Clubs. See Jacobsson and Trotz n243 469-70.

250 Doud n243 533.

251 Dubais n247 64; see also Abecassis n217 48.

252 See n250. Abecassis nonetheless seems to opine that the Convention covers contamination by oil which may be consequent upon a fire or an explosion. See Abecassis n251.

damage rather than whether the oil affects some standard of purity.[253]

As far as compensation is concerned, the first question is what types of claim for 'loss or damage caused... by contamination resulting from the escape or discharge of oil from the ship' are permissible under the Convention? It may be inferred that damages for personal injury caused by unignited oil is recoverable where this is caused by contamination.[254] Abecassis and Jarashow however point out that the extent to which other types of loss or damage are recoverable is not spelled out in the definition.[255] Jaconsson and Trotz argue that damage to property does not cause particular problems and falls within the Convention, as such damage is covered by the notion of 'compensable damage' in both civil law and common law systems.[256] They also indicate that all legal systems seem to recognize in principle claims for compensation for consequential loss suffered by owners or users of property that has been contaminated or damaged, although differences exist regarding the criteria to be applied in this regard.[257] Nevertheless, the use of the phrase 'loss and damage' (as opposed to 'damage') indicates that more than just physical damage caused by contamination is actionable.[258] This includes, for example, 'pure economic loss' where persons whose property has not been damaged suffer economic loss as a result of pollution.[259] The inclusion of claims of this kind would prima facie give rise to difficulty for there is

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253 Doud n243 534.
254 Abecassis and Jarashow n106 209.
255 Ibid.
256 Wood LD 'An Integrated International and Domestic Approach to Civil Liability for Vessel-source Oil Pollution' JMLC 7(1) October 1975 29; see also Jacobsson and Trotz n243 471.
257 Ibid.
258 See n254; see also Stewart n249.
259 Jacobsson and Trotz n243 476.

generally reluctance to recognize them in both civil law and common law systems.[260] In international practice, economic losses suffered by persons who depend directly on earnings from coastal or sea-related activities have however been considered as recoverable.[261] Loss of profits by a hotelier or a fisherman falls under this category.[262] The loss suffered by the claimant will be estimated by a comparison with the income that he had in previous years during a comparable period of time and any investment made prior to the incident to expand his activities should be taken into account.[263] Claims for compensation for damage to fishing grounds or by municipalities for loss of tax revenues due to reduction of the income of businessmen as a result of the incident have however been rejected.[264] A more intractable problem is damage to the environment. Environmental damage, as a cause of action, is tenuous in common law jurisdictions.[265] The Convention is silent on it too.[266] Abecassis and Jarashow point out that the intention in 1969 was not to create an international basis for purely spurious claims and such claims are excluded from the application of the Convention.[267] In 1980 the Assembly of the International Oil Pollution Compensation Fund (IOPC Fund) adopted a resolution to the effect that damage to the marine environment is recoverable only if a claimant who has a legal right to claim under national law has suffered quantifiable economic loss.[268] That is, only economical

260 Ibid 477.
261 Ibid 478.
262 Stewart n219 129.
263 Jacobsson and Trotz n243 478.
264 Ibid 478-9.
265 Stewart n219 119.
266 Abecassis and Jarashow argue that the Convention's definition of pollution damage is so vague it is really not a definition at all. Abecassis and Jarashow n106 210.
267 Ibid.
268 Report of the Intersessional Working Group, FUND/A.4/10, Annex paragraphs 18 and 19; FUND/A.5/16 para 13. See also Jacobsson and Trotz n243 481.

environmental damage is allowable at the moment under the Convention.[269] But it is still not clear whether damage to the natural resources of the marine environment is to be compensated, nor is it explicitly stated whether costs of restoration of the marine environment are compensable.[270] The latter is not specifically included in the Convention and may be termed, it is submitted, 'pure environmental damage' as opposed to 'economic environmental damage'. Generally speaking, the total failure of the definition to solve the issues of causation, locus standi and problems of quantification[271] may prove to be a more fundamental stumbling block which may hamper proof of damage of whatever nature.

On the other hand, 'pollution damage' unambiguously includes the cost of preventive measures and further loss or damage caused by preventive measures. It has however been argued on a strict interpreting of the Convention, that preventive measures taken before oil actually escapes from the ship is excluded.[272] If no oil is spilled in the incident the cost of preventive measures is not recoverable.[273] Abecassis points out that even if oil is subsequently spilled, the pre-spill costs (if separable from the post-spill costs) would not be recoverable.[274] Although in some jurisdictions the Convention is given a liberal interpretation so as to include reasonable measures taken in anticipation of a

269 Ibid 480.
270 Ibid 487.
271 See n254. Doud however argues that the word 'resulting' used in the definition of pollution damage ('loss or damage... resulting from the escape or discharge of oil from the ship...' [emphasis added]) implies ordinary rules of causation. See Doud n243 536.
272 Popp AHE 'Liability and Compensation for Pollution Damage Caused by Ships Revisted - Report on an Important International Conference' Lloyd's MCL 1985 127. See also Abecassis n217 48 and Jacobsson and Trotz n243 472-3.
273 Abecassis n217 50.
274 Ibid.

spill, this did give rise to difficulties in administering the scheme internationally.[275] At this juncture, a difficult question arises. As mentioned above, the pollution damage must be within the territory or territorial sea whereas there is no geographical limit on the place where preventive measures must be taken.[276] Is there however a geographical requirement for the 'further loss or damage caused by preventive measures' to be compensated? Should such loss or damage be confined to the territory or territorial sea or may it occur outside the territorial sea? Brown solves the problem stating clearly 'the Convention covers damage caused in the area outside the territorial sea by preventive measures designed to prevent or minimize pollution damage inside the territorial sea' (emphasis original).[277] Another problem surrounds the 'reasonable' criterion in the definition of 'preventive measures'. This is nowhere defined in the Convention.[278] Jacobsson and Trotz suggest that 'reasonableness' should be objective in the light of the information available at the time when specific measures to contain the threat were taken and the costs incurred must not be disproportionate to the result achieved or to the result which could reasonably be expected.[279] They also argue that a certain margin of error should be allowed in the calculation.[280] However, this problem may not always exist in practice. As already mentioned at the end of Chapter 2, in many cases the P & I Clubs together with the technical department of the International Tanker Owners Pollution Federation are summoned to the site of an incident to handle oil pollution prevention and clean up.[281] The technical department, from their experience in monitoring

275 Popp n272.
276 See n242-3 and accompanying text supra.
277 Brown ED Europe and Marine Pollution by Oil: Making the Polluter Pay? 1982 16.
278 Abecassis and Jarashow n266.
279 Jacobsson and Trotz n243 472.
280 Ibid.
281 For details, see Section 2.2.3 Chapter 2.

spills, can advise the owner and the Clubs as to the reasonableness of measures taken and their cost.[282] This arrangement no doubt has the merit of reducing potential disputes over compensation for preventive measures. Generally speaking, the following costs of 'preventive measures' are compensable in accordance with present international practice: expenses incurred for clean-up operations; costs for clearing contaminated property; salaries of personnel specially used for operations; normal salaries, overtime allowances, extra allowances for heavy duties and travel costs of personnel permanently employed by public authorities; cost of material and equipment (minus any remaining value that the material or equipment may have after the termination of operations); costs of disposal of oil that has been collected during the operations and salvage operations if the primary purpose was to prevent or minimize pollution damage.[283] So far as 'further loss or damage caused by preventive measures' is concerned, personal injury and death caused during preventive measure operations are to be compensated.[284] Claims relating to costs for the repair of property damaged during clean-up operations have also been accepted under this category eg roads and embankments damaged by heavy traffic necessary for operations connected with clearing of beaches.[285] Abecassis and Jarashow add that physical damage and consequent loss caused by detergents used to disperse oil slicks should also be thus recoverable.[286]

4.3.2.2 The rules of liability

Under the Convention the owner of the ship is liable[287] regardless of his residence or domicile and even if he is a

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282 Bessemer-Clark n230 98.
283 Jacobsson and Trotz n243 473-5.
284 Ibid 471.
285 Ibid 474.
286 Abecassis and Jarashow n106 211.
287 CLC art III(1).

national of a state that is not a party to CLC.[288] The Torrey Canyon Case demonstrated the difficulties in claiming compensation where there are complicated arrangements involving at various times owners, charterers, operators and managers of a ship.[289] CLC therefore provides for an identifiable and accessible party by channelling the liability to the owner:

> 'No claim for compensation for pollution damage shall be made against the owner otherwise than in accordance with this Convention. No claim for pollution damage under this Convention or otherwise may be made against servants or agents of the owner'.[290]

This definition is not without problems. Firstly the English and French versions are not identical in meaning.[291] While the English version says 'servants or agents of the owner', the French version says 'préposés ou mandataires du proprietaire'. It is argued that the English word 'agents' applies to a wide variety of persons or entities controlled by or acting for a 'principal' whereas 'mandataires' has a much more restricted meaning: a person empowered by another to perform juridical acts in the name of and on behalf of the other, such as concluding contracts.[292] These two different interpretations will necessarily give rise to disputes over the basic question as to who should be protected by the channelling of liability provision and who should not.[293] This problem may prove to be acute in the region of the South China Sea since the French speaking Indochinese states (especially Vietnam and Kampuchea) will

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288 CLC art I(6) and art III.
289 Popp n272 119.
290 CLC art III(4).
291 Bartlett III JW 'In Re Oil Spill by the Amoco Cadiz - Choice of Law and a Pierced Corporate Veil Defeat the 1969 Civil Liability Convention' The Maritime Lawyer 10 1985 13.
292 Ibid.
293 This question indeed arose in the Amoco Cadiz Case and bothered the court for a while. Se ibid 12-3.

naturally rely on the French version, if they indeed ratify the Convention at a later stage. Secondly, the provision does not achieve the objective of creating an exclusive action.[294] It does not prevent actions against bare boat charterers, operators, salvors[295] and the parent corporations of a registered owner.[296] The rationale for excluding the last party from the protection of the Convention was held, in the Amoco Cadiz Case, to be '... CLC was not intended to immunize from suit major companies which operate vessels but instead only to immunize individuals, such as the master and crew of a vessel, who would be unable to bear the financial expense of liability.[297] Because of this incompleteness, the court in the Amoco Cadiz Case therefore interpreted the channelling of liability provision as follows:

> 'The CLC is not the exclusive remedy available to victims of oil pollution and does not prohibit such victims from bringing an action in tort outside the CLC against anyone other than the registered owner of the vessel or its mandataires or préposés ('agents' and 'servants' in the English text of the CLC). All other parties may be sued and held liable, without limitation, independent of the CLC'.[298]

Popp argues that the attempt to channel liability exclusively to the registered owner under the Convention has only been a partial success.[299] Bartlett even vehemently asserts that CLC limitation provisions are worthless unless they are extended to the registered owner's parent

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294 See n289.
295 Ibid.
296 This includes inter alia, the major oil companies that own or operate ships through subsidiaries. See Bartless III n291 21-3.
297 In re oil spill by the Amoco Cadiz off the coast of France on March 16 1978 1986 AMC (ND Ill. 1984) 2191; see also Bartlett III n281 14.
298 AMC 1984 2190; see also Jacobsen and Yellen n244 485 and Bartlett III n291 12.
299 Popp n272 119-20.

corporation and the vessel's operator or those parties are excluded from liability.[300] Briefly, the channelling of liability provision is somewhat limited and partial.[301]

On the other hand, the Convention contains certain exceptions representing uninsurable risks.[302] Article III(2) lays down that:

> 'No liability for pollution damage shall attach to the owner if he proves that the damage:
>
> (a) resulted from an act of war, hostilities, civil war, insurrection or a natural phenomenon of an exceptional, inevitable and irresistible character, or
>
> (b) was wholly caused by an act or omission done with intent to cause damage by a third party, or
>
> (c) was wholly caused by the negligence or other wrongful act of any Government or other authority responsible for the maintenance of lights or other navigational aids in the exercise of that function'.

Paragraph 3 of the same article also exempts an owner from liability, wholly or partially, if he

> 'proves that the pollution damage resulted wholly or partially either from an act or omission done with intent to cause damage by the person who suffered the damage or from the negligence of that person'.

This provision is of great importance to the South China Sea since 'acts of God', poor charts, human error, sub-standard maintenance, war and piracy are the main reasons for loss of ships in that region.[303] Arguably these fall within the exceptions. Two observations can be made here.

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300 Bartlett III n291 22.
301 Abecassis and Jarashow n106 201-2.
302 Ibid 204.
303 Lauriat n46 218.

Firstly, writers seem to hold different opinions on the meaning of 'natural phenomenon of an exceptional, inevitable and irresistible character'. Healy opines that this presumably means what is commonly described as 'an act of God'.[304] God's main act in Asia is the tropical storm or cyclone which can intensify into a typhoon when windspeeds exceed 63 knots.[305] Abecassis and Jarashow however argue that the key to interpretation is the word 'irresistable' and the exception is more limited than the common law concept of an 'act of God'.[306] Thus this exception does not cover weather conditions such as hurricanes which are negotiable by some ships (but it would cover tidal waves).[307] It has even been suggested that for the exception to apply, the defendant must show that in no circumstances could anyone have avoided the accident.[308] The difference is both crucial and evident. It will hamper courts in deciding whether a cyclone or typhoon should be included in the exception or not. Other reasons for the loss of ships in the South China Sea easily fall under the exception. For example, piracy may reasonably be categorized as an 'act... done with intent to cause damage by a third party'. Terrorist attack, which is not rare in the region[309], is another such instance. In addition, poor charts (if provided by coastal/port states) and substandard maintenance (of navigational aids by the coastal/port state)

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304 Healy n220 320. Becker holds the same view. See Becker n226 621.

305 See n303.

306 Abecassis and Jarashow n106 205. Stewart agrees on this point. See Stewart n219 110.

307 See n306.

308 Forster M 'Civil Liability of Shipowners for Oil Pollution' JBL 1973 26. See also n301.

309 For example, Islamic extremism has long surged in the northern Sumatra part of Indonesia and been hostile to the central government in Jakarta. The hijacking of an Indonesian airliner by Muslim extremists in 1981 illustrated the nature of the situation. See Morgan JR and Fryer DW 'Defense' in Kent and Valencia n13 250.

may well fall under the third category: ie fault of authorities in maintenance of navigational safety aids.

Secondly the ship-owner who invokes the exceptions shall bear the burden of proof. Doud points out that the words 'resulted' and 'wholly caused' contained in the provision mean the same thing and imply the ordinary rule of causation.[310] Abecassis and Jarashow add that the inclusion of the world 'wholly' keeps outside the scope of the exclusion all cases where there are contributory causes, for instance where a government deliberately damages a stricken ship.[311] In two cases, the ship-owner has to deal with the difficult problem of establishing mens rea on the part of another wrongdoer. In the case of a wrongful act of a third party (excluding members of the crew[312]), the standard of proof required under the Convention is higher. The ship-owner has to prove the intention (dolus, not mere culpa) of that party to cause damage. Negligent acts or omissions of third parties are not exempted.[313] In the case of wrongful act of authorities in charge of maintaining navigational aids, the proof of negligence (culpa) is sufficient (but negligence of a government other than in the maintenance of navigational aids is not excepted).[314] However, both cases would seem to put the ship-owner in a disadvantageous position. A private owner probably does not have the resources either to furnish a higher standard of proof (as required in the first case) or to prove fault on the part of a gigantic governmental bureaucracy (as stipulated in the second case). This problem is exacerbated by the fact that the Convention does not define the kinds of evidence which are to be admitted to the court. The combination of these

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310 Doud n243 536.
311 See n306.
312 Brown n277 18.
313 See n304.
314 Ibid.

two difficulties may de facto block the invocation of art III 2(b) and (c) by the ship-owner.

At this juncture, it is also worth noting that the Convention imposes joint and several liability upon ship-owners for damage caused which is not reasonably separable.[315] The relevance of the provision lies in the fact that ships often take advantage of large scale pollution incidents to discharge oil in the vicinity of the spill (for example, in the cases of Torry Canyon and Amoco Cadiz).[316] The Convention therefore at least deters such practices.

4.3.2.3. Limitation of liability

Under the Convention, the ship-owner's liability for claims is limited to 2 000 francs per ton of the ship's registered tonnage but subject to a maximum of 210 million francs.[317] The franc referred to is the gold (or Poincare) franc.[318] However, the main flaw in this arrangement is the fluctuation of the value of the franc.[319] A Protocol to the Convention, therefore, was subsequently adopted at a conference held in London in 1976. This alters the unit of account from the gold franc to the Special Drawing Right (SDR) as defined by the International Monetary Fund (IMF).[320] The fluctuation of the SDR is said to be minimal.[321] Hence, the Protocol (which entered into force on April 18, 1981 but does not bind states which are parties only to CLC) replaces the amount of 2 000 francs and 210 million francs by 133 SDRs and 14 million SDRs

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315 CLC art IV.
316 Brown n277 52.
317 CLC art VI.
318 CLC art V(9).
319 Eaton JR 'Oil Spill Liability and Compensation: Time to Clean Up the Law' Geo Wash JILE 19 1985 815.
320 Abecassis and Jarashow n106 214.
321 See n319.

respectively.[322] To avail of the limitation, an owner must pay into a fund, constituted by the competent court, the total sum of the limit of his liability.[323] The Convention also gives the owner an incentive to act[324]: 'claims in respect of expenses reasonably incurred or sacrifices reasonably made by the owner voluntarily to prevent or minimize pollution damage shall rank equally with other claims against the fund'.[325] Abecassis and Jarashow nevertheless stress that this is restricted to preventive costs incurred after the oil has escaped.[326] They also point out that a problem may arise with the interpretation of the word 'voluntarily'. If under the law of the flag or of the coastal state an owner has a duty to act in the event of an oil spill, it might be said that such measures have not been taken voluntarily.[327]

The Convention however also provides that 'if the incident occurred as a result of the actual fault or privity of the owner, he shall not be entitled to avail himself of the limitation...'.[328] The provision is not easy to apply as there is no definition of what it means.[329] Fewer problems arise with the interpretation of 'fault'. It is suggested that this includes both negligence and intention.[330] But to what does the word 'privity' refer? Goldie comments that it can have a variety of meanings.[331] Broadly speaking,

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322 See n320.
323 CLC art V(3).
324 Abecassis and Jarashow n106 212.
325 CLC art V(8).
326 Abecassis and Jarashow n106 212-3.
327 Ibid 213.
328 CLC art V(2).
329 Abecassis and Jarashow n106 216; see also Abecassis n217 52.
330 Stewart n219 126.
331 He argues that 'In the context of treaty interpretation by the participating nations, the juridical contents which can be poured into such terms and "fault or privity" become multiplied by the plurality of jurisdictions, of legal philosophies and of

'privity' means concurrence in something of which the ship-owner had actual positive knowledge or to which he had 'turned a blind eye'.[332] As far as 'actual positive knowledge' is concerned, knowledge in itself will not constitute privity to unseaworthiness unless there is also a conscious realization by the ship-owner that the vessel is unseaworthy.[333] With reference to 'turning a blind eye', Lord Denning MR held[334] that

> 'If a man, suspicious of the truth, turns a blind eye to it, and refrains from inquiry - so that he should not know it for certain - then he is to be regarded as knowing the truth. This "turning a blind eye" is far more blameworthy than mere negligence. Negligence in not knowing the truth is not equivalent to knowledge of it' (emphasis added)'.[335]

In a previous case[336], Branson J held a similar opinion:

> '...the mere omission to take precautions against the possibility of the ship being unseaworthy cannot, I think, make the owner privity to any unseaworthiness which such precaution might have disclosed'.[337]

It would seem, therefore, that the standard of proof required for establishing 'privity' is somewhat higher than that for proving mere negligence. However, the British Department of Trade interprets the provision as follows

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perspectives of justice'. See Goldie LFE 'Liability for Oil Pollution Disasters: International Law and the Delimitation of Competences in a Federal Policy' JMLC 6(3) April 1985 307.

332 Lambeth RJ Templeman on Marine Insurance: Its Principles and Practice 6th ed 1986 44.

333 Ibid.

334 Compania Maritima San Basilio SA v The Oceanus Mutual Underwriting Association (Bermuda) Ltd (The "Eurysthenes")' Lloyd's Rep 2 1976 171-88.

335 Ibid 179; see also n332.

336 Compania Naviera Vascongada v British & Foreign Marine Insurance Co LIL Rep 54 1936 35-59.

337 Ibid 58; see also Lambeth n332 46.

> 'the phrase, which has been subject of much judicial interpretation, is generally considered to mean that if there is some degree of negligence or other fault on the part of the owner himself (as opposed to one of his servants or agents), he will not be entitled to limit his liability'.[338]

In The Marion[339] the court concretizes the owner's fault or privity as his failure to maintain effective supervision of day to day activities.[340] The owners were not entitled to limit for two reasons: failure to operate a proper system for keeping charts on board up to date whether by replacement or correction; and failure by the managing director to ensure that a marine inspectorate report, referring to the unsatisfactory state of the ship's charts, was brought to his attention.[341] In contrast with earlier cases, proof of mere negligence would seem sufficient here. In view of the various interpretations, one cannot come to any certain conclusions at this stage. Furthermore, the problem is complicated by differences between the English and French texts: the French text refers to 'une faute personnelle' in place of 'actual fault or privity'.[342] It therefore lacks the distinct idea of the privity of the owner in the fault of another, although the simple phrase 'faute personnelle' may be ample enough to include this.[343] Finally, the onus of proof is not dealt with in the provision and may become another source of dispute.[344] For example, in UK the owner must show that the incident did not occur as a result of his 'actual fault or privity' whereas in France it is the victim who has to prove that the

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338 British Department of Trade 'Memorandum on Liability and Compensation for Oil Pollution Damage' in TISC Report III 86-7; see also Brown n277 19 at n39.

339 Grand Champion Tankers Ltd v Norpipe A/S (The Marion) WLR 2 1984 942; for a brief discussion and comment see Reynolds FMB 'Limitation of Shipowners Liability: The Marion' Lloyd's MCL 1984 363-4.

340 Ibid.

341 Ibid 363.

342 Abecassis and Jarashow n106 216.

343 Ibid.

344 Ibid.

incident was caused by 'faute personnelle' on the part of the owner.[345] By and large, the rule barring the right to limit may prove to be vital to the application of CLC in the South China Sea since many losses of ships in the region are caused by fraud - the ship-owners deliberately scuttle their vessels![346]

4.3.2.4 Forum for plaintiff's action and overall evaluations

The policy of the Convention is to facilitate the bringing of actions in the jurisdiction where the defendant happens to be.[347] It therefore stipulates that

> 'where an incident has caused pollution damage in the territory including the territorial sea of one or more Contracting States, or preventive measures have been taken to prevent or minimize pollution damage in such territory including the territorial sea, actions for compensation may only be brought in the Courts of any such Contracting State or States'.[348]

Rights of compensation under this Convention shall be extinguished unless an action is brought within three years from the date when the damage occurred and in no case shall an action be brought after six years from the date of the incident which caused the damage.[349] There are at least three problems with this provision. Firstly and taken literally, it denies an action for compensation outside the place where damage occurred in all cases where 'pollution damage' has been suffered.[350] Secondly, it would prohibit, on its face, the bringing of an action for pollution damage against a demise charterer, manager or other person responsible for the incident in a contracting state other

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345 Ibid.
346 See n303.
347 Abecassis and Jarashow n106 219.
348 CLC art IX(1).
349 CLC art VIII.
350 Abecassis and Jarashow n106 220.

than the one in which the damage has been suffered.[351] Abecassis and Jarashow point out that this cannot have been the intention of the Conference, since the scheme of the Convention is to place liability upon the ship-owner and to deal with the way in which that liability is to be established.[352] Thirdly, there is no way the provision can apply outside the states party to the Convention.[353] There is thus a problem with non-contracting states where defendants have their assets.[354]

Generally speaking, the Convention provides a comprehensive and uniform scheme to compensate the victims of pollution damage.[355] There are however many flaws in it most of which have been discussed incidentally in the preceding sections. Two factors should be especially weighted against others when a state considers acceding to CLC. The first is the comparatively low-level liability provision[356] which cannot adequately cover very large, catastrophic spills.[357] The second is its limited geographic coverage[358] which does not include the EEZ. It is a serious defect if losses in the EEZ are not substantially claimable. It is submitted therefore that coastal states in the region, which have not yet ratified the Convention, should not rush into doing so without taking into account recent legal developments in this regard.

4.4 Fund Convention

The Torrey Canyon disaster generally struck the industries involved in the petroleum business - particularly tanker owners, oil companies and the maritime insurance industry -

351 Ibid.
352 Ibid.
353 Ibid 221.
354 Ibid 222.
355 See n226-30 and accompanying text supra.
356 Stewart n219 134; see also Eaton n319 787.
357 Popp n272 129.
358 Eaton n356.

with the possibility of great economic loss falling upon individual members of the industries. They consequently sought ways to spread these losses over the entire industry.[359] A general feeling, therefore, emerged at the Brussels Conference which produced CLC in 1969 that cargo interests should bear some of the responsibility for oil pollution damage.[360] Two resolutions were adopted on the establishment of an International Compensation Fund.[361] The principal resolution directed that the future work of the fund should be conducted in accordance with two guiding principles (1) that victims should be fully and adequately compensated under a system based upon the principle of strict liability; and (2) that the fund should in principle relieve the ship-owner of the additional financial burden imposed by CLC.[362] These two principles are reflected in the Fund Convention which was subsequently adopted on December 8, 1971 by a diplomatic conference held in Brussels.[363] The Convention entered into force on October 17, 1978. At the moment[364] only two Southeast Asian states have ratified it - Indonesia[365] and Hong Kong.[366] Like CLC, the Fund Convention is generally considered as having the merit of providing a comprehensive and uniform scheme to compensate the victims of pollution damage[367] and to meet all claims adequately.[368]

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359 Hunter LAW 'The Proposed International Compensation Fund for Oil Pollution Damage' JMLC 4(1) October 1972 117.
360 Ibid 118.
361 Text in ILM 9(1) January 1970 66-7.
362 Ibid.
363 Abecassis and Jarashow n106 253.
364 As at June 24 1991.
365 September 1 1978.
366 October 16 1978.
367 See n226.
368 Gold n227.

4.4.1 The rationale and the scope of the Convention

The rationale behind the Convention is

> '... to elaborate a compensation and indemnification system supplementary to the International Convention on Civil Liability for Oil Pollution Damage with a view to ensuring that full compensation will be available to victims of oil pollution incidents and that the ship-owners are at the same time given relief in respect of the additional financial burdens imposed on them by the said Convention'.[369] (Emphasis added)

The pivotal device to fulfil these purposes was 'the International Oil Pollution Compensation Fund' (the IOPC Fund)[370] which is levied in respect of each contracting party on any person who has received in total quantities exceeding 150 000 tons of oil carried by sea to the ports or terminal installations of that state.[371] Because it is supplementary to CLC, the basic definitions of the Fund Convention are identical to those in CLC with one exception. Article 1(2) stipulates that 'ship', 'person', 'owner', 'oil', 'pollution damage', 'preventive measures', 'incident' and 'organization', have the same meaning as in art I of CLC. On geographical coverage, art 3(1) stipulates that the Convention shall apply '... exclusively to pollution damage caused on the territory including the territorial sea of a Contracting State and to preventive measures taken to prevent or minimize such damage'. This is identical to art II of CLC. The exception is the meaning of 'oil'. This is confined to 'persistent hydrocarbon mineral oils'.[372] Put

369 The seventh paragraph of the preamble to the Convention.

370 Fund Convention art 2(1). The IOPC Fund has its headquarters in London. See Jacobsson and Trotz n243 468.

371 Fund Convention art 10(1). Thus it is the oil companies and those governments who receive oil in their own names who finance the fund. In this way the Fund Convention distributes the liability for oil pollution between ship-owners and cargo owners. See Stewart n219 114.

372 Fund Convention art 1(2).

simply, the Fund will not supplement CLC in respect of damage from discharges of animal and vegetable oils.[373] It is also because of the supplementary nature that only parties to CLC can accede to the Convention.[374] Generally speaking, the starting point for the application of the Fund Convention is the same as that for invoking CLC. To bring the Fund Convention into operation it is only necessary that there has been damage by contamination from persistent hydrocarbon mineral oils (whether carried as cargo or not) caused outside a ship carrying oil in bulk as cargo and that the pollution damage be in the territory or territorial seas of a contracting state. The exception is preventive measures[375] after the damage actually occurred which are compensable wherever taken.[376]

4.4.2 Liability under the Convention

The Fund Convention adopts a strict liability regime with very few exceptions.[377] It has been considered the second tier of compensation for oil pollution damage.[378]

4.4.2.1 Causes of action and exceptions

Generally speaking pollution damage covered by CLC is also covered by the Fund Convention.[379] The only confusion derives from the wording of art 4(4)(a). This refers to the

373 In addition to the doubts expressed at the 1971 conference over whether an incident involving animal and vegetable oils would ever exceed the CLC limits, representatives of Western European countries and the oil industry deemed it inequitable that the petroleum oil industry should bear the costs to pay for damage caused by animal and vegetable oils. See Doud n243 528.

374 Fund Convention art 37(4).

375 Doud n243 530.

376 See n273.

377 Abecassis and Jarashow n106 252. Hunter however argues that the liability regime of the Convention is almost absolute. Hunter n359 125.

378 See n244.

379 Jacobsson and Trotz n243 485. For a detailed account in this respect see Section 4.3.2.1. supra.

amount to be paid out of the Fund under CLC for pollution damage caused in the territory of contracting states. On a strict interpretation, where the damage has been caused in the territorial sea of a contracting state, compensation cannot be limited by the Fund.[380] It has been pointed out, however, that this must be regarded as a drafting error which slipped in at the conference without being noticed.[381] It cannot have been the intention that costs and expenses incurred in the territorial sea and preventive measures taken anywhere except on the territory of states would not be taken into account.[382] On the other hand, the Fund is not absolutely liable for all pollution damage but would be exempted if:

> '(a) it proves that the pollution damage resulted from an act of war, hostilities, civil war or insurrection or was caused by oil which has escaped or been discharged from a warship or other ship owned or operated by a State and used, at the time of the incident, only on Government non - commercial services; or
>
> (b) the claimant cannot prove that the damage resulted from an incident involving one or more ships'.[383]

The Fund is also exempted if it proves that

> '... the pollution damage resulted wholly or partially either from an act or omission done with intent to cause damage by the person who suffered the damage or from the negligence of that person..., however, ... there shall be no such exoneration with regard to such preventive measures which are compensated under paragraph 1...'.[384]

Unlike its counterpart in CLC which refers only to the damage resulting from an intentional act or omission by the

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380 Stewart n219 115.
381 Abecassis and Jarashow n106 264.
382 Ibid.
383 Fund Convention art 4(2).
384 Fund Convention art 4(3).

claimant (where the owner may be wholly or partially exonerated from payment)[385], this provision is limited to damage other than the cost of preventive measures.[386]

4.4.2.2 Limitation of liability

The primary function of the Fund is to provide compensation for pollution damage to the extent that the protection afforded by CLC is inadequate.[387] The ethos behind this is that innocent victims should be compensated for oil pollution damage.[388] Article 4(1) lays down the basic rules:

> '...the Fund shall pay compensation to any person suffering pollution damage if such person has been unable to obtain full and adequate compensation for the damage under the terms of the Liability Convention,
>
> (a) because no liability for the damage arises under the Liability Conventions;
>
> (b) because the owner liable for the damage under the Liability Convention is financially incapable of meeting his obligations in full and any financial security that may be provided under Article VII of that Convention does not cover or is insufficient to satisfy the claims for compensation for the damage;...
>
> (c) because the damage exceeds the owner's liability under the Liability Convention as limited pursuant to Article V, paragraph 1, of that Convention...
>
> Expenses reasonably incurred or sacrifices reasonably made by the owner voluntarily to prevent or minimize pollution damage shall be treated as pollution damage for the purposes of this Article'.

Paragraph 4(a) of the same article sets up the liability ceiling:

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385 CLC art III(3).
386 This delicate difference has been identified by Doud n243 529-30.
387 Fund Convention art 2(1)(a).
388 Hunter n359 124.

> '... the aggregate amount of compensation payable by the Fund under this Article shall in respect of any one incident be limited, so that the total sum of that amount and the amount of compensation actually paid under the Liability Convention for pollution damage caused in the territory of the Contracting States, including any sums in respect of which the Fund is under an obligation to indemnify the owner pursuant to Article 5, paragraph 1, of this Convention, shall not exceed 450 million francs'.[389]

This paragraph, however, may not be easily understood due to its tortuous phraseology.[390] Abecassis and Jarashow put it in a much more succinct way. In order to work out how much victims can recover from the Fund, simply subtract from the amount specified in the paragraph the amount of compensation actually recovered by victims under CLC.[391] They especially stress that 'the amount victims can receive from the IOPC Fund is not affected by whether the IOPC Fund has paid a claim to the owner under Article 5'[392] (emphasis original). A more essential question is: what are the exact situations falling within the ambit of this arrangement? Subject to the exceptions mentioned in the preceding section, art 4(1)(a) would, without more, apply in cases where the owner is exempt from liability under CLC. That is, the Fund provides for payment of compensation in the following three cases not compensable under CLC: incidents caused by a natural phenomenon of an exceptional, inevitable and irreversible character; intentional act of a third party; and the negligence or wrongful act on the part of the government.[393] In addition art 4(1)(b) would cover, Abecassis and Jarashow point out, the situation where the owner is insolvent and either is uninsured against CLC

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389 This amount was however changed to 45 million SDRs by a protocol adopted in on November 19 1976.
390 Abecassis and Jarashow n106 263.
391 Ibid.
392 Ibid.
393 Doud n243 529; see also n288.

liability or that insurance has failed.[394] The latter could occur where the insurer is insolvent or is not obliged to pay under the policy because for example, of the wilful misconduct of the assured.[395] Finally, art 4(1)(c) is self-evident and means that usually the Fund comes into operation when the damage exceeds the CLC limit of 2 000 gold francs (or 133 SDRs) per limitation ton. The burden of proof falls upon the claimant who is required, as mentioned above, to prove that 'the damage resulted from an incident involving one or more ships'. Such a set-up, however, may eliminate the real effectiveness of the otherwise broad liability provisions of the Fund.[396] Although this requirement is said to be broader than having to prove the indemnity of the polluting vessel as is necessary under CLC, it may still be strict and onerous.[397] Hunter therefore suggests that the IOPC Fund should play an impartial investigatory role in the investigation of claims legitimately made by claimants.[398]

The secondary function of the Fund is to relieve the ship-owner of the 'additional financial burden' imposed by CLC.[399] This arrangement essentially originated from an unsolved dispute that arose during the 1969 Conference.

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394 The insolvency of the owner is not uncommon, especially in the case of one-ship companies. See Abecassis and Jarashow n106 256.

395 Ibid. Most policies insuring oil pollution damage under CLC are governed by English law. Section 55(2)(a) of the United Kingdom Marine Insurance Act 1906 stipulates that 'The Insurer is not liable for any loss attributable to the wilful misconduct of the assured, but, unless the policy otherwise provides, he is liable for any loss proximately caused by a peril insured against, even though the loss would not have happened but for the misconduct or negligence of the master of crew'. As far as the legal scope of the term 'wilful misconduct' is concerned see n403-4 and accompanying text infra.

396 See n388.

397 Ibid.

398 Ibid.

399 Fund Convention art 2(1)(b).

Under CLC, ship-owners assumed a maximum liability for pollution damage from any one polluting incident of 2 000 francs per ton or a gross maximum of 210 million francs. This was, in essence, a doubling of their previous internationally agreed liability as established under the 1957 Brussels rules. At Brussels in 1969, many countries expressed concern at reservations over the assumption by the tanker owners of this additional liability.[400] As a compromise, art 5(1) therefore lays down that the Fund shall indemnify the owner or insurer who has incurred a liability under CLC for that portion of the liability between the lesser of 1 500 francs per gross ton or 125 million francs and CLC's maximum liability limit (up to 2 000 francs per ton or 210 million francs). This rule, however, will not apply where pollution damage has resulted from the wilful misconduct of the owner[401] or where, due to the fault of the owner, the ship has not complied with certain enumerated oil pollution prevention and ship safety conventions and this non-compliance results partially or wholly in the pollution damage.[402] As far as the former is concerned, it is clear that the owner's dolus must be proved. The IOPC Fund will not be relieved of the obligation if the loss should have been the consequence of his negligence.[403] Negligence is insufficient to establish that misconduct is 'wilful'.[404] As far as the latter is concerned, problems may arise. The provision reads:

> 'The Fund may be exonerated wholly or partially from its obligations under paragraph 1 towards the owner and his guarantor, if the Fund proves that as a result of the actual fault or privity of the owner:

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400 Hunter n359 118; see also Brown n277 23-4.
401 Fund Convention art 5(1).
402 Fund Convention art 5(3).
403 Lambeth n332 137; see also Bessemer-Clark n230 105.
404 Stewart Transp Co v Allied Towing Corp 596 F 2d (4th Cir 1979); see also Schoenbaum n136 537.

(a) the ship from which the oil causing the pollution damaged escaped, did not comply with the requirements laid down in:

(i) the International Convention for the Prevention of Pollution of the Sea by Oil, 1954, as amended in 1962; or

(ii) the International Convention for the Safety of Life at Sea, 1960; or

(iii) the International Convention on Load Lines, 1966; or

(iv) the International Regulation for Preventing Collisions at Sea, 1960; or

(v) any amendments to the above-mentioned Conventions..., provided, however, that such amendments had been in force for at least twelve months at the time of the incident...'.

A question which immediately comes to the fore is what is a requirement under any of these Conventions?[405] A strict interpretation would imply a compulsory obligation but Hunter points out that it may also be taken to include recommendations proposed by IMO.[406] He criticizes that those named Conventions do not cover matters which may be the most likely causes of pollution incidents: standard operating procedures on board tankers; staffing and crew requirements; qualifications; and navigational specifics.[407] The Conventions are mainly concerned with construction and design. Failure to comply with such rules on construction and design invariably results in a major oil pollution accident. Hunter therefore points out that the provision may effectively exclude low level chronic type incidents.[408] It is submitted that the inclusion of the 1954 OILPOL in the

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405 Hunter n359 133.
406 Ibid 133-4. Abecassis and Jarashow however seem to adopt the strict interpretation. See Abecassis and Jarashow n106 262.
407 Hunter n359 134.
408 Ibid.

provision is a backward step.[409] It should be replaced by MARPOL 73/78 with immediate effect.

In general, the rules in the Convention are at first sight by no means straightforward and clear-cut. This is especially true with respect to the provisions on the mental state of the owner. The underlying principles which bring the Fund into play here may be summarized as follows. If it is proved that the act of the owner is accompanied by malice, ie an intention to cause damage, then not only will the owner will not be entitled to avail himself of the limitation provided in CLC but also the insurer will not be liable for any loss attributable to this wilful misconduct. If the owner does not have assets sufficient to meet his liability here, the IOPC Fund will come into operation (by virtue of art 4(1)(b), the 'financial incapability' provision) and pay the claimant. Where nothing is recovered from the owner it will pay all the damage.[410] However, the Fund will not pay the roll back relief to the owner in this case. If the damage is caused by the owner's negligence, he cannot invoke CLC to limit his liability. But the underwriter will not be relieved of its obligation to pay on the policy. If the financial security is insufficient to satisfy claims, the Fund (by virtue of art 4(1)(b)) will pay the claimant. Furthermore, it will pay the roll back relief to the owner in this case.

4.4.2.3 Fora for plantiff's action and overall evaluations

The arrangement of fora in the Convention is more sophisticated than that in CLC due to the involvement of IOPC Fund. The overall principle is that a claim against the Fund should be made if possible in the same jurisdiction

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409 For criticism of the 1954 OILPOL see n68-76 and accompanying text supra.

410 Abecassis and Jarashow n106 257.

as the claim against the owner under CLC.[411] If that jurisdiction is one where the Convention is not in force, then the claim against the Fund must be made either in the state where the IOPC Fund has its headquarters - the United Kingdom - or in a contracting state in which pollution damage has also been suffered as a result of the incident.[412] Essentially all actions must be instituted within three years of damage and no later than six years from the incident.[413]

The overall evaluation of CLC made above[414] applies mutatis mutandis to this Convention as well. However, one more thing is worth mentioning here. Since the Convention supplements CLC, compensating victims to a certain extent and covering items not claimable under CLC (eg damage caused by typhoons are not uncommon in the South China Sea and might not be compensable under CLC) there would seem to be no reason for states which have already ratified CLC not to accede to the Fund Convention.

4.5 1984 Protocol to CLC

Just as the Torrey Canyon incident precipitated the birth of CLC in 1969, the Amoco Cadiz disaster in March 1978 facilitated the 1984 Protocol to it. The Amoco Cadiz incident was labelled a 'disaster' because it powerfully demonstrated that the liability limits set in CLC and the Fund Convention did not realistically reflect the actual risks involved in modern oil transport any more.[415] In

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411 Fund Convnetion art 7(1).
412 Fund Convention art 7(3).
413 Fund Convention art 6(1). In the case of an owner claiming indemnification (owner's relief), art 6(2) gives the owner another six months from the date when he acquired knowledge of the bringing of an action against him under CLC.
414 See n355-8 and accompanying text supra.
415 Jacobsen and Yellen n244 476; see also Van Meurs LH Marine Pollution 1986 60-1.

response to the public outcry, states at IMO again began to undertake fundamental reviews of the international maritime law concerning oil pollution. This culminated in a Diplomatic Conference of 71 states in May 1984 held in London at which a Protocol to CLC was adopted.[416] The revision not only provided for substantial increases in the maximum amounts available for compensating victims but also affected the scope of CLC.[417] In 1991[418] the Protocol had not yet entered into force.[419] Nor was there any Southeast Asian state which had ratified it.

416 Popp n272 118; see also Jacobsen and Yellen n244 468. Text of 1984 Potocol to CLC can be found in CMI: International Conventions on Maritime Law - Texts 1987 214-29.

417 Jacobsson and Trotz n243 468. As a matter of fact, these are exactly the two basic purposes of the Protocol. Paragraph 1 of the preamble to the Protocol explicitly states that '... it is desirable to amend the International Convention on Civil Liability for Oil Pollution Damage, done at Brussels on 29 November 1969 to provide for improved scope and enhanced compensation' (emphasis added).

418 As at June 24 1991.

419 It was pointed out that the Protocol was not expected to come into force for some time. Article 13(1) stipulates 'This Protocol shall enter into force twelve months following the date on which ten States including six States each with not less than one million units of gross tanker tonnage have deposited instruments of ratification, acceptance, approval or accession with the Secretary-General of the Organization'. Nonetheless, there were only four states (out of a total of seven) each with more than one million gross tonnage that had already ratified the Protocol: Australia, France, Saint Vincent and Grenadines, Germany. Moreover, the US Congress enacted the Oil Pollution Act in 1990 which adopted a completetly different regime of liability. This, it was pointed out, effectively scuttled the 1984 Protocol because it was considered by a number of states that the system would be unworkable unless the USA contributed financially. In order to ensure the entry into force of the 1984 compromise, therefore, a diplomatic conference was held in November 1992 to change the entry into force provision of the 1984 Procotol. The Conference agreed that the 1969 CLC as amended by the 1992 Protocol should be known as the International Convention on Civil Liability for Oil Pollution Damage

4.5.1 Expanded scope of the Protocol

While the Protocol makes little change to the basic scheme of liability under CLC, it does make some adjustments which expand considerably the scope of the present regime.[420] Firstly, the Protocol replaces the definition of ship in CLC with the following text:

> '"ship" means any sea-going vessel and sea-borne craft of any type whatsoever constructed or adapted for the carriage of oil in bulk as cargo, provided that a ship capable of carrying oil and other cargoes shall be regarded as a ship only when it is actually carrying oil in bulk as cargo and during any voyage following such carriage unless it is proved that it has no residues of such carriage of oil in bulk aboard'.[421]

This new definition extends CLC to unladen tankers carrying slops or those carrying only bunkers.[422] Combination carriers which are able to carry oil in bulk as cargo are now covered not only when they are doing so[423] but also on a return trip after delivery of the oil and until such time as the slops are fully discharged.[424] This refers to 'any succeeding voyage' rather than an 'immediately succeeding voyage'.[425] In addition cargo ships which can carry oil in bulk in their deep tanks are now treated like combination

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1992 (the 1992 Liability Convention). Under the new agreement, the 1992 Liability Convention shall enter into force 12 months following the date on which ten states, including four states each with not less than one million units of gross tanker tonnage, have deposited instruments of ratification. This is a reduction from the 1984 requirement of deposit by six states. For a full account of this event, see Gaskell N 'Current Legal Developments: International Martime Organization' IJMCL 8(2) 1993 286-90.

420 Popp n272 131.
421 1984 Protocol to CLC art 2(1).
422 Abecassis and Jarashow n106 230.
423 Ibid.
424 Eaton n319 816.
425 Popp n272 128.

carriers.[426] The converted tankers which store oil at certain offshore installations or elsewhere also appear to be covered now.[427] The burden of proof that slops are no longer aboard is on the ship-owner.[428] It would be practically impossible for victims to prove the presence of residues on board the vessel at the time of the incident.[429] The definition of oil has also been amended to cover 'persistent hydrocarbon mineral oil' only[430] and not whale oil.[431]

Another important expansion of the scope of CLC is contained in the words added to the old definition of incident. Now 'incident' means 'any occurrence, or series of occurrences having the same origin, which causes pollution damage or creates a grave and imminent threat of causing such damage'[432] (emphasis added). This amendment applies CLC before an escape or discharge of oil actually occurs.[433] As a result, pre-spill preventive measures in the so-called 'pure threat situations' (ie measures to prevent pollution taken before a spill occurs and which are so successful that no spill takes place at all) are now claimable under CLC![434] However, such measures will not be recoverable if the threat is not 'grave and imminent'.[435]

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426 See n422.
427 Ibid.
428 Ibid; see also Stewart n219 122 and n425.
429 Ibid.
430 1984 Protocol to CLC art 2(2) redefines 'oil' as 'any persistent hydrocarbon mineral oil such as crude oil, fuel oil, heavy diesel oil and lubricating oil, whether carried on board a ship as cargo or in the bunkers of such a ship'.
431 See n425.
432 1984 Protocol to CLC art 2(4).
433 Abecassis and Jarashow n106 231.
434 Jacobsson and Trotz n243 485-6; see also Stewart n218 112.
435 See n435. However, there is a loophole in this legal arrangement. It is not uncommon that part of a wrecked ship sinks with oil aboard. There will be no 'imminent' threat of an escape of oil from the sunken

The Protocol also restructures the channelling of liability provision of CLC which was criticized for leaving too many parties without protection.[436] Article 4(4) replaces the old one and stipulates that:

> '...no claim for compensation for pollution damage under this Convention or otherwise may be made against:
>
> (a) the servants or agents of the owner or the members of the crew;
>
> (b) the pilot or any other person who, without being a member of the crew, performs services for the ship;
>
> (c) any charterer (howsoever described, including a bareboat charterer), manager or operator of the ship;
>
> (d) any person performing salvage operations with the consent of the owner or on the instructions of a competent public authority;
>
> (e) any person taking preventive measures;
>
> (f) all servants or agents of persons mentioned in subparagraphs (c), (d) and (e);
>
> unless the damage resulted from their personal act or omission, committed with the intent to cause such damage, or recklessly and with knowledge that such damage would probably result'.

The positive implication of this new provision is twofold. Firstly it provides better protection to the ship-owner by subjecting his servants and agents, formerly exempted from liability under CLC, to personal liability for any reckless conduct causing damage.[437] Secondly it shields a wider

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part, but it is highly probable that in time the wreck will leak. Why then should the costs of pumping out or sealing the wreck not be recoverable? See ibid 232.

436 For those criticisms, see n291-301 and accompanying text supra.

437 See n424.

range of persons than those mentioned in the 1969 text.[438] Nevertheless, the list still does not cover a number of those who may be liable under general principles of law eg builders, repairers, the classification society of the ship, those who recruit personnel for the ship (unless they are managers or operators as well), the owner of the radar and other hired equipment aboard ship, the shipper of goods aboard the ship unless he is also a charterer, those concerned with a vessel which collides with the ship[439] and the holding company (parent corporation) of the registered owner.[440] The 1984 Conference flatly rejected a proposal which could have protected everyone except the owner.[441] There would seem therefore little opportunity for the above participants to derive support from the travaus preparatoires in interpreting the new provision otherwise. The 1984 effort contracts the loophole in the channelling of liability provision of CLC. It does not seal it. In addition to this, Abecassis and Jarashow point out a minor anomaly in the subparagraph (d) concerning salvage. The wording requires salvors to undertake operations 'with the consent of the owner', whereas in practice salvage may be undertaken without initial reference to the owner.[442] They therefore suggest that if the master can bind the owner to the salvage contract under his general authority when his ship is in danger, the salvage operations should be deemed to be undertaken with the owner's consent.[443]

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438 Abecassis and Jarashow n106 233.
439 Ibid.
440 Bartlett III n291 21. Bartlett has already criticized CLC in that it does not offer protection to the parent corporation of the registered owner. The change made in 1984, he points out, still does not redress this shortcoming. For Bartlett's criticism of CLC see n300 and accompanying text supra.
441 LEG/CONF 6/CZ/WP 24 an OCIMF proposal, gained no support and the new text was adopted; LEG/CONF 6/CZ/SR 11/PROV. See also n438.
442 Abecassis and Jarashow n106 233-4.
443 Ibid.

As far as the pollution damage is concerned, the geographic restriction is relaxed. Article 3(a)(ii) of the Protocol now extends the application of CLC to the EEZ of a contracting party. Furthermore, the definition of 'pollution damage' is expanded and now means:

> '(a) loss of damage caused outside the ship by contamination resulting from the escape or discharge of oil from the ship, wherever such escape or discharge may occur, provided that compensation for impairment of the environment other than loss of profit from such impairment shall be limited to costs of reasonable measures of reinstatement actually undertaken or to be undertaken;
>
> (b) the costs of preventive measures and further loss or damage caused by preventive measures'.[444]

The importance of this provision lies not only in that it represents recognition by the contracting states and the oil industry of the need for at least some compensation for environmental damage[445], but also in that, it is submitted, it actually tackles the problems of both 'economic environmental damage'[446] and 'pure environmental damage'.[447] As far as 'economic environmental damage' is concerned, the inclusion of the phrase 'other than loss of profit' makes it clear that compensation for impairment of the environment is recoverable under CLC.[448] With reference to the 'pure

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444 1984 Protocol to CLC art 2(3).
445 Stewart n219 120.
446 See n265-9 and accompanying text supra.
447 See n270 and accompanying text supra.
448 Jacobsson and Trotz n243 489. However, in order to be compensated as such the claimant appears to have to prove the following things: his activity depends on the use of the marine environment in an area that has been polluted; the impairment of the environment had adversely affected this activity, thus reducing his profit. It is also likely that in many jurisdictions the courts would require that the loss of profit be a 'direct result' of the pollution. See ibid 490.

environmental damage', the provision cautiously limits compensation to reasonable and assessable costs for restoring resources such as fish stock.[449] This new rule therefore excludes compensation based upon speculation and theoretical calculation of damage[450] without actual proof of the costs of reinstatement.[451] However, the P & I Clubs worry about the words 'to be undertaken'.[452] Abecassis and Jarashow point out that this was designed to deal with the problem where claimant authorities faced with reinstating the environment might not have the funds to do so until paid by the ship-owner.[453] Furthermore, a general feeling emerged at the 1984 Conference that 'to be undertaken' implies a very high degree of likelihood and intention that the work really will be done.[454] This may in practice limit the meaning of the phrase. On the other hand, an old problem which has given rise to confusion under CLC arises here again: is there any geographical requirement for the 'further loss or damage caused by preventive measures' to be compensated?[455] Although it is unambiguously stipulated that the Protocol shall apply exclusively to pollution damage caused in territory, territorial sea and EEZ, it is equally clear that the Protocol shall apply 'to preventive measures, wherever taken, to prevent or minimize such damage' (emphasis added).[456] This, it is submitted, unequivocally permits the Protocol to be applied to preventive measures taken outside the EEZ. It is therefore not unreasonable to conclude that the amendment covers damage caused in the area outside the EEZ by preventive

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449 Popp n272 122.
450 Abecassis and Jarashow n106 238.
451 Jacobsson and Trotz n243 488.
452 See n449.
453 See n450.
454 Ibid.
455 For this specific problem of CLC, see n276-7 and accompanying text supra.
456 1984 Protocol to CLC art 3(6).

measures designed to prevent or minimize pollution damage inside the EEZ.

Finally, the Protocol improves the system of compulsory insurance. Article 7(2) provides that ships flying the flags of non-contracting states may obtain a certificate from any contracting state and that certificate shall be recognized and accepted by other contracting states. This may facilitate actions against a ship-owner from a non-contracting state whose ship has caused damage in the territory, territorial sea or EEZ of a state party.

4.5.2 Increased liability under the Protocol

As noted at the outset, developments in international law on civil liability for marine pollution damage has come from the Amoco Cadiz disaster. This made the compensation scheme in CLC outdated. The main purpose of the 1984 Conference was therefore to revise limits and compensation amounts contained in that Convention.[457] The result was to raise existing liability limits for tanker pollution incidents by more than 300%.[458] The Protocol now establishes a minimum liability for small tankers (5 000 tons and less) of 3 million SDRs; for larger tankers liability increases by 420 SDRs per ton above 5 000 tons to a maximum of 59.7 million SDRs.[459]

In addition to increasing the limits of liability dramatically, the Protocol also excludes the right to limit as follows: 'The owner shall not be entitled to limit his liability under this Convention if it is proved that the pollution damage resulted from his personal act or omission, committed with the intent to cause such damage, or

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457 Popp n272 125; see also Abecassis and Jarashow n106 239.
458 Jacobsen and Yellen n244 480; see Van Meurs 61.
459 1984 Protocol to CLC art 6(1).

recklessly and with knowledge that such damage would probably result'.[460] Two changes have been introduced here. Firstly, limitation is denied if the damage resulted from the ship-owner's 'personal act or omission, committed with the intent to cause such damage, or recklessly and with knowledge that such damage would probably result'. However, does the change in wording here necessarily imply a substantive change from the fault or privity of the owner criterion of the 1969 text? It has been pointed out that they are indeed different.[461] Abecassis and Jarashow argue that the concept is close to, but not identical with, the English law concept of wilful misconduct.[462] Bartlett III, on the other hand, opines that more than 'actual fault or privity' must be shown in this case and the burden would appear to be on the claimant to prove the 'pollution malice'.[463] Stewart agrees with this viewpoint indicating that the ship-owner will be able to limit even if the damage has been caused by his negligence alone.[464] The effect would be that the possibility of excluding limitations under the Protocol would be somewhat lessened.[465] In practice, the new right to limit may even be regarded as absolute.[466] Secondly, the new test focuses attention specifically on the oil pollution rather than the 'incident' in the 1969 counterpart.[467] The implication of this fine distinction is that in a case of pollution damage incidentally caused by fraud (eg the ship-owner deliberately scuttles his ship), the owner may retain the right to limit unless the claimant can establish dolus on his part in relation to pollution

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460 1984 Protocol to CLC art 6(2).
461 Reynolds n339 364.
462 Abecassis and Jarashow n106 243.
463 Bartlett III n291 21.
464 Stewart n219 121.
465 Jacobsen and Yellen n244 481; see also Schoenbaum n136 545.
466 Abecassis and Jarashow n106 244.
467 See n462.

damage.[468] It is submitted that this would create a lacuna in the amended compensation scheme. The lacuna would probably leave a number of innocent victims of pollution damage in a fraud case without adequate financial protection. In many cases claimants may simply not have the resources to prove that 'the incident occurred as a result of the actual fault or privity of the owner', not to mention proving more specifically the owner's dolus malus in relation to the pollution damage itself.

4.5.3 Evaluation

From the above, it can be said that there has been a definite and positive development in the international law of liability for oil pollution damage.[469] The Protocol has largely eliminated the deficiencies in the 1969 text.[470] With a clearer delimitation of its scope[471], the new scheme will provide a realistic and satisfactory basis for liability for vessel-source oil pollution damage.[472] With respect to the remaining 'minor' defects in the Protocol (compared with those in the 1969 text), Eaton argues convincingly that the fact that the Protocol does not cover every aspect of oil pollution is not a reason to reject it. Rather, municipal legislation should elaborate upon the Protocol and cure the problems.[473] It is therefore highly recommended that coastal states in the South China Sea should review their maritime policy on civil liability for oil pollution damage and adhere to the 1984 Protocol for a better prosecution of their own interests.

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468 Abecassis and Jarashow n106 243-4.
469 Stewart n219 122.
470 Ibid 123; see also Eaton n319 816.
471 Jacobsson and Trotz n243 483.
472 Stewart n219 123.
473 See n424.

4.6 1984 Protocol to the Fund Convention

This Protocol was the other product of the 1984 Conference.[474] Its main purpose - in addition to the improvement of the scope and the enhancement of the compensation[475] - is the abolition of ship-owner relief (or 'roll back' as it is sometimes referred to).[476] This leaves it with just one substantive function: to provide compensation for pollution damage to the extent that the protection afforded by the 1984 Protocol to CLC is inadequate.[477] In 1991[478] this new instrument had not yet entered into force.[479] Nor was there any Southeast Asian state which had ratified it. As far as its scope is concerned, several changed definitions have brought it into line with the 1984 Protocol to CLC. Article 2(3) stipulates that 'ship', 'incident' and 'pollution damage' have the same meanings as in art 2 of the 1984 Protocol to CLC. Article 4 extends geographical coverage to the EEZ. Article 6(3) introduces a new limit for compensation: the aggregate

474 Text of the Protocol can be found in CMI: International Conventions on Maritime Law - Texts 1987 270-91.

475 Paragraph 1 of the preamble to the Protocol.

476 Abecassis and Jarashow n106 297; see also Popp n272 124.

477 1984 Protocol to Fund Convention art 3.

478 As at June 24 1991.

479 Under art 30 the Protocol will not enter into force until twelve months after the date on which at least eight states, having received in the preceding calendar year at least 600 million tonnes of contributing oil, have become parties; and this must be before the 1984 Protocol to CLC enters into force. As at June 24 1991 only France and Germany had ratified the instrument. In order to ensure the entry into force of the Protocol, therefore, a diplomatic conference was held in November 1992 to change the entry into force provisions. The conference agreed that the Fund Convention 1971 as amended by the 1992 Protocol should be known as the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage 1992 (1992 Fund Convention). Under the new agreement, the required quantity of oil for contributions is reduced from 600 million tonnes to 450 million tonnes. For a full account of this event, see Gaskell n419.

amount of compensation payable under the article, including the amount of compensation actually paid under the 1984 Protocol to CLC shall not exceed 135 million SDRs. The same article stipulates that this limit may be increased to 200 million SDRs when certain conditions are fulfilled. These new figures are said to be adequate to cover most spills for the time being.[480] Briefly the comments on 1984 Protocol to CLC[481] apply mutatis mutandis here. Hence, it is also suggested that coastal states in the South China Sea should give priority to the ratification of this regime for a better defence of their maritime interests.

4.7 TOVALOP and CRISTAL

The Torrey Canyon incident in 1967 not only gave rise to the 'public' response mentioned above, but also elicited reactions from the private sector.[482] On January 7 1969 seven major oil companies formed the International Tanker Indemnity Association Ltd in London, a world wide mutual insurance syndicate for compensation arising out of tanker oil-spill damage.[483] At the same time, the Tanker Owners Voluntary Agreement Concerning Liability for Oil Pollution (TOVALOP) was signed which came into operation on October 6, 1969 when 50% of the tankers of the world became subject to it.[484] Later, another oil company attempt to supplement compensation for damage not covered by TOVALOP gave birth to the Contract Regarding an Interim Supplement to Tanker Liability for Oil Pollution (CRISTAL) on January 14 1971.[485] CRISTAL came into effect on April 1 following, at which time oil companies receiving more than 70% of the world's crude

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480 Abecassis and Jarashow n106 292.
481 See Section 4.5.3 supra.
482 Soni R Control of Marine Pollution in International Law 1985 195.
483 Ibid.
484 Abecassis and Jarashow n106 304. The original text of TOVALOP can be found in ILM 8(3) May 1969 497-501.
485 Soni n482 196. The original text of CRISTAL can be found in ILM 10(1) January 1971 137-44.

and fuel oil transported by sea had become parties.[488] With the passage of time, comparison of the two regimes however becomes difficult since they underwent changes from time to time. The first major approximation of the two was in 1978. It reflected the coming into force of the 1969 CLC and 1971 Fund Convention.[487] In 1985, a new regime called the Pollution Liability Agreement among Tanker Owners (PLATO) was created by the oil industry with a view to providing enhanced compensation to claimants irrespective of whether CLC was in effect in the particular state.[488] At the same time CRISTAL was almost completely overhauled as well. The amended version called CRISTAL Revised '85, would provide enhanced compensation up to $200 million (inclusive of PLATO) and link the compensation to the size of the tanker spilling the oil.[489] However, an insufficient number of tanker owners were interested in joining PLATO and the regime did not take effect. Neither did CRISTAL Revised '85 which was contingent upon acceptance of PLATO.[490] Despite this setback, representatives of ship-owning and cargo-owning interests continued their efforts to devise a plan which would revise TOVLOP and CRISTAL. This proved to be a success and the second major amendments came into effect on February 20 1987.[491]

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486 Abecassis and Jarashow n106 310; see also Brown n277 36 and Becker n226 614.

487 Cohen LG 'Revisions of TOVALOP and CRISTAL: Strong Ships for Stormy Seas' JMLC 18(4) October 1987 525-6. For a detailed account of the two schemes in their original forms, see Becker's article in n226. For an account of the 1978 revised versions of the two regimes see Anon The Britannic Club undated 3-22 and Bessemer-Clark AF 'The Future of TOVALOP' Lloyd's MCL 1978 572-9.

488 Cohen n487 528.

489 Ibid.

490 Ibid 528-9.

491 Ibid 525. For the text of 1987 Revised TOVALOP see the booklet entitled TOVALOP published by ITOPF February 20 1990. The 1987 Revised CRISTAL however was further amended again at a later state. For the latest version of CRISTAL see the booklet entitled CRISTAL: Memorandum

At present TOVALOP is quite a sophisticated regime. The 1987 Revised TOVALOP which is known as TOVALOP Supplement (hereinafter 'TS') is in fact added to a Standing Agreement and the combination of the two makes the scheme actually a two tier 'agglomeration'.[492] In essence, TS is designed to apply to incidents in all countries, irrespective of whether or not the country in which the incident occurs is a party to CLC or to both CLC and the Fund Convention.[493] The scope of TS broadly mirrors that of the 1984 Protocol to CLC.[494] It provides compensation to victims of oil pollution from tankers ranging from a maximum of $3.5 million for a tanker of up to 5 000 gross tons (gt) plus $493 per gt for each ton in excess of 5 000 gt, up to $70 million for a tanker in

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of Explanations, Cristal Contract, Rules of Cristal Limited published by Cristal Limited Febraury 20 1989.

492 Cohen n487 529.

493 TS Clause 3(A) and (B). See also TOVALOP n491 3.

494 For example, the definitions of 'incident', 'oil', 'pollution damage' and 'Preventive measures' in the latest version of the scheme are more or less identical with those in the 1984 Protocol to CLC. Furthermore, 'pollution damage' is defined in the new instrument as '... physical loss or damage caused outside the Tanker by contamination resulting from the escape or discharge of Oil from the Tanker, wherever such escape or discharge may occur, including such loss or damage caused by Preventive Measures...' (emphasis added). Abecassis and Jarashow interpret this wording as the recognition of the right to recover for damage within a state's EEZ. They also point out that it is, indeed, not even limited to that! See Abecassis and Jarashow n106 320. However, the term 'tanker', which is defined as 'any sea-going vessel and any sea-borne craft of any type whatsoever, designed and constructed for carrying oil in bulk as cargo, whether or not it is actually so carrying Oil', is obviously more limited in meaning than 'ship' defined in 1984 Protocol to CLC. For example, those dry cargo ships (apparently they can carry oil in bulk in their deep tanks but they are not intrinsically 'designed and constructed' for doing so as the sole purpose) would be left uncovered by the new scheme. For the definition of 'ship' in the 1984 Protocol to CLC, see n421 and accompanying text supra.

excess of 140 000 gt.[495] TS is however will only available to claimants where the cargo spilled is owned by a member of CRISTAL.[496] Otherwise, the Standing Agreement continues to operate with its maximum compensation of $16.8 million for a VLCC.[497] The Standing Agreement however is narrower than TS at least in two important aspects: its application is limited to territory including territorial sea only[498]; its provisions and those of CLC are mutually exclusive.[499] Today some 97% of world tanker tonnage are parties to TOVALOP.[500] On the other hand, CRISTAL has traditionally been a device to provide supplementary compensation to that available under TOVALOP and the newly revised CRISTAL is not exceptional.[501] The aggregate amount to be paid under CRISTAL shall not exceed $36 million for a tanker of 5 000 gross tons or less and for a tanker in excess of 5 000 gross tons $36 million plus $733 for each ton in excess of said 5 000 tons, subject to a maximum of $125 million[502] which corresponds to a tanker of almost 140 000 gross tons.[503] Currently it is estimated that some 80% of the total volume of oil transported by sea is owned by parties to CRISTAL.[504] However, its scope is more restricted than that of 1984 Protocol to the Fund Convention. Firstly, it applies to tankers actually carrying oil in bulk as cargo.[505] Thus even unladen tankers carrying slops or those carrying only bunkers are excluded from the application, not to mention ships other than tankers such as cargo ships. Secondly, under CRISTAL there is no liability if the incident

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495 TS clause 3(C)(3).
496 TS clause 1(1)(A).
497 Standing Agreement clause VII(A).
498 Standing Agreement clause 1(K).
499 Standing Agreement clause IV(B)(a).
500 TOVALOP n491 1.
501 CRISTAL n491 5.
502 CRISTAL clause IV(D)(5).
503 ITOPF and CRISTAL Ltd ed TOVALOP and CRISTAL: A Guide to Oil Spill Compensation 1988 8.
504 Ibid.
505 CRISTAL clause I(N).

> '(i) resulted from ... a natural phenomenon of an exceptional, inevitable and irresistible character, or
>
> (ii) was wholly caused by an act or omission done with intent to cause damage by a third party, or
>
> (iii) was wholly caused by the negligence or other wrongful act of any Government or other authority responsible for the maintenance of lights or other navigational aids in the exercise of that function'.[506]

All three cases are covered by the 1984 Protocol to the Fund Convention. The deficiencies in CRISTAL will no doubt create a lacuna where compensation for damage caused by vessel-source oil pollution is concerned. For example, oil pollution damage caused by typhoons in the South China Sea would probably not be compensable under CRISTAL![507] It is therefore submitted that CRISTAL is unsatisfactory and less effective than the 1984 Protocol to the Fund Convention.

It seems unnecessary to go into further details on the two schemes here. They are no more than private agreements amongst tanker owners and oil companies and hence their doubtful place in international law.[508] As far as the evaluation of the two schemes is concerned, opposite opinions exist. Cohen argues that they have provided useful service for many years and offer a simple and prompt vehicle for recovery of damages without resort to protracted litigation and excessive legal costs.[509] Popp however

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506 CRISTAL clause IV(D)(2).

507 On the specific issue of the typhoon see n304-8 and accompanying text supra.

508 Glaeser JM 'Federal Common Law and Ocean Pollution: A Private Remedy for Oil Pollution Damage?' Environmental Law 8 1977 10; see also Soni n482 198. For a succinct account of the two schemes in their latest versions see the booklet cited in n503.

509 Cohen n487 537-8.

points out that voluntary schemes would not be acceptable after the successful operation of CLC and the Fund Convention.[510] It is the opinion of this writer that TOVALOP and CRISTAL may at best serve as temporary and unsatisfactory substitutes (perhaps TS may operate satisfactorily, but not so CRISTAL due to the important lacuna in it) for the formal international law regimes. They cannot however be the final solution. The first priority should be ratification of the more comprehensive 1984 Protocols to both CLC and the Fund Convention and their operation as soon as possible.

4.8 LOSC

LOSC is the milestone in the development of the law of the sea in the 80s.[511] This 'constitutional law of the sea'[512] touches every aspect of modern maritime life.[513] Its significance to the South China Sea is twofold. Firstly all states in the region signed it (including land-locked Laos, but not ROC due to its uncertain international legal status). Indonesia and the Philippines have already ratified it. LOSC therefore could become the most important single international maritime regime here. Secondly it not only deals with all forms and sources of marine pollution[514], but also specifically pays attention to pollution from

510 Popp n272 131.

511 Devine DJ and Erasmus G 'International Environmental Law' in Fuggle R and Rabie MA ed Environmental Management in South Africa 1992 164.

512 Report of the UN Secretary-General 'Protection and Preservation of the Marine Environment' September 18 1989 in Simmonds KR ed New Directions in the Law of the Sea U7 February 1990 3; see also Meng QN The International Law on Vessel Source Pollution and the Caracas Convention (unpulished LLM thesis Dalhousie University) 1982 7 and 12.

513 The first paragraph of the preamble of LOSC unambiguously states that its objective is to '... settle, in a spirit of mutual understanding and cooperation, all issues relating to the law of the sea...' (emphasis added).

514 Boyle n70 350.

vessels.[515] Thus it would be more capable of filling the legal lacunae created by the absence of the special conventions mentioned in the previous sections.

The rules governing vessel-source pollution are both complicated and complex.[516] The essential purpose of this part of the Convention is to protect the marine environment effectively.[517] This is to be achieved by a carefully balanced compromise between flag states, port states and coastal states.[518]

4.8.1. Flag state jurisdiction

Traditionally a ship flying the flag of a state is for the purpose of jurisdiction treated as if it were territory of that state.[519] LOSC does not fundamentally alter this system.[520] The primary obligation is still placed on the flag state to ensure that vessels under its jurisdiction comply with the Convention.[521] As far as legislative jurisdiction is concerned, art 211(2) provides that

> 'States shall adopt laws and regulations for the prevention, reduction and control of pollution of the marine environment from vessels flying their flag or of their registry. Such laws and regulations shall at least have the same effect as that of generally accepted international rules and standards established through the competent international organisation or general diplomatic conference'.

An important characteristic (which represents an improvement) of the provision is the reference to other

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515 Schneider J 'Remarks [on the Environment: International Rights and Responsibilities]' in American Society of International Law: Proceedings of the 74th Annual Meeting 1981 240.
516 Ibid.
517 Meng n512 79.
518 Churchill and Lowe n9 255.
519 Starke n152 273.
520 O'Connell n71 997.
521 Report of the UN Secretary-General n512 11.

environmental treaties in such way that their provisions become obligatory on those nations that have ratified LOSC whether or not they have ratified the other treaties.[522] It has however not yet been established just what 'generally accepted' and 'established through the competent international organization ..'. mean.[523] To try to arrive at a universally accepted interpretation by resorting to travaux preparatoires may not be easy here. Most of the compromises were reached in informal negotiations. Little reference can be found in the official records of UNCLOS III.[524] Academic views on this issue vary as well. Sohn argues that the words 'generally accepted' imply that a preponderant majority of states, including almost all states with any special interest in that rule, have accepted the rule as one fairly balancing the interests of all states.[525] Hakapaa points out that such rules and standards must either have duly entered into force or, if in an agreement pending entry into force, are essential for the attainment of the basic objective of LOSC.[526] He nevertheless suggests that the minimum number of states, the support of which would make the rules and standards 'generally accepted', should be lower than that required of customary norms, otherwise the distinction between the two would simply disappear.[527] Meng looks into the problem in more detail and sets up four criteria for determining whether a rule is 'generally accepted' or not: it should have been accepted by the major

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522 Van Dyke JM 'Introductory Remarks' in Krueger and Riesenfeld ed n4 101.

523 Schneider J 'Prevention of Pollution from Vessels or Don't Give up the Ship' in Charney JI ed The New Nationalism and the Use of Common Spaces, Issues in Marine Pollution and the Exploration of Antarctica 1982 19-20; see also Churchill and Lowe n9 255.

524 Meng n512 65.

525 Sohn LB 'Implications for the Law of the Sea Convention Regarding the Protection and Prevention of the Marine Environment' in Krueger and Riesenfeld ed n4 109.

526 Hakapaa n1 120.

527 Ibid 121.

maritime states as well as coastal states; it should have been accepted by most flag states; acceptance de facto should be considered as having the same effect as the acceptance de jure[528], (here one may recall the acceptance de facto of MARPOL by ROC).[529] These various arguments nevertheless seem to cause greater confusion rather than to clarify the situation. Moreover, the problem is further complicated by the other requirement that, in addition to the rules having to be 'generally accepted', they must also be 'established through the competent international organization'. Kindt indicates that the use of the singular 'international organization' clearly refers to IMO.[530] Others agree with him on this point.[531] Meng nonetheless points out that the key word of the phrase is 'established'.[532] It implies a legal procedure through certain international law-making fora. Thus when the term 'international rules and standards' is modified by 'established through...', rules of customary laws will be excluded.[533] He further points out that such phraseology has two implications. First, the rules and standards must be of a universal nature and bilateral agreements therefore should not be included. Secondly, rules and standards so created should be legally binding.[534]

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528 Meng n512 74-5.
529 See n90 and accompanying text supra.
530 Kindt JW 'International Environmental Law and Policy: An Overview of Transboundary Pollution' SDLR 23 1986 601-2.
531 Gold E 'New Directions in Ship Generated Marine Pollution Control: The New Law of the Sea and Developing Countries' Ocean YB 7 1988 201. Meng also repeatedly stresses that IMO shall be regarded as 'the competent international organization' for most purposes of vessel-source pollution control. See Meng n512 101 116-8. For a monograph on this specific topic see Andrianov VI 'The Role of International Maritime Organization in Implementing the 1982 UNCLOS' MP 14(2) March 1990 120-4.
532 Meng n512 68.
533 Ibid.
534 Ibid 69.

Despite the difficulties of finding a common denominator from the above, Schneider concludes that MARPOL is one of those to which art 211(2) refers.[535] This writer agrees with her. Support can be found in the LOSC text itself. Article 217(3) stipulates that states shall ensure that vessels flying their flag or of their registry carry on board certificates required by and issued pursuant to international rules and standards and are periodically inspected in order to verify that such certificates are in conformity with the actual condition of the vessels. Wang points out that this is clearly inherited from 1973 MARPOL.[536] This author would like to add that the great difficulty of interpreting art 211(2) may be caused by international legal vicissitudes. Part XII - Protection and Preservation of the Marine Environment - of LOSC was by and large completed in 1979.[537] Until then, however, only one state had ratified 1973 MARPOL.[538] One should also bear in mind that MARPOL did not enter into force until 1983![539] Taking into account the existent status and the unpredictable future of that Convention at that stage, one really could not expect the delegates at UNCLOS III to have formulated the relevant rules concretely. Perhaps delegates at the Conference intended to bring MARPOL into operation through LOSC as soon as a sufficient number of states had accepted the former and even before its entry into force.

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535 Schneider n2 570. Other conventions mentioned by Schneider include, inter alia, 1972 Collision Regulations Convention, 1974 Safety of Life at Sea (SOLAS) Convention and 1978 Convention on Training and Certification.

536 Wang n147 329.

537 Timagenis n94 596.

538 Uruguay on April 30 1979.

539 In 1979 when Part XII of LOSC was completed, the 1972 Collision Regulations Convention was in force (it entered into force in 1977). The 1974 SOLAS and the 1978 Convention on Training and Certification did not enter into force until 1980 and 1984 respectively!

In fact, this idea is present in Hakapaa's argument supra. Firstly he argues that for the rules in an agreement pending entry into force to be invoked on the strength of art 211(2) of LOSC, they must be essential for the attainment of the basic objectives of the latter. Secondly he argues that the number of states which have accepted such rules should be lower than that required for customary norms. All this clearly points to the tortuous manner of bringing environmental conventions into play earlier than their formal entry into force. The provision in question (especially the phrase 'generally accepted') should therefore be deemed to be no more than an expedient to cater for the legal reality in a particular temporal context. At the moment, MARPOL has not only been in force for some time but may also be said to have acquired the status of customary international law.[540] It would be unthinkable at this stage that it is not 'generally accepted' and to maintain the distinction between 'generally accepted' rules and customary law. No matter how the provision was worded, the temporal context in which it exists should always be reviewed so as to enable it to reflect the latest legal reality. It would seem, therefore, permissible to conclude that the legislative jurisdiction over vessel-source pollution of flag states is restricted to giving effect to MARPOL 73/78 as the minimum standard under LOSC. This represents a major shift in the prescriptive part of the present regime[541] which is not confined to giving effect to

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540 See n217-8 and accompanying text in Chapter 3.

541 Abecassis and Jarashow n106 112. Unlike its counterpart in LOSC art 24 of 1958 Convention on the High Seas only loosely stipulated that 'Every State shall draw up regulations to prevent pollution of the seas by discharge of oil from ships... taking account of existing treaty provisions on the subject' (emphasis added). Boyle holds the same view. See Boyle n70 363-4. Meese also argues to similar effect. See Meese SA 'When Jurisdictional Interests Collide: International, Domestic and State Efforts to Prevent Vessel Source Oil Pollution' ODIL 12(1/2) 1982 89.

MARPOL 73/78.[542] It has been pointed out that this is also an improvement.[543] Obviously the arrangement has the merit of giving concrete content and effectiveness to the state's duty to regulate and a measure of uniformity is thus achieved.[544]

As far as enforcement jurisdiction of flag states over vessel-source pollution is concerned, LOSC introduces fewer changes.[545] In addition to obligations to issue certificates and conduct periodical inspections as mentioned above (as a corollary, ships not so qualified shall be prohibited from leaving ports of the flag state[546]), flag states are also obliged to investigate and prosecute their ships which have violated applicable pollution control laws.[547] If allegations are made by another state, however, that state and IMO must be informed by the flag state of the action taken by it in response to the allegation.[548] Furthermore, flag state are bound to lay down penalties adequate in severity to discourage violations.[549] A fundamental characteristic of LOSC here is that flag states may not only enforce pollution laws against their ships wherever the violation is committed, but they must do so![550]

4.8.2 Port state jurisdiction

In customary law, each state may impose conditions on entry into internal waters in its unfettered discretion.[551] The

542 Smith BD State Responsibility and the Marine Environment: The Rules of Decision 1988 250. For a detailed account of the existing regime of flag state jurisdiction, see ibid n150-2 and n249-53. See also Abecassis and Jarashow n106 17 91.
543 Wang n147 330.
544 Boyle n70 353.
545 Abecassis and Jarashow n541.
546 LOSC art 217(2).
547 LOSC art 217(4) and (6).
548 LOSC art 217(7).
549 LOSC art 217(8).
550 Churchill and Lowe n9 257.
551 Smith n542 170-1.

vessel-source pollution regime of LOSC does not alter the absolute legislative power of port states in this regard.[552] Article 211(3) stipulates that:

> 'States which establish particular requirements for the prevention, reduction and control of pollution of the marine environment as a condition for the entry of foreign vessels into their posts or internal waters or for a call at their off-shore terminals shall give due publicity to such requirements and shall communicate them to the competent organisation...' (emphasis added).

It is submitted that the term 'particular requirements' may imply freedom from international standards here. Wang argues that the lack of reference to the 'generally accepted international rules and standards', especially those concerning construction, design, equipment and manning (CDEM), indicates that a port state may enforce its own national CDEM standards upon any ship in its harbours.[553] Thus, pollution standards in port may be established which vary from international standards.[554]

Enforcement jurisdiction by port states is also an innovation of LOSC.[555] It means that a state may exercise enforcement jurisdiction over foreign ships in its ports in respect of offences against international rules and standards even if committed in sea areas beyond coastal jurisdiction.[556] The basic idea is 'the exercise of enforcement authority over violations not physically

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552 Abecassis and Jarashow n106 102.
553 Wang n147 328. Meng also argues to the same effect. See Meng n512 51.
554 Meese n541 89.
555 Churchill and Lowe n9 259. See also Hakapaa n526 178. Schneider argues that the acceptance or recognition for the first time in treaty form of the concept of universal port state enforcement jurisdiction is the most notable development recently. See Schneider n535.
556 Hakapaa n1 172.

affecting the port state'.[557] At present, however, a state whose coastline and internal waters are threatened or damaged by a discharge violation on the high seas is powerless to take legal proceedings in respect of that violation.[558] Expansion of port state enforcement power by LOSC, therefore, is outside existing customary law and owes its existence to the treaty.[559] The fundamental rule of this new regime is formulated in art 218(1) which states that:

> 'When a vessel is voluntarily within a port or at an offshore terminal of a State, that State may undertake investigation and, where the evidence so warrants, institute proceedings in respect of any discharge from that vessel outside the internal waters, territorial sea or exclusive economic zone of that State in violation of applicable international rules and standards established through the competent international organization or general diplomatic conference'.

Here, the ambiguously worded phrase 'applicable international rules and standards established through the competent international organization...' may once again cause confusion and hamper the application of the provision.[560] Meng argues that it is limited to those rules and standards included in global conventions which are in force even though they may not have been generally accepted.[561] Abecassis and Jarashow point out that the difference between this phrase and the phrase 'generally accepted international rules and standards established through competent international organization...' mentioned

557 Ibid 174. Wang argues to a similar effect that the distinct feature of the port state enforcement regime is that port states are supposed to protect the sea areas outside their national jurisdiction zone from oil pollution. See Wang n147 329.
558 See n552.
559 Smith n542 176. See also Miles EL 'Commentary' in Krueger and Riesenfeld ed n4 183-4.
560 Schneider n523 20.
561 Meng n512 85-6.

above should not be exaggerated. They stress that the general emphasis is on internationally agreed and evolved standards.[562] Timagenis also opines that varying language does not necessarily indicate inconsistency.[563] It is submitted, therefore, that this provision refers to MARPOL 73/78 as well.[564] However, this newly acquired enforcement power of port states only applies to discharge violations. Moreover, if a discharge violation has occurred in the internal waters, territorial sea or EEZ of another state, the port state cannot institute proceedings unless required by that state, the flag state or a state damaged or threatened by the discharge violation, or the violation has caused or is likely to cause pollution in the national jurisdiction of the port state which is going to institute the proceedings.[565] Thus, the port state can only institute proceedings on its own initiative in respect of violations which have 'occurred in an area beyond the national jurisdiction of other states'.[566]

The new regime of port state jurisdiction includes specific safeguard provisions. Article 218(4) stipulates that

> 'The records of the investigation carried out by a port State pursuant to this article shall be transmitted upon request to the flag State or to the coastal State. Any proceedings instituted by the port State on the basis of such investigation may... be suspended at the request of the coastal State when the violation has occurred within its internal waters, territorial sea or exclusive economic zone...'.

562 Abecassis and Jarashow n106 101-2.
563 Timegenis n94 607.
564 Churchill and Lowe seem to hold a similar view, since they argue that 'The shift in recent international pollution conventions - <u>particularly in the MARPOL Convention</u> - away from discharge standards to construction standards which have to be certificated will facilitate the exercise of port State jurisdiction...' (emphasis added). See Churchill and Lowe n9 260.
565 LOSC art 218(2).
566 Meng n512 182.

Two observations can be made here. Firstly, it appears that the proceedings instituted by the port state can only be suspended by the coastal state in whose jurisdiction the violation has occurred. What the flag state can do here is no more than to oblige the port state to transmit the records of the investigation to it. Thus the flag state's right of preemption seems to be non-existent in this regard. This argument in fact derives further support from art 228 on flag state preemption in which the last sentence of paragraph (1) states that '.. any bond posted or other financial security provided in connection with the suspended proceedings shall be released by the coastal State' (emphasis added). Flag state suspension is therefore subordinated to coastal state jurisdiction. In the new port state enforcement regime, we only seem to have the safeguard of coastal state preemption. Secondly, the coastal state's right to suspend proceedings instituted by a port state is not absolute either. Such proceedings 'may' (rather than 'shall') be suspended. It can just as well read that they may not be suspended under certain circumstances. The port state seems to be granted some discretionary power on this issue. Although no provision subsequently elaborates upon what exactly the circumstances are, it would however not be unreasonable to submit that when the damage suffered by the port state is more serious than that borne by the coastal state, the former should have the right to refuse to suspend the proceedings even at the request of the latter. In addition to the preference of the coastal state, another important safeguard is included in art 230(1) which provides that only a monetary penalty may be imposed in port state enforcement.

This new LOSC regime has the merit of creating no interruption to the flow of marine transportation.[567] Shippers will mind less if a vessel is unloading or loading in port when proceedings start. Hence industry was willing to accept it. Since flag states usually favour the shipping industry, they did not object to this kind of port jurisdiction.[568] It has however also been criticized in several respects.[569] For example, it is questionable whether port states will prove sufficiently motivated to exercise jurisdiction effectively over violations not affecting their own immediate interests. Similarly, a multitude of jurisdictions exercised by the world's port states having different judicial systems may cause unreasonable hardship to seamen. There will also be obvious difficulties in providing adequate evidence of violations alleged to have occurred perhaps thousands of miles away from the port of prosecution. Finally the fundamental weakness of the regime is that enforcement by port states is permissible but not mandatory.[570] This will no doubt undermine its effectiveness.

4.8.3 Coastal state jurisdiction

Coastal state jurisdiction is the third kind of the control regime for vessel-source pollution mentioned in LOSC. To distinguish it from port state jurisdiction, 'coastal state jurisdiction' means jurisdiction over events occurring in zones of jurisdiction off its coast other than internal waters.[571] Since LOSC has adopted several new zonal definitions in addition to existing ones, the competence of

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567 Remark of Sohn L in 'Discussion and Questions' in Krueger and Riesenfeld ed n4 196.
568 Ibid.
569 Douay C 'En matière de pollution provenant des navires la juridiction de l'état du port, une hérésie. Le nouveau droit de la mer' RIRI 11-12 1978 369-81. See also Hakapaa n1 178.
570 See n536.
571 Abecassis and Jarashow n106 101.

coastal states to prescribe and enforce law in all these various zones will be examined individually where relevant to the region of the South China Sea.

4.8.3.1 The territorial sea

Under customary international law there are no limits on the type of pollution regulations a coastal state can prescribe for its territorial sea.[572] LOSC retains the basic preference for national rules and standards in this offshore zone.[573] Article 211(4) stipulates that 'Coastal States may, in the exercise of their sovereignty within their territorial sea, adopt laws and regulations for the prevention, reduction and control of marine pollution from foreign vessels, including vessels exercising the rights of innocent passage...'. The omission of a reference to international rules and standards[574] confirms that the existing regime has not been fundamentally altered. LOSC does however restrain the legislative competence of coastal states in one respect.[575] Article 21(2) states that the laws and regulations relating to foreign vessels in innocent passage 'shall not apply to the design, construction, manning or equipment of foreign ships unless they are giving effect to generally accepted international rules and standards'. Schneider points out that this is probably the most objectionable provision of the articles on vessel-source pollution.[576] The overall prescriptive power of coastal states within territorial seas under the new LOSC arrangement is therefore as follows. CDEM standards established by the coastal states may be enforced only if they conform to international standards but discharge and liability standards may be more stringent than their

572 Churchill and Lowe n9 255.
573 Boyle n70 539.
574 Ibid.
575 Churchill and Lowe n9 256.
576 Schneider n523 16.

international counterparts[577] (especially those contained in MARPOL 73/78).[578]

As far as enforcement jurisdiction is concerned, art 220(2) lays down the basic rule

> 'where there are clear grounds for believing that a vessel navigating in the territorial sea of a State has, during its passage therein, violated laws and regulations of that State adopted in accordance with this Convention..., that State, ... may undertake physical inspection of the vessel relating to the violation and may, where the evidence so warrants, institute proceedings, including detention of the vessel, in accordance with its laws...'.

Several points should be clarified. Firstly 'clear grounds' constitutes a labyrinth.[579] O'Connell suggests that an indication such as a trailing oil slick should be enough to be considered 'clear grounds'.[580] This however only solves the problem of discharge violations. But what about CDEM enforcement? Wang points out that it would be extremely difficult for coastal states to acquire evidence constituting 'clear grounds' for CDEM violations in most cases.[581] Thus this premise for coastal state enforcement measures in the territorial sea would, in the opinion of the writer, make CDEM standards actually unenforceable in that maritime zone. Hakapaa deplores the fact that coastal states are not authorized to take preventive measures against poorly constructed or equipped vessels posing a clear danger of pollution until the actual occurrence of a discharge of a certain magnitude.[582] Secondly 'physical inspection' is another puzzle. Fortunately art 226(1)(a) solves the problem to some extent by stating that

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577 Meese n541 90.
578 See n573.
579 Wang n147 322.
580 O'Connell n71 993.
581 Wang n147 321-2.
582 Hakapaa n1 297.

'...any physical inspection of a foreign vessel shall be limited to an examination of such certificates, records or other documents as the vessel is required to carry by generally accepted international rules and standards or of any similar documents which it is carrying; further physical inspection of the vessel may be undertaken only after such an examination and only when:

(i) there are clear grounds for believing that the condition of the vessel or its equipment does not correspond substantially with the particulars of those documents;

(ii) the contents of such documents are not sufficient to confirm or verify a suspected violation; or

(iii) the vessel is not carrying valid certificates and records'.

It is still unclear however whether a ship must be allowed to continue its journey while such physical inspection is carried out or whether it may be stopped. Both O'Connell[583] and Meese[584] argue that the coastal state may stop the ship. Stopping, therefore, should be regarded as a legitimate step in the process of physical inspection. Thirdly, the phrase 'evidence so warrants', which may lead to detention of the ship and legal proceedings, is also ambiguous. Presumably the onus of proof is on the coastal state both in terms of the Convention (it would seem to this writer that this may be deduced from art 220(2) itself) and of customary international law. Nonetheless, should the coastal state furnish evidence beyond reasonable doubt or is a lower degree of proof allowed? Different interpretations may lead to impracticality in the article as a whole.

Although the coastal state enforcement regime is unequivocally stated to be subject to the safeguards in

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583 See n580.
584 Meese n541 91.

section 7[585], it is arguable whether the flag state preemption contained in that section applies here. Article 228(1) provides that

> '[p]roceedings to impose penalties in respect of any violation of applicable laws and regulations or international rules and standards relating to the prevention, reduction and control of pollution from vessels committed by a foreign vessel beyond the territorial sea of the State instituting proceedings shall be suspended upon the taking of proceedings to impose penalties in respect of corresponding charges by the flag State...' (emphasis added).

The provision can just as well read that a coastal state has no obligation to suspend proceedings for a violation in its territorial sea, even if the flag state has taken over the task of prosecuting the culprit ship! Flag state preemption therefore does not exist vis-a-vis coastal state enforcement in the territorial sea.

Generally speaking, the enforcement power of coastal states in this traditional offshore zone may be considered comprehensive. Procedural particulars especially have been detailed in LOSC. Problems may however arise out of the caveat not to hamper ships exercising the right of innocent passage.[586] Since very little original thought was given to this at UNCLOS III, a legacy of problems is bound to result from the provisions.[587] The innocent passage regime of marine pollution control in LOSC mainly finds expression in art 19 which states

> '1. Passage is innocent so long as it is not prejudicial to the peace, good order or security of the coastal State. Such passage shall take place in conformity with this Convention and with other rules of international law.

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585 LOSC art 220(2).
586 LOSC art 24(1).
587 Letalik N 'Arrest of Vessels and the Law of the Sea' in Krueger and Riesenfeld ed n4 702.

> 2. Passage of a foreign ship shall be considered to be prejudicial to the peace, good order or security of the coastal State if in the territorial sea it engages in any of the following activities:
>
> (h) any act of wilful and serious pollution contrary to this Convention; ...
>
> (l) any other activity not having a direct bearing on passage'.

Penalties allowed to be imposed upon ships in passage which cause such 'wilful and serious' pollution are stipulated in art 230(2)

> 'Monetary penalties only may be imposed with respect to violations of national laws and regulations or applicable international rules and standards for the prevention, reduction and control of pollution of the marine environment, committed by foreign vessels in the territorial sea, except in the case of a wilful and serious act of pollution in the territorial sea' (emphasis added).

Presumably incarceration is permissible here.

Two prominent characteristics are readily distinguishable in the new regime. Firstly only activities pursued by a vessel in the territorial sea may render passage non-innocent. Thus mere passage cannot be considered prejudicial to the 'peace, good order or security' of the coastal state.[588] Secondly the pollution must be both 'wilful and serious' for the ship to be deprived of its innocent passage.

> 'A wilful act may be described as one done intentionally, knowingly and purposely, without justifiable excuse, as distinguished from an act done carelessly, thoughtlessly, heedlessly or inadvertently. A wilful act differs essentially from a negligent act. The one is positive and other negative' (emphasis added).[589]

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588 Hakapaa nl 184.
589 Black's Law Dictionary 5th ed 1979 1434, under 'wilful'.

Thus, intent (dolus) is a sine qua non in the mental state necessary for establishing non-innocent passage[590] and negligence (culpa) is not enough.[591] The adjective 'serious' is used to stress the objective consequence of the 'wilful' act of pollution, which should be capable of being empirically tested.[592] It is not clear, however, what evidence is necessary to prove 'seriousness' here.[593] Smith suggests that the determination should be made in the light of the specific circumstances of the coastal state. It must not be considered in isolation from incremental or synergistic effects.[594] This is still an open question and is subject to various interpretations which will give rise to practical difficulties in application.[595]

From a holistic point of view Timagenis criticizes the traditional concept of innocent passage for including few environmental elements.[596] LOSC seems to contribute little to improving the situation. Several points may be made to illustrate the nature of the problem. Firstly, the emphasis of the new regime on prejudicial activities renders factors such as CDEM standards irrelevant to the determination of innocence.[597] Yet these are potential sources of serious marine pollution![598] Secondly, the coastal state is now

590 Abecassis and Jarashow n106 103-4; see also Meng n512 126.
591 Ibid 125.
592 Ibid 126.
593 Ibid 127.
594 Smith n542 200.
595 Meng n512 127-8.
596 Timagenis n94 618.
597 Abecassis and Jarashow n106 87; see also Burke KM and De Leo DA 'Innocent Passage and Transit Passage in the United Nations Convention on the Law of the Sea' YJWPO 9 1983 393, Hakapaa n1 184, Smith n542 201.
598 Smith argues that 'There can be little question that it is the very presence of a vessel carrying a hazardous cargo with CDEM inadequate to the task which threatens the environmental interests of the coastal state. The LOS III formulation, in effect, denies this'. See ibid.

under an obligation to prove the intent of a foreign ship in transit if it desires to take direct action against it. Pollution caused by accident is excluded.[599] If one recalls the notorious South African case State v Peppas mentioned earlier[600], it would be extremely difficult for the coastal state to establish the fact of violation let alone to establish dolus on the part of the culprit. O'Connell points out that this requirement may be insurmountable.[601] The problem is further exacerbated by the fact that coastal states must show that their policing operations have not violated the international law of innocent passage.[602] Wang argues that this burden has given more ammunition to ships resisting coastal state enforcement measures.[603] Such 'double burdens of proof' would hardly favour coastal state enforcement in territorial seas. Thirdly, the threshold for 'seriousness' would exclude most typical operational discharges of oil because they are rarely 'serious'.[604] However, this exclusion immediately gives rise to the acute problem of accommodating MARPOL 73/78 to the new innocent passage regime. For example, a ship in innocent passage violates MARPOL by marginally exceeding its discharge standards in reaching, say, 70 litres per nautical mile (under MARPOL, discharge shall not exceed 60 litres per nautical mile). Such a discharge would hardly constitute serious pollution, especially taking into account the disastrous experience of Torrey Canyon or Amoco Cadiz. Thus, an inner-12nm belt is probably created by LOSC in the

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599 Burke and De Leo n597; see also Hakapaa n1 190.
600 See n211-3 and accompanying text supra.
601 O'Connell n71 995.
602 See n579.
603 Ibid.
604 See n573; see also n596 and Dzidzornu DM and Tsamenyi M 'Enhancing International Control of Vessel-source Oil Pollution Under the Law of the Sea Convention, 1982: A Reassessment' UTLR 10 1991 282. Letalik also points out that the arrest of a ship in innocent passage for its committing a minor offence would be inappropriate. See Letalik n587 701.

MARPOL 50nm prohibition zone in which MARPOL is stripped of its effectiveness! Such a 'derogating' arrangement seems to go in the opposite direction to current developments in international environmental law. Fourthly, in addition to these three substantive flaws, the new regime of innocent passage in LOSC sacrifices procedural elements.[605] Defects in procedure can lead to denial of basic norms.[606] No doubt this will further disadvantage coastal states in applying the already deficient body of substantive rules in the regime. O'Connell correctly points out that it will be a rare that pollution is both wilful and serious.[607] The net outcome, taking all the above into account, is that coastal states would in practice have no enforcement jurisdiction under the innocent passage regime of marine pollution control in LOSC! Only truncated regulatory powers (which do not include national CDEM standards) are left to them!

Devine correctly points out that the list of prejudicial conduct in art 19(2) of LOSC should be read as a list of examples, leaving open the possibility that other conduct (outside the list) could also be prejudiced.[608] Thus, one could regard a ship which pollutes (not wilfully and not seriously) as still being 'prejudicial to the peace, good order or security of the coastal state'. However, recent state practice has unfortunately developed otherwise. In 1989, the USA and the then USSR issued a joint statement containing a uniform interpretation of the right of innocent passage.[609] In that document, it is stated that

> 'Article 19 of the Convention of 1982 sets out in paragraph 2 an exhaustive list of activities that would render passage not innocent. A ship passing through

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605 Ibid 702.
606 Ibid.
607 See n601.
608 Devine DJ 'Bays, Baselines, Passage and Pollution in South African Waters' CILSA 19 1986 91-2.
609 Text in ILM 28(6) November 1989 1444-7.

> the territorial sea that does not engage in any of those activities is in innocent passage' (emphasis added).[610]

Generally speaking, the innocent passage regime of LOSC does present problems.[611] What is worse is that the regime in fact fundamentally reflects the interests of maritime powers.[612] Schneider therefore terms it distasteful.[613] Burke and De Leo also opine that the provisions concerned in LOSC are undesirable.[614] Gold even points out that the marine pollution regime is almost unworkable and not completely compatible with IMO conventions.[615] Dzidzotnu and Tsamenyi argue that the coastal state's pollution legislation, however stringent, would hardly interfere with flag state interests in unimpeded navigational rights.[616] Timagenis shares this view and indicates that coastal states could do very little in practice.[617] At this juncture, one may easily think of resorting to port jurisdiction as a temporary expedient until the anomalies of anti-pollution regulation enforcement in the new innocent passage regime are solved.[618] It is still to be seen whether it would be satisfactory to deal with the problem in such a retrospective way instead of catching the culprit red-handed. It is submitted that port jurisdiction could indeed be an alternative, but only for the moment. Priority should be given to the solution of the built-in contradiction in the regime.

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610 Ibid 1446. See also Sea Changes 11 1990 26.
611 Burke and De Leo n597 405.
612 Schneider n515 239; see also Vindenes H 'The Environmental Rights of Coastal State and the Freedom of Navigation' in Koers and Oxman ed n2 575.
613 See n576.
614 Burke and De Leo n597.
615 Gold n68 286.
616 Dzidzornu and Tsamenyi n604.
617 See n596.
618 Meese reminds us that ships travelling in 'innocent passage' are exempt from national standards, but ships using our ports are not. See Meese n541 102.

Finally, it is worth mentioning that the issue is especially relevant to the Philippines which will definitely have a stake in it. The Philippines claims an extraordinarily vast territorial sea in defiance of contemporary international rules.[619] It extends over 200 miles from the shore.[620] In the extreme northwest, northeast and east, the territorial waters are even outside the EEZ![621] From the viewpoint of marine pollution control, nevertheless, the claim to such a huge volume of water is not necessarily advantageous to that country. Its territorial sea would probably become a 'polluters' heaven' for quite a while! This will no doubt add many difficulties to cleaning up the waters in the future. Thus, it would seem necessary for the Philippines to review its policy on the territorial sea and to take into account the problems of pollution control therein created by LOSC.

4.8.3.2 The exclusive economic zone (EEZ)

The most revolutionary jurisdictional concept in LOSC (with the possible exception of port and coastal state jurisdiction) is probably that of the EEZ.[622] The rule in this case is different.[623] The regulatory authority of coastal states in the EEZ is far more restricted than in the territorial sea.[624] The basic approach adopted at UNCLOS

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619 For a detailed account of the Philippine claim to territorial seas, see Chiu H 'Some Problems Concerning the Delimitation of the Maritime Boundary Between the Republic of China and the Phlippines' CYILA 3 1983 1-10; see also Prescott JRV The Maritime Political Boundaries of the World 1985 230-1. This specific topic will be further explored in Chapter 10 infra.

620 UN Press Release, SEA/MB/6 December 8 1982 3. See also Chiu n619 9.

621 Valencia MJ 'Southeast Asian Seas: National Marine Interests, Transnational Issues and Marine Regionalism' in MacAndrews and Chia ed n8 321.

622 Abecassis and Jarashow n106 109.

623 See n580.

624 Hakapaa n1 242.

III was that coastal states generally should have prescriptive jurisdiction only to implement international standards[625] (including of course CDEM standards).[626] This materialized in art 211(5) which states that

> 'Coastal States, for the purpose of enforcement..., may in respect of their exclusive economic zones adopt laws and regulations for the prevention, reduction and control of pollution from vessels conforming to and giving effect to generally accepted international rules and standards established through the competent international organisation of general diplomatic conference'.[627]

It is submitted that 'generally accepted international rules and standards' refer to, inter alia, MARPOL 73/78 at this stage. The only prescriptive competence of coastal states with respect to the vessel-source pollution in the EEZ under LOSC is to transform MARPOL stipulations into their legislation!

A basic problem in art 211(5) is that it is couched in a discretionary manner: the state 'may' rather than 'shall' enact EEZ anti-pollution laws.[628] Thus the coastal states have no obligation to do so![629] Smith says that such non-obligatory language seems inconsistent with existing customary international law in terms of which coastal states

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625 As a matter of fact, this was a formula for compromise submitted by Canada, Fiji, Ghana and others in that conference. See Canada, Fiji, Ghana, et al: Draft Articles on a Zonal Approach to the Preservation of the Marine Environment, UN Doc A/CONF./62/C.3/L.6, July 31 1974. See also Smith n542 231 and Vindenes n612 576.

626 Wang n147 326. See also Smith n542 232.

627 Presumably, the purpose of the words 'for the purpose of enforcement' is to emphasize the linkage and limitation to international rules. Smith however points out that it is a rather awkward means of accomplishing this end and it only confuses the distinction between prescription and enforcement. See Smith n542 231 at n100.

628 Ibid 242.

629 Boyle n70 361.

are obliged to protect the marine environment from every source of pollution in their EEZs.[630]

In addition to the 'pessimistic' legislative jurisdiction of coastal states in the EEZ (which hardly amounts to anything new) maritime powers fought a fairly successful battle at UNCLOS III on the subject of enforcement powers.[631] Under LOSC coastal states have no general right to arrest foreign vessels in their EEZs for breaching anti-pollution regulations.[632] A three-step procedure has been established by the new regime.[633] Firstly, coastal states have the right to request information[634] in cases of less serious transgressions.[635] Article 220(3) lays down the rule.

> 'Where there are clear grounds for believing that a vessel navigating in the exclusive economic zone or the territorial sea of a State has, in the exclusive economic zone, committed a violation of applicable international rules and standards..., that State may require the vessel to give information regarding its identity and port of registry, its last and its next port of call and other relevant information required to establish whether a violation has occurred'.

It is submitted that the information could only be received by radio or visual signals at this stage. A fundamental difficulty is that it is unclear how serious the violation should be to trigger the first step in enforcement. If the foreign vessel refuses to give the requested information or the information supplied by the vessel is 'manifestly at variance with the evident factual situation', the coastal state may subsequently conduct a physical inspection on

630 Smith n542 229-30 and 242. After a survey, Sohn agrees with this point of view. See Sohn n525 105 and 114 at n21.
631 Vindenes n625.
632 Churchill and Lowe n9 257.
633 Hakapaa n1 243.
634 Ibid.
635 Vindenes n625.

board provided that the suspected violation has resulted in 'a substantial discharge causing or threatening significant pollution of the marine environment'.[636] It has been pointed out that stopping a ship where there is sufficient suspicion should be considered legitimate as the second step.[637] The 'physical inspection' has been clearly circumscribed by art 226(1), mentioned above, thus the term should not give rise to difficulties in application. Nevertheless, Vindenes stresses that the competence given to the coastal states in this step falls far short of a general power to enforce even internationally agreed rules.[638] The major problem derogating from the effectiveness is that 'substantial discharge' and 'significant pollution' have not been defined by either LOSC itself or the IMO Conventions.[639] The interpretation of the two key terms is apparently left to the discretion of coastal states.[640] This will necessarily cause problems in application. Thirdly, under certain circumstances physical intervention[641] involving full enforcement measures[642] may be taken against EEZ violations. Article 220(6) provides

> 'Where there is clear objective evidence that a vessel navigating in the exclusive economic zone or the territorial sea of a State has, in the exclusive economic zone, committed a violation... resulting in a discharge causing major damage or threat of major damage to the coastline or related interests of the coastal State, or to any resources of its territorial sea or exclusive economic zone, that State may..., provided that the evidence so warrants, institute proceedings, including detention of the vessel, in accordance with its laws'.

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636 LOSC art 220(5).
637 Vindenes n625.
638 Ibid.
639 Wang n626.
640 Ibid.
641 Hakapaa n1 244.
642 Smith n542 233.

Hakapaa points out that, amongst other things, the requirement of 'clear objective evidence' implies a higher level of certainty than does 'mere' belief even if supported by 'clear grounds'.[643] Nevertheless, the real problem lies in the fact that the dividing line between 'major damage' and 'substantial discharge' is ambiguous which no doubt will blur the enforcement jurisdiction of the coastal state.[644] It is likely that coastal states will tend to assume that any significant discharge will be a 'discharge causing major damage', thus endowing themselves with greater enforcement competence![645] At this juncture, one subtle aspect of the Convention's EEZ vessel-source pollution enforcement provisions should be noted. If a vessel has violated the applicable discharge law in the EEZ and later sails into the adjacent territorial sea, it is still liable for the EEZ violation. But enforcement measures could only be conducted as if the ship were in the EEZ.[646] Smith argues that such enforcement constitutes an exception to the general prohibition against interference with innocent passage for pre-passage violations.[647] This writer however opines that this could create an absurd situation. The coastal states can hardly take any action against foreign vessels violating applicable pollution control laws in innocent passage in the territorial seas since few incidents of pollution are both 'wilful and serious'. They can more easily in the same traditional maritime belt interfere with alien vessels which have committed violations resulting in only substantial discharges causing or threatening significant pollution in their EEZs! One may defend this by arguing that enforcement in the territorial sea of EEZ violations should always be deemed an integral part of the enforcement regime of the EEZ and thus ought not to be confused with that of the

643 See n641.
644 Wang n147 327.
645 Churchill and Lowe n9 258.
646 Wang n147 328.
647 See n642.

territorial sea. But this still does not answer the more fundamental question as to why enforcement power in the territorial sea is more restrictive than in the EEZ here. This would seem to be a second cumbersome anomaly in the construction of coastal state jurisdiction under LOSC. Finally, only monetary penalties may be imposed in respect of vessel-source pollution violations in the EEZ.[648]

The EEZ enforcement of coastal states is subject to the safeguard of flag state preemption. Article 228(1) enables the flag state to take corresponding proceedings within six months in which case the coastal state's proceedings shall be suspended,

> 'unless those proceedings relate to a case of major damage to the coastal State or the flag State in question has repeatedly disregarded its obligation to enforce effectively the applicable international rules and standards in respect of violations committed by its vessels'.

However, the term 'major damage' may once again constitute a stumbling block to the smooth execution of the provision as a whole. Since there is no clear-cut definition of 'major damage' as mentioned above[649], the coastal state may easily invoke it to avoid the requirement of suspending proceedings.[650] The phrase 'repeatedly disregarded its obligations to enforce effectively...' may also cause problems of interpretation. Meng suggests that if the flag state has not achieved effective results, then it may be said to have failed to fulfil its obligations.[651] Churchill and Lowe submit that if the flag state begins legal proceedings but does not bring them to a conclusion, the

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648 LOSC art 230(1).
649 See n644 and accompanying text supra.
650 Abecassis and Jarashow argue to the contrary. They opine that this is unlikely to be used much in practice. See Abecassis and Jarashow n106 113.
651 Meng n512 191.

coastal state may continue its proceedings.[652] The latter seems to be more concrete and thus more helpful to the solution of the question.

Generally speaking, coastal state jurisdiction in the EEZ under LOSC is obviously not free from problems. Abecassis and Jarashow point out that the provisions are likely only to be rarely used in practice.[653] O'Connell states that the bid on the part of coastal states for preventive measures in the EEZ failed.[654]

4.8.3.3 Straits used for international navigation

LOSC creates a special legal regime in straits 'which are used for international navigation between one part of the high seas or an exclusive economic zone and another part of the high seas or an exclusive economic zone'.[655] In such straits, all ships and aircraft now enjoy a new right called transit passage which refers to 'the exercise... of the freedom of navigation and overflight solely for the purpose of continuous and expeditious transit...'.[656] The relevance of this regime to the South China Sea is that the Malacca/Singapore Straits fall within the category of 'international straits'.[657]

Where the territorial sea consists of straits subject to the regime of transit passage, the competence of coastal states is even more restricted.[658] Insofar as prescriptive power is concerned, pollution regulations may be adopted only if

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652 Churchill and Lowe n9 260.
653 Abecassis and Jarashow n106 105.
654 See n601.
655 LOSC art 37.
656 LOSC art 38(2).
657 Lauriat n46 223; see also Vertzberger Y 'The Malacca/Singapore Straits' Asi Sur 22(7) July 1983 609 and Sanger C Ordering the Oceans: The Making of the Law of the Sea 1986 84.
658 Churchill and Lowe n9 256.

they give 'effect to applicable international regulations regarding the discharge of oil, oily wastes and other noxious substances in the strait'.[659] The bordering state has absolutely no right to adopt CDEM regulations[660], even to give effect to applicable international standards![661] There is also a fundamental difficulty for implementation. There are no 'applicable international regulations regarding the discharge of oil, oily wastes and other noxious substances in the strait' at all for the time being![662] With respect to enforcement, art 233 lays down the limitation

> '... if a foreign ship... has committed a violation of the laws and regulations..., causing or threatening major damage to the marine environment of the straits, the States bordering the straits may take appropriate enforcement measures'.

However, this provision is not too clear at least on two points.[663] First, there is once again the problem of defining 'major damage'. The vagueness of the term may adversely affect its viability. Moreover, it may effectively exclude routine discharges in normal tanker operations since they can hardly be considered as 'major'.[664] Thus nothing would seem to be left for bordering states to enforce against foreign ships in transit. Secondly, 'appropriate enforcement measures' may pose difficulties.[665] O'Connell points out that these words apparently refer to the measures that might be taken in the territorial sea.[666] Nevertheless, the problem does not stop there. More confusion has been added by art 38(3) which

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659 LOSC art 42(1)(b).
660 Smith n542 215.
661 Meng n512 171.
662 Ibid 172.
663 Abecassis and Jarashow n106 106.
664 Meng n512 175-6.
665 Ibid 176-7.
666 O'Connell n71 994.

states 'Any activity which is not an exercise of the right of transit passage through a strait remains subject to the other applicable provisions of this Convention'. Hakapaa interprets this as meaning that a vessel violating an applicable international regulation causing or threatening major damage would no longer be in transit passage. It may however still remain in innocent passage.[667] If this argument is valid it results in a highly undesirable situation. Bearing in mind the higher threshold for establishing non-innocence, how can one expect bordering states to overcome the practically insurmountable requirement of proof that the pollution is both wilful and serious after they have cleaned the first hurdle of establishing 'major damage'? To make matters worse, bordering states have the burden of proof that they are not obstructing passage.[668] Such a 'triple-shield-design' will in effect exempt all ships in transit passage from any enforcement action whatsoever by bordering states! One may even further argue that art 38(3) eventually renders transit passage 'a species of innocent passage'.[669]

Briefly the extremely limited jurisdictional competence (especially the almost non-existence enforcement power) of bordering states seems to coincide with the intention of LOSC drafters to deny any right to interrupt transit for breach and to vest only a right to seek ex post facto redress through diplomatic or dispute settlement

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667 Hakapaa n1 204.

668 Anon 'Summary of Discussion' in Valencia, Gold, Chia and Letalik ed n5 215. Article 38(1) of LOSC clearly stipulates that 'In straits..., all ships and aircraft enjoy the right of transit passage, which shall not be impeded...' (emphasis added).

669 Reisman WM 'The Regime of Straits and National Security: An Appraisal of International Lawmaking' AJIL 74 1980 70. See also Burke and De Leo n597 403.

procedures.[670] Thus, there seems no other choice both in theory and in reality but to request the flag state or port state to take enforcement measures.[671] Since the new regime is quite weak[672], there is good reason for Malaysia, Indonesia and Singapore, which border the Malacca/Singapore Straits[673], to worry about the consequence of LOSC's entry into force.

4.8.3.4 Archipelagic waters

Two countries ie Indonesia and the Philippines, in the region of the South China Sea have archipelagic status under LOSC.[674] They therefore have sovereignty over their archipelagic waters, the air space above and the sea-bed below.[675] The practical exercise of such authority is however restricted by the right of archipelagic sea lanes passage (ASLP) which is defined as '... the exercise... of the rights of navigation and overflight in the normal mode solely for the purpose of continuous, expeditious and unobstructed transit...'.[676] The right, of course, is enjoyed by all ships and aircraft.[677]

With respect to the law-making competence of archipelagic states over marine pollution vis-a-vis foreign ships in ASLP, art 54 stipulates that it is governed mutatis mutandis by the corresponding provisions (especially art 42(1)(b)) on transit passage in straits. Thus, archipelagic states may only prescribe rules which are to give effect to 'applicable international regulations regarding the discharge of oil,

670 Moore JN 'The Regime of Straits and the Third United Nations Conference on the Law of the Sea' AJIL 74 1980 77. See also Smith n542 208-9.
671 Meng n512 176.
672 Ibid 177.
673 Lauriat n657. See also Vertzberger n657 610 and Sanger n637 88.
674 Samson ED 'Fisheries' in Kent and Valencia n13 145.
675 LOSC art 49(1) and (2).
676 LOSC art 53(3).
677 LOSC art 53(2).

oily wastes and other noxious substances [in the archipelagic waters]'. A fundamental problem is that there are no such international regulations! As to enforcement, the situation is unfortunately no clearer than it is for transit passage.[678] In fact, archipelagic waters are not referred to anywhere in the pollution provisions (Part XII) of LOSC. The only clue seems to be art 233 which says that

> '... if a foreign ship... has committed a violation of the laws and regulations referred to in article 42, paragraph 1(a) and (b), causing or threatening major damage to the marine environment of the straits, the States bordering the straits may take appropriate enforcement measures...' (emphasis added).

Since art 42(1)(b) now also governs ASLP, it is submitted that art 233 should be applied mutatis mutandis in the regime as well. That is to say, when a foreign vessel violates applicable laws in ASLP causing or threatening major damage to the marine environment of archipelagic waters, the archipelagic state may take those measures that might be taken in the territorial sea.[679] In this sense, ASLP may be said to be identical with transit passage in straits.[680] However, there are two remedies which bordering states of straits do not have in the transit passage regime but which are available to archipelagic states for marine pollution control of ASLP. The first is that there is no provision in Part IV of LOSC 'Archipelagic States' that an activity which is not an exercise of the right of ASLP remains subject to the protection of innocent passage. The absence of innocent passage as a second line of defence here will greatly facilitate enforcement action by archipelagic states. They can avoid the burdensome problem of proving

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678 Abecassis and Jarashow n106 108.

679 This submission derives some support from the argument of Abecassis and Jarashow that the archipelagic waters should be assimilated to the territorial sea and ASLP to transit passage. See ibid.

680 Moore n670 111; see also Hakapaa n1 209.

simultaneously the dolus of the culprit and the seriousness of the pollution. The second is that when ASLP is alleged to be illegally obstructed[681] , the burden of proof falls upon the flag state.[682] This removes another large stumbling block to the pollution violation enforcement by archipelagic states in the ASLP regime.

Generally speaking, ASLP is similar to[683], or it may be said to be almost identical with[684], transit passage. However, the former is obviously more advantageous to archipelagic states than the latter is to bordering states of international straits.

4.9 ACNNR

The 1985 ACNNR which is signed by all ASEAN member states is considered the most modern regional instrument ever adopted in the field of conservation.[685] It nevertheless does not deal specifically with vessel-source pollution. It only touches the problem very generally. Article 11 stipulates that

> 'The Contracting Parties, recognizing the adverse effect that polluting discharges or emissions may have on natural processes and the functioning of natural ecosystems as well as on each of the individual ecosystem components, especially animal and plant species, shall endeavour to prevent, reduce and control such discharges, emissions or applications, in particular by (a) submitting activities likely to cause pollution of the air, soil, freshwater, or the marine environment, to controls which shall take into consideration both the cumulative effects of the pollutants concerned and the self-purificating [*sic*]

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681 Remember that by the definition per se, ASLP is an 'unobstructed transit'.

682 Since the coastal states have the right to control ASLP. See n668.

683 Report of the UN Secretary-General n512 11.

684 See n678.

685 Mushkat R 'International Environmental Law in the Asia-Pacific Region: Recent Developments' Calif WILJ 20 1989 2609.

aptitude of the recipient natural environment...' (emphasis added).

Despite the ambiguous wording, this still represents the strongest expression of commitment to the task of pollution control as a whole[686] of which containing vessel-source pollution of course forms an integral part. Although it has also been criticized for not imposing more duties than other international agreements[687], this writer however opines that ACNNR gives a further legal boost to the various global instruments mentioned in the previous sections.

4.10 Concluding remarks

Generally speaking, the international efforts so far embarked upon to curb vessel-source pollution are remarkable[688] and the various instruments concluded form a relatively comprehensive legal framework on the matter.[689] Nevertheless, one cannot deny, at least at this stage, the fact that the effectiveness of controlling pollution from ships lies in the operation of this agglomeration of conventions and agreements as a whole rather than in a single comprehensive treaty. The arrangement has two characteristics. The first one is the interdependence of the various parts of the agglomeration. For example, LOSC does not really create any framework for civil jurisdiction.[690] Thus, the parties to litigation on vessel-source pollution damage have to turn to CLC and the Fund Convention.[691] As a corollary, states would have to accept

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686 Ibid 26.
687 Brunee J Acid Rain and Ozone Layer Depletion: International Law and Regulation 1988 221.
688 Hakapaa n1 292.
689 See n543.
690 Abecassis and Jarashow n106 114.
691 Johnston and Letalik point out that problem - specific global treaties will serve the function of 'filling in' perceived gaps in LOSC. See Johnston DM and Letalik NG 'Emerging Legislative Trends in Southeast Asia' in Valencia, Gold, Chia and Letalik ed n5 234.

all the international anti-pollution laws as a single package and could not order *à la carte*. Selection in this case necessarily creates loopholes which eventually undermine the efforts to combat marine pollution *in toto*. The second characteristic is that, inevitably, there exists inconsistencies amongst individual legal regimes. Thus, further effort is needed to solve the problems.

In short, it is time for Southeast Asian states to review their pollution control policy in this particular respect. All should not only accede to all relevant international conventions and agreements but should also to try to work with each other to accommodate different laws. This will facilitate the effective performance of the task. The nineties indeed may prove to be a crucial era.

CHAPTER 5

POLLUTION FROM DUMPING

5.1 Present state of pollution from dumping in the region

In the 50s and 60s, dumping at sea became an increasingly popular way of disposing waste resulting from land-based activities[1] and has developed into one of the more serious types of marine pollution.[2] It has been estimated that approximately 10% of the pollutants which enter the oceans are from this source.[3] For example, international ocean dumping of oil has averaged around 500 000 tons per annum.[4] On the other hand, the pollution by dumping of industrial waste is even more alarming by reason of the nature of the problem.[5] Heavy metals are accumulated in marine organisms and can have detrimental and often irreversible effects on human health through consumption of contaminated seafood.[6] They also remain poisonous forever.[7] Because of their persistent and bioaccumulative nature, even lower concentrations of these metals may eventually prove hazardous.[8] To make matters worse, this is by no means merely theoretical speculation but vivid reality. For instance, the toxic effects of mercury on man and other animals are well known. Central and peripheral nervous

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1 Churchill RR and Lowe AV The Law of the Sea 2nd ed 1988 243.

2 Silk MA 'China's Marine Environment Protection Law: The Dragon Creeping in Murky Waters' RSL 11 1985 259.

3 Bruce M 'The London Dumping Convention, 1972: First Decade and Future' Ocean YB 6 1986 300.

4 Meese SA 'When Jurisdictional Interests Collide: International, Domestic and State Efforts to Prevent Vessel Source Pollution' ODIL 12(1-2) 1982 104-5 at n14.

5 Industrial waste is only one of many kinds of waste dumped into the sea. Others include radioactive matter, military materials (eg obsolete weapons and explosives), dredge spoils, sewage sludge. See n1.

6 Kuwabara S The Legal Regime of the Protection of the Mediterranean against Pollution from Land-Based Source 1984 17.

7 Bruce n3 298.

8 See n6.

systems damage, congenital disorders and death as a result of exposure to methylmercury have been demonstrated in the mass poisoning incidents at Minamata and Niigata in Japan.[9] Cadmium, another notorious case, was identified as the cause of the disease called 'itai-itai' in the early 60s when it was associated with a bone disorder amongst people of the Jinzu River basin in Japan.[10] It can poison man resulting in death, cause skeletal deformities or kidney dysfunction at low concentration levels of exposure and intake over long periods.[11] Copper can kill tuna to which they are particularly sensitive.[12] Since tuna are of overwhelming importance in economic terms to a substantial number of coastal states (especially developing ones)[13], the relevance of marine pollution by copper becomes quite clear. In brief, it has been correctly pointed out that the world's oceans may no longer be capable of sustaining the abuse to which modern industrialism has been subjecting them.[14]

The region of the South China Sea has been beset by the problem of marine pollution from dumping as well.[15] The traces of heavy metals especially[16] are almost omnipresent in that specific marine environment. Pollutants in this category include, inter alia, lead, mercury, cadmium, zinc

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9 UN Doc UNEP/WG.18/INF. 6 231 and 277. See also n6.

10 Goldberg ED 'The Oceans as Waste Space' Ocean YB 5 1985 155.

11 Ibid.

12 Barnes JN 'Pollution from Deep Ocean Mining' in Johnston DM ed Environmental Law of the Sea 1981 262.

13 Munro GR 'Extended Jurisdiction and the Management of Pacific Highly Migratory Species' ODIL 21(3) 1990 289.

14 See n7.

15 Mushkat R 'International Envrionmental Law in the Asia-Pacific Region: Recent Developments' Calif WILJ 20 1989 22.

16 Direct dumping of industrial wastes into the sea is one of the main causes of marine pollution by heavy metals in the South China Sea. See Ruddle K 'Pollution in the Marine Coastal Environment of ASEAN Countries' in MacAndrews C and Chia LS ed Southeast Asian Seas: Frontiers for Development 1981 150.

and silver derived from smelting, electronics, plastics, petrochemical and mining industries and domestic wastes.[17] Extraordinary high concentrations of cadmium, silver and mercury were noted in some sediment samples from the inner Gulf of Thailand.[18] In peninsular Malaysia, coastal waters adjacent to the Perai Industrial Estate revealed dangerously high levels of mercury, cadmium, chromium, lead, zinc and copper.[19] In Singapore, levels of mercury are particularly high near shipyards.[20] In Jakarta Bay, Indonesia, pollution by mercury, copper and cadmium poses special dangers to coastal ecosystems.[21] In the Philippines, heavy metals found in the marine environment include cadmium, lead, copper, zinc, iron, manganese[22] and high concentrations of mercury.[23] In the coastal waters of Hong Kong, concentrations of five trace metals are found in mussels: cadmium, copper, mercury, lead and zinc.[24] On the north-

17 Jaafar AB and Valencia MJ 'Marine Pollution: National Responses and Transnational Issues' in Kent G and Valencia MJ ed Marine Policy in Southeast Asia 1985 271.

18 Generally see National Research Council Report on the Second Pollution Surveys in the Upper Gulf of Thailand 1973. See also Ruddle n16 151 and Jaafar and Valencia n17.

19 Generally see Consumers' Association of Penang Pollution: Kuala Juru's Battle for Survival 1976. See also Ruddle n16 153 and Jaafar and Valencia n17.

20 Ibid.

21 Bilal J, Wahyu S, Mulyono M and Abuyuwono A: 'Inventarisasi data perairan Teluk Jakarta [Inventory of data in the Bay of Jakarta]' Caraka Lingkungan 1 1976 3-6. See also Meith N and Helmer R 'Marine Environment and Coastal Resources in Southeast Asia: A Threatened Heritage' Ocean YB 4 1983 280.

22 Gomez ED 'Status Report on Research and Monitoring of the Impact of Pollution on the Mangrove Ecosystem and Its Productivity in the Philippines' mimeographed (Manila: South China Sea Fisheries Development and Coordinating Programme) 1980 35. See also Meith and Helmer n21.

23 Jaafar and Valencia n17 271-2.

24 Phillips DJH, Thompson GB, Gabuji KM and Ng LH 'Trace Metals of Toxicological Significance to Man in Hong Kong Seafood' Marine Environmental Research 3 1980 15-22; see also Meith and Helmer n21 281.

eastern rim of the region, the Chinese coastal waters receive as much as 50 000 tons of heavy metals annually![25] Although heavy metal pollution was not considered serious in the Southeast Asian Seas at an early stage[26], it has nevertheless been increasingly acknowledged that the problem now reaches an alarming level.[27] It has been pointed out that with continued accumulation these substances could have complex and long-lasting effects on the marine ecosystem. The dumping of hazardous wastes at sea, therefore, should in no way be overlooked in the long run.[28]

5.2 London Dumping Convention (LDC)

The picture vis-a-vis ocean disposal of waste is not all bad and there have been some positive developments.[29] As a matter of fact, considerable progress has been made in the past two decades especially at the international level.[30] (Obviously the nations of the world have not been totally unaware of the problem!) In 1972, the United Kingdom convened an intergovernmental conference to address the dumping of hazardous substances into the world's oceans at which twenty-seven nations signed an International Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (LDC).[31] Strictly speaking, ocean dumping is really a land-based problem transferred to

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25 Fan Z 'Marine Pollution Legislation in China: Retrospects and Prospects' Marine Pollution Bulletin 20(7) 1989 301-5. See also Fan Z and Côté RP 'Coastal Zone of PR China: Management Approaches and Institutions' MP 14(4) July 1990 305.

26 Ruddle n16.

27 UNEP 'East Asian Seas Action Plan, 1989' Ocean YB 8 1989 521. See also Meith and Helmer n21 279.

28 Fretheim A 'Dumping at Sea' MP 14(3) May 1990 249.

29 Ibid.

30 Report of the Secretary-General of the UN 'Protection and Preservation of the Marine Environment' September 18, 1989 in Simmonds KR ed New Directions in the Law of the Sea U7 February 1990 22.

31 Schoenbaum TJ Admiralty and Maritime Law 1987 551.

sea.[32] The reason for the international community to treat dumping as a source of pollution separate from land-based sources is twofold. First, tackling pollution from the latter source presents vast political problems and can only realistically be approached on a regional basis.[33] Secondly, the areas where dumping takes place are obviously juridically different from land.[34] Thus the Convention represents minimum standards[35] as a result of compromises between these two realities (political and legal). It entered into force on August 30, 1975 and has 65 state parties thereto.[36] At the moment, however, only three Southeast Asian states or entities have acceded to this important international treaty: PRC, the Philippines and Hong Kong.[37] The states' response in the region seems to be out of proportion to the problem they actually face.

5.2.1 The fundamental principle of the Convention

The basic rule of the Convention is the prohibition of dumping of any substance whatsoever.[38] This is unambiguously reflected in art IV(1) which stipulates '...Contracting parties shall prohibit the dumping of any wastes or other matter in whatever form or condition...'. It has been pointed out that dumping into the sea is presently a use which under international law must be

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32 See n1. See also Latalik NG 'Pollution from Dumping' in Johnston ed n12 229, O'Connell DP The International Law of the Sea II 1984 1013 and McManus RJ 'Legal Aspects of Land-Based Sources of Marine Pollution' in Charney JI ed The New Nationalism and the Use of Common Spaces, Issues in Marine Pollution and the Exploitation of Antarctica 1982 91.

33 Ibid. See also n3.

34 See n1.

35 Timagenis GJ International Control of Marine Pollution I 1980 48.

36 'IMO/LDC: More Protection for Marine Environment' Environ Pol & Law 21(1) February 1991 8.

37 They ratified on October 22 1985, August 10 1973 and November 17 1975 respectively.

38 Timagenis n35 210.

controlled, monitored, prevented or prohibited and can by no means be equated with 'freedom'.[39] Thus, in the interpretation of the Convention as a whole any doubt should be resolved in favour of the prohibiting rather than allowing dumping.[40]

5.2.2 The scope of the Convention

Geographically speaking, LDC is universal. There is no limit to the area of application.[41] Article III(3) defines the term 'sea' as 'all marine waters other than the internal waters of States'. This makes the Convention truly global[42] and applicable to territorial seas of the contracting parties as well as to the high seas.[43] Timagenis further points out that since materials dumped into the sea may eventually reach the sea floor, the Convention should therefore be deemed to apply also to the continental shelf and international sea-bed.[44]

As far as scope in respect of the form of pollution is concerned, art III(1) lays down the basic circumscription:

> '(a) "Dumping" means:
>
> (i) any deliberate disposal at sea of wastes or other matter from vessels, aircraft, platforms or other man-made structures at sea;
>
> (ii) any deliberate disposal at sea of vessels, aircraft, platforms or other man-made structures at sea.
>
> (b) "Dumping" does not include:

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39 Van Meurs LH Marine Pollution 1986 105.
40 Timagenis n35 211.
41 Ibid 195.
42 Letalik n32 222.
43 Kuwabara n6 38. See also Timagenis n35 195-6.
44 Ibid 198.

(i) the disposal at sea of wastes or other matter incidental to, or derived from the normal operations of vessels, aircraft, platforms, or other man-made structures at sea and their equipment...;

(ii) placement of matter for a purpose other than mere disposal thereof, provided that such placement is not contrary to the aims of this Convention.

(c) The disposal of wastes or other matter directly arising from, or related to the exploration, exploitation and associated off-shore processing of sea-bed mineral resources will not be covered by the provisions of this Convention'.

Devine points out that abandonment (ie the cessation of physical control coupled with an intention to relinquish possession) accompanied by some physical act whereby the abandoned property is physically moved are the essential ingredients of 'dumping'.[45] However, art III(1) is not totally free from problems. Limitations have already been identified by various writers. First, it has been asked does 'disposal at sea' refer to the final resting place of the wastes or does it refer to the place where the disposal activities occur?[46] Alternatively it may be put as follows: does burial of wastes in the sea-bed fall within the ambit of the language of LDC?[47] The Convention does not address this point specifically[48] and the ambiguity so caused gives rise to controversies regarding, amongst other things, the burial of high-level radioactive wastes in deep-ocean

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45 Devine DJ 'Disposal at Sea of Offshore Installations and Platforms and Legal Questions Related to Such Practice' (unpublished opinion, on file with the Institute of Marine Law, University of Cape Town) August 31 1990 5.

46 Curtis CE 'Recent Developments Under Special Environmental Conventions' in Krueger RB and Riesenfeld SA ed The Developing Order of the Oceans 1985 125.

47 Bruce n3 309.

48 See n46.

sediments.[49] Secondly, the Convention excludes wastes from the exploration and exploitation of the sea-bed. The reasons for this exclusion was that the Convention on Civil Liability for Oil Pollution Damage resulting from Exploration for and Exploitation of Seabed Mineral Resources 1976[50] was scheduled to deal with the problem of pollution resulting from offshore dumping activities from offshore mineral exploitation installations. Hence it was agreed that the latter, rather than LDC, should regulate this type of activity.[51] Timagenis nevertheless indicates that this exception limits the scope of the Convention considerably and subsequent developments have shown that it was unnecessary.[52] Thirdly, the use of the word 'deliberate' which did not appear in the first draft may prove to be unfortunate.[53] It has been argued that a party could allege that its dumping was not deliberate and thus shift the burden of proof to the complaining party.[54] Fourthly, the dumping of certain platforms may fall outside the Convention. Any deliberate disposal of a platform at sea is in principle prohibited by art III(1)(a)(ii). Nonetheless, para (1)(c) of the same article creates an exception to the effect that 'the disposal of wastes or other matter directly arising from, or related to exploration, exploitation and associated off-shore processing of sea-bed mineral resources will not be covered... by this Convention'. Devine argues that a platform used for the above purposes is no doubt a 'matter... related to' them.[55] Dumping of platforms used for all of the following purposes: exploration, exploitation and associated off-shore processing of sea-bed mineral

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49 See n70 and accompanying text infra.
50 Text in ILM 16(6) November 1977 1450-5.
51 See n42.
52 Timagenis n35 200.
53 Duncan RN 'The 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes at Sea' JMLC 5(2) January 1974 302.
54 Ibid.
55 Devine n45 3.

resources, therefore, are not forbidden here.[56] He also points out that abandonment of platforms does not constitute 'dumping' since the 'disposer' in this case has performed no physical act to move the platform in any way.[57] Finally, the Convention has been extended, through a resolution adopted in 1978[58], to apply to 'incineration at sea' which is defined as 'deliberate combustion of wastes or other matter on marine incineration facilities for the purpose of their thermal destruction'.[59] It has been pointed out that this amounts to creating an exception to the general rule.[60] What is more, a fundamental and intractable problem associated with this new arrangement apparently lies in the scientific uncertainty with respect to certain, if not all, aspects of the operation.[61] As a matter of fact, there appeared to be general agreement in the 1988 Eleventh Consultative Meeting of contracting parties to the Convention that incineration at sea was indeed considered as

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56 Ibid 4.
57 Ibid 5.
58 Text in Timagenis GJ International Control of Marine Pollution II 1980 687-93.
59 1978 Resolution, Regulation 1(2) of the Addendum to Annex I of LDC.
60 Letalik n32 p224.
61 For example, the Scientific Group on Dumping of LDC at its 8th meeting in 1985 had identified five topics where differences of expert opinion exist: (1) What is the relationship between destruction and combustion efficiencies of incineration facilities over a range of operating conditions? (2) What sampling procedure should be used to obtain a representative gas sample of the entire stack? (3) What methodology should be used for collecting particulate material in the stack of incinerators? (4) What quality assurance requirements should be used for monitoring incineraton emissions at sea? (5) What new organic compounds may be synthesized during the incineration process? See Bruce n3 313. The same group at its 11th meeting again indicated that further research on certain aspects of incineration at sea were needed. See 'Report of the Eleventh Consultative Meeting of Contracting Parties to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, October 3-7, 1988' Ocean YB 8 1989 510.

being an interim disposal method which might eventually be phased out and replaced by safer and more environmentally acceptable waste treatment and disposal options.[62] A resolution therefore was adopted on that occasion to phase-out ocean incineration of noxious liquid wastes by 1994.[63] It would seem, fortunately, that the problems in this respect would be removed to a great extent in the foreseeable future.

The essence of LDC is found in art IV which establishes a black list/grey list method of dealing with different types of pollutants.[64] The substances contained in the black list (Annex I) include organohalogen compounds, mercury, cadmium, plastics, oil and high-level radioactive wastes defined by the International Atomic Energy Agency (IAEA) as unsuitable for dumping. The dumping of these is prohibited.[65] The wastes contained in the grey list (Annex II) are somewhat less noxious and include arsenic, lead, copper, zinc, organosilicon compounds, cyanides, fluorides, pesticides, scrap metal and radioactive wastes not included in Annex I. The dumping of these substances is permitted only if a prior special permit has been obtained.[66] All other wastes not on the black or grey lists may be dumped provided that a prior general permit has been obtained.[67] However, two specific problems arise from the prescription of the lists. The first one, which may be considered minor, concerns the prohibition on dumping plastics. As mentioned above, dumping does not include the disposal at sea of wastes or other matter incidental to or derived from normal operations of vessels. This at once raises the question whether lost

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62 Ibid 512.
63 Text of the resolution is ibid 515-6. See also 'IMO/LDC' n36 10.
64 Letalik n32 223.
65 LDC art IV(1)(a).
66 LDC art IV(1)(b).
67 LDC art IV(1)(c).

nets and debris are disposed of incidentally to the normal operations of fishing and other vessels and therefore excluded from the application of the Convention.[68] Formal agreement is apparently needed here to decide which debris may be covered by the definition and which may not.[69] The second one, which is more cumbersome, concerns the disposal of radioactive wastes. Dating back to 1983, there has been an ongoing debate as to whether or not burial of high-level radioactive wastes below the seabed is covered by the Convention.[70] Although the issue has not yet been settled, the contracting parties adopted a resolution in that year calling for a two-year moratorium on the dumping of low-level radio-active wastes pending the results of a scientific review of the harm caused by such dumping.[71] In 1985, the moratorium on dumping was renewed for an indefinite period pending further consideration.[72] At the same time, it reversed the burden of proof for lifting the moratorium: no longer would those opposed to such dumping have to show that it was harmful, but the proponents would have to show that it was safe.[73] Since 1983, no radioactive wastes have been dumped at sea.[74] Despite the fact that the resolution is not legally binding[75], a de facto moratorium

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68 Bruce n3 315.
69 Ibid.
70 'IMO/LDC' n36 9.
71 Ibid 10. See also Curtis n46 124, Churchill and Lowe n1 270, Bruce n3 307, Fretheim n28 248, Lykke E 'The Law of the Sea Convention and Disposal of Nuclear Waste' in Koers AW and Oxman BH ed The 1982 Convention on the Law of the Sea 1984 603 and Kasoulides GC: 'State Responsibility and Assessment of Liability for Damage Resulting from Dumping Operations' SDRL 26 1989 499.
72 Ibid. See also Van Dyke JM 'Ocean Disposal of Nuclear Wastes' MP 12(2) April 1988 82, Churchill and Lowe n71, Fretheim n71 and Bruce n3 308.
73 Ibid.
74 Curtis n71. See also Churchill and Lowe n71 and Fretheim n71.
75 Bruce n72. See also Churchill and Lowe n71 and Curtis n71.

obviously exists.[76] The current review of low-level radioactive waste risks and the question of the legality of high-level radioactive waste disposal within the framework of LDC present a challenge for safeguarding the marine environment.[77]

There are five exceptions to the above main rules of the Convention. The first basic exception is force majeure caused by weather, danger to human life or a real threat to vessels if dumping appears the only solution and the danger caused by such dumping would be less than would otherwise occur.[78] However, this prescription is said to be rather vague and very difficult to judge.[79] It is unclear, for example, whether this provision applies only to ships carrying out dumping under a permit or whether it embraces all cargo-carrying ships.[80] A further uncertainty is whether the substances must be on board when the event occurs or could still be on land. Do the human lives threatened have to be on board or could they be on land? The correct interpretation seems to be that the exception applies in cases where the substances have already been loaded on board the vessel whether for dumping under a proper licence or for any other purpose[81] and the human lives to be safeguarded should be those aboard ships.[82] Timagenis further points out that any risk to property other than vessels, aircraft, platforms or other man-made structures cannot justify the exception.[83] Nevertheless, it would be reasonable to ask whether the exception might enable a ship to rely on the stipulated dangers and dump at

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76 Ibid.
77 Ibid 126-7.
78 LDC art V(1).
79 Timagenis n35 221.
80 Bruce n61.
81 See n79.
82 UN DOC A/AC.138/84 12-3. See also Timagenis n35 222.
83 Ibid.

sea contrary to the permit system of the Convention?[84] The second exception is that of an emergency posing unacceptable risk to human health and admitting no other feasible solution. In such a case, a special permit may be issued for a black list substance.[85] Although a document entitled 'Interim Procedures and Criteria for Determining Emergency Situations' was issued in 1980 for guidance in the application of this stipulation, it nonetheless seems that a party is allowed to determine an emergency unilaterally.[86] This exception, therefore, has been criticized for watering down the complete prohibition on dumping.[87] The third exception is that the substances on the black list may be dumped if they are 'rapidly rendered harmless' by physical, chemical or biological processes in the sea provided that they do not (a) make edible marine organisms unpalatable or (b) endanger human health or that of domestic animals.[88] The third consultative meeting (1978) adopted 'Interim Guidelines for the Implementation of Paragraphs 8 and 9 of Annex I of the London Dumping Convention'[89], under which substances listed in Annex I may be regarded as meeting the 'rapidly rendered harmless' requirement, if tests of the waste (including tests of its persistence) show that it can be dumped without causing acute or chronic effects or bioaccumulation in sensitive marine organisms typical of the ecosystem at the disposal site.[90] The fourth exception is that substances on the black list may be dumped provided that they appear as trace contaminants in wastes (eg in sewage and dredge spoils).[91] The interim guidelines further elaborate this and provide that substances referred to in Annex I shall not be considered trace contaminants if they

84 Bruce n3 314.
85 LDC art V(2).
86 See n84.
87 Timagenis n35 223.
88 LDC Annex I para 8.
89 Text in ILM 18(2) March 1979 521-7.
90 Ibid 521. See also n84.
91 LDC Annex I para 9.

are present (a) in otherwise acceptable wastes to which they have been added for the purpose of being dumped, (b) in such amounts that dumping of the wastes could cause undesirable effects, or (c) in such amounts that it is practical to reduce their concentration further by technical means.[92] The final exception is that some of the substances listed in Annex I such as those containing halogenated organic compounds can be disposed of at sea by means of incineration.[93]

5.2.3 Jurisdiction and liability regime

The jurisdiction provisions of LDC are founded on three sources of rights and obligations: the flag state, the loading port state and the somewhat nebulous concept of coastal state enforcement over vessels 'under its jurisdiction'.[94] Article VII(1) lays down the basic rules:

> 'Each Contracting Party shall apply the measures required to implement the present Convention to all:
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> (a) vessels and aircraft registered in its territory or flying its flag;
>
> (b) vessels and aircraft loading in its territory or territorial seas matter which is to be dumped;
>
> (c) vessels and aircraft and fixed or floating platforms under its jurisdiction believed to be engaged in dumping'.

Timagenis points out that 'measures' referred to in the article cover a very wide range. They are primarily measures for the prevention and punishment of violations of the Convention including policing, reporting of violations, stoppage, boarding and inspection of ships as well as any other act of investigation and, finally, imposing and

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92 ILM 18(2) March 1979 522. See also n84.
93 1978 Resolution, Regulation 2(1) of the Addendum to Annex I of LDC.
94 Bruce n3 304.

enforcement of penalties. They may also include the creation of an effective enforcement machinery (eg training and use of special officers, use of patrol boats and other devices for policing, detection and reporting of dumping incidents). Finally, the adoption of internal regulations for the disposal of wastes without risk to the environment is required together with the establishment of penalties adequate in severity to discourage future violations.[95] However, the problem here is that there is no other provision to unify the standards and enforcement contemplated by this article.[96] As a matter of fact, the Convention is quite imprecise about enforcement.[97] Churchill and Lowe suggest that this would seem to be governed by the general rules of customary law.[98] Thus, traditional flag state enforcement, which includes all stages of enforcement including information, investigation, imposing and enforcement of penalties and arrest of ships, applies here regardless of the place where loading or dumping took place or where the ship is at a particular moment.[99] The obligation of the loading port state under art VII(1)(b) refers primarily to cases where the ship is still in its ports and encompasses full enforcement powers.[100] Timagenis argues that art VII(1)(b) might also be interpreted as giving the loading port state the right to enforce the Convention on ships of other contracting states even after they have left its ports or territorial waters![101] He indicates that this interpretation cannot be excluded in view of the text which gives loading port states

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95 Timagenis n35 228-9.
96 Johnston DM and De Klemm C 'The Environmental Law of the Sea: Conclusions and Recommendations' in Johnston ed n12 413.
97 See n94. See also Churchill and Lowe n1 269.
98 Ibid.
99 Timagenis n35 231.
100 Ibid.
101 Ibid, Kasoulides holds the same view. See Kasoulides n71 506.

full enforcement powers without any limitation as to area.[102] As far as coastal state enforcement is concerned, a coastal state can take full-scale enforcement action against any ship illegally dumping waste in its territorial sea.[103] These include stoppage, boarding, inspection and arrest of ships.[104] It has been pointed out, however, that the right of the coastal state should be subject to the right of innocent passage and any interference with such passage should be warranted by clear external evidence.[105] On the other hand, it is submitted that the coastal state may also extend its full enforcement powers against illegal dumping to the EEZ which is now 'under its jurisdiction' by force of customary international law.[106] The first two regimes form the basis of enforcement of the Convention on the high seas.[107] Generally speaking, the arrangement as a whole in this regard fully coincides with the universal motif of the Convention.

In addition to the aforementioned general rules contained in art VII(1), art VI(2) further specifically elaborates on the matter of issuing permits. It reads:

> 'The appropriate authority or authorities of a Contracting Party shall issue prior special or general permits... in respect of matter intended for dumping;

102 See n99.
103 Churchill and Lowe n97.
104 Timagenis n35 232.
105 Ibid 233.
106 Under art 56 of the EEZ regime of LOSC, the coastal state has jurisdiction in respect of marine pollution in the EEZ. In the Continental Shelf (Libya v Malta) Case, the International Court of Justice observed that 'the institution of the exclusive economic zone... is shown by the practice of states to have become part of customary law'. See ICJ Reports 1985 33. Kasoulides even asserts directly that the right of enforcement of coastal state against foreign vessels 'under its jurisdiction' includes the right to prevent foreign dumping in the exclusive economic zone. See Kasoulides n71 506-7.
107 See n94.

(a) loaded in its territory;

(b) loaded by a vessel or aircraft registered in its territory or flying its flag, when the loading occurs in the territory of a State not party to the Convention'.

Several problems arise however from this provision. First, O'Connell argues that the controls envisaged by the Convention are strictly territorial in their jurisdictional nature and no permission is required for extraterritorial dumping, except in the case of national ships loading in the territories of non-parties.[108] This writer is however of the opinion that any extraterritorial dumping still needs a prior permit provided that the material is loaded in the territory of a contracting party. The provision unambiguously says that a party shall issue prior permits in respect of matter 'intended for dumping...loaded in its territory' rather than 'to be dumped in its territory'. Obviously wastes loaded in the territory may be dumped elsewhere! Thus extraterritorial dumping originating from territorial loading is indeed under the control of the permit system established by the Convention. While solving one problem, the use of the word 'loaded' in the provision creates yet another problem. O'Connell points out that no mention is made of issuing permits to national ships loading on the high seas.[109] Devine adds that the Convention does not seem to give the coastal state the right to require permits from ships loading material in the EEZ which is to be dumped.[110] Devine argues that the right to require a permit would appear to be confined to ships loaded in the state's territory (and by extension in its territorial seas) whether they are national or foreign and also national ships loaded in the territory (and by extension in territorial

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108 O'Connell n32 1014.
109 Ibid.
110 Devine n45 10.

seas) of a non-party to LDC.[111] He therefore concludes that the Convention does not even give a coastal state the right to require a permit from its own ships loading in its own EEZ material to be dumped![112] Nevertheless, does the lack of a requirement of a permit imply exemption from regulation and control? It is submitted that this is not the case, since such a state of affairs is obviously against the fundamental principle of general prohibition of dumping in the Convention.[113] Only two interpretations, therefore, are possible here. One interpretation is that the issuing of a permit to national ships loading on the high seas is in fact intended by art VII(1)(a) which obliges parties to apply the Convention to flag vessels.[114] Devine also argues that a state may apply its legislation to its ships wherever they are and thus may obviously impose a permit requirement on its own ships loading in its EEZ.[115] Indeed, there will be even an additional legal basis for the coastal state to do so in the latter case if it decides to extend jurisdiction against illegal dumping to the EEZ. However, it is submitted that the 'floating island' principle of customary international law, which provides the basis for flag state jurisdiction[116], alone may provide a firm and legitimate basis for requiring a permit in both cases. Since a ship flying the national flag is for the purpose of jurisdiction treated as if it were state territory[117], wastes which are loaded onto it could always be deemed to be loaded in the flag state's territory. Under these circumstances, the flag state could require a permit from its ships loading in its own EEZ and on the high seas (and in the maritime jurisdictional zones of other states) by virtue of art

111 Ibid.
112 Ibid.
113 See n38-40 and accompanying text supra.
114 See n108.
115 See n110.
116 Starke JG An Introduction to International Law 10th ed 1989 203 and 273.
117 Ibid 273.

VI(2)(a) which obliges states to issue permits for matter to be dumped 'loaded in its territory'. The other interpretation is that permits for loading materials in the EEZ and on the high seas which are to be dumped are not required, but such loading is still subject to the jurisdiction of the coastal/flag state. At this juncture, a reasonable doubt occurs: if a coastal/flag state can enforce anti-dumping law in respect of loading in the EEZ and on the high seas without issuing permits, wouldn't the requirement of such documents for ships loading in its territory and territorial seas be superfluous or merely a formality? Nonetheless, this should only be seen as an anomaly rather than a loophole. As mentioned above, the 'permit issue' should not be allowed to detract from the fundamentally universal applicability of the Convention. It would seem therefore that the only loophole in the international control of dumping at sea lies in relation to non-parties to LDC, where loading and dumping of their ships occurs in their own territorial seas, EEZs, on the high seas and perhaps in the EEZs of parties to the Convention who have not assumed enforcement jurisdiction in respect of anti-dumping laws in the EEZ.

Another problem associated with the 'permit issue' clause is that more than one permit is probably required.[118] (In a more fundamental sense, the Convention in effect grants concurrent jurisdiction to the flag state, the loading port state and the coastal state.[119]) Firstly, nothing in the Convention or during its preparation suggests that the parties intended to grant the loading port state the exclusive right to issue permits and to amend in this way customary international law.[120] Secondly, the general spirit of the negotiations indicates an intention not to

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118 Timagenis n35 156.
119 Ibid.
120 Ibid 252.

reduce coastal state rights but rather to increase them, or at least not to prejudice the possibility of such an increase. This leads to the conclusion that an additional permit may be required by the coastal state.[121] Moreover, even art VI(2) per se which apportions jurisdiction in issuing permits was never conceived as aiming at reducing the rights of the flag state and thus may not prohibit it from requesting a permit from ships flying its flag.[122] Such a state of affairs may give rise to multiple proceedings and even double punishment which is contrary to the general rule relating to double jeopardy (non bis in idem).[123] Timagenis suggests that the question of concurrent jurisdiction in issuing permits may be resolved on a regional basis.[124] Finally, a third problem has been identified. This is especially relevant to international efforts aimed at preventing dumping which are inherent in the permit system of the Convention. The problem is what happens where wastes are exported from a state party to LDC to a state not party to LDC for subsequent disposal at sea in a vessel not flying the flag of a party to LDC?[125] The contracting parties at their 13th Consultative Meeting in 1990 adopted a resolution to prohibit such export practices.[126]

As far as the liability regime is concerned, the Convention includes a provision specifically dealing with the matter which is considered one of its novelties.[127] Under art X, the contracting parties must develop procedures for the assessment of liability resulting from dumping 'in accordance with the principles of international law

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121 Ibid 255.
122 Ibid 256.
123 Ibid 160.
124 Ibid 270.
125 Bruce n3 305.
126 'IMO/LDC' n36 9-10.
127 Timagenis n35 273.

regarding State responsibility for environmental damage'. Theoretically speaking, this represents progress in that the provision recognizes that there are some principles of international law regulating damage to the environment.[128] Nevertheless, the practical problem is that the contemplated rules and procedures have not yet been developed.[129] Kasoulides therefore suggests that a state should have unlimited liability for damage resulting from: (i) the fault or intention of the state with respect to both unlawful and lawful dumping under LDC; and (ii) the failure of the state to exercise due diligence to prevent dumping of substances on the 'black list' and for dumping of substances on the 'grey list' without a special permit.[130] On the other hand, a state should have limited liability for damage resulting from its failure to exercise due diligence to prevent all other types of unlawful dumping.[131] He also suggests that the liability of private operators should be strict and limited across the board taking into account the 'polluter pays' principle, practical problems of individual solvency as well as the ultimate legal responsibility retained by states concerning supervisory functions.[132]

Last but not least, it is also worth mentioning that the contracting parties at their 3rd Consultative Meeting in 1978, adopted a resolution establishing compulsory machinery for the settlement of disputes[133] in response to arts X and XI which call for this.[134] Under this resolution

> 'Any dispute between two or more Contracting Parties concerning the interpretation or application of this

128 Ibid 274.
129 Churchill and Lowe n1 270.
130 Kasoulides n7 519.
131 Ibid. At this point, Kasoulides also suggests that there should be liability for 'all other types of lawful dumping'. This is however quite questionable.
132 Ibid 519-20.
133 Text in Timagenis n58 694-8.
134 Timagenis n35 281-2.

> Convention shall, if settlement by negotiation or other means has not been possible, be submitted by agreement between the parties to the dispute to the International Court of Justice or upon the request of one of them to arbitration. Arbitration procedures, unless the parties to the dispute decide otherwise, shall be in accordance with the rules set out in the Appendix to this Convention'.

In short, these rules are by and large modelled on those included in Protocol II to 1973 MARPOL.[135]

5.2.4 Overall evaluation

The Convention seems to provoke more than a few criticisms amongst writers. For example, it has been specifically pointed out that some of the substances in the black and grey lists would appear to have been allocated on little scientific evidence[136] and several in the grey list should be prohibited as well.[137] It has also been indicated that the Convention ignores completely the aggregate amount of each contaminant dumped at sea and simply asks each contracting party to require permits.[138] Neither are there guidelines for the issuing of such permits.[139] Furthermore, art VII(4) exempting government vessels which are often used for the disposal of military wastes[140] may prove a grave deficiency.[141] In addition, a more fundamental restraint seems to lie in art II which obliges contracting parties to 'take effective measures individually, according to their scientific, technical and economic capabilities and collectively, to prevent marine pollution by dumping...' (emphasis added). It has been criticized that this is in

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135 Ibid 282. For the rules relating to compulsory settlement of disputes of 1973 MARPOL, see section 4.2.3.2. of Chapter 4.
136 Bruce n3 310.
137 See n96.
138 McManus n32 106.
139 See n64.
140 Bruce n3 316.
141 See n96.

fact an escape clause[142] and implements 'double standards' for the application of the Convention.[143] One might suggest, on the basis of this article, that dumping of certain industrial waste otherwise prohibited by the Convention would be allowed where no other more reasonable method of disposal exists and the national economy of the party concerned depends heavily on the industrial activity producing such waste.[144] This is indeed a disturbing factor[145] which may contribute to the persistence of the environmental crises.[146] As a matter of fact, Third World arguments about the need to follow in the footsteps of industrialized nations carry with them the inevitable problems and costs now faced by industrialized countries.[147] It has been pointed out that now is the time to learn from the mistakes of the past and to attempt to inhibit rather than exacerbate the current problems.[148] Kuwabara therefore argues that the consideration for differing implementation capabilities should be time-limits for adoption or implementation schedules so as to avoid a proliferation of arbitrary derogations from uniform standards.[149] Hakapaa also specifically suggests that the discretion of the developing parties should be qualified in that 'double standard' policies should be without prejudice to the

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142 'Covention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter' Law and Policy in Int Business 6 1974 583. See also Timagenis n35 195.
143 Hakapaa K Marine Pollution in International Law 1981 63.
144 Ibid.
145 Schneider J 'Remarks [on The Environment: International Rights and Responsibilities]' in American Society of International Law: Proceedings of the 74th Annual Meeting 1981 241.
146 Soni R 'International Law and Marine Pollution' in Girardot RG, Ridder H, Sarin ML and Schiller T ed New Directions in International Law 1982 339.
147 Kildow JT 'Political and Economic Dimensions of Land-Based Sources of Marine Pollution' in Charney ed n32 78.
148 Ibid.
149 Kuwabara n6 74.

provisions on the 'elimination' of pollution by the most hazardous substances listed in the annexes.[150]

Perhaps the most fundamental criticism comes from O'Connell who argues that the Convention would affect only a minor aspect of the question[151] since, as mentioned above, ocean dumping is really land-sourced pollution transferred to sea.[152] Nevertheless, the instrument is still an important step toward the development of a fully comprehensive approach to the marine environment.[153] It has been correctly pointed out that the next step is the effective application and interpretation of its provisions.[154]

5.3 LOSC

LOSC is the other legal instrument of a universal nature which touches upon the problem of dumping at sea. In addition to pollution from vessels, states at UNCLOS III, when drafting provisions on the protection and preservation of the marine environment, focused their attention primarily on dumping.[155] The Convention therefore deals with the subject matter in some detail.[156] The standard obligation is laid down in art 210(1) which stipulates that: 'States shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment by dumping'. The language of the provision suggests that there is not merely a right, but a duty, to do so.[157] The definition of dumping in the Convention[158] by and large corresponds with that in LDC.[159] Geographically speaking, the provisions on

150 Hakapaa n143 64.
151 O'Connell n32.
152 See n32 and accompanying text supra.
153 Duncan n53 305.
154 Kasoulides n71 522.
155 Schneider n145 240.
156 Bruce n3 306.
157 Churchill and Lowe n1 272.
158 LOSC art 1(1)(5).
159 O'Connell n32 1012. See also Lykke n71.

dumping in LOSC apply to the coastal state's territorial sea, EEZ and continental shelf.[160] If one argues that the maritime zones in which the coastal state may exercise enforcement power in accordance with LDC against foreign vessels 'under its jurisdiction' does not include EEZ, then LOSC no doubt can serve as another international law source of jurisdiction and thus fill the lacuna.[161]

As far as legislative jurisdiction is concerned, the Convention obliges states to adopt '[n]ational laws, regulations and measures [which] shall be no less effective in preventing, reducing and controlling such pollution than the global rules and standards'.[162] 'No less effective' means that international rules are not strictly binding. States are only obliged to achieve the same effect by using methods within their economic and technical capabilities. These methods need not correspond exactly with those provided for in the international rules.[163] But, there is the question as to which 'rules and standards' are to be considered 'global'.[164] Some writers argue that they refer to those found in LDC.[165] Thus, it would seem that the prescriptive powers of contracting parties over pollution by dumping under LOSC is restricted to giving effect to LDC. Insofar as enforcement jurisdiction is concerned, the respective provisions of the Convention follow the pattern of LDC.[166] Firstly, it establishes a system of permits. Article 210(5) stipulates that: 'Dumping within the territorial sea and the exclusive economic zone or onto the

160 LOSC art 210(5).
161 Devine n45 12.
162 LOSC art 210(6).
163 Timagenis n58 604.
164 Grolin J 'The Stability of the Environmental Regime of the 1982 Law of the Sea Convention' in Koers and Oxman ed n71 608.
165 See n156. See also Johnston DM and Enomoto LMG 'Regional Approaches to the Protection and Conservation of the Marine Environment' in Johnston ed n12 361.
166 Hakapaa n143 123. See also Timagenis n58 617.

continental shelf shall not be carried out without the express prior approval of the coastal State, which has the right to permit, regulate and control such dumping...'. However, the language used in the provision does not exclude the requirement of a second permit by the loading port state or the flag state in accordance with LDC.[167] Secondly, enforcement powers are given to the flag state, the coastal state and the loading port state. Article 216(1) lays down the basic rules:

> 'Laws and regulation... for the prevention, reduction and control of pollution of the marine environment by dumping shall be enforced:
>
> (a) by the coastal State with regard to dumping within its territorial sea or its exclusive economic zone or onto its continental shelf;
>
> (b) by the flag State with regard to vessels flying its flag or vessels or aircraft of its registry;
>
> (c) by any State with regard to acts of loading of wastes or other matter occurring within its territory or at its off-shore terminals'.

It has been pointed out, nevertheless, that the enforcement power of the loading port state is limited to certain dumping activities only, notably to 'acts of loading of wastes' which may imply that such states may not take enforcement measures on the high seas.[168] The overall application of the enforcement provisions is qualified by art 216(2) to the effect that a state does not have an obligation to institute legal proceedings in respect of a dumping when proceedings have already been commenced by another state. Yet Timagenis points out that this provision still does not exclude the possibility of double proceedings.[169]

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167 Timagenis n35 260.
168 Ibid 260-1.
169 Ibid 261.

Finally, it is especially worth mentioning that these articles of LOSC do not explicitly prohibit the burial of radioactive wastes within the seabed, provided such activities can be conducted in an environmentally safe manner.[170] This no doubt will exacerbate the dispute left unsettled by LDC.[171]

5.4 Other regional arrangements

In addition to the aforementioned global treaties, there are also regional arrangements dealing with dumping. As a matter of fact, the Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft adopted at Oslo in 1972 (Oslo Dumping Convention or ODC)[172] for the region of the north-east Atlantic and North Sea was the first international response to the problem.[173] LDC was largely modelled on this Convention.[174] Other regional developments subsequent to the adoption of LDC may be said to fall within three categories. The first category includes only the Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1974 (the Baltic Convention)[175] which takes a rather different and much stricter approach to dumping than LDC.[176] It prohibits all dumping, except of dredged spoils and even this is prohibited if the wastes contain significant quantities of certain listed noxious substances.[177] The second category covers those instruments containing only one (or two) general provision on the subject matter without any further elaboration of the

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170 Lykke n71 603-4.
171 See n30 and accompanying text supra.
172 Text in Ruster B and Simma B ed International Protection of the Environment: Treaties and Related Documents II 1975 530-6.
173 Letalik n32 225.
174 See n3. See also Timagenis n35 11.
175 Text in ILM 13(3) May 1974 546-90.
176 Churchill and Lowe n1 271.
177 The 1974 Baltic Convention art 9.

detailed rules. There are six of them: the Kuwait Regional Convention for Co-operation on the Protection of the Marine Environment from Pollution, 1978 (the Kuwait Convention)[178], the Convention for Co-operation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region (the Abidjan Convention)[179], the Convention for the Protection of the Marine Environment and Coastal Area of the South-East Pacific, 1981 (the Lima Convention)[180], the Regional Convention for the Conservation of the Red Sea and Gulf of Aden Environment, 1982 (the Jiddah Convention)[181], the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, 1983 (the Cartagena Convention)[182] and the Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region, 1985 (the Nairobi Convention).[183] Parties to these Conventions are simply obliged to 'take all appropriate measures'[184] or 'promote the appropriate environmental management'[185] to prevent and reduce pollution by dumping and ensure effective compliance with either 'applicable international rules'[186] or 'internationally recognized rules and standards'[187] ('generally recognized international

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178 Text in Ruster B and Simma B ed International Protection of the Environment: Treaties and Related Documents XIX 1979 9551-84.
179 Text in Ocean YB 4 1983 533-46.
180 Text in Simmonds KR ed New Directions in the Law of the Sea J18 September 1984.
181 Text in Environ Pol & Law 9(1/2) September 1982 56-62 and Environ Pol & Law 10(1) January 1983 28-30.
182 Text in ILM 22(2) March 1983 227-245.
183 Text in Simmonds KR ed New Directions in the Law of the Sea J26 September 1986.
184 Kuwait Convention art V; Abidjan Convention art 6; Jiddah Convention art V; Cartagena Convention art 6 and Nairobi Convention art 6.
185 Lima Convention art 3(3).
186 Kuwait Convention art V; Cartagena Convention art 6 and Nairobi Convention art 6.
187 Abidjan Convention art 6.

rules')[188], or 'existing international standards'.[189] Okidi points out that the provision to this effect in the Nairobi Convention clearly refers to the obligation to give effect to the legal regime of LDC.[190] There would seem no reason to prevent this argument from being applied to the other five conventions. The third category comprises those regimes which are respectively accompanied by a protocol laying down detailed rules. The Convention for the Protection of the Mediterranean Sea against Pollution, 1976 (the Barcelona Convention)[191] and the Convention for the Protection of the Natural Resources and Environment of the South Pacific Region, 1986 (the Noumea Convention)[192] are the two cases to which we are referring. In addition to a general provision calling on states to 'take all appropriate measures to prevent and abate pollution... caused by dumping...'[193], the Barcelona Convention is further supplemented by a protocol in this regard which actually mirrors the practice of LDC.[194] It has been pointed out that the Barcelona Protocol is in fact more comprehensive and stricter than LDC[195] in that, for example, it includes in its black list organosilicon compounds, medium and low-level radioactive wastes, acid and alkaline compounds which are substances on the LDC grey list.[196] The Noumea Convention follows exactly the same pattern as the Barcelona

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188 Jiddah Convention art V.
189 Lima Convention art 3(3).
190 Okidi CO 'Nairobi Convention: Conservation and Development Imperatives' Environ Pol & Law 15(2) November 1985 48.
191 Text in ILM 15(2) March 1976 290-310.
192 Text in Simmonds KR ed New Directions in the Law of the Sea J27 September 1990.
193 Barcelona Convention art 5.
194 Letalik n32 227. See also Churchill and Lowe n1 270-1 and Soni R Control of Marine Pollution in International Law 1985 217.
195 Timagenis n35 300.
196 Compare Annex I of LDC with its counterpart in the Barcelona Protocol on Dumping.

Convention. It also prohibits the dumping (including sub-seabed disposal) of all radioactive wastes.[197]

Generally speaking, all the regional arrangements mentioned above no doubt give a boost to the universal implementation of LDC. Specifically speaking, there are indeed small variations in the contents of annexes of LDC, the Barcelona Protocol and the Noumea Protocol.[198] It is submitted however that these variations rather fill the legal vacuum left by LDC than create new problems.

5.5 Concluding remarks

As discussed above, international cooperation aimed at controlling the dumping of hazardous wastes at sea has had considerable success.[199] One characteristic of the legal developments so far in this respect is that: LDC has actually been followed by almost all other conventions on the protection of marine pollution[200] either by reference or by incorporation. It has been pointed out that LDC can indeed serve as an appropriate model.[201] Thus, priority should always be accorded to giving effect to it. In addition to direct ratification of LDC, it has also been suggested that the preparation of a regional arrangement modelled on it would be useful.[202] This writer, however, is of the opinion that such a tortuous approach might not be the most effective way for the South China Sea. Soni correctly points out that the burning question is how to ensure effective implementation and enforcement of existing international legislation.[203] Elaboration of a regional scheme for the South China Sea based exactly upon LDC would

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197 Noumea Convention art 10.
198 See n176.
199 Fretheim n28 250.
200 Bruce n3 302.
201 Letalik n194.
202 See n30.
203 Soni n146 338.

therefore be unnecessary duplication and would divert already limited resources. It is submitted that all states or entities in the region should accept both LDC and LOSC as soon as possible. As a matter of fact, the combination of the two corresponds squarely with most of the regional arrangements mentioned above not only in substance, but also in form: general provisions (provided by LOSC) supplemented by detailed regulations (LDC). Nevertheless, a regional legislative effort in the South China Sea would be desirable if it is specifically devoted to the adoption of stricter standards, the development of a liability regime for the control of pollution from this source and the solution of some of the problems of LDC and LOSC.

CHAPTER 6

POLLUTION FROM OFFSHORE OPERATIONS

6.1 Present state of offshore development in the region

Petroleum is a primary energy source for modern industries.[1] It is estimated that between one-quarter and one-third of the world's reserves of oil (together with natural gas) lie offshore.[2] As a matter of fact, activities in connection with the exploration and exploitation of oil and gas in the seabed and its subsoil have been conducted in many offshore areas for some considerable time.[3] The 1973 oil crises speeded up the process of such developments.[4] Now offshore oil drilling is not only a response to the increasing demand for energy resources[5], but also has become an important source of revenue from the oceans.[6] However, degradation of the marine environment inevitably accompanies the pursuit of offshore hydrocarbons.[7] Pollution in this case may be caused either by the operational routines of drilling rigs, including discharges of oil, drilling muds and wastes, or accidents from blow-outs at well-heads.[8] As far as operational discharge of oil from offshore development is concerned, approximately 8 000-200 000 tons of waste has been so disposed of per annum.[9] On the other hand, mud

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1 Yuan PC 'China's Offshore Oil Development Policy and Legislation: An Overall Analysis' IJECL 3(2) 1988 101.
2 Generally see Comité Professionel du Pétrole Pétrole 77: Elements Statistiques 1978. See also Remond-Gouilloud M: 'Pollution from Seabed Activities' in Johnston DM ed Environmental Law of the Sea 1981 245.
3 Van Meurs LH Marine Pollution 1986 87.
4 Dzurek DJ 'Boundary and Resource Disputes in the South China Sea' Ocean YB 5 1985 261.
5 Schoenbaum TJ Admiralty and Maritime Law 1987 549.
6 Cates MB 'Offshore Oil Platforms which Pollute the Marine Environment: A Proposal for an International Treaty Imposing Strict Liability' SDLR 21 1984 691.
7 Roberts KG 'Offshore Petroleum Exploitation and Environmental Protection: The International and Norwegian Response' SDLR 17 1980 629.
8 Van Meurs n3 88.
9 Ross D Introduction to Oceanography 2nd ed 1977 335. See also Kindt JW 'Marine Pollution and Hydrocarbons:

mixtures are extensively used during the drilling operations. They are composed of about 85% fine, inert material which can be suspended in the water column without altering it, at least chemically, but can degrade the optical properties of sea water and impede the penetration of solar energy. In addition, soluble caustic sodium hydroxide, iron, chromium and sulphur are added to the mud, which will eventually be discharged directly into the marine environment.[10] Other wastes from offshore installations which may contaminate the sea water include domestic refuse and industrial debris.[11] Of course, accidents may also occur in the course of any undertaking as complex, arduous and risky as offshore exploration and exploitation and thus become another source of pollution.[12] In April 1977 a blow-out occurred in an oil well in the Ekofisk field in the Norwegian sector of the North Sea. It took eight days to stop the blow-out, by which time approximately 21 300 tons of oil had escaped and a slick of 1 000 sq km formed.[13] In June 1979 a much worse blow-out occurred in the IXTOC I well on the Mexican continental shelf off the Yucatan Peninsula: this time it was over nine months before the blow-out was finally brought under control and almost 3 million barrels or 500 000 tons of oil (230 000 tons is the amount of oil discharged by the tanker Amoco Cadiz) were lost.[14] Generally speaking, seabed mining indeed causes some

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The Goal of Minimizing Damage to the Marine Environment' Calif WILJ 14 1984 239.

10 Remond-Gouilloud n2 246.

11 Churchill RR and Lowe AV The Law of the Sea 2nd ed 1988 243.

12 Remond-Gouilloud n2 246-7.

13 Generally see Royal Norwegian Government Uncontrolled Blow-Out on Bravo Report of Commission of Inquiry 1977. See also Remond-Gouilloud n2 247 and Churchill and Lowe n11 241.

14 Advisory Committee on Oil Pollution of the Sea Annual Report 1979 11. See also Remond-Gouilloud n2 247-8 and Churchill and Lowe n13.

international concern especially taking into account that operations often further involve jurisdictional problems.[15]

Southeast Asia is one of the oldest oil and gas production areas in the world.[16] Onshore oil production was first established in this region in 1885.[17] In the 60s, however, interest shifted to the offshore resources of the region and exploration activity intensified in the late 60s and early 70s which was dramatically reflected in the production statistics of 1973.[18] Over the past two decades, the world has seen the region transformed from a non-active corner into a busy arena for the myriad activities of multinational oil companies conducting their activities.[19] Up to date, most of the continental shelf area has been explored and leased.[20] In Indonesia, nearly 2 000 offshore exploratory and development wells were drilled and 158 offshore production platforms erected between 1968 and 1980.[21] In Malaysia, over 200 development wells have been drilled since 1966 off eastern Malaysia and off the east coast of west Malaysia.[22] In Thai waters, 70 wells had been drilled up to

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15 Meng QN Land-Based Marine Pollution, International Law Development 1987 16.
16 Meith N and Helmer R 'Marine Environment and Coastal Resources in Southeast Asia: A Threatened Heritage' Ocean YB 4 1983 285.
17 Valencia MJ 'Oil and Gas Potential, Overlapping Claims and Political Relations' in Kent G and Valencia MJ ed Marine Policy in Southeast Asia 1985 158.
18 Tangsubkul P ASEAN and the Law of the Sea 1982 81.
19 Ibid.
20 See n16.
21 Rioux RL, Edgar NT and Wang FFH 'Preliminary Report on Environmental Problems of Offshore Exploration and Exploitation in Southeast Asia' mimeographed (Bangkok: Committee for Coordination of Joint Prospecting for Mineral Resources in Asian Offshore Areas [CCOP]) 1980 12. See also Meith and Helmer n16 286.
22 Bilal J 'Status Report on Research, Monitoring and Assessment of Oil Pollution in Southeast Asia' mimeographed (Jakarta: Indonesian Petroleum Institute) 1980 36. See also Meith and Helmer n16 287.

1981.[23] PRC did not start its offshore oil development with foreign oil companies in the South China Sea until November 1983.[24] However, up to 1986 11 wells had already been drilled in that area.[25] ROC has long since been engaged in exploration for oil and gas in offshore areas and successfully developed one oil field off the west coast of the Taiwan Island which has been in operation since 1986.[26] Brunéi currently produces most of its petroleum from offshore deposits in the South China Sea.[27] The Philippines has been concentrating on searching for offshore oil mainly in the Nido Reef complex and Reed Bank area off the western coast of the Palawan Island and a number of wells have been drilled there.[28] Its first commercially productive oil field came into operation in 1979.[29] In comparison to other states in the region, Vietnam is far behind in identification of offshore oil resources and their exploitation.[30] However, its exploration effort is continuing.[31] In view of the number of installations erected and the prosperity of the development, one really cannot expect a low degree of pollution from this source in the region. Unfortunately, offshore drilling is one of the

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23 Morgan JR and Valencia MJ ed Atlas for Marine Policy in Southeast Asian Seas 1983 105.
24 Yuan PC 'People's Republic of China. China's Offshore Oil Development: An Interim Assessment' IJECL 1(1) 1986 63.
25 Ibid.
26 ROC Council for Overseas Chinese Affairs The Annual of Overseas Chinese Economics (in Chinese) 1988 729. See also Sun K 'Some Legal Problems Regarding Control of Marine Pollution from Offshore Oil and Gas Development of the Republic of China' Sea Changes 11 1990 65.
27 Dzurek n4 264.
28 Morgan and Valencia ed n23 113-5.
29 Rioux, Edgar and Wang n21 17-8. See also Meith and Helmer n22 and Morgan and Valencia n23 100.
30 Hanson AJ 'Coastal and Ocean Resource Management: The Vietnam Case' Ocean YB 7 1988 248.
31 Ibid.

main sources of marine pollution in the South China Sea.[32] Concern for environmental protection of offshore hydrocarbon areas has therefore emerged everywhere wells have been drilled.[33] As a matter of fact, in 1978 environmental experts from ASEAN had already identified offshore oil exploration and exploitation as one of the most pressing problems related to the marine environment.[34] Thus, the subject is a legitimate cause for concern for the coastal states in the region.

6.2 International pollution control of offshore operations: an unfinished task

Generally speaking, international regulation of pollution from offshore operations is feasible since pollution from that source is relatively uniform in pattern in various regions of the world and the operations involved are in effect similar.[35] LOSC therefore obliges states to 'adopt laws and regulations to prevent, reduce and control pollution of the marine environment arising from or in connection with seabed activities subject to their jurisdiction...'[36] and '[s]uch laws, regulations and measures shall be no less effective than international rules, standards and recommended practices and procedures'.[37] One praiseworthy characteristic of the stipulation is that there is no allowance made for the economic aspirations and capacities of developing states.[38]

32 Jaafar AB and Valencia AJ 'Marine Pollution: National Responses and Transnational Issues' in Kent and Valencia ed n17 272.
33 See n30.
34 Thacher PS and Meith N 'Approaches to Regional Marine Problems:A Progress Report on UNEP's Regional Seas Program' Ocean YB 2 1980 175-6.
35 Report of the Secretary-General of the UN 'Protection and Preservation of the Marine Environment' September 18 1989 in Simmonds KR ed New Directions in the Law of the Sea U7.1 February 1990 22.
36 LOSC art 208(1).
37 LOSC art 208(3).
38 Report of the Secretary-General of the UN n35 9.

Nevertheless, the point of reference here is obscure.[39] The question is: to what do they refer?

First, one should recall that MARPOL 73/78 regulates fixed and floating drilling rigs and other platforms associated with the offshore exploration and exploitation of mineral resources.[40] These structures must be equipped with the same pollution control devices required for ships of 400 gross tons and above.[41] Moreover, oily substances must not be discharged in mixtures greater than 15 parts per million in certain areas[42] and a record must be kept of all operations.[43] Indeed, it has been pointed out that if pollution arising from offshore 'rig-based' activities is to be treated like other sources of marine pollution, the analogy should be with ship-generated pollution.[44] The Oil Companies Marine Forum however opposed such treatment by arguing not only that seabed development facilities and traditional maritime vessels were dissimilar but also that operating problems encountered were quite different from those encountered by seagoing vessels.[45] Timagenis also points out two problems in applying MARPOL in this case. One is the compatibility of the inclusion of these platforms with the provision that: 'Discharge does not include... (ii) release of harmful substances directly arising from the exploration, exploitation and associated offshore processing of sea-bed mineral resources'.[46] The distinction between discharges directly arising from the exploration and exploitation of the sea-bed and discharges from the platform

39 O'Connell DP The International Law of the Sea II 1984 1017.
40 MARPOL 73/78 Annex I regulation 21.
41 MARPOL 73/78 Annex I regulation 21(a).
42 MARPOL 73/78 Annex I regulation 21(c).
43 MARPOL 73/78 Annex I regulation 21(b).
44 Remond-Gouilloud M 'Land-Based Pollution' in Johnston ed n2 233.
45 IMCO Doc.MP/CONF/8/2/Add.1 2. See also Timagenis GJ International Control of Marine Pollution I 1980 370-1.
46 Ibid 369.

(if regarded as a normal ship) is not always clear.[47] The other problem is the examination of each particular regulation to see whether it applies to platforms and if so, how?[48] He accordingly asserts that it is not possible to coordinate all the provisions of the Convention in a proper way.[49] Remond-Gouilloud further indicates that it is quite unrealistic to prohibit all oil discharge from a production platform since a rig is not a ship. Limiting, but not prohibiting, the discharge is the only possible aim.[50] He argues that the technical features of MARPOL are designed for seagoing ships after all[51] and suggests therefore that the Convention requires significant modifications in order to be applicable to the different conditions of offshore operations.[52] Secondly, LDC is applicable here in two cases. On the one hand, the dumping from platforms of materials which have been loaded at some ports falls squarely within the ambit of the Convention.[53] On the other hand, dumping in the form of intentional disposal of sewage from a platform, whether fixed or floating, is also covered by the regime.[54] Of course, one should bear in mind that wastes 'directly arising from, or related to the exploration, exploitation and associated off-shore processing of sea-bed mineral resources' will not be subject to the regulation.[55] This is nonetheless highly unsatisfactory especially taking into account the fact that the mud mixtures used during drilling operations indeed contain certain heavy metals! Finally, it is to be pointed out that what is fundamentally missing in the international

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47 Ibid.
48 Ibid.
49 Ibid 381.
50 Remond-Gouilloud n2 252.
51 Ibid.
52 Ibid 251-2.
53 Timagenis argues that LDC art VI(2)(a) or (b) covers precisely this case. See Timagenis n45 215.
54 See n50.
55 LDC art III(1)(c).

control of offshore operations is a special regime concerning liability for damage caused by seabed pollution.[56] Fleischer points out that such a regime is necessary to avoid the rather unfortunate practice of 'forum shopping': victims may try to concentrate their actions at places where they think the possibilities of obtaining favourable judgments and executing them are the greatest. The regime is also necessary to avoid the possibility that victims may be denied compensation because the damage has been caused by installations under the jurisdiction of a foreign state.[57] In a nutshell, the rights and obligations of coastal states to control pollution from offshore operations under LOSC would appear to be limited for the time being to giving effect to MARPOL 73/78 and LDC by regulating certain activities ie: operational discharges not directly arising from the exploration, exploitation and associated offshore processing; and intentional sewage disposal. Apparently, a big gap exists in contemporary international control in this respect.

UNEP has recently issued a document titled 'Offshore Drilling and Mining, Aspects concerning the Environment related to Offshore Drilling and Mining within the Limits of National Jurisdiction'[58] (hereinafter cited as Aspects). Some recommendations have been made in this document. First of all, the document reemphasizes that laws, regulations and other measures relating to operations are no less effective than international rules, standards, recommended practices and procedures.[59] Unlike its counterpart in LOSC, the Aspects allows states to take into account 'the best

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56 Cates n6 691-2.
57 Fleischer CA 'Liability for Oil Pollution Damage Resulting from Offshore Operations' Scand SL 1976 108.
58 Text in Simmonds KR ed New Directions in the Law of the Sea J30 December 1988.
59 Aspects Provision 2(1).

available standards and technology'.[60] Subsequently, several preventive measures are introduced. On the one hand, states are urged to issue prior written authorizations for operations which include construction, erection on site and major alteration of installations.[61] The granting of authorization, nevertheless, should be preceded by an assessment of the effects of the proposed operations on the environment.[62] Furthermore, applicant's technical knowledge, ability and economic capacity should also be taken into consideration.[63] On the other hand, it is suggested that states establish appropriate national monitoring systems including monitoring agencies equipped with the requisite instruments and trained personnel.[64] They should survey the installations regularly[65] and keep registers and other records of authorizations granted for operation.[66] The document stresses that states have the substantial obligation to take measures to the maximum extent possible 'to ensure that activities within their jurisdiction do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction'.[67] Whenever a state has reason to believe that operations could have significant adverse effects on the environment of other states, it has two further procedural obligations: to provide such other states with timely information[68] and to hold consultations with them about the measures needed to prevent, combat and reduce the envisaged effects.[69] Lastly, a liability regime is proposed. In the proposal, the operator is the person to whom

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60 Aspects Provision 2(2).
61 Aspects Provision 6(1).
62 Aspects Provision 6(2).
63 Aspects Provision 6(1).
64 Aspects Provision 14.
65 Aspects Provision 12.
66 Aspects Provision 13.
67 Aspects Provision 16(1).
68 Aspects Provision 17(1).
69 Aspects Provision 18.

liability should attach. Where more than one person is liable, their liability should be joint and several.[70] The operator should be strictly liable for any damage resulting from operations unless no risk of significant adverse effect on the environment is involved or when liability is considered inappropriate.[71] Exceptions may also be made when damage results from circumstances of an exceptional, inevitable and irresistible character.[72] The liability of the operator may be limited.[73] In order to meet awards of compensation made against him, the operator should be required to make appropriate arrangements including, inter alia, insurance, compensation funds or other financial securities.[74] Public authorities or other appropriate persons who take reasonable action designed to prevent the spread of pollution, to minimize damage as well as to cleanse and restore the areas affected should be entitled to recover all expenses incurred, including reimbursement of any payments for any damage caused by such action.[75] At this point, states are particularly encouraged to establish compensation funds to deal with cases in which victims remain wholly or partially uncompensated.[76] Generally speaking, the Aspects no doubt deserve attention. The fundamental question however is: do the provisions (especially those on the proposed liability regime) contained in the document constitute 'recommended practices and procedures' so as to be enforceable by virtue of the provisions of LOSC?

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70 Aspects Provision 35(1).
71 Aspects Provision 35(3).
72 Aspects Provision 35(4).
73 Aspects Provision 36(2).
74 Aspects Provision 38(1) and (2).
75 Aspects Provision 39.
76 Aspects Provision 41.

6.3 Other regional regimes

As mentioned above, international control of marine pollution from offshore operations can hardly be said to be comprehensive and satisfactory. On the one hand, contamination 'directly arising from, or related to the exploration, exploitation and associated offshore processing of seabed mineral resources' is in effect left totally unregulated by MARPOL 73/78[77] and LDC.[78] On the other hand, LOSC does not establish any substantive rules in this regard and leaves the matter entirely to future negotiations.[79] It has therefore been pointed out that this is an area in which further community action is desirable.[80] The development of regional regimes to cope with this specific problem, however, is not impressive. Most of the conventions are general and imprecise.[81] The Baltic Convention simply provides that 'each contracting party shall take all appropriate measures in order to prevent' pollution from seabed activities and 'shall also ensure that adequate equipment is at hand to start an immediate abatement of pollution'.[82] Similar general obligations without any further elaboration are also contained in the Barcelona Convention[83], the Abidjan Convention[84], the Lima Convention[85], the Jiddah Convention[86], the Cartagena Convention[87], the Nairobi Convention[88] and the Noumea Convention.[89] It is especially worth mentioning, nevertheless, that both the Baltic Convention and the

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77 See n46-7 and accompanying text supra.
78 See n55 and accompanying text supra.
79 Cates n6 195.
80 Report of the Secretary-General of the UN n35 20.
81 Churchill and Lowe n11 273.
82 Baltic Convention art 10.
83 Barcelona Convention art 7.
84 Abdijan Convention art 8.
85 Lima Convention art 4(c).
86 Jiddah Convention art VII.
87 Cartagena Convention art 8.
88 Nairobi Convention art 8.
89 Noumea Convention art 8.

Barcelona Convention specifically cover dumping arising from, or related to, exploration and exploitation of the seabed and detailed rules have been laid down.[90] Generally speaking, only north-west Europe and the Persian Gulf have more detailed regulations at present. The most extensive cooperation has been between the states of north-west Europe.[91] The arrangement in these two regions will be examined at some length in the following sections.

6.3.1 The 1969 Bonn Agreement

On June 9, 1969 Belgium, Denmark, France, Germany, the Netherlands, Norway, Sweden and the UK negotiated in Bonn an Agreement for Co-operation in Dealing with Pollution of the North Sea by Oil (the Bonn Agreement)[92] which was primarily designed with spillage from oil drilling rigs in mind.[93] This agreement essentially 'shall apply whenever the presence or the prospective presence of oil polluting the sea within the North Sea area... presents a grave and imminent danger to the coast or related interests of one or more Contracting Parties.'[94] For this purpose, the North Sea is divided into a number of geographical zones of responsibility.[95] The contracting party within whose zone a situation occurs shall firstly make the necessary assessments of the nature and extent of any casualty or of the type and approximate quantity of oil floating on the sea and the direction and speed of movement of the oil[96] and

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90 See the Baltic Convention, arts 2 and 9 and the Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft to the Barcelona Convention respectively.
91 See n81.
92 Text in Ruster B and Simma B ed International Protection of the Environment: Treaties and Related Documents I 1975 454-9.
93 See n39.
94 Bonn Agreement art 1.
95 Bonn Agreement art 6(1) and Annex.
96 Bonn Agreement art 6(2).

then inform other parties.[97] The agreement was tested and found to work satisfactorily during the Ekofisk blow-out of 1977.[98] OECD has pointed out, however, that such an arrangement could not deal with what it identified as the major oil pollution control problem of offshore operations: 'the need of the controlling authorities to carry out a thorough survey of safety regulations and control routines and to make sure that companies with specialized knowledge in the field are included in the operations'.[99] In other words, it does not address the need for the prevention of pollution.[100] On the other hand, it has also been indicated that the agreement lacks a liability regime to deal with the specific question of compensation for pollution damage from offshore petroleum installations.[101]

6.3.2 The 1975 OPOL

In March 1973, delegates from nine north-west European states met in London to discuss issues of common interest concerning the development of offshore mineral resources which included two main topics: technical and safety aspects of pollution control and civil liability for pollution damage.[102] It was decided on that occasion that international conventions should be drafted to regulate each subject.[103] It was however also agreed that a voluntary arrangement amongst offshore operators should be sought to regulate civil liability pending the conclusion of a convention.[104] Following an initial request to the

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97 Bonn Agreement arts 5(1) and 6(3).
98 OCED Observor No 88 September 1987. See also Boehmer-Christiansen S 'Marine Pollution Control in Europe: Regional Approaches, 1972-80' MP 8(1) January 1984 45.
99 Cooperative Research Report No 39 1974 11. See also Boehmer-Christiansen n98.
100 Roberts n7 640.
101 Ibid.
102 Fitzmaurice VE 'Liability for North Sea Oil Pollution' MP 2(2) 1978 107.
103 Ibid.
104 Ibid.

international oil industry from the UK Department of Energy for such a voluntary arrangement, the Offshore Pollution Liability Agreement (OPOL) was adopted and came into effect on May 1, 1975.[105] Mirroring closely previous voluntary plans adopted by the industry concerning oil pollution by tankers, OPOL is intended to achieve the following purposes: (1) to provide an orderly means for the expeditious settlement of claims arising from offshore exploitation and production operations; (2) to encourage immediate remedial action by the participants; (3) to ensure the financial responsibility of participants to meet their obligations; (4) to guarantee that claims would be met; and (5) to avoid complicated jurisdictional problems.[106]

The parties to OPOL are the operators of offshore facilities used in connection with exploration for or production of oil and gas.[107] 'Offshore facility' is defined as 'an installation of any kind, fixed or mobile,... which is used for the purpose of exploring for, producing, treating, storing, or transporting oil or gas from the seabed or its subsoil... and... located seaward of the low-water line.. [of] the coastal State...'.[108] Onorato correctly points out that the regulated facilities include wells, drilling units, platforms, offshore storage terminals, single buoy mooring and pipelines including gas wells being drilled or worked.[109] They do not however include abandoned wells, or facilities for the production, storage or transport of natural gas or natural gas liquids.[110] Geographically

105 Onorato WT 'A Regional Remedial Approach to Offshore-Sourced Oil Pollution Damage: The North Sea Voluntary Compensation Scheme (OPOL)' in Valencia MJ, Gold E, Chia LS and Letalik NG ed Shipping, Energy and Environment: Southeast Asian Perspectives for the Eighties 1982 284. Text of OPOL in ibid 290-6.
106 Remond-Gouilloud n2 257.
107 OPOL para 1 of the preamble.
108 OPOL Clause I(7).
109 Onorato n105 285.
110 Ibid.

speaking, OPOL covers escapes and discharges of oil from offshore facilities 'within the jurisdiction of a State' that is specified in it.[111] If a discharge of oil occurs from an offshore facility, any 'person' which means 'an individual or partnership or any public or private body whether corporate or not, including a State'[112] may claim compensation for pollution damage.[113] This is described as direct loss or damage caused by contamination, but excludes loss or damage to the facility which is the source of the escape or discharge of oil.[114] It is clear that fishermen could successfully claim for oil-coated nets and it is equally certain that claims for injuries caused by such events as fire or explosion would fall outside the language of the Agreement.[115] However, the issue of compensation in such cases as damage to fish not reduced to possession or fish temporarily tainted by oil remains ambiguous.[116] On the other hand, 'public authorities' (meaning governments and other public bodies and municipal and local authorities)[117] may claim compensation for the cost of remedial measures taken to prevent pollution damage and for clean-up costs.[118] The operator from whose facility the escape has occurred may also claim for certain remedial measures taken[119], but an ordinary individual may not.[120] Under the Agreement, operators are strictly liable for pollution damage resulting from their activities[121] up to a maximum of US$60 million per incident.[122] Nevertheless, an

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111 OPOL para 2 of the preamble.
112 OPOL Clause I(1).
113 OPOL Clause IV(A).
114 OPOL Clause I(12).
115 Fitzmaurice n102 108.
116 Ibid.
117 OPOL Clause I(4).
118 OPOL Clause IV(A).
119 OPOL Clause IV(A)(1).
120 See n115.
121 Onorato n105 286. See also n106 and n115.
122 Raised from the initial limit of $25 million. See Churchill and Lowe n11 275.

operator will not be liable if he can prove that the incident: `1. resulted from an act of war, hostilities, civil war, insurrection, or a natural phenomenon of an exceptional, inevitable and irresistible character; 2. was wholly caused by an act or omission done with intent to cause damage by a third person; 3. was wholly caused by negligence or other wrongful act of any Government or other authority or resulted from compliance with conditions imposed or instructions given by the Government...; 4. resulted wholly or partially, either from an act or omission done with intent to cause damage by a Claimant, or from the negligence of that Claimant...'.[123] It has been particularly pointed out that OPOL holds the operator liable for the negligent acts of third parties, although leaving the operator's right of recourse against the negligent party unaffected.[124] Finally, OPOL operators are required to establish financial responsibility to discharge their possible liability under the Agreement[125] and they collectively guarantee the payment of claims against a defaulting party.[126]

Generally speaking, this Agreement is effective and practical, it is a model of cooperation and it has succeeded in achieving its objectives.[127] Onorato therefore suggests that the region of the South China Sea could well benefit from a similar scheme, altered and tailored to fit the particular requirements of that area.[128]

6.3.3 The 1976 London Convention

When CLC was adopted in 1969, one of its major deficiencies was the failure to provide a liability regime for damage

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123 OPOL Clause IV(B).
124 Fitzmaurice n102 110.
125 OPOL Clause II(C)(2).
126 OPOL Clause III(2).
127 Onorato n105 289.
128 Ibid.

caused by offshore oil-spills.[129] As offshore exploration and exploitation developed at an accelerated pace in the North Sea, the UK government, mindful of the potential risk of pollution in that congested area, initiated action to establish a legal regime in the region in March 1973.[130] However, it was not until December 17, 1976 that the text of the Convention on Civil Liability for Oil Pollution Damage resulting from Exploration for and Exploitation of Seabed Mineral Resources was adopted at the London Conference (the London Convention)[131] by a majority of the participating states.[132] The Convention is mostly modelled on CLC[133] which was at first intended to be the blueprint.[134] In fact, the approach gave rise to much debate in the negotiation which in turn protracted the whole process. One group at the conference, referred to as the moderates, opined that the main purpose of the Convention was to create a uniform regime of civil liability applicable to a risk which by nature qualified as a transnational risk.[135] They therefore maintained that the strict liability concept and other principal features of CLC relating to tanker owners could well be adapted to offshore oil operations.[136] Dubais agreed with this line of argument. He points out that whatever may be the cause of the accident, be it the stranding of a ship or the blow-out of a well, it is evident

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129 Remond-Gouilloud n2 255.
130 Ibid. See also Dubais BA 'The 1976 London Convention on Civil Liability for Oil Pollution Damage from Offshore Operations' JMLC 9(1) October 1977 61.
131 Ibid 63. Text of the Convention in ILM 16(6) November 1977 1450-5.
132 There were nine participating states: Belgium, Denmark, France, the Federal Republic of Germany, Ireland, the Netherlands, Norway, Sweden and the UK. In the end of the conference, France and the Federal Republic of Germany maintained their dissenting positions. See Dubais n130.
133 Churchill and Lowe n11 274.
134 See n129 and n130.
135 Dubais n130 63.
136 Ibid.

that the risk is the same since it results from the action of the same polluting material (oil) introduced into the same natural environmental (the sea). Not only is the risk identical, but so are the methods of dealing with it.[137] He therefore argues that there is no reason why one cannot accept the basic definitions applicable to ships adopted by CLC.[138] Roberts also stresses that CLC focuses on the damage, not the source and therefore is significant to offshore exploitation.[139] On the other hand, the other group, called the ultras, insisted throughout upon a much stricter regime for offshore operators than that applicable to tanker owners.[140] This coincided with opposition to CLC as a precedent for offshore drilling. For example, Fleischer questions the value of so doing. He gives four reasons. First, CLC is a result of a compromise reached on the basis of two main interests, that of shipping states and that of coastal states exposed to damage. Secondly, CLC must be regarded as a compromise in relation to traditional rules of maritime law. Rules of maritime law, laid down in international conventions, have already been based on a certain system of liability. Thirdly, CLC must be viewed in relation to insurability and the financial capabilities of the party liable, the shipowner. His economic potential will usually not be of the same magnitude as that of a large oil company. Fourthly, CLC was based on the possibility of obtaining insurance on the then existing insurance market, especially the London market, a forum not immediately relevant in relation to offshore operations.[141] He therefore concludes that CLC cannot be invoked as a precedent since a system based on the special situation of

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137 Dubais BA: 'Compensation for Oil Pollution Damage Resulting from Exploration and Exploitation of Hydrocarbons in the Seabed' JMLC 6(4) July 1975 553.
138 Ibid.
139 Roberts n7 637-8.
140 See n135.
141 Fleischer n57 115.

the carriage of oil in bulk as cargo is different after all from that of offshore oil recovery.[142] Remond-Gouilloud also doubts the desirability of extending CLC to offshore drilling platforms.[143] He indicates that not only are rigs not measured for tonnage in the normal sense, but also the shipping industry and the offshore industry are based on totally different market structures and their response to a risk cannot be dealt with along the same lines.[144] The two opposite sides thus appeared irreconcilable during the protracted preparatory stage.[145] Being a concrete result of difficult negotiations, the London Convention has therefore been acclaimed as an outstanding example of the art of compromise.[146]

Article 3 of the Convention lays down the fundamental rule: '... the operator of the installation at the time of an incident shall be liable for any pollution damage resulting from the incident'. An installation means:

(a) any well or other facility, whether fixed or mobile, which is used for the purpose of exploring for, producing, treating, storing, transmitting or regaining control of the flow of crude oil from the seabed or its subsoil;

(b) any well which has been used for the purpose of exploring for, producing or regaining control of the flow of crude oil from the seabed or its subsoil and which has been abandoned after the entry into force of this Convention for the Controlling State concerned;

(c) any well which is used for the purpose of exploring for, producing or regaining control of the flow of gas or natural gas liquids from the seabed or its subsoil during the period that any such well is being drilled, including completion, or worked upon except for normal maintenance operations;

142 Ibid.
143 Remond-Gouilloud n2 257.
144 Ibid.
145 Dubais n130.
146 Ibid.

(d) any well which is used for the purpose of exploring for any mineral resources other than crude oil, gas or natural gas liquids...; and

(e) any facility which is normally used for storing crude oil from the seabed or its subsoil'.[147]

It has been further stipulated that a ship as defined in CLC shall not be considered to be an installation. Remond-Gouilloud makes two remarks in respect of this definition. Firstly, it has been noted that a platform is often directly connected to several wells; in that case the wells together with such platform or facility constitute one installation only.[148] This may prove important since the rules apply to each 'installation'.[149] Secondly, barges are not dealt with here. As they are towed and not self-powered, they cannot be regarded as ships. Nevertheless, they are as a rule covered by maritime law, as the towing vessel and barge are regarded as a unit.[150] Thus, barges in this case are not subject to the provisions of the Convention. Dubais however points out that a barge which is used exclusively for storage purposes on the site would fall within the ambit of the definition.[151] Generally speaking, the Convention is wider than OPOL in this regard for it covers abandoned crude oil wells and wells used for producing gas or natural gas liquids.[152] Like its counterpart in the private sector, it would seem nonetheless that the Convention still leaves abandoned gas (or natural gas liquids) wells unregulated as well as facilities for storage or transport of gas or natural gas liquids. The notion of pollution damage referred to here includes not only direct damage by

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147 London Convention art 1(2).
148 London Convention art 1(2)(i).
149 Remond-Gouilloud n2 256.
150 Ibid.
151 Dubais n130 64.
152 For the offshore facilities covered by OPOL see n108-10 and accompanying text supra.

contamination but also the cost of preventive measures and further loss or damage caused by them[153], which is the same as in CLC. Just as in the latter case, the damage concept must therefore be interpreted restrictively in the sense that it excludes fire, explosion, consequential and ecological impairment.[154] (As far as preventive measures are concerned, the Convention differs from OPOL on one specific point: 'any person' now may claim for reasonable measures taken to prevent or minimize pollution damage).[155] In brief, the victims are afforded the same type of protection in both instances: all they have to do is to identify the source of the spill and show causation between spill and damage.[156] So far as the geographical scope of the Convention is concerned, art 2(b) enables compensation in the event of pollution damage 'suffered in the territory, including the internal waters and territorial sea, of a State Party or in the areas in which, in accordance with international law, it has sovereign right over natural resources'. Remond-Gouilloud suggests that this should include the continental shelf and exclusive economic zone.[157]

The Convention imposes strict liability upon the operator of a continental shelf installation causing pollution damage. Since offshore oil drilling is extrahazardous, the invocation of this principle is said to be quite legitimate.[158] On the one hand, it has also been pointed out that the risk involved in the activity is not comparable to the risk of catastrophe inherent in the operation of aircraft, nuclear installations or transportation of

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153 London Convention art 1(6).
154 See n151.
155 London Convention art 1(7). This point has been identified by Fitzmaurice. See Fitzmaurice n102 109.
156 See n151.
157 See n129.
158 Cates n6 703.

explosives and so on. There can therefore be no question of absolute responsibility.[159] The operator may escape liability by proving that the incident which caused the damage resulted from force majeure (ie an act of war, hostilities, civil war, insurrection, or a natural phenomenon of an exceptional, inevitable and irresistible character), from a well abandoned pursuant to the authority of the controlling state more than five years before the incident, or where the victim was in some measures responsible for his injury, to the extent of that responsibility.[160] At this juncture, it has however been pointed out that the parallel between the Convention and CLC stops. The operator under the 1976 regime is denied one important exemption from strict liability compared with a tanker owner. That is when the damage 'was wholly caused by an act or omission done with intent to cause damage by a third party', in other words, in case of sabotage.[161] The reason for this seems to be that most delegations at the conference were concerned about possible well blow-outs and had a tendency to think in terms of the Paris Convention on Nuclear Installations of July 29, 1960 under which a nuclear operator does not have a defence in case of sabotage.[162] But the question is: how can an operator assess the probability of an act of terrorism on an offshore installation?[163] Dubais therefore criticizes the provision saying that there is simply no justification for the transfer of such a political risk to private industry.[164] This specific issue is particularly relevant to the South China Sea since the defence of offshore oil platforms from

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159 Dubais n137 558.
160 London Convention art 3(3),(4) and (5).
161 Dubais n130 64-5. See also Van Meurs n3 89-90.
162 Dubais n130 65. For text of the said Convention see AJIL 55 1961 1082-94.
163 Dubais n162.
164 Ibid.

terrorist attacks constitutes a serious problem in the region.[165]

Another issue which may perhaps be considered as the most crucial one for the delegates at the conference was the question of limits of liability.[166] It arose mainly from the fact that Norway (together with Denmark) supported unlimited liability.[167] The Norwegian delegation, representing a country with a small population, abundant hydroelectric generating capacity and one of the world's strongest economies was primarily concerned with orderly development of its offshore petroleum resources, including provisions calculated to compensate potential victims of this admittedly risky activity.[168] In fact, this attitude has long been reflected in Norwegian municipal law which adopts strict liability with no limitation upon such liability.[169] The reasoning is based on the 'industrial risk' theory whereby an entrepreneur who undertakes a dangerous activity for profit should be liable for the consequences. He should, therefore, have to risk his own resources beyond and above the guarantee offered by his underwriter.[170] Fleischer criticizes saying that the practical effect of a limitation would be that any damage caused by operations in excess of the fixed limit would have to be borne by the victim or by government, while the company or companies involved would at the same time be able to profit from the field.[171] Furthermore, he argues, one of

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165 Morgon JR and Fryer DW 'Defense' in Kent and Valencia ed n17 250.
166 See n149. See also Fitzmaurice n155.
167 See n149.
168 Fitzmaurice n155.
169 Fleischer n57 109.
170 Dubais n130 71. This theory may also be called the doctrine of 'objective enterprise liability'. See Levandowski R 'Civil Liability for Oil Pollution Damage on the Norwegian Continental Shelf' ODIL 5(4) 1978 407. See also Roberts n7 648.
171 Fleischer n57 118.

the principal reasons why fixing a definite maximum for liability may seem difficult is that as yet we only have limited knowledge both of the possible consequences of a major pollution incident and of possible ways and means of containing and removing spilled oil and the costs thereof.[172] On the other hand, Fleischer points out that the financial resources of the larger oil companies and in particular the value of their oil fields which may be the cause of damage are important reasons for not restricting the rights of victims vis-a-vis the companies.[173] He also points out that to a very large extent operations are carried out by companies registered and domiciled in the state which has jurisdiction over the continental shelf areas in question. If such operations should lead to damage in that same state, no foreign state would have any claim under international law that the liability of the company involved should be kept within certain limits.[174] He therefore asserts that even if there is an agreed limitation on liability, each state must retain its right to establish unlimited liability or a higher limit in cases of a purely domestic nature.[175] The compromise eventually agreed upon in 1976 virtually follows this line of argument: the operator's liability is limited to 40 million SDRs[176], whereas each party retains at the same time the right to impose higher or unlimited liability in respect of petroleum discharges from installations within its jurisdiction which cause damage in that state or another state party.[177] Dubais nevertheless criticizes the arrangement since any state party may at any time depart from the requirements in its own legislation and the latter may eventually apply outside its own territory. A state adhering to the

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172 Ibid 119.
173 Ibid 132.
174 Ibid 137.
175 Ibid 134-5.
176 London Convention art 6.
177 London Convention art 15(1).

Convention cannot know what the liability regime will be for pollution damage caused in its territory (including the continental shelf and the exclusive economic zone) but originating from an incident outside its jurisdiction![178] This lack of uniformity may therefore eventually prove to be a source of difficulty.[179] It is of course uncontroversial that an operator's liability is unlimited if the pollution damage 'occurred as a result of an act or omission by the operator himself, done deliberately with actual knowledge that pollution damage would result'.[180]

Following CLC, there is also a provision under the Convention for compulsory insurance or other financial security which must provide cover of not less than 35 million SDRs.[181] It is however coupled with a further clause which does not exist in the 1969 instrument. The 'Controlling State' (the state having jurisdiction over the offshore operations concerned) shall specify not only the amount - which can be above the maximum - but also the type and the terms of the insurance.[182] Dubais points out that the problem associated with this provision lies in that certain states might, for purely internal political reasons, recognize only such forms of guarantee as are offered by their national insurance and financial institutions, disregarding the difference in cost to operators.[183] Actions for compensation may be brought only in the courts of the state party where pollution damage was sustained, or in the court of the controlling state.[184] For the purpose of benefiting from limitation of liability, the operator

178 Dubais n130 74.
179 Ibid 68. See also n143. Fitzmaurice however points out that without such a trouble-making provision no convention would have been agreed upon. See n124.
180 London Convention art 6(4).
181 London Convention art 8(1).
182 Ibid.
183 Dubais n130 68.
184 London Convention art 11(1).

shall constitute a fund with the court seized of the case for the total sum representing the limit of his liability.[185] At this juncture, a question might however be well asked: what is the situation where several actions are brought in different state parties? Will the operator have to constitute as many funds?[186] Dubais suggests that this is not the case.[187] The Convention unambiguously stipulates that the fund shall be constituted 'with the court or other competent authority of anyone of the State Parties in which action is brought'[188] and 'the courts of State Party in which the fund is constituted shall be exclusively competent to determine all matters relating to the apportionment and distribution of the fund'.[189] The operator apparently retains the initiative as to where he wants to constitute a fund.[190] Dubais makes two observations here. On the one hand, the choice of the operator and of his insurer will be influenced by a number of factors including, inter alia, the going exchange rates since the conventional amounts in SDR must be converted into the national currency of the state party in which the fund is deposited. For that reason only those who are residents of the sate party where the operator has chosen to constitute the fund will be assured of receiving compensation for the same amount as has been assessed for their damage.[191] On the other hand, those claimants who have chosen their home courts may be frustrated when they find out that decisions of these courts in their favour - sometimes obtained after years of litigation - can be amended by a foreign tribunal with which the fund has been deposited.[192] Finally, rights to compensation expire unless within twelve months of the date

185 London Convention art 6(5).
186 Dubais n130 69.
187 Ibid.
188 London Convention art 6(5).
189 London Convention art 11(3).
190 See n186.
191 Dubais n130 69-70.
192 Ibid 70.

on which the claimant knew or ought to have known of the damage, he notified the operator of his claim; and there is a limitation period of four years.[193]

Although the Convention is not without flaws, it must nevertheless be conceded that it is still a positive development in the evolution of the law on civil liability for pollution damage.[194] Both potential claimants and defendants must welcome the clarification of the nature and scope of liability set forth. Decisions on litigation, insurance, investment and in other areas can now be taken with greater certainty.[195] It has been suggested therefore that the international community needs other similar regional agreements or a single international conference on a broader geographical scale.[196]

6.3.4 The 1989 Kuwait Protocol

Representatives of the contracting states to the Kuwait Convention adopted a Protocol concerning Marine Pollution resulting from Exploration and Exploitation of the Continental Shelf (the Kuwait Protocol)[197] on March 29, 1989.[198] This is the latest effort to combat pollution from this specific source. Unlike its counterparts in the North Sea, the Protocol contains essentially technical regulations.

Geographically the Kuwait Protocol applies to all parts of the continental shelf of a contracting state.[199] It defines the subjects of regulation at some length. On the one hand, 'offshore installation' means 'any structure, plan or

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193 London Convention art 10.
194 Fitzmaurice n102 111.
195 Ibid.
196 Cates n6 698.
197 Text in Environ Pol & Law 19(1) February 1989 32-5.
198 Report of the Secretary-General of the UN n35 31.
199 Kuwait Protocol art I(16).

vessel, whether floating or fixed to or under the seabed... for the purpose of offshore operations, including any tanker for the time being moored and used for the temporary storage of oil and including any plan for treating, storing or regaining control of the flow of crude oil; and... an installation includes any integral part of the structure, plant, equipment or vessel, any attached lifting gear or safety mechanism and any other part or equipment specified by the Contracting State as part of the installation'.[200] On the other hand, 'offshore operations' are circumscribed as 'any operations conducted... for the purpose of exploiting those resources, including any treatment before transport to shore and any transport of the same by pipeline to shore. It includes also any work of construction, repair, maintenance, inspection or like operation incidental to the main purpose of exploration or exploitation'.[201] Four basic regulatory measures have been employed here. First, any offshore operation shall be conducted under a licence subject to such conditions for the protection of the marine environment as the contracting state sees fit to impose.[202] Before issuing any licence, moreover, the contracting state shall either call for submission of an assessment of the potential environmental effects of the operation[203], or consider calling for a survey of the marine environment which is to be carried out by or under the direct supervision of a body independent of the operator and approved by it.[204] Secondly, each state party shall take all practicable measures to ensure that every offshore installation within its jurisdiction is certified by a certifying authority or its designee that it is safe and fit.[205] Thirdly, every operator shall, before commencing

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200 Kuwait Protocol art I(12).
201 Kuwait Protocol art I(13).
202 Kuwait Protocol art III.
203 Kuwait Protocol art IV(1)(a).
204 Kuwait Protocol art IV(2).
205 Kuwait Protocol art VI.

his work, prepare a contingency plan to deal with any event which may occur as a result of the operations.[206] The contingency plan, nevertheless, must be coordinated with any existing national or local contingency plans.[207] Furthermore, the operator must show that he has available to him sufficient expertise and resources to put that plan fully into operation.[208] Fourthly, each operator of an offshore installation shall prepare and submit a 'Chemical Use Plan' for approval by the competent state authority.[209] In the plan, the operator must show (a) the chemical he intends to use; (b) the purpose or purposes for which he intends to use the chemical; (c) the maximum concentrations of chemicals he intends to use within any other substances and maximum amounts he intends to use in any specified period; (d) the area within which the chemical may escape into the marine environment.[210] The competent state authority has a power to prohibit, limit or regulate the use of a chemical or product and to impose conditions on its storage and use.[211]

The Protocol also lays down some concrete discharge standards. It stipulates that no discharge from an offshore installation into the sea, except one derived from drilling operations, shall have an oil content greater than 40mg per litre as an average in any calendar month and shall not at any time exceed 100mg per litre.[212] Excess will not be deemed a breach of the requirements if it was due to some accident or other cause beyond the control of the operator and his employees and that they took all reasonable precautions and exercised all due diligence to avoid such

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206 Kuwait Protocol art VIII(1)(a).
207 Kuwait Protocol art VIII(2).
208 Kuwait Protocol art XI(1)(c).
209 Kuwait Protocol art XI(1)(a).
210 Kuwait Protocol art I(3).
211 Kuwait Protocol art XI(1)(b).
212 Kuwait Protocol art IX(1)(b).

excess.[213] The problem inherent in this rule is that the discharge rate specified therein is inconsistent with the 15-part-per-million-limit of MARPOL 73/78[214] which is the existing global regime in force applicable to offshore operations as well.[215] When a state becomes a party to both instruments, it may find itself in difficulty for implementing the two simultaneously. The Protocol also regulates domestic refuse. On the one hand, it prohibits the discharge of sewage within 4nm of land unless the sewage has passed through an approved treatment plant. Between 4 and 12nm from land, sewage must be comminuted and disinfected.[216] On the other hand, it forbids the disposal of all the principal kinds of garbage and sets specified minimum distances from land for the disposal of food wastes.[217] The rules in this respect are largely the same as those contained in Annexes IV and V to MARPOL 73/78. Finally, it is noteworthy that this regional regime even addresses one specific technical issue. It is clearly stipulated that oil-based drilling fluids shall not be used in drilling operations unless the authority concerned is

213 Kuwait Protocol art IX(2).

214 MARPOL 73/78 Annex I regulation 21(c).

215 For the rules in MARPOL 73/78 which are applicable to offshore operations, see n40-3 and accompanying text supra.

216 Kuwait Protocol art X(1)(d). Sewage here is defined as: `(i) drainage and other waste from any form of toilet, urinal or water closet; (ii) drainage from medical premises such as dispensary or sick bay, via wash-basins, wash-tubs and rains located in such premises; (iii) other wastewaters when mixed with significant quantities of the drainage defined above'. See Kuwait Protocol art I(17).

217 Kuwait Protocol art X(1)(a) and (b). The detailed rule reads as follows: `(a) Disposal into the sea of the following is prohibited: (i) all plastics, including but not limited to synthetic ropes, synthetic fishing nets and plastic garbage bags; (ii) all other garbage, including paper products, bags, glass, metal, bottles, crockery, dunnage, lining and packing materials; (b) Disposal into the sea of food wastes shall be made as far as practicable from land, but in any case not less than 12 nautical miles from the nearest land'.

satisfied that the use of such fluid is justified because of exceptional circumstances.[218] Water-based drilling muds discharged from offshore operations must not contain persistent systemic toxins which may pose an environmental threat.[219] This greatly alleviates the problem created by the fact that mud mixtures eventually discharged into the marine environment indeed contain noxious heavy metals[220] and none of the existing global schemes (especially LDC) has ever tried to redress such state of affairs.[221] The inclusion of this technical requirement no doubt represents great progress in the development of international law on pollution from offshore operations.

Generally speaking, the Protocol is quite comprehensive since it covers all main aspects of offshore activity from which pollution may be generated.[222] There is however a fundamental weakness in the arrangement: it contains an escape clause which allows state parties to take into account 'the best available and economically feasible technology'.[223] This may undermine the regional effort in this regard as a whole.

6.4 Concluding remarks

As already mentioned, regulation of pollution from offshore operations is an area in which further action by the international community is desirable.[224] Remond-Gouilloud suggests in general that all the North Sea arrangements should be taken into account in subsequent legal

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218 Kuwait Protocol art IX(4)(a).
219 Kuwait Protocol art IX(4)(c).
220 See n10 and accompanying text supra.
221 For the conditions in which LDC is applicable to offshore oil platforms, see n53-5 and accompanying text supra.
222 See n8-11 and accompanying text supra.
223 Kuwait Protocol art II.
224 See n80 and accompanying text supra.

developments by governments and companies elsewhere.[225] As far as the South China Sea is concerned, it is submitted that the states in the region should concentrate upon formulating their legal response to this specific source of pollution in accordance with the 1969 Bonn Agreement, the 1976 London Convention and the 1989 Kuwait Protocol. These three instruments together form a comprehensive network ranging from the provision of preventative measures and the laying down of technical requirements and discharge standards, to the establishment of a liability regime as an ex post facto remedy, for dealing with the problem. Additional work is nonetheless obviously needed here, not only to harmonize these three regimes but also to solve inconsistencies between them and their global counterparts (especially MARPOL 73/78). Pending the completion of all these tasks by the Southeast Asians, it would not be unreasonable for them to adopt an OPOL-style insurance arrangement as an interim measure.

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225 Remond-Gouilloud n2 258.

CHAPTER 7

POLLUTION FROM LAND-BASED SOURCES

7.1 Present state of marine pollution from land-based sources in the region

Land-based activities may result in several forms of marine pollution.[1] In fact, they account for 75% or more of the pollutants in the ocean.[2] In sheer magnitude, the problem of land-based pollution of the ocean is the most serious of all.[3] Rivers, pipelines and outfall structures carry pollutants such as urban sewage, wastes discharged by factories, pesticides and chemical fertilizers into the oceans.[4] It has been pointed out that the most pressing issue at present is contamination by nutrients (such as nitrates and phosphates) and the two major sources of which are sewage disposal and agricultural run-off from fertilizer-treated fields.[5] The problem is said to be growing: areas of eutrophication appear to be expanding (depriving marine life of oxygen), as are the frequency and scale of unusual plankton blooms and excessive sea-weed

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1 Devine DJ and Erasmus MG 'International Environmental Law' in Fuggle R and Rabie MA ed Environmental Management in South Africa 1992, 167.

2 Churchill RR and Lowe AV The Law of the Sea 2nd ed 1988, 243. See also Passman PS' 'Japanese Hazardous Waste Policy: Signaling the Need for Global and Regional Measures to Control Land-Based Sources of Pollution' Vir JIL 26(4) 1986 922 at n6. On the other hand, Remond-Gouilloud estimates that 75 - 85% of the detectable pollutants in the ocean are traceable to these sources. See Remond-Gouilloud M: 'Land-based Pollution' in Johnston DM ed Environmental Law of the Sea 1981 230. Kwiatkowska assesses that land-based sources contribute on a global scale about 80% of marine pollution. See Kwiatkowska B 'Marine Pollution from Land-Based Sources: Current Problems and Prospects' ODIL 14(3) 1984 315-6.

3 Remond-Gouilloud n2. See also Churchill and Lowe n2 and Report of the Secretary-General of the UN: 'Protection and Preservation of the Marine Environment' September 18 1989 in Simmonds KR ed New Directions in the Law of the Sea U7.1 February 1990 21.

4 Devine and Erasmus n1.

5 Report of the Secretary-General of the UN n3 18-9.

growth.[6] Of continuing concern are the very broad and complex group of synthetic organic compounds, primarily halogenated hydrocarbons, which include chlorinated hydrocarbons.[7] Their input levels may be rising in tropical and sub-tropical areas with the expanding use of chlorinated pesticides.[8] One of the costs of the use of these chemicals is to human health: every year between 3 000 and 20 000 people die from pesticide poisoning, almost all of them in developing countries and another 800 000 - 1.1 million suffer seriously.[9] Furthermore, it has already been identified that it is DDE, a derivative of DDT which is one of the two major types of chlorinated hydrocarbons which affect the marine environment.[10] The other major chlorinated hydrocarbon impacting on the marine environment is not used as a pesticide but as a component of manufactured products. This chlorinated hydrocarbon consists of polychlorinated biphenyls (PCBs).[11] It is generally assumed that PCBs decrease the resistance of organisms to parasites and tumours.[12] Trace elements of heavy metals such as mercury, lead and cadmium are currently of less concern, except where high levels occur near contamination sources.[13] Other critical forms of land-based marine pollution include microbial contamination of seafood, haphazard disposal of plastic material which may cause harm

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6 Ibid 19.
7 Ibid.
8 Ibid.
9 'Survey: The Environment' The Economists September 2 1989 12.
10 Staff of Senate Comm on Com, 94th Cong, 1st Sess, Effects of Man's Activities on the Marine Environment (Comm Print) 1975 5. See also Kindt JW 'Marine Pollution and Hydrocarbons: The Goal of Minimizing Damage to the Marine Environment' Calif WILJ 14 1984 279.
11 See n10.
12 Kuwabara S The Legal Regime of the Protection of the Mediterranean against Pollution from Land-Based Sources 1984 18.
13 Report of the Secretary-General of the UN n3 19.

to marine animals through ingestion or entanglement and silting coastal areas caused by soil erosion which poses serious threats to coral reefs.[14] Some authorities also identify pollution by waste oil as yet another one of the major types of pollution of this sort.[15] Finally, one may argue that marine pollution from or through the atmosphere falls under this category as well.[16] Most authors however prefer to maintain a distinction as atmospheric pollution has its own physical characteristics.[17] It has been suggested that dealing with both in a single legal instrument may give rise to unnecessary complexity.[18]

No source of marine pollution is more serious in Southeast Asia than land-based activities[19] which is almost completely unregulated throughout the region.[20] Generally speaking, heavy metals, pesticides and petroleum hydrocarbons are the most notorious pollutants common to most of the area.[21]

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14 Ibid.

15 Kalsi SS 'Oil in Neptune's Kingdom: Problems and Responses to Contain Environmental Degradation of the Oceans by Pollution' Environmental Affairs 3 1974 79-80. See also Kindt n10 238.

16 For example, Churchill and Lowe hold this view. See Churchill and Lowe n2 243 and 281.

17 Yturriaga JA 'Regional Conventions on the Protection of the Marine Environment' Hague Recueil 162(1) 1979 387. See also Remond-Gouilloud n2 233.

18 Ibid.

19 Sarma AHV 'Environmental Protection in Southeast Asia' in Johnston DM et al ed International Symposium on the New Law of the Sea in Southeast Asia 1983 118. See also Tangsubkul P 'The New Zones of National Jurisdiction in the Law of the Sea: Developmental Implications for Southeast Asia' in Craven JP, Schneider J and Stimson C ed The International Implication of Extended Maritime Jurisdiction in the Pacific 1989 56.

20 'SEAPOL International Conference: Report of the Rapporteurs on the Technical Workshop (26-28 April 1987)' MP 12(1) January 1988 57.

21 Meith N and Helmer R 'Marine Environment and Coastal Resources in Southeast Asia: A Threatened Heritage' Ocean YB 4 1983 294. See also Jaafar AB and Valencia MJ 'Marine Pollution: National Responses and Transnational Issues' in Kent G and Valencia MJ ed Marine Policy in

Geopolitically speaking, the problem hits the littoral states of the South China Sea quite evenly. In the Philippines, extensive sewage pollution and industrial-based pollution occur in the Manila metropolitan areas.[22] In the major rivers of that country monitored for pesticides, 76% of the samples contained pesticide concentrations exceeding acceptable standards.[23] In Indonesia, the following have been identified as major sources of pollution in the marine environment: land-based sedimentation/silting; hydrocarbons from land-based discharges; chlorinated hydrocarbons from agricultural and forestry activities; domestic wastes from major population centres and industrial wastes.[24] It is noteworthy that radioactive wastes are becoming yet another critical problem for this archipelagic state.[25] In Thailand, land-based marine pollution in the Bangkok area mainly derives from domestic sewage.[26] Industrial wastes are still however a cause of pollution from mercury, lead and zinc in the Chao Phraya River which flows through

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Southeast Asia 1985 271-2. As far as the pesticide is concerned, it is noteworthy here that Southeast Asia is by far the world's largest consumer of DDT. It has been estimated that during 1980 alone some 18 300 tons of 75% water-dispersible DDT powder (wdp) and about 6 000 tons of 50% wdp had been used in anti-malaria programmes in the region. See Ruddle K 'Pollution in the Marine Coastal Environment of ASEAN Countries' in MacAndrews and Chia LS ed Southeast Asian Seas, Frontiers for Development 1981 149.

22 Jaafar and Valencia n21 268.

23 A personal communication between Jaafar/Valencia and White A of East-West Centre in 1983. See Jaafar and Valencia n21 272.

24 Soegiarto A 'The Potential Impact of Pollution in Indonesian Coastal Resources with Special Reference to the Major Energy Shipping Routes' in Valencia MJ, Gold E, Chia LS and Letalik NG ed Shipping, Energy and Environment: Southeast Asian Perspectives for the Eighties 1982 123 and 125.

25 Ibid 125.

26 'General Discussion' [on Environmental Protection]' in Johnston et at ed n19 127.

Bangkok.[27] On the other hand, the expanding use of pesticides in the inland areas[28] results in high levels of DDT residues in the Gulf of Thailand due to the final draining into the Gulf.[29] In Peninsular Malaysia (particularly along the Strait of Malacca), sewage and industrial wastes account for most pollution from land.[30] In Hong Kong and Vietnam, industrial wastes are a cause of increasing concern. They have already adversely affected fisheries, especially shell fisheries, in nearby maritime areas off their coasts.[31] On the northeast rim of the region, it is reported that 8 billion tons of industrial pollutants and household sewage are discharged from land into PRC's waters annually.[32] The major pollutants are oil, mercury, bronze, zinc, lead, cadmium, chrominum, arsenic, radioactive matter, medical sewage, thermal wastes, solid wastes and chemical pesticides.[33] In ROC, about 11.6% of approximately 2 695.9 km of rivers and streams in toto are classified as heavily polluted and 18.9% as moderately or lightly polluted.[34] Ground water in many industry-polluted areas, often used as a source of drinking water, is

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27 Jaafar and Valencia n21 271. For a more detailed account, see Ruddle n21 152.

28 Hirsch P and Lohmann L 'Contemporary Politics of Environment in Thailand' Asi Sur 29(4) April 1989 440.

29 Jaafar and Valencia n23.

30 See n22.

31 Whipple Jr W 'Land-Based Sources of Marine Pollution and National Controls' in Charney JI ed The New Nationalism and the Use of Common Spaces, Issues in Marine Pollution and the Exploitation of Antarctica 1982 58.

32 Ma X and Chen Z 'On the Marine Environmental Protection Law' Chinese Law and Government 19 1986 66. See also Song YH 'Marine Scientific Research and Marine Pollution in China' ODIL 20(6) 1989 616.

33 Smil V 'Rivers of Waste' China Business Review 10(4) 1983 18. See also Silk MA 'China's Marine Environmental Protection Law: The Dragon Creeping in Murky Waters' RSL 11 1985 256.

34 ROC Government Information Office Republic of China Yearbook 1990-91 1990 415. Measurements of heavy metals and various toxic organic compounds were not however included in these analyses. See ibid.

contaminated by heavy metals, phenols or dangerous organic compounds.[35] In view of such a state of affairs, it has been correctly pointed out that Southeast Asia has reason for grave concern over the pollution of the marine environment from land-based sources.[36]

7.2 International control of land-based pollution: a harsh field for legal action

Customary international law, or general principles of law, requires states not to cause serious or significant harm to other states, including, probably, the environment of those states.[37] This has been recognized most prominently in the noted Trail Smelter Arbitration.[38] In that case, Canada was held liable for provable damages to American farmers in the State of Washington, on account of noxious fumes from a Canadian smelter. The tribunal held that

> '... under the principles of international law, as well as of the law of the United States, no State has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence'.[39]

It has however been pointed out that this rule is too general to afford useful guidance to states in the control

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35 Ibid 416.

36 Johnston DM 'SEAPOL International Conference - Ocean Development and Management in Southeast Asia: Prospects for Implementation of the UN Convention on the Law of the Sea, Discussion Paper' MP 12(1) January 1988 51.

37 See n154-5 and accompanying text in Chapter 3. See also Boyle AE 'Land-Based Sources of Marine Pollution: Current Legal Regime' MP 16(1) January 1992 21; and McManus RJ 'Legal Aspects of Land-Based Sources of Marine Pollution' in Charney ed n31 92.

38 The Trail Smelter Arbitration (1938 and 1941) (US v Canada) RIAA 3 1905ff; for a brief extract please see Harris DJ Cases and Materials on International Law 4th ed 1991 243-6.

39 RIAA 3 1965; see also Harris n38 245.

of land-based sources of pollution.[40] It must therefore be viewed in conjunction with the development of more specific international (and regional) agreements and standards in this regard.[41]

The international approach to land-based marine pollution is only of recent origin.[42] This fact may be attributed to the following policy considerations. Firstly, land-based pollution is 'largely invisible'[43] and effectively transported by ocean currents either into the waters of other coastal states or onto the high seas.[44] Thus one may expect diminished concern on the part of the coastal state concerned.[45] Secondly, the pollution raises extremely difficult political and economic questions.[46] Politically speaking, land-based pollution is in effect a 'national' source of marine pollution.[47] Thus most states consider it to be a matter within their sovereignty which should not go further.[48] Economically speaking, any form of international control in this regard may have an adverse impact on economic development[49] since it will create obstacles for some developing countries to attracting capital in-flows.[50] Sometimes the lack of financial and technical resources may

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40 Boyle n37 24.
41 Ibid.
42 Remond-Gouilloud n2.
43 Ibid 230-1.
44 Grolin J 'The Stability of the Environmental Regime of the 1982 Law of the Sea Convention' in Koers AW and Oxman BH ed The 1982 Convention on the Law of the Sea 1984 608.
45 Ibid.
46 Remond-Gouilloud n2 231.
47 Churchill and Lowe n2 278.
48 Yankov A 'Commentary [on Protection of the Marine Environment]' in Soons AHA ed Implementation of the Law of the Sea Convention through International Institutions 1990 464.
49 Boyle n37 35.
50 Meng QN Land-Based Marine Pollution, International Law Development 1987 53.

also contribute to reluctance to address the problem.[51] Moreover, land-based pollution may pose major practical difficulties from a juridical point of view in the effective application of criminal penalties or civil remedies at both domestic and international levels.[52] First, it is virtually impossible in most cases to identify the person, or even the category of persons responsible for a harmful release.[53] Secondly, it is hard to identify some specific types of damage[54] and also to determine the levels of damage.[55] Thirdly, in a global ecosystem like the ocean, the problem of tracing pollution to its cause would be vastly more difficult - and perhaps, for all practical purposes, impossible.[56] Finally, an equally difficult situation will no doubt arise when a large number of victims suffer pollution damage.[57] The combination of all the aforementioned factors results in a highly undesirable status quo: there is no general global treaty on the subject[58] and the problem therefore remains largely uncontrolled.[59]

At present, LOSC is the sole global instrument which incidentally touches upon the issue of controlling land-based sources of marine pollution. It contains just one article[60] which requires states to 'adopt laws and regulations to prevent, reduce and control pollution of the marine environment from land-based sources, including rivers, estuaries, pipelines and outfall structures, taking

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51 See n49.
52 Remond-Gouilloud n2 236-7.
53 Ibid 237. See also Kuwabara n12 135 and Kildow JT 'Political and Economic Dimensions of Land-Based Sources of Marine Pollution' in Charney ed n31 72.
54 Kuwabara n12 136.
55 Kildow n53 71.
56 McManus n37 101 and 103.
57 See n54.
58 Churchill and Lowe n2 277. See also Boyle n37 34.
59 Passman n2 922.
60 See n48.

into account internationally agreed rules, standards and recommended practices and procedures'.[61] The fundamental problem in this provision is that it neither provides guidelines for the actual implementation[62] nor requires contracting parties to adhere to any minimum international standards.[63] It is, therefore, totally void of any precise content.[64] In addition, an escape clause contained in the same article is also disturbing.[65] Under it, account may be taken of 'characteristic regional features, the economic capacity of developing States and their need for economic development'[66] (emphasis added). It has been alleged that this in effect leaves the task of standard-setting principally to the state concerned[67] and a national discretion to such an extent should indeed be challenged.[68] In a nutshell, the prescription of LOSC in this respect is too general and inadequate.[69] One cannot expect it to lead to the development of implementing regulations for effective enforcement.[70]

On May 24, 1985, UNEP elaborated and adopted the Montreal Guidelines for the Protection of the Marine Environment Against Pollution from Land-Based Sources[71] which is the first genuine attempt to address the subject at global

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61 LOSC art 207(1).
62 Passman n2 954.
63 Boyle n37 25.
64 Ibid.
65 Schneider J 'Remarks [on the Environment: International Rights and Responsibilities]' in American Society of International Law: Proceedings of the 74th Annual Meeting 1981 241.
66 LOSC art 207(4).
67 Lotilla RPM 'The Efficacy of the Anti-Pollution Legislation Provisions of the 1982 Law of the Sea Convention: A View from South East Asia' ICLQ 41 January 1992 138.
68 Boyle n37 26.
69 Yankov n48 465. See also n47 and n49.
70 Passman n2 923.
71 Yankov n69. Text of the Montreal Guidelines in Environ Pol & Law 14 (2/3) May 1985 77-83.

level.[72] The main purpose of the Guidelines is to assist governments in the process of developing appropriate bilateral, regional and multilateral agreements and national legislation.[73] They have been prepared on the basis of common elements and principles drawn from relevant existing agreements.[74]

The Guidelines are however clearly stated to be of a recommendatory nature only and they are also presented as a checklist of basic provisions rather than as a model agreement.[75]

A fundamental definition of 'land-based sources' appears in the Guidelines and reads:

> '(i) Municipal, industrial or agricultural sources, both fixed and mobile, on land, discharges from which reach the marine environment, in particular:
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> From the coast, including from outfalls discharging directly into the marine environment and through run-off;
>
> Through rivers, canals or other watercourses, including underground watercourses; and
>
> Via the atmosphere.
>
> (ii) Sources of marine pollution from activities conducted on offshore fixed or mobile facilities within the limits of national jurisdiction, save to the extent that these sources are governed by appropriate international agreements'.[76]

Geographically, the Guidelines are applicable to 'the maritime area extending, in the case of watercourses, up to

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72 Report of the Secretary-General of the UN n3.
73 Montreal Guidelines, the first paragraph of the Introduction.
74 Ibid.
75 Montreal Guidelines, the third paragraph of the Introduction.
76 Montreal Guidelines, Guideline 1(b).

the freshwater limit and including inter-tidal zones and salt-water marshes'.[77] 'Fresh-water limit' is defined as 'the place in watercourses where, at low-tide and in a period of low freshwater flow, there is an appreciable increase in salinity due to the presence of sea-water'.[78] Under the Guidelines, states have not only a general obligation to protect and preserve the marine environment[79], but also a specific duty to ensure that discharges from land-based sources within their territories do not cause pollution to the marine environment of other states or of areas beyond the limits of national jurisdiction.[80] In order to discharge their responsibilities, states are urged to adopt, 'in accordance with their capabilities', all necessary measures and 'ensure that such measures take into account internationally agreed rules, criteria, standards and recommended practices and procedures'.[81] Instead of criticizing this formula as an escape clause allowing 'double standards', Meng however points out that it is intended to encourage states (less developed ones in particular) to participate in international efforts and that the formula is in effect more demanding than mere discretion.[82] States not bordering the marine environment are also required to cooperate in cases where wastes originating from their territory reach that environment indirectly.[83] Transferring pollution from one area to another or transforming it from one type to another is generally prohibited[84] unless the purpose is to 'prevent, reduce and control pollution of the environment as a whole'.[85] Two important preventive measures are envisaged

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77 Montreal Guidelines, Guideline 1(c).
78 Montreal Guidelines, Guideline 1(d).
79 Montreal Guidelines, Guideline 2.
80 Montreal Guidelines, Guideline 3.
81 Montreal Guidelines, Guideline 4.
82 Meng n45 179.
83 Montreal Guidelines, Guideline 5(2).
84 Montreal Guidelines, Guideline 6.
85 Montreal Guidelines, official footnote to Guideline 6.

here as well. Firstly, states are encouraged to 'assess the potential effects/impacts, including possible transboundary effects/impacts, of proposed major projects under their jurisdiction or control, particularly in coastal areas, which may cause pollution from land-based sources'.[86] It is however unclear what particular measures should be taken if the environmental assessment shows that the proposed project is not environmentally sound.[87] Secondly, states are encouraged to 'develop and promote national and international contingency plans for responding to incidents of pollution'.[88] Whenever releases originating or likely to originate from land-based sources within the territory of a state are likely to cause pollution to the marine environment of one or more other states or of areas beyond the limits of national jurisdiction, that state should adopt following procedures: it should immediately notify such other state or states, provide them with timely information and undertake consultations with them.[89] As far as the essential control strategy is concerned, it is clearly stated in the document that priorities for control are to be established by classification of substances into a black and a greylist. States thereafter undertake to eliminate pollution by substances on the blacklist and to limit pollution by those on the greylist strictly.[90] In the latter case, national legislation may require a person discharging to have a permit satisfying the requirements for the release of the pollutants.[91] A blacklist and a greylist are subsequently elaborated with a view to facilitating implementation of the strategy. Seven categories of substances are suggested for inclusion in the blacklist: certain organic biocides, eg organohalogen compounds;

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86 Montreal Guidelines, Guideline 12.
87 Meng n50 192.
88 Montreal Guidelines, Guideline 14.
89 Montreal Guidelines, Guideline 15.
90 Montreal Guidelines, Annex I, Guideline 1.0.
91 Montreal Guidelines, Annex I, Guideline 2.3.

persistent hydrocarbons of petroleum origin; certain metals eg mercury; persistent synthetic materials which may seriously interfere with any legitimate use of the sea; radioactive materials; substances possessing carcinogenic properties; and materials in whatever form produced for biological and chemical warfare.[92] Another seven categories of substances are recommended for inclusion in the greylist: organic biocides not included in the blacklist; hydrocarbons of petroleum origin and their derivatives not included in the blacklist; certain elements and compounds thereof, eg fluorides and cyanides; organic and synthetic organic materials, other than those included in the blacklist, which are likely to produce harmful effects; acid and alkaline compounds; substances which, though not producing toxic effects, may become harmful because of the concentrations or quantities in which they are discharged; and pathogenic micro-organisms which are or may become harmful.[93] It is easy to see that these two lists are quite similar to those in LDC. In fact, the proposed blacklist under the Guidelines is more stringent than its counterpart in LDC in that it has further provisions on substances possessing carcinogenic properties. The proposed greylist seems however to be looser since it does not explicitly enumerate those metals listed in the greylist of LDC such as arsenic, lead, copper, zinc, nickel and so on. Finally, the Guidelines establish a two-part scheme to address the issue of liability. On the one hand, each state should, on a reciprocal basis, grant equal access to and non-discriminatory treatment in its courts, tribunals and administrative proceedings to persons in other states who are or may be affected by pollution from land-based sources under its jurisdiction or control.[94] On the other hand, states should ensure that recourse is available in

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92 Montreal Guidelines, Annex II, Guideline 1.0.
93 Montreal Guidelines, Annex II, Guideline 2.0.
94 Montreal Guidelines, Guideline 16.

accordance with their legal systems for prompt and adequate compensation or other relief in respect of damage caused by natural or juridical persons under their jurisdiction.[95]

Generally speaking, the Montreal Guidelines cover the pertinent issues.[96] The fundamental question here is however once again: do they fall under the category of 'internationally agreed rules, standards and recommended practices and procedures' so as to have some juridical momentum, however limited it might be, by virtue of the provisions of LOSC? Boyle holds a negative view arguing that the Montreal Guidelines are in no sense the 'international standards' for pollution control referred to in LOSC, since they lack the necessary detailed content.[97] Others do not explicitly answer the question but opine that the Guidelines do indeed provide the detail.[98] It is the opinion of this writer that: even if the Guidelines cannot be qualified as 'international standards', there would seem little reason to exclude them from become 'internationally.. recommended practices and procedures'. On the other hand, the Ad Hoc Working Group which reviewed and adopted the document acknowledged that some of the provisions therein already partook of the nature of legal principles.[99] Yankov agrees with this point of view and points out that the Guidelines are based on generally accepted rules.[100] Passman also argues that this document is the most recent and authoritative codification of international

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95 Montreal Guidelines, Guideline 17.
96 'Pollution from Land-Based Sources' Environ Pol & Law 14 (2/3) May 1985 50.
97 Boyle n58. Boyle nevertheless admits that the Guidelines are the 'nearest equivalent' to the international standards contemplated by LOSC. See Boyle AE: 'Protecting the Marine Environment: Some Problems and Developments in the Law of the Sea' MP 16(2) March 1992 83.
98 Passman n2 961. See also Meng n50 211.
99 UNEP/WG 120/3 7. See also Meng n50 167.
100 Yankov n69.

environmental law.[101] This may provide another basis for implementing the Guidelines internationally. Meng correctly indicates that the recommendatory nature of the instrument does not change the general expectation that it will be widely accepted by states.[102] It would seem permissible to conclude at this stage that the Montreal Guidelines may become gradually enforceable to a greater extent either via LOSC or on the strength of their own growingly recognized legal nature.

7.3 Other regional arrangements

All the UNEP's regional seas treaties contain a general provision requiring states to endeavour to control land-based pollution. These general provisions are no more specific than the sole article of LOSC.[103] At present, there are only five regional agreements actually providing detailed provisions on the subject and they are confined mainly to Europe, the Southeast Pacific and the Persian Gulf. UNEP's effort has not yet led to serious action in this respect in other regions.[104]

7.3.1 The 1974 Paris Convention

The first regional agreement to tackle land-based marine pollution in detail is the Convention for the Prevention of Marine Pollution from Land-Based Sources signed in Paris (the Paris Convention)[105] by twelve West European states and the EU.[106] It has been in force since May 6, 1978.[107] Under this Convention, 'pollution from land-based sources'

101 Passman n98.
102 Meng n50 212.
103 See n68.
104 See n44.
105 Kwiatkowska n2 316. See also Meng n50 117, Remond-Gouilloud n2 233 and n47. Text of the Convention in Ruster B and Simma B ed International Protection of the Environment: Treaties and Related Documents II 1975 748-71.
106 Kwiatkowska n105.
107 Ibid.

is defined as '... pollution of the maritime area: i) through watercourses, ii) from the coast, including introduction through underwater or other pipelines, iii) from man-made structures placed under the jurisdiction of a Contracting Party within the limits of the area to which the present Convention applies'.[108] Geographically speaking, the Convention applies to the northeast Atlantic and the North Sea[109] which include the territorial seas of contracting parties and waters on the landward side of the base lines from which the breadth of the territorial sea is measured, extending, in the case of watercourses up to the freshwater limit.[110] The meaning of 'freshwater limit' is defined as 'the place in the watercourse where, at low tide and in a period of low freshwater flow, there is an appreciable increase in salinity due to the presence of sea-water'.[111] This is identical with the Montreal Guidelines.[112] In addition to the general obligation to adopt measures to combat the problem[113], two special duties have also been laid down: to eliminate, if necessary by stages, pollution from substances listed in Part I of Annex A to the Convention (the blacklist); and to limit strictly pollution from substances listed in Part II of the same Annex (the greylist).[114] In the latter case, the substances shall be discharged only after approval has been granted by the appropriate authorities within each contracting state.[115] Meng however points out that the elimination of pollution does not necessarily mean prohibition on introduction: only when the introduction has caused, or will likely cause, deleterious effects can it be said that there

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108 Paris Convention art 3(c).
109 See n47.
110 Paris Convention art 3(a).
111 Paris Convention art 3(b).
112 Montreal Guidelines, Guideline 1(d).
113 Paris Convention art 1(2).
114 Paris Convention art 4(1).
115 Paris Convention art 4(2)(b).

is pollution.[116] He therefore argues that the wording, which does not explicitly prohibit discharges of blacklist substances, may prove a loophole.[117] Substances enumerated in the blacklist include: organohalogen compounds, mercury, cadmium, persistent synthetic materials and persistent oils and hydrocarbons of petroleum origin.[118] Radioactive substances come into a special category, because they are already the subject of research and recommendations by various international organizations.[119] In respect of these substances contracting parties are obliged to 'adopt measures to forestall and, as appropriate, eliminate pollution'.[120] Generally speaking, the list is almost identical with that of LDC except that it does not cover materials produced for biological and chemical warfare. The greylist contained in the Convention is also largely similar to its counterpart in LDC. It is even more stringent than the latter in that it includes non-persistent oils and hydrocarbons of petroleum origin. The Convention further establishes an interesting distinction between existing pollution and new pollution:[121] whereas parties 'shall endeavour... to reduce existing pollution from land-based sources', they must 'forestall any new pollution from land-based sources, including that which derives from new substances'.[122] Meng particularly indicates at this point that the 'forestall' formula adopted here means complete prohibition of new pollution, whether caused by substances on the black or greylist.[123] In cases where pollution by greylist substances originating from the territory of a state party is likely to prejudice the interests of one or

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116 Meng n50 123.
117 Ibid 124-5.
118 Paris Convention Annex A Part I.
119 Churchill and Lowe n2 278-9.
120 Paris Convention art 5(1).
121 Remond-Gouilloud n2 234. See also Kwiatkowska n2 323 and Meng n50 130.
122 Paris Convention art 6(1).
123 Meng n50 131.

more of the other parties, the state parties concerned have a procedural obligation to enter into consultations with a view to negotiating a special cooperation agreement.[124] As far as breaches of obligation are concerned, the Convention stipulates that:

> 'Each Contracting Party undertakes to ensure compliance with the provisions of this Convention and to take in its territory appropriate measures to prevent and punish conduct in contravention of the provisions of the present Convention'.[125]

This provision is too general to provide any concrete rule and thus allows scope for the development of specific rules at a later stage.[126] This obviously creates some difficulty for the future formation of, inter alia, a uniform liability regime. It has however also been pointed out that this is the first time that a convention clearly imposes an international obligation to take legislative and administrative measures to punish conduct in contravention of a treaty concerning environmental protection from pollution.[127] The situation is not common in international law and it could have implications for the development of 'international criminal law'.[128] Only one exception is created:

> 'The provisions of the present Convention may not be invoked against a Contracting Party to the extent that the latter is prevented, as a result of pollution having its origin in the territory of a non-Contracting State, from ensuring their full application'.[129]

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124 Paris Convention art 9(1).
125 Paris Convention art 12(1).
126 Meng n50 142.
127 Ibid 144-5.
128 Ibid 145. At the moment the rare examples being 'international crimes' relate to piracy, slavery and the slave trade, crimes against humanity, war crimes and hijacking.
129 Paris Convention art 14(1).

The said contracting party is nevertheless still obliged to 'endeavour to co-operate with the non-Contracting State so as to make possible the full application of the present Convention'.[130] Since watercourses (particularly rivers) are the major source of this specific problem[131], the Convention attempts to provide a solution in the sense that it is open for signature by upstream states whose watercourses flow into the protected maritime areas![132] With respect to institutional arrangement, a commission is established by the Convention[133] with power to adopt, by unanimous vote, programmes and measures for reducing or eliminating pollution which are binding upon all parties, or in the case of dissent, binding on those states who do not object.[134] Its main duty is to exercise overall supervision over the implementation of the Convention.[135] Finally, the Convention contains an article on dispute settlement adopting a 'final choice' approach.[136] Any dispute between the parties relating to the interpretation or application of the Convention 'shall, at the request of any of those Parties be submitted to arbitration' when it 'cannot be settled otherwise by the parties concerned, for instance by means of inquiry or conciliation'.[137]

Moreover, the absence or default of a party to the dispute shall not constitute an impediment to the procedure.[138] The

130 Paris Convention art 14(2).
131 Meng n50 138.
132 Paris Convention art 24(3).
133 Paris Convention art 15 lays down that: 'A Commission made of representatives of each of the Contracting Parties is hereby established. The Commission shall meet at regular intervals and at any time, when due to special circumstances it is so decided in accordance with the rules of procedure'.
134 Paris Convention art 18(3).
135 Paris Convention art 16(a).
136 Meng n50 146.
137 Paris Convention art 21.
138 Paris Convention Annex B art 6(5).

award of the arbitral tribunal shall be final and binding upon the parties to the dispute.[139] It has been pointed out that the implication of this article must be that parties to the Convention have ipso facto recognized arbitration as being compulsory.[140]

The fundamental flaw in the Convention is said to lie in the fact that it fails to provide detailed implementation mechanisms.[141] For example, it does not explicitly provide for the use of environmental impact assessments in the planning of an activity likely to affect the marine environment.[142] Similarly, the Convention does not define punishments for states which do not comply[143] and it totally lacks liability provisions.[144] Furthermore, the stipulation that amendments to the black/greylists do not bind states which do not approve them[145] may provide a basis for creating serious loopholes in the future. Despite all these criticisms, the Paris Convention nonetheless appears to stand as the sole international legal instrument that actually establishes an institutional mechanism for the development of transnational norms with respect to land-based pollution.[146]

7.3.2 The 1974 Baltic Convention

The Baltic Convention is the second regional arrangement to create a legal basis for cooperation by states in this field.[147] It adopts a not too dissimilar approach to the Paris Convention.[148] 'Land-based pollution' under the

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139 Paris Convention Annex B art 7(1).
140 Meng n50 147.
141 Passman n2 957.
142 Ibid. See also Meng n50 158.
143 See n141.
144 Kwiatkowska n2 329.
145 Paris Convention art 18(3).
146 McManus n37 95.
147 Kwiatkowska n105.
148 Churchill and Lowe n2 280.

Convention is defined as 'pollution of the sea caused by discharges from land reaching the sea waterborne, airborne or directly from the coast, including outfalls from pipelines'.[149] It is to be noted that airborne marine pollution is regarded as 'land-based' in this case. Meng argues that it could include air-generated pollution, such as pollution caused by atmospheric nuclear tests.[150] On the other hand, attention should also be paid to the fact that: although artificial offshore structures are not included in this definition, the Convention does not exclude them when it specifically deals with land-based pollution at a later stage.[151] Geographically speaking, the Baltic Sea with its gulf fall within the ambit of the Convention except (in contrast here to the Paris Convention) the internal waters of the contracting parties.[152] The Baltic states agreed, however, to ensure that the purposes of the Convention will be adhered to in internal waters.[153] Parties not only have the general obligation to 'take all appropriate measures to control and minimize land-based pollution'[154], but also have two special duties: to 'counteract the introduction' into the marine environment of hazardous substances as specified in Annex I (the blacklist)[155]; and to control and strictly limit pollution by noxious substances and materials in accordance with Annex II (the greylist).[156] Furthermore, the substances and materials on the greylist shall not be introduced into the marine environment in significant quantities without a prior special permit.[157] At this juncture, Meng particularly points out that though the words used here - 'to counteract the introduction' - do not

149 Baltic Convention art 2(2).
150 Meng n50 118.
151 Remond-Gouilloud n17.
152 Baltic Convention art 1.
153 Baltic Convention art 4(3).
154 Baltic Convention art 6(1).
155 Baltic Convention art 5.
156 Baltic Convention art 6(2).
157 Baltic Convention art 6(3).

include a duty 'to eliminate the pollution', they nevertheless indicate a complete prohibition of discharges.[158] As far as the content of the blacklist is concerned, only PCBs and DDT were originally listed[159]; PCTs were added in 1983.[160] The scope is therefore exceptionally limited.[161] The greylist under the Convention contains a 16-item inventory of harmful substances.[162] Some of the substances such as mercury, cadmium, halogenated hydrocarbons, radioactive materials and oil are however on the blacklists of LDC and the Paris Convention. It is also worth noting here that there is further an Annex III which (unusually) sets out goals and criteria for minimizing pollution from municipal sewage, industrial waste and waste water including cooling water. It calls for treatment and reprocessing to be used to reduce the harmful effects of these sources of pollution.[163] The Convention is thus the first to deal specifically with the problem of eutrophication and to adopt waste minimization processes and technology as control mechanisms.[164] With respect to breach of obligations, the Convention simply states that the parties 'undertake, as soon as possible, jointly to develop and accept rules concerning responsibility for damage resulting from acts or omissions in contravention of the present Convention, including, inter alia, limits of responsibility, criteria and procedures for the determination of liability and available remedies'.[165] It is however evident that the provision looks to the unification of the relevant rules by using the word 'jointly'.[166] In comparison with the Paris Convention,

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158 Meng n50 123-4.
159 Baltic Convention Annex I.
160 Boyle n37 31.
161 Kwiatkowska n2 320-1.
162 Baltic Convention Annex II.
163 Baltic Convention Annex III(2) and (4).
164 See n160.
165 Baltic Convention art 17.
166 See n126.

there is no provision dealing with the problem of pollution originating from a non-contracting state.[167] But this should not be deemed a loophole since no major watercourses flowing into the Baltic Sea are shared by parties and non-parties.[168] A Commission (like that of the Paris Convention) has been set up and is entrusted with the task of keeping implementation of the Convention under review, making recommendations and defining pollution control criteria.[169] Last but not least, the Convention adopts a 'priorized comprehensive list' approach to the settlement of disputes.[170] It stipulates that the primary means is negotiation; if it fails, good offices or mediation by a third contracting party, a qualified international organization or a qualified person are the alternatives.[171] Meng argues that all of these are not only in a fixed order of priority, but are also a pre-condition to seeking a final judicial settlement.[172] If all the choices are exhausted, the parties must submit their dispute to an ad hoc arbitration tribunal, to a permanent arbitration tribunal, or to the International Court of Justice.[173] The requirement of 'common agreement' in this last respect[174] has, however, deprived the scheme of a compulsory nature.

Generally speaking, the Baltic Convention deals with all sources and kinds of pollution and land-based marine pollution is only one variety thereof.[175] As a result, provisions on the subject are not detailed.[176] Some of the

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167 It is interesting to note that the Baltic Convention only deals with the shared watercourses of the Contracting Parties. See art 6(7) of the Convention.
168 Meng n50 139.
169 Baltic Convention arts 12 and 13.
170 Meng n50 145.
171 Baltic Convention art 18(1).
172 Meng n50 145-6.
173 Baltic Convention art 18(2).
174 Ibid.
175 Meng n50 122.
176 Ibid 123.

criticisms made in respect of the Paris Convention may therefore apply here mutatis mutandis as well: nothing on environmental impact assessment[177], the failure to define sanctions for states which do not comply[178] and the absence of a concrete liability regime.[179] Moreover, the requirement of unanimity for amendments to the Convention or its annexes[180] will no doubt render the adoption of any new measures more difficult.[181] On the other hand, the lack of any procedural obligation (eg consultation) in this document may complicate the situation when pollution from land-based sources originating from the territory of a contracting party is likely to prejudice the interests of one or more of the other parties. Finally, it has been criticized from a developmental point of view: the parties to the Convention have not gone quite as far as the Paris Convention in that they do not seem to contemplate a transnational programme with which domestic permit procedures would have to comply.[182]

7.3.3 The 1980 Athens Protocol

At a diplomatic conference convened in Athens in May 1980, the Protocol for the Protection of the Mediterranean Sea Against Pollution from Land-Based Sources (the Athens Protocol) was adopted as part of the Barcelona Convention.[183] The Protocol is one of the three instruments (the other two will be seen in the following sections) which have been adopted through UNEP's regional seas programme to address this specific problem.[184] It was signed by twelve

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177 Ibid 158.
178 See n141.
179 See n144.
180 Baltic Convention arts 23 and 24.
181 See n160.
182 See n146.
183 Kuwabara n12 47. Text of the Protocol in ILM 19(4) July 1980 869-78.
184 Passman n2 959.

Mediterranean states and the EU[185] and entered into force on June 17, 1983.[186]

The Athens Protocol is in many ways similar to the Paris Convention.[187] It covers polluting discharges both directly from outfalls discharging into the sea or through coastal disposal and indirectly through rivers, canals or other watercourses including underground watercourses, or through run-off.[188] 'Pollution from land-based sources transported by the atmosphere' also falls within the ambit of the definition of 'land-based pollution' here but is subject to a subsequent annex.[189] In contrast to the aforementioned two conventions, however, the Protocol stipulates that it applies only to artificial offshore structures which 'serve purposes other than exploration and exploitation of mineral resources of the continental shelf and the sea-bed and its sub-soil'.[190] The geographical coverage of the regime is defined differently as well: in addition to internal waters (in the case of watercourses, up to the freshwater limit), it now extends to 'saltwater marshes communicating with the sea' which are on the landward side of the baselines.[191] Essentially the Protocol follows the 'black/greylist' pollution control approach. Firstly the parties thereunder are required to 'undertake to eliminate pollution' from land-based sources by substances listed in Annex I (the blacklist) and for this purpose to elaborate and implement measures including common emission standards.[192] This objective does not have to be achieved immediately, but standards, timetables and progress in implementation are to

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185 Kwiatkowska n2 317.
186 Boyle n37 27.
187 Churchill and Lowe n2 279.
188 Athens Protocol art 4(1)(a).
189 Athens Protocol art 4(1)(b).
190 Athens Protocol art 4(2).
191 Athens Protocol art 3(b) and (c).
192 Athens Protocol art 5.

be periodically reviewed by a meeting of the parties.[193] At this juncture, it is nevertheless to be noted that discharges of blacklist substances are not prohibited[194] insofar as they are below the commonly defined limits.[195] Secondly the parties are obliged to 'strictly limit' pollution by the substances listed in Annex II (the greylist) by means of permits and to elaborate suitable programmes and measures.[196] In comparison with LDC, the blacklist contains three further categories of substances: organophosphorus compounds, organotin compounds and substances having proven carcinogenic, teratogenic or mutagenic properties. It does not however include materials produced for biological and chemical warfare. The greylist in the Protocol includes however many more substances than its counterpart in LDC and is said to be the most comprehensive one of its kind.[197] Crude oils have however been classified as blacklist substances in the latter document. In cases where transnational pollution from land-based sources is likely to occur, a party has a procedural obligation to enter into consultations with the parties whose interests are in jeopardy for the purpose of seeking a satisfactory solution.[198] With respect to pollution of international watercourses, the Protocol responds in quite a comprehensive way. It first deals with the shared water-courses of the contracting parties calling on them to cooperate when discharges from such sources are likely to cause marine pollution.[199] Then it provides a rule for watercourses shared by parties and a third state which is similar to that in the Paris Convention: 'A party shall not be responsible for any pollution originating on the

193 Athens Protocol arts 14 and 15.
194 Boyle n37 27-8.
195 Meng n50 125.
196 Athens Protocol art 6.
197 Kwiatkowska n2 321.
198 Athens Protocol art 12(1).
199 Athens Protocol art 11(1).

territory of a non-contracting State. However, the said Party shall endeavour to co-operate with the said State so as to make possible full application of the Protocol'.[200] The Protocol does not however go as far as the Paris Convention in that it is not open for accession by upstream states. Lastly, the Barcelona Convention adopts a combination of the two approaches used in the Paris Convention and the Baltic Convention which might be called 'the preference plus final choice' approach in dealing with the problem of dispute settlement.[201] It imposes an obligation on the parties to seek settlement 'through negotiation or any other peaceful means of their own choice'.[202] Meng especially indicates that 'negotiation' in this case is given the status of first and best choice amongst the peaceful means of dispute settlement by the use of the word 'shall' and the particular emphasis on negotiation in the provision.[203] When other peaceful means fail to produce a solution, the dispute 'shall upon common agreement be submitted to arbitration'.[204] Although the arrangement up to this point is devoid of any compulsory nature, the Convention subsequently redresses this shortcoming to some extent by stipulating that 'the Contracting Parties may at any time declare that they recognize as compulsory ipso facto and without special agreement, in relation to any other Party accepting the same obligation, the application of the arbitration procedure'.[205]

While the Protocol has been praised and is regarded as a model for adoption by states in other regions[206], quite a

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200 Athens Protocol art 11(2).
201 See n140.
202 Barcelona Convention art 22(1).
203 See n140.
204 Barcelona Convention art 22(2).
205 Barcelona Convention art 22(3).
206 Remond-Gouilloud n2 241.

number of flaws are acknowledged which may detract from its practical effectiveness. The most fundamental one perhaps derives from policy considerations. The Protocol embraces both the developed industrial economies to the north and the less developed economies on the southern and eastern shores.[207] In deference to this diversity it recognizes the need to take account of the differences in levels of development between coastal states and 'the economic and social imperatives of the developing countries'.[208] It even unambiguously allows 'economic capacity of the Parties and their need for development' to come into play in the elaboration of specific requirements concerning, inter alia, discharges of blacklist and greylist substances.[209] It has been pointed out that this clearly leaves room for a double standard in favour of developing countries within the region.[210] Other criticisms mainly stem from the fact that the Protocol contains no provisions concerning its enforcement.[211] They include: the Protocol neither establishes a commission to implement the programme[212] nor requires environmental impact assessments[213]; criteria for adequate waste treatment or acceptable levels of discharge are not specifically addressed[214]; no contracting party - including one which has accepted the Protocol - need accept the 'programmes and measures' for the abatement of pollution from toxic substances, including timetables for their implementation[215]; the Protocol does not articulate that the

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207 See n186.
208 Athens Protocol, Preamble.
209 Athens Protocol art 7.
210 Boyle n37 28. See also Kuwabara n12 74.
211 See n206.
212 'Mediterranean Protocol on Land-Based Sources: Regional Response to a Pressing Transnational Problem' Cornell ILJ 13 1980 348. See also Passman n2 960-1.
213 Ibid 961.
214 Boxer B 'Mediterranean Pollution: Problem and Response' ODIL 10(3/4) 1982 345.
215 Athens Protocol art 15. McManus points out that such a stipulation creates a substantial leeway for national

obligation to control land-based pollution implies a duty to provide adequate remedies in cases of pollution, as well as to take measures to prevent its recurrence in the future.[216] This writer would like to further add that the lists in the Athens Protocol are not consistent with their counterparts in the Protocol on Dumping to the same parent Convention in some respects. For example, greylist substances in the former such as organosilicon compounds, crude oils and acid/alkaline compounds are blacklist substances in the latter. This results in quite an absurd situation. It has been pointed out that river discharges are the single largest source of land-based pollution in the Mediterranean.[217] It would therefore be unthinkable that the aforementioned substances are allowed to be discharged on land and may thus easily enter the marine environment by way of river run-off while it is prohibited that they be directly dumped into the sea! It is submitted that this built-in contradiction will not only upset the enforcement of the Protocol on Dumping (it would not be easy and maybe impossible, to determine the sources of pollutants in the sea ex post facto) but would also undermine the Barcelona regime as a whole. In short, McManus correctly concludes at this stage that the Athens Protocol remains vague.[218]

7.3.4 The 1983 Quito Protocol

The parties to the Lima Convention signed the Protocol for the Protection of the South-East Pacific against Pollution from Land-Based Sources in the city of Quito (the Quito Protocol) on July 22, 1983.[219] It is the second instrument which has been adopted through UNEP's regional seas

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decisionmakers to impose standards and sanctions as they see fit. See McManus n37 96.

216 Kuwabara n12 72.

217 Ibid 7 and 19.

218 McManus n215.

219 See n150. Text of the Protocol in Simmonds KR ed New Directions in the Law of the Sea J18 September 1984.

programme to deal with this specific problem[220] and came into force on September 23, 1986.[221] Generally speaking, this instrument is fairly similar to the Athens Protocol.[222]

The definition of land-based marine pollution in the Quito Protocol largely follows its Mediterranean counterpart[223] except that it does not include artificial offshore structures, whether serving the purposes of exploration and exploitation of mineral resources of the continental shelf or not. These fall in a separate category which is subject to even more detailed regulation.[224] As far as the geographical coverage of the Protocol is concerned, the outer limit thereof is quite different from those in the other three treaties, mainly because the Southeast Pacific is not a semi-enclosed sea[225] but an oceanic area.[226] The seaward sphere of application in this case therefore 'shall be the area of the South-East Pacific within the 200-mile maritime area of sovereignty and jurisdiction of the High

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220 Meng n50 114.
221 Report of the Secretary-General of the UN n3 31.
222 Churchill and Lowe n2 380.
223 Quito Protocol art II stipulates that: 'Marine pollution from land-based sources comprises:(a) Coastal outfalls or disposal and discharges; (b) Discharges through rivers, canals and other watercourses, including underground watercourses; and (c) In general, any other land-based source situated within the territories of the High Contracting Parties, whether through water, through the atmosphere or directly from the coast'.
224 Lima Convention art 4 lays down that: 'The measures adopted by the High Contracting Parties to prevent and control pollution of the marine environment shall include, inter alia, measures designed to minimize to the fullest possible extent: ... (c) Pollution from any other installations and devices [than vessels] operating in the marine environment, in particular measures for preventing accidents and dealing with emergencies, ensuring the safety of operations at sea and regulating the design, construction, equipment, operations and manning of such installations or devices' (emphasis added).
225 Meng n50 120.
226 See n186.

Contracting Parties'.[227] Otherwise, the Protocol does not deviate from the others in this regard: it applies equally to 'waters on the landward side up to the freshwater limit'.[228] Under the Protocol, contracting parties have the obligation to 'endeavour to prevent, reduce, control and eliminate' land-based pollution by substances listed in Annex I (the blacklist).[229] It has been pointed out that these four verbs clearly indicate steps which should be progressively taken.[230] The aim of this stipulation is stated to be the elimination of discharges (not only pollution) of substances on the blacklist.[231] It is to be noted at this point, nevertheless, that discharges of blacklist substances are not totally prohibited with immediate effect. In fact, elaboration of common discharge standards[232] and national authorizations[233] are envisaged at the same time. Furthermore, Annex III talks about national authorizations for discharge of blacklist substances without making a distinction between discharges below commonly defined limits and discharges above the limits.[234] It therefore appears that discharges even above the commonly defined limits are not completely prohibited if there is national authorization![235] Meng reminds us that the elimination of discharges of blacklist substances is after all only stated as an 'aim'.[236] On the other hand, contracting parties also have an obligation to 'endeavour progressively to reduce' pollution from land-based sources by substances listed in Annex II (the greylist).[237] By using the terms 'endeavour' and 'progressively reduce', the

227 Quito Protocol art 1.
228 Ibid.
229 Quito Protocol art IV para 1.
230 See n116.
231 Quito Protocol art IV para 3.
232 Quito Protocol art VI.
233 See n231.
234 See n195.
235 Ibid.
236 Ibid.
237 Quito Protocol art V para 1.

obligation imposed here is nonetheless significantly less demanding for the parties than the obligation 'to strictly limit' which is imposed by the other three treaties.[238] The black and greylists in this document are identical with those in the Athens Protocol.[239] In cases where transnational pollution from land-based sources is likely to happen, the polluting party here also has the same procedural obligation as that in the Athens Protocol, ie to enter into consultation with those potentially affected parties with a view to seeking a satisfactory solution.[240] The Protocol further imposes an important obligation on contracting parties to ensure compliance with the provisions therein and adopt pertinent measures to prevent and penalize any act which infringes these provisions.[241] With respect to the question of liability and compensation, the Lima Convention adopts unique provision.[242] It imposes an obligation on states to develop national legal systems and to ensure that recourse is available under their jurisdiction for compensation to the victims in respect of damage caused by pollution by natural or juridical persons under the same jurisdiction.[243] The characteristic of such an arrangement is that it focuses on the responsibility, liability and compensation of individual persons.[244] On the other hand, it seems to encourage the victims of transfrontier pollution to use the private international law approach to claims for compensation.[245] Finally, it is worth noting that the Quito Protocol does not have a special article on the problem of pollution from shared watercourses. This is nevertheless mainly derived from the

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238 Meng n50 126.
239 Ibid 128-9.
240 Quito Protocol art XII.
241 Quito Protocol art XIII.
242 Meng n50 144.
243 Lima Convention art II.
244 Meng n50 143.
245 Ibid 144.

fact that there are few such watercourses flowing into the maritime area covered by this Protocol.[246]

From a legislative point of view, the Protocol is beset by a number of fundamental flaws. In the first instance, for example, 'the economic capacity of the Parties and their need for development' are allowed to be taken into account when more detailed rules and standards are deliberated.[247] Furthermore, no commission has been specially established to implement the programme. The Lima regime (both the Convention and the Protocol) does not even contain an article on dispute settlement.[248] One may expect, therefore, more difficulties on the path to the smooth implementation of the Protocol.

7.3.5 The 1990 Kuwait Protocol

The parties to the Kuwait Convention signed the Protocol for the Protection of the Marine Environment against Pollution from Land-Based Sources (the Kuwait Protocol) on February 21, 1990.[249] It is the third instrument which has been adopted through UNEP's regional seas programme in this regard. The bases of the Protocol are proclaimed to be 'the United Nations Convention on the Law of the Sea (1982); and the Montreal Guidelines for the Protection of the Marine Environment against Pollution from Land-Based Sources (1985)'.[250] It is however not identical with the latter, or any of the other regional arrangements.

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246 Ibid 140.

247 Quito Protocol art VI.

248 Meng argues that it is easy here to predict that the parties will seek a settlement by any peaceful means available in international law of which negotiation undoubtedly is the first such means. It is however doubtful that the lack of any conventional provision in this respect will guarantee such a smooth solution. For Meng's argument see n50 147.

249 Text in Simmonds KR ed New Directions in the Law of the Sea J42 December 1992.

250 Para 4 of the preamble to the Protocol.

The Kuwait Protocol largely follows the Montreal Guidelines in defining land-based marine pollution[251] and geographical area of application.[252] More than that, two new measures are introduced here. First, the contracting states are required to 'implement the action programmes based on source control'.[253] In doing so, it is stipulated that particular attention will be given, but not limited, to the following factors: (a) curtailment and/or regulation of import, transportation, manufacturing or processing of certain harmful substances; (b) change of raw materials; (c) change of manufacturing processes; (d) good operating and housekeeping practices; (e) segregation of waste streams and minimization of pollutant dilution prior to treatment; (f) recovery, re-use and recycling.[254] This device is however only 'aimed at reducing pollution from land-based sources'.[255] Secondly, the parties undertake to implement joint and/or combined effluent treatment.[256] Nevertheless, this commitment is subject to two conditions: (i) the development of new industries and especially that of small industrial operations, should not be inhibited; (ii) the economic and technical difficulties often encountered by such operations in properly treating effluents are recognized.[257] Moreover, this whole measure is, just like the first one, only 'aimed at reducing pollution'.[258] On the other hand, the Protocol also elaborates upon environmental impact assessment more thoroughly as recommended by the Montreal Guidelines.[259] What

251 Kuwait Protocol arts I(8) and III.
252 Kuwait Protocol art II.
253 Kuwait Protocol art IV(1).
254 Kuwait Protocol Annex I.
255 Kuwait Protocol art IV(2).
256 Kuwait Protocol art V(1).
257 Ibid.
258 Kuwait Protocol art V(2).
259 Kuwait Protocol art V III(2) stipulates that the assessment should contain inter alia the following particulars: (a) a description of the geographical

distinguishes the Protocol most from other regional regimes is that its basic control mechanism does not follow the popular 'black/greylist' approach. Instead, a general permit system is employed here: polluters shall be required to obtain a permit to discharge from the competent state authorities.[260] This system is characterized in that it distinguishes, if necessary, between existing and new pollution.[261] Eleven types of wastes are brought under regulation: most of them are oil-related wastes (bearing in mind the oil-producing feature of the region); others include, inter alia, '[t]oxic effluents and emissions from industries such as chio-alkali, primary aluminium production, pesticides, insecticides and lead recovery plants'.[262] A set of guidelines are simultaneously

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location of the activities to be carried out; (b) a description of the initial ecological state of the marine environment and the coastal area which may be affected by the activities; (c) an indication of the nature, aims and scope of the proposed activities; (d) a description of the methods, installations and other means to be used; (e) a description of the foreseeable direct and indirect long-term and short-term effects of the activities on the Marine Environment, including fauna, flora and the ecological balance; (f) a statement setting out the measures proposed to reduce to a minimum the risk by carrying out the activities and, in addition, possible process and pollution abatement alternatives to such measures; (g) an indication of the measures to be taken for the protection of the Marine Environment from pollution during and, as appropriate, at the end of the proposed activities; (h) definition of commitments to ongoing environmental management and monitoring; (i) cost-benefit as appropriate; (j) a brief summary of the assessment.

260 Kuwait Protocol art VI(3).

261 Kuwait Protocol Annex III 1(a).

262 The eleven-item-list also covers: (vii) emissions from natural gas flaring and desulphurization plants; (viii) dust emissions from major industrial sources, such as cement, lime, asphalt and concrete plants; (ix) effluents and emissions from power and desalination plants; (x) wastes generated from coastal development activities which may have a significant impact on the marine environment; (xi) sewage and solid wastes. See Kuwait Protocol Annex III 1(d).

established to facilitate the issue of permits.[263] The programmes for implementing the scheme are allowed to take into account 'the cost of measures involved, the capacity to modify existing installations, the economic capacity of the Contracting States and their need for sustainable development'.[264] As a result, there seems to be no provision in terms of which discharges are to be rigidly eliminated. As far as pollution of international water courses is concerned, the Protocol incorporates the rules laid down in its Mediterranean counterpart almost verbatim. It first deals with shared watercourses of the contracting parties calling on them to cooperate when discharges from such sources are likely to cause marine pollution.[265] It then provides that a party shall not be responsible for any pollution originating in the territory of a non-contracting state, but shall endeavour to cooperate with the latter with a view to full application of the Protocol.[266] Finally, the Protocol particularly adopts the recommendation on the issue of liability in the Montreal Guidelines: contracting states 'shall ensure that recourse is available in accordance with their legal systems for prompt and adequate compensation or other relief in respect of damage caused by pollution of the Marine Environment by natural or juridical persons under their jurisdiction'.[267]

The Kuwait Protocol may be evaluated from at least two perspectives. From a preventive (or technical) point of view, this Protocol no doubt is an improvement in that it introduces two new measures which deal with the problem at a more fundamental level. From an implementation point of view however, some problems come to the fore. In the first place, the permit system adopted in this instrument does not

263 Kuwait Protocol Annex III Z.
264 Kuwait Protocol Annex VI(2).
265 Kuwait Protocol art XI(1).
266 Kuwait Protocol art XI(2).
267 Kuwait Protocol art XIII(1).

require parties to 'eliminate', or 'strictly limit', discharges of any type of waste. This immediately creates difficulties in relation to LDC which indeed obliges contracting states to prohibit, or strictly regulate, dumping of certain harmful substances. This discrepancy may result in the scenario that: the blacklist substances of LDC may be legally discharged anyway on land and finally enter the marine environment by way of river run-off. In this case, it is obvious that the international dumping regime may easily be upset in the region. Moreover, such a looser control strategy is also a deviation from other stricter regional arrangements of the UNEP family. This may undermine the coherency of UNEP's general effort in this respect. That is, the Protocol may set a negative precedent of loosening subsequent developments within the framework of the latter's regional seas programme. This by-effect of the instrument should therefore be carefully monitored. Secondly, there are two many 'lenient' considerations allowing, in effect, double standards. This seriously dilutes the obligatory nature of the Protocol. Generally speaking, the Kuwait regime seems too general to render any substantial guidance to its parties.

7.4 Concluding remarks

Despite the fairly intractable difficulties of controlling pollution from land-based sources[268], the development of a global agreement in this regard is nevertheless a necessary first measure.[269] At the theoretical level, Passman has suggested that a global convention: (i) incorporate a broad definition of hazardous substances on a 'black/greylist' approach to 'eliminate' and to 'counteract' pollution; (ii) establish a global commission with regional oversight which would be responsible for environmental impact assessments, monitoring and the determination of liability; (iii) include

268 See n36.
269 Passman n2 963.

a requirement that states assess the potential effects, both domestic and transboundary, of proposed activities under their jurisdiction; and (iv) contain provisions assessing responsibility for non-compliance with the agreement and for damage caused by pollution of this sort.[270] In practice, it is generally agreed that the Montreal Guidelines could be a basis for drafting such an instrument.[271] Passman adds that all the regional agreements could also serve the same purpose.[272] While a global convention is considered and drafted, however, regional measures no doubt should continue to be developed.[273] As far as the South China Sea is concerned, it is submitted that the states in the region should elaborate their legal response to this specific source of pollution by taking into account all the five regional regimes mentioned above. Before doing so, two points are nonetheless to be borne in mind. The first is that there is no common pattern to the emissions and quality standards in each region.[274] The second is that the black and greylists, or the substances under control, in these regional agreements are not necessarily consistent with those in LDC. The lesson to be learned from the Barcelona regime as well as the Kuwait regime, as mentioned earlier, is that this is liable to upset the international control of dumping especially when account is taken of the fact that in the region PRC, the Philippines and Hong Kong have already ratified LDC.[275] It is therefore suggested that the black and greylists in LDC should be adopted as minimum standards in the future Southeast Asian regional arrangement for combating land-based pollution. At this juncture, it is also worth mentioning that some writers specifically

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270 Ibid 963-4.
271 Ibid 953 and 961. See also n44 and Report of the Secretary-General of the UN n3.
272 Passman n2 953.
273 Ibid 964.
274 See n183.
275 See n37 and accompanying text in Chapter 5.

recommend that the provision in the Quito Protocol which facilitates the bringing of activities by litigants before foreign courts should also be introduced in this region.[276] Pending the conclusion of a convention it would seem reasonable that Southeast Asian countries should attach a high priority to the application of the Montreal Guidelines within their region.[277]

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276 Churchill and Lowe n2 281.
277 See n36. See also Mushkat R 'International Environmental Law in the Asia-Pacific Region: Recent Developments' Calif WILJ 20 1989 34.

CHAPTER 8

AIR POLLUTION

8.1 Present state of air pollution in the region

Since the Industrial Revolution man has released gases into the air which have changed the environment fundamentally.[1] Discharges into the atmosphere of vehicle exhaust, fumes from chimneys (domestic and factory) and sprayed agricultural chemicals may all eventually be precipitated into the sea.[2] It is therefore increasingly recognized that there is a great deal of interaction between the air and the water in the planetary environment.[3] Concern with this phenomenon only gathered momentum during the late 1960s and early 1970s.[4] Significant change began however to develop in the 1980s as more attention was turned to the issue.[5] At present, protection of the stratospheric ozone layer[6] and regulation of acid rain[7] are two areas in which there has already been a relatively large amount of lawmaking activity. Awareness of the former may be traced back to 1974 when Molina and Rowland first published their theory of ozone destruction by certain chemicals emitted into the air

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1 Pretorius R 'The Law and the Ozone Layer' Wit USLR 1 1989 30.

2 Churchill RR and Lowe AV The Law of the Sea 2nd ed 1988 243.

3 Report of the Secretary-General of the UN 'Protection and Preservation of the Marine Environment' September 18 1989 in Simmonds KR ed New Directions in the Law of the Sea U 7.1 February 1990 21.

4 See n1.

5 Generally see Nanda VP 'Trends in International Environmental Law' Calif WILJ 20 1990 190.

6 Caron DD 'Protection of the Stratospheric Ozone Layer and the Structure of International Environmental Lawmaking' Hastings ICLR 14 1991 755.

7 Moller EK 'The United States-Canadian Acid Rain Crisis: Proposal for an International Agreement' UCLA Law Rev 36 1986 1221.

by man.[8] The ozone layer is only 3mm thick[9] and located in the stratosphere between ten and thirty miles from the earth.[10] It plays a major part in the control of terrestrial climate because, absorbing some of the solar ultraviolet radiation, it provides the heat necessary to maintain the stability of the stratosphere.[11] It also filters ultraviolet radiation and protects the earth from its most dangerous wave lengths.[12] This layer is vital to the health of the earth's inhabitants[13]: a decreasing ozone layer would lead to a rise in the level of ultraviolet radiation reaching the surface of the globe which in turn could have damaging effects in several areas including human health, crops and natural terrestrial (plant) ecosystems, aquatic plants and ecosystems and materials.[14] For example, it is estimated that a loss of 1% in the ozone layer would cause a 3% rise in the incidence of skin cancer.[15] Furthermore, such state of affairs may also result in, inter alia, two major dangers for fish stocks and other aquatic species: firstly, they could be affected in the early and sensitive stages of their life cycles; and secondly, a disturbance of the food web would have an impact on all larger aquatic species.[16] Today the prime suspect for depleting the ozone is the group of chlorofluorocarbons (CFCs)[17] which was developed in 1928 by Dupont chemists.[18]

8 Molina MJ and Rowland FJ `Stratospheric Sink for Chlorfluoromethanes: Chlorine Atom Catalyzed Destruction of Ozone' Nature 249 June 1974 811.
9 Pretorius n1 31.
10 Peters MB `An International Approach to the Greenhouse Effect: The Problem of Increased Atmospheric Carbon Dioxide can be Approached by an Innovative International Agreement' Calif WILJ 20 1989 79.
11 Brunnee J Acid Rain and Ozone Layer Depletion: International Law and Regulation 1988 35.
12 Ibid.
13 See n10.
14 Brunnee n11 43.
15 `Stratosfears' The Economist February 25, 1989 93.
16 Brunnee n11 46.
17 Ibid 36.
18 Caron n6 756.

Being non-toxic, CFCs have been extensively used in the manufacture of everyday commodities, such as refridgerator coolants, air conditioners, aerosol propellants, cleansers for electronic parts, foam producing agents and foam packaging.[19] Although CFCs per se are not dangerous to man, it is the effect that they have on the stratosphere which is destructive.[20] At the theoretical level, it was postulated that these substances for the most part ultimately reached the stratosphere; that once there, they finally became exposed to the ultraviolet radiation from which they had been shielded by the ozone layer; that the highly energetic radiation broke down the CFC molecules releasing chlorine atoms; and that such chlorine atoms then served as catalysts which broke down ozone molecules.[21] It has also been pointed out that CFCs may stay in the atmosphere for as long as 150 years[22] and are subject to time lag and accumulation effects due to their slow vertical transportation.[23] Another group of chemicals known as halon 1211, 1301 and 2402 has an even more destructive effect on the ozone layer: they are used in fire extinguishers and contain bromide which acts as a catalyst in breaking down ozone 13 times as fast as CFCs.[24] Methane and nitrogen oxides are of some concern in this case as well.[25] In practice, scientists discovered a hole in the ozone layer over Antarctica in 1985[26] and the assessment carried out by WMO in 1988 and 1989, in collaboration with National Aeronautics and Space

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19 See n1.
20 Ibid.
21 Molina and Rowland n8 810; see also Caron n6 756-7.
22 See n10.
23 Generally see Evans FJ 'Ozone, Our Invisible Shield' Bridges May/June 1985 18-22. See also Brunnee n11 38.
24 See n9.
25 Brunnee n11 36.
26 'The Ozone Layer: Cold Comfort' The Economist July 13 1985 76-8. For a scientific account of that finding, see Farman JC, Gardiner BG and Shanklin JD 'Large Losses of Total Ozone in Antarctica Reveal Seasonal CIOx/NOx Interaction' Nature 315 May 1985 207-10

Administration (NASA) of the United States and with UNEP, had confirmed that the spectacular ozone losses over Antarctica during the austral spring were due to CFCs trapped in the winter circumpolar vortex.[27] In 1987, a 60% loss of the ozone layer was discovered and the hole was as large as the continental United States.[28] The problem has now deteriorated to the extent that even if production of all ozone-depleting chemicals was stopped immediately, it would take 80 years to plug the ozone hole over Antarctica![29] At the moment, western industrial countries contribute about 80% of the global CFC production while the former Soviet block is responsible for another 15%.[30] Generally speaking, the ozone layer problem is of global scope for apparently the production and/or consumption of ozone depleting substances in one country has implications for all others.[31]

Since the 1950s so-called acid rain (and snow) had been detected in the Scandinavian countries and North America.[32] 'Acid rain' in the modern sense can be defined as rainfall with a pH below 5.6 which is the natural equilibrium value for distilled water in the presence of atmospheric carbon dioxide.[33] It is primarily the result of anthropogenic emissions of sulphur oxides and nitrogen oxides[34] which come

27 'Montreal Protocol: Phase-out of CFCs Achieved' (hereinafter cited as 'Phase-out achieved') Environ Pol & Law 20 (4/5) September/October 1990 134-5.
28 'A Gaping Hole in the Sky' Newsweek July 11 1988 21-2.
29 'Phase-out Achieved' n24 134.
30 Tolba MK 'Facing a Distant Threat' Statement to the Opening Session of the Conference of Plenipotentiaries on the Protection of the Ozone Layer, Vienna, March 18 1985 4. See also Brunnee n11 37.
31 Brunnee n11 43 and 77. See also n10.
32 Devine DJ and Erasmus MG 'International Environmental Law'in Fuggle R and Rabie MA ed Environmental Management in South Africa 1992 168.
33 Skoroszewski R 'Acid Rain in South Africa' African Wildlife 43(2) 1989 82.
34 Ibid. See also Brunnee n11 11 and Devine and Erasmus n32.

largely from the burning of fossil fuels such as coal and oil as well as from other industrial activities and car exhausts.[35] The first signs of damage by acid rain in the Northern Hemisphere were seen in rivers, lakes and forests.[36] One of the obvious changes as lakes and rivers became more acid was the elimination of fish such as trout.[37] Furthermore, forest decline was recorded in the 1970s in eastern Europe and in the southern and central parts of the then West Germany.[38] As investigation increased, acid precipitation emerged as the most likely cause of the deterioration of vegetation, soil, the aquatic environment and of certain injuries to human health and damage to man-made structures.[39] For example, it can affect fish both directly through alteration of blood chemistry or retardation of egg development and indirectly through the disruption of the food web.[40] It has also been pointed out that acidification can leach lead, copper, cadmium, mercury, aluminium and other heavy metals out of soil or steel pipes into drinking water which in turn will have detrimental effects on human health.[41] Moreover, aluminium in particular is very toxic to aquatic life.[42] The characteristic effect of acid rain on the environment is cumulative with a time lag: even if all emissions of sulphur dioxide were stopped today, the deterioration would not cease![43] There are increasing indications that acidification is or is becoming a problem in many parts of

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35 See n33.
36 Skoroszewski n33 83.
37 Ibid.
38 Brunnee n11 18.
39 Ibid 14.
40 Federal/Provincial Research and Monitoring Coordinating Committee (RMCC) Assessment of the State of the Knowledge on the Long-Range Transport of Air Pollutants and Acid Deposition Part 3: Aquatic Effects 1986 30-3. See also Brunnee n11 16-7.
41 Ibid 22-3.
42 See n33.
43 See n36.

the world.[44] Acid rain is however essentially a regional issue.[45]

In addition to the aforementioned two areas which have caused most contemporary legal concern about air pollution control, a third field whose importance has been increasingly recognized in the 1980s is the problem of global warming.[46] Researchers recently reported that the world has warmed about six-tenths of a degree centigrade during the last century and about four-tenths of a degree centigrade in the last thirty years.[47] Furthermore, the four warmest years in the last century each occurred in the 1980s.[48] Scientists dubbed such warming of the earth's atmosphere 'the greenhouse effect'.[49] As a matter of fact, the greenhouse effect was initially a natural process:[50] the atmospheric build-up of carbon dioxide and certain other gases warm the earth.[51] Without interference from man, the earth managed to maintain a fairly constant level of heat.[52] Human activities are however responsible for exacerbating

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44 Brunnee n34.
45 Brunnee n11 77.
46 Nanda VP 'Global Warming and International Environmental Law - A Preliminary Inquiry' Har ILJ 30(2) Spring 1989 375. See also Bach W and Jain AK 'Toward Climate Conventions Scenario Analysis for a Climatic Protection Policy' AMBIO 20(7) November 1991 322.
47 Hansen J 'The Greenhouse Effect: Impacts on Current Global Temperature and Regional Heat Waves' (statement presented at the Hearing before the US Senate Committee on Energy and Natural Resources) June 23 1988 2-3. See also Nanda n46.
48 See n47.
49 Peters n10 68.
50 Nanda n46.
51 Generally see US Environmental Protection Agency Can We Delay a Greenhouse Warming? The Effectiveness and Feasibility of Options to Slow a Build-Up of Carbon Dioxide in the Atmosphere 1983 1-2. See also Nanda n46 378.
52 'Inside the Greenhouse: Heat Waves' Newsweek July 11 1988 19.

the normal greenhouse effect of the atmosphere.[53] It has been identified that carbon dioxide accounts for about half of the present global warming problem[54], the anthropogenic emission of which is largely caused by the massive burning of fossil fuels (coal, wood, gas) and anything made of carbon.[55] At present, the United States is the biggest source of carbon dioxide so produced.[56] Nevertheless, the contribution to the greenhouse warming by the Third World is also growing rapidly.[57] The consequences of continuing global warming would be catastrophic: climate zones could shift and impair global agriculture and food supplies, sea levels could rise between 20 and 140 metres due to thermal expansion and melting of glaciers and polar ice, human health could be directly affected at least in an adaptation period.[58] It has been correctly pointed out that the global warming might be an even more pressing problem than the depletion of the ozone layer or acid rain[59] and that climate disruption poses a serious enough threat in its own right to justify immediate carbon dioxide controls.[60]

Due to rapid industrialization and urbanization, severe air pollution problems have emerged in Southeast Asia as well.[61] In the first place, there are strong indications that the potential for acid pollution in the ASEAN bloc is significant.[62] Emissions from existing industry, from power plants and the transportation sector all contain pollutants identified as causes of acid precipitation: sulphur and

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53 Nanda n51.
54 Collins CP 'Climate Change Negotiations Polarize' AMBIO 20(7) November 1991 342.
55 Peters n49.
56 Collins n54 340.
57 Bach and Jain n46.
58 Brunnee n11 47.
59 Ibid.
60 See n54.
61 Brunnee n11 31.
62 Ibid 33.

nitrogen oxides.[63] As a matter of act, a limited monitoring programme run by the Malaysian Meteorological Department since 1976 revealed pH values of 4.4 - 4.8 near Kuala Lumpur.[64] Rainwater collected between 1981 and 1986 at four locations in Indonesia (Jakarta, Palembang, Medan and Manado) also showed pH values between 5.3 and 5.6.[65] On the northeastern rim of the region, PRC has exactly the same problem: all its major cities face serious atmospheric pollution containing mainly sulphur dioxide, nitrogen oxides and carbon monoxide.[66] It is estimated that the amount of sulphur dioxide discharged reaches 13-18 million tons per year, 90% of which is produced by fuels.[67] In the second place, the region is by no means short of sources which contribute considerably to the depletion of the ozone layer and global warming. For example, PRC is already a significant manufacturer of CFCs and Hong Kong manufactures and sells $50 000 000 worth of the same chemicals each year.[68] Furthermore, continuing industrialization in the former will provide great quantities of new carbon dioxide in the coming decades.[69] Other large quantities of this 'greenhouse' gas are currently produced by, inter alia, power generation on the west coast of Malaysia and internal combustion engines in Jakarta and Manila.[70] It has been specifically pointed out that PRC alone, by burning its

63 Ibid.

64 ASEAN Experts Group on the Environment Acidification of Rain in ASEAN Countries, Tenth Meeting of ASEAN Experts Group on the Environment April 26 1987 2. See also Brunnee n11 33.

65 See n64.

66 Xian A and Li B 'China: Development of Environmental Legislation' Environ Pol & Law 18(1/2) Spring 1988 13.

67 Ibid.

68 Mushkat R 'International Environmental Law in the Asia-Pacific Region: Recent Developments' Calif WILJ 20 1989 32 at n 57.

69 See n54.

70 Jaafar and Valencia MJ 'Marine Pollution: National Responses and Transnational Issues' in Kent G and Valencia MJ ed Marine Policy in Southeast Asia 1985 274.

dirty coal and making polluting refridgerators, could torpedo everybody else's efforts to stop the build-up of atmospheric carbon and damage to the ozone layer![71] In view of the fact that all the problems mentioned above have implications for the overall ecological balance essential to life on earth[72], no doubt concerted international action is urgently needed here[73] of which the Southeast Asian collective effort should be an indispensable part.

8.2 International control of air pollution

It is true that the international law of transboundary air pollution has only begun to develop.[74] This fact however does not necessarily imply that the status quo in this field is a total vacuum. On the contrary, several concrete steps involving international cooperation have already been taken at the global level to contain the problem of large-scale degradation of the earth's environment as a whole caused by air pollution.

8.2.1 LOSC

LOSC is the first global instrument which touches upon the problem in general. It obliges states to 'adopt laws and regulations to prevent, reduce and control pollution of the marine environment from or through the atmosphere'.[75]

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71 'Survey: The Environment' The Economist September 2 1989 6.

72 Johnston refers to these problems as 'systemic environmental damage' and provides eight examples: (1) climate change; (2) systemic food production failure; (3) desertification; (4) deforestation; (5) long-range transboundary air pollution; (6) ozone destruction; (7) ocean contamination and (8) the endangerment of species. See Johnston DM 'Systemic Environmental Damage: The Challenge to International Law and Organization' Syra JIL 12 1985 255-82. See also Brunnee n11 255 especially at n1.

73 Report of the Secretary-General of the UN n3 20.

74 Brunnee n11 3.

75 LOSC art 212(1).

However, more specific standards have not been set[76] nor is adherence to international agreed rules required in this case.[77] Thus, the task of standard-setting is in effect left principally to the state concerned.[78] As a result, LOSC only reflects a minimal level of international control in this respect.[79] It has been pointed out that such an arrangement is too general and is inadequate.[80]

8.2.2 The 1985 Vienna Convention

While the general response to the problem of air pollution was proceeding, UNEP had moved in a more confined direction to deal specifically with ozone depletion. In March 1977, it invited experts from governments, inter-governmental and non-governmental organizations to a conference held in Washington[81] which resulted in the adoption of the 'World Plan of Action on the Ozone Layer' and the establishment of a Global Coordinating Committee on the Ozone Layer.[82] In May 1981, UNEP further established an Ad Hoc Working Group of Legal and Technical Experts charged with the task of

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76 Boyle AE 'Land-Based Sources of Marine Pollution: Current Legal Regime' MP 16(1) January 1992 32.

77 Boyle points out that the obligation of states under art 212(1) is only to 'take account of' internationally agreed rules and standards, but not necessarily to adopt them. See Boyle AW 'Marine Pollution Under the Law of the Sea Convention' AJIL 79 1985 354.

78 Lotilla RPM 'The Efficacy of the Anti-Pollution Legislation Provisions of the 1982 Law of the Sea Convention: A View from South East Asia' ICLQ 41(1) January 1992 138.

79 See n76.

80 Yankov A 'Commentary [on Protection of the Marine Environment]' in Soons AHA ed Implementation of the Law of the Sea Convention through International Institutions 1990 465.

81 Rummel-Bulska I 'The Protection of the Ozone Layer Under the Global Framework Convention' in Flinterman C, Kwiatkowska B and Lammers J ed Transboundary Air Pollution: International Legal Aspects of the Cooperation of States 1986 281. See also Brunnee n11 226.

82 Caron n6 758.

drafting a framework convention on this subject.[83] At the Ad Hoc Meeting of Senior Government Officials Expert in Environmental Law held in Montevideo in the fall of 1981, the protection of the ozone layer was once again identified as one of the top priorities.[84] The process culminated in the Vienna Conference in March 1985 in which the Vienna Convention for the Protection of the Ozone Layer was adopted.[85] It was signed by twenty states and the EU[86] and entered into force on September 22, 1988.[87] At present, the following Southeast Asian states (or entities) have ratified the instrument: Singapore[88], Thailand[89], Malaysia[90], PRC[91], Hong Kong[92], Brunei[93] and the Philippines.[94]

Under the Convention, the most fundamental definition - that of 'the ozone layer' - is delineated as 'the layer of atmospheric ozone above the planetary boundary layer'.[95] It has been pointed out that this definition covers not only the stratospheric ozone layer but the total atmospheric ozone layer, taking into account possible dangers arising from changes in ozone distribution in the atmosphere while

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83 Ibid 758-9.
84 Rummel-Bulska n81 283. See also Brunnee n11 227.
85 Peters n10 80. See also Caron n6 759 and Brunnee n11 229. Text of the Convention in Environ Pol & Law 14(2/3) May 1985 72-7.
86 'UNEP: Ozone Convention Signed' Environ Pol & Law 14(2/3) May 1985 38.
87 Sea Changes 9 1989 17.
88 On January 5 1989.
89 On June 30 1989.
90 On August 29 1989.
91 On September 11 1989.
92 It is reported that the legislature of Hong Kong has passed an Ozone Layer Protection Bill in the second half of 1989 which seeks to give effect to Hong Kong's international obligation under the 1985 Vienna Convention (and the 1987 Montreal Protocol, which will be discussed in section 8.2.3. infra). See Commonwealth Law Bulletin 15(4) October 1989 1139.
93 On July 26 1990.
94 On July 17 1991.
95 Vienna Convention art 1(1).

the column content remains the same.[96] Nevertheless, not all activities which could modify the ozone layer are subject to control here.[97] Only those which entail 'adverse effects' fall within the ambit of regulation. 'Adverse effects' means 'changes in the physical environment or biota, including changes in climate, which have significant deleterious effects (emphasis added) on human health or on the composition, resilience and productivity of natural and managed ecosystems, or on materials useful to mankind'.[98] The contracting states thereunder have a general obligation to 'take appropriate measures... to protect human health and the environment against adverse effects resulting or likely to result from human activities which modify or are likely to modify the ozone layer'.[99] To this end, they are further required to 'adopt appropriate legislative or administrative measures and co-operate in harmonizing appropriate policies to control, limit, reduce or prevent human activities under their jurisdiction or control should it be found that these activities have or are likely to have adverse effects resulting from modification or likely modification of the ozone layer'[100] (emphasis added). In discharging all these responsibilities, the parties are however allowed to act 'in accordance with the means at their disposal and their capabilities'.[101] The enforcement of the Convention only relies upon a two-part device: the parties are required first to 'transmit, through the secretariat, to the Conference of the Parties... information on the measures adopted by them in implementation of this Convention and of protocols to which they are party'[102]; then the Conference of the Parties shall keep under continuous review the

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96 Brunnee n11 230.
97 Ibid.
98 Vienna Convention art 1(2).
99 Vienna Convention art 2(1).
100 Vienna Convention art 2(2)(b).
101 Vienna Convention art 2(2).
102 Vienna Convention art 5.

implementation of this Convention.[103] Finally, there is a mechanism for settling disputes: in the event of a dispute concerning interpretation or application of the Convention, the parties (1) shall negotiate; (2) failing that, seek good offices of, or request mediation by, a third party; and (3) failing that, submit the dispute to conciliation.[104] In the last case, a conciliation commission shall be created upon the request of one of the parties to the dispute. The commission shall be composed of an equal number of members appointed by each party concerned and a chairman chosen jointly by the members appointed by each party. It shall render a final but recommendatory award.[105] The parties, in accepting the Convention, may also declare that they accept as a compulsory means of dispute settlement either arbitration or submission to the International Court of Justice or both.[106] From a holistic point of view, this mechanism is nevertheless said to be quite limited.[107]

Generally speaking, the 1985 Vienna Convention is only a framework which aims not at substantive norms but rather at establishment of a basis for future cooperation.[108] This fact, together with another technical shortcoming, the lack of detailed enforcement procedures[109], severely limit the scope of the Convention.

8.2.3 The 1987 Montreal Protocol

When the Final Act of the 1985 Vienna Conference was adopted, it was accompanied by a Resolution on a Protocol Concerning Chloroflurocarbons.[110] That resolution not only recognized the possible threat to the ozone layer resulting

103 Vienna Convention art 6(4).
104 Vienna Convention art 11(1)(2) and (4).
105 Vienna Convention art 11(5).
106 Vienna Convention art 11(3).
107 Caron n6 772.
108 Ibid 759.
109 Ibid 771.
110 Text in Environ Pol & Law 14(2/3) May 1985 71-2.

from emission and use of fully halogenated CFCs and other chlorine-containing substances[111], but also expressed the determination to continue negotiations on the elaboration of a protocol to control these chemicals.[112] Coupled with the scientific discovery of a hole in the ozone layer over Antarctica in 1985[113], the subsequent development was however quite different from that earlier in Vienna in that virtually all of the interested parties were now in agreement that some degree of phased reduction was appropriate.[114] Thus, compromise was soon reached.[115] In a conference held in Montreal from 14-16 September 1987, the Montreal Protocol on Substances that Deplete the Ozone Layer was formally adopted.[116] It was signed by 24 countries and the EU[117] and entered into force on January 1, 1989.[118] For the time being, the following Southeast Asian states (or entities) have ratified the Protocol: Singapore[119], Thailand[120], Malaysia[121], Hong Kong[122] and the Philippines.[123] Furthermore, ROC officials have declared that the state hopes to lower its consumption of the chemicals concerned eventually in line with the Montreal guidelines.[124]

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111 Ibid 71.
112 Ibid.
113 See n26 and accompanying text supra.
114 Caron n6 760.
115 For the process of reaching a compromise, see Brunnee n11 236-42.
116 'UNEP: Ozone Protocol Adopted' Environ Pol & Law 17(6) December 1987 229. Text of Montreal Protocol in Environ Pol & Law 17(6) December 1987 256-9.
117 'UNEP: Ozone Protocol Adopted' n116.
118 See n87.
119 On January 5 1989.
120 On June 30 1989.
121 On August 29 1989.
122 See n92.
123 On July 17 1991.
124 'Pleas of World Wide Effort' S China Morning Post March 8 1989 18 at col 4. See Mushkat n68 33 at n58.

The gist of the Protocol lies in a reduction formula[125] for two groups of substances: chlorofluorocarbons 11, 12, 113, 114 and 115 and Halons 1211, 1301 and 2402.[126] It applies to both production and consumption.[127] 'Production' means 'the amount of controlled substances produced minus the amount destroyed by technologies to be approved by the Parties'[128] and 'consumption' is defined as 'production plus imports minus exports of controlled substances'.[129] In brief, it seeks to freeze or reduce the emission of all these chemicals through a variety of ingenious measures which make allowances for the needs of both developed and developing countries.[130] As far as CFCs are concerned, three phases of control have been established. In the first stage, a consumption freeze for CFCs at 1986 levels will become effective on the first day of the seventh month following the date of the entry into force of this Protocol.[131] In order to accommodate the interests of lesser developed countries and industrial rationalization, the consumption formula allows for a rise in production above the 1986 level of 10%.[132] Consequently, while there is some flexibility built into the provision, the consumption levels are binding.[133] In the second stage, each party shall ensure that, for the period July 1, 1993 to June 30, 1994 and in each twelve-month period thereafter, its calculated level of annual consumption of CFCs does not

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125 Brunnee n11 242.
126 'UNEP: Ozone Protocol Adopted' n116.
127 Brunnee n11 243.
128 Montreal Protocol art 1(5).
129 Montreal Protocol art 1(6).
130 Peters n10 81.
131 Montreal Protocol art 2(1).
132 Ibid. Montreal Protocol art 1(8) defines 'industrial rationalization' as 'the transfer of all or a portion of the calculated level of production of one Party to another, for the purpose of achieving economic efficiencies or anticipated shortfalls in supply as a result of plant closures'.
133 See n127.

exceed 80% of its 1986 level.[134] On the other hand, the special allowance of a 10% rise in production above the 1986 level in the previous phase applies mutatis mutandis here as well.[135] Brunnee particularly points out at this juncture that the dates set in this phase are not linked to the Protocol's entry into force. A delay in approval or accession would therefore leave the parties less time to prepare for compliance.[136] In the final stage, from July 1, 1998, the level of consumption of these chemicals shall not exceed 50% of the 1986 levels.[137] In this last case, the allowance for production by reason of the domestic needs of developing countries and industrial rationalization is increased to 15% of the 1986 level.[138] With respect to halons, the measure of control is interestingly simple: a freeze which will become effective on the first day of the thirty-seventh month following the date of the Protocol's entry into force, plus an allowance for a 10% rise in production over the 1986 level on exactly the same conditions as for CFC's.[139] There are however two limited exceptions to the control plan mentioned above.[140] Firstly, any party whose calculated level of production of CFCs in 1986 was less than twenty-five kilotonnes may, for the purposes of industrial rationalization, transfer to or receive from any other party production in excess of the limits set out in the Protocol, provided that the total combined calculated levels of production of the parties concerned does not exceed the stipulated production ceilings .[141] Secondly, any party other than developing countries which has facilities for the production of controlled substances under construction, or contracted for,

134 Montreal Protocol art 2(3).
135 Ibid.
136 See n127.
137 Montreal Protocol art 2(4).
138 Ibid.
139 Montreal Protocol art 2(2).
140 Brunnee n11 244.
141 Montreal Protocol art 2(5).

prior to September 16, 1987 and provided for in national legislation prior to January 1, 1987, may add the production from such facilities to its 1986 production, provided that such facilities are completed by December 31, 1990 and that such production does not raise that party's annual consumption above 0.5 kilograms per capita.[142] In addition to the reduction formula, the Protocol also provides for restrictions on trade with non-parties to assist in enforcing compliance. It distinguishes between import and export and between various goods:[143] within one year of the Protocol's entry into force, signatory nations will not be permitted to import controlled substances from non-signatory nations;[144] from January 1, 1993, signatory 'developing countries' may not export controlled substances to non-signatory nations;[145] from January 1, 1993, any exports of controlled substances from signatory nations to non-signatory nations will be counted as part of domestic consumption of signatory nations;[146] three years after entry into force, a list of all products containing the controlled substances will be banned by the signatories shortly afterwards;[147] within five years of entry into force, signatory nations will investigate the feasibility of identifying and subsequently banning imports of goods produced with, but not containing, controlled substances from non-signatories.[148] Finally, considerable concessions have been made to cater for the special situation of developing countries. It is stipulated that any such party within 0.3 kg of the per capita consumption limit may delay its compliance with the reduction schedule mentioned above for ten years while not exceeding that level.[149]

142 Montreal Protocol art 2(6).
143 Brunnee n11 246.
144 Montreal Protocol art 4(1).
145 Montreal Protocol art 4(2).
146 Montreal Protocol art 3(c).
147 Montreal Protocol art 4(3).
148 Montreal Protocol art 4(4).
149 Montreal Protocol art 5(1).

Generally speaking, the approach adopted by the Protocol is commendable.[150] Nevertheless, it has substantial limitations.[151] The first (and perhaps the most fundamental) problem is that the startling findings regarding the Antarctic ozone hole, officially confirmed only after the meeting in Montreal, have not been taken fully into account in the Protocol.[152] In view of the damage already done to the ozone layer, it has been pointed out that the targets set in the 1987 instrument are not ambitious enough.[153] It is therefore argued that higher targets and shorter deadlines should be set[154] and the scope of the Protocol should be extended to cover other substances such as carbon tetrachloride and methyl chloroform which accounted for 13% of the 1985 ozone depletion.[155] Another notorious problem inherent in the scheme is that it does not provide a method of enforcement for non-compliance[156] nor does it determine sanctions.[157] The fact that the thrust is totally on voluntary compliance[158] has been identified as one of the weakest points in the Protocol.[159] Last but not least, the exceptions created for developing nations have aroused much concern as to whether the end result will be a

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150 Brunnee even considers it to be the most adequate one for the protection of the ozone layer. See Brunnee n11 274.
151 Nanda n5 195.
152 Caron n6 671.
153 See n29.
154 Ibid. Critics believed that the projected 50% reduction was inadequate to prevent additional substantial damages to the ozone layer. They believed that a global reduction of 85% over five years would be required to halt ozone depletion. See NY Times September 17, 1987 A at 12 cols 3-4. See also Peters n10 82.
155 Shea CP 'Measures to Control Ozone Depletion' Economic Impact 1 1989 72. See also Pretorius n1 32.
156 Caron n6 771. See also Peters n10 83.
157 Brunnee n11 245.
158 Nanda n5 154.
159 Peters n156.

decrease in the levels of CFCs.[160] It is true that developing countries produce and consume less of the substances, but to permit them leeway would not only contribute significantly to future increases in production and the associated consequences but would also tend to decrease the parties' commitment to cooperative efforts.[161] In a nutshell, the Protocol establishes objectives but does not create the means by which they can be achieved.[162]

8.2.4 The 1990 London Adjustments and Amendment

Concomitant with more revelations emerging from the scientific community, there was a widespread feeling that the 1987 Montreal Protocol was in fact inadequate and would require revision.[163] Planning for adjustments and amendment began almost immediately.[164] The political focus on the subject had been intensified after the 1987 Montreal Conference.[165] This soon culminated in the Second Meeting of the Parties to the Montreal Protocol in London in June 1990.[166] The meeting was attended by 84 parties to the instrument and 42 non-parties.[167] In addition to the contemplated adjustments and amendments to the 1987 Protocol, the agenda also included, inter alia, institutional mechanisms in relation to non-compliance.[168]

By the opening of the London meeting, the negotiating parties had in effect already been in agreement not merely on accelerating the phased reductions, but on phasing out entirely the substances specified by the Montreal

160 Peters n154.
161 See n158.
162 Pretorius clearly points out that the measures of control provided for in the Protocol are insufficient. See Pretorius n1 33.
163 See n152.
164 Caron n6 762.
165 Ibid.
166 See n29.
167 Ibid.
168 Ibid.

Protocol.[169] Thus, the draft adjustments were soon adopted by consensus.[170] In accordance with the new agreement, the 1987 control plan is completely re-scheduled. As far as CFCs are concerned, a four-stage-phase-out-timetable is now envisaged. In the initial stage, each party shall ensure that for the period from July 1, 1991 to December 31, 1992 and in each year thereafter, its calculated levels of consumption of the substances do not exceed 150% of its 1986 levels.[171] In the second stage, each party is required to ensure, after January 1, 1995, that its annual consumption of the substances does not exceed 50% of the 1986 level.[172] In the third stage, from January 1, 1997, the annual level of consumption shall not exceed 15% of that in 1986.[173] Lastly, CFCs shall be totally phased out by January 1, 2000.[174] Special allowances for a certain percentage rise of production above the 1986 level to satisfy the basic domestic needs of developing signatories which were contained in the corresponding 1987 rules, are however kept in tact in this new timetable (10% in the second and the third phases and 15% in the last).[175] For halons, a three-phase-control-plan now stands. In the first phase commencing January 1, 1992, the annual consumption of the chemicals shall be frozen at 1986 levels.[176] In order to satisfy the basic domestic needs of developing state parties, the formula allows for a rise in production above the 1986 level of 10%.[177] In the second phase commencing on January 1,

169 See `Helsinki Declaration on the Protection of the Ozone Layer, Report of the Parties to the Montreal Protocol on the Work of Its First Meeting, May 2, 1989' UN Doc UNEP/Ozl Pro 1/5 App 1 1989. See also n164.
170 `Phase-Out Achieved' n24 135. Text of the London Adjustments in Environ Pol & Law 20 (4/5) September/October 1990 168-9.
171 London Adjustments art 2A(2).
172 London Adjustments art 2A(3).
173 London Adjustments art 2A(4).
174 London Adjustments art 2A(5).
175 London Adjustments art 2A(3),(4) and (5).
176 London Adjustments art 2B(1).
177 Ibid.

1995, the level of consumption shall not exceed 50% of the 1986 level.[178] On the other hand, the 'ten-percent allowance' in the previous phase applies mutatis mutandis here as well.[179] There is however an exception: this rule 'will apply save to the extent that the Parties decide to permit the level of production or consumption that is necessary to satisfy essential uses for which no adequate alternatives are available'.[180] By January 1, 2000 when the last phase begins, the halons shall be completely phased out.[181] In this last case, nonetheless the rule is not only subject to the identical exception mentioned above but the special allowance for production to satisfy the domestic needs of developing signatories is also increased to 15%.[182] The London Adjustments came into effect on March 7, 1991.[183]

In conjunction with the adoption of the adjustments to the Montreal schedules, evolving scientific knowledge regarding the threat posed by other substances also lead to consensus at the London Meeting to amend the Protocol so that it would require the phasing out of other fully halogenated CFCs, carbon tetrachloride and methyl chloroform.[184] Timetables similar to those contained in the Adjustments are therefore also established for these newly highlighted substances. In

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178 London Adjustments art 2B(2).
179 Ibid.
180 Ibid.
181 London Adjustments art 2B(3).
182 Ibid.
183 At the Third Meeting of the Parties to the Montreal Protocol in Nairobi in June 1991, a decision was made 'to bring to the attention of the Parties to the Montreal Protocol the fact that the Adjustments to the Protocol adopted at the Second Meeting of the Parties come into effect on 7 March 1991 and to urge them to adopt the necessary measures to comply with the adjusted control measures'. See Decision III/1 in 'Montreal Protocol: Third Meeting of the Parties - Decisions' Environ Pol & Law 21 (5/6) December 1991 251.
184 See n164. Text of the London Amendment in Environ Pol & Law 20 (4/5) September/October 1990 169-71.

respect of other fully halogenated CFCs, three control provisions have been adopted to eliminate progressively emissions: from January 1, 1993, each party shall ensure that its annual consumption of the controlled chemicals does not exceed 80% of its 1989 level;[185] starting January 1, 1997, the level of consumption shall not exceed fifteen percent of the 1989 level;[186] by January 1, 2000, consumption shall be phased out.[187] Rises of 10% (in the first two steps) and 15% (in the last step) in production over the 1989 level are however allowed here for the purpose of satisfying the basic domestic needs of developing signatories.[188] The rules relating to carbon tetrachloride are much simpler. The parties shall first begin to reduce their annual consumption by 85% of their 1989 levels on January 1, 1995.[189] Then they are required to phase out the substances by January 1, 2000.[190] Special allowances (10% in the former and 15% in the latter) are also kept intact in this case.[191] So far as methyl chloroform is concerned, a phaseout plan of four steps has been laid down. A consumption freeze for the substance at 1989 levels will first become effective on January 1, 1993.[192] The plan's second stage will lead to an automatic 30% reduction of consumption by January 1, 1995.[193] In the third stage, a further 40% reduction in consumption will be achieved by January 1, 2000.[194] Up to this point, a 10% increase in production is nevertheless allowed at each stage for the special needs of the developing states.[195] Finally, the

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185 London Amendment art 1K(1).
186 London Amendment art 1K(2).
187 London Amendment art 1K(3).
188 London Amendment art 1K.
189 London Amendment art 1L(1).
190 London Amendment art 1L(2).
191 London Amendment art 1L.
192 London Amendment art 1M(1).
193 London Amendment art 1M(2).
194 London Amendment art 1M(3).
195 London Amendment art 1M(1),(2) and (3).

substance shall be phased out by January 1, 2005.[196] In this last case, the special allowance for rises in production is increased to 15%.[197]

In order to cope with the expanded scope of the Montreal regime which now covers more substances, the restrictions on trade in the 1987 version are accordingly amended. For the CFCs and halons under the original Protocol, the new rules read as follows: as of January 1, 1990, parties shall ban the import of the substances from non-parties; as of January 1, 1993, parties shall ban the export of the substances to non-parties; by January 1, 1992, parties shall elaborate a list of products containing controlled substances with a view to banning the import of them from non-parties; by January 1, 1994, the parties shall ban or restrict the import of products produced with, but not containing, controlled substances from states not parties to this Protocol.[198] For the substances newly subject to control, similar restrictions are established: within one year of the date of entry into force of the Amendment, parties shall ban the import of the chemicals from non-parties; commencing one year after the date of entry into force, parties shall ban the export to non-parties; within three years of the date of entry into force of the Amendment, parties shall elaborate a list of products containing the substances in question and ban their import; within five years of the date of entry into force, parties shall ban or restrict the import of goods produced with, but not containing, the substances.[199] Concessions granted to developing signatories in the 1987 instrument allowing them to delay compliance for up to ten years[200] remain essentially the same in the new

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196 London Amendment art 1M(4).
197 Ibid.
198 London Amendment art 1 0(1)(2)(3) and (4).
199 London Amendment art 1 0(1bis) (2bis) (3bis) and (4 bis).
200 See n149 and accompanying text supra.

Amendment.[201] However, a provision that the annual consumption of newly listed substances is not to exceed 0.2 kilograms per capita has been added and becomes the other condition for the application of the rule as a whole.[202] Finally, a major achievement of the 1990 meeting is that a Multilateral Fund has been established[203] to aid implementation of the scheme.[204] With an initial budget of $100 million, the Fund will be further increased to $240 million when China and India ratify the Protocol.[205] It has been pointed out particularly that this is the first time that developed countries have offered cash to developing countries to help them meet environmental goals.[206] The London Amendment will enter into force after twenty instruments of ratification, acceptance or approval have been deposited.[207] At present[208] only two states have done so, one of which is PRC.[209]

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201 Cf. London Amendment art 1P(1) and (2).
202 London Amendment art 1P(2).
203 London Amendment art 1T(2).
204 London Amendment art 1T(3) lays down that 'The Multilateral Fund shall: ... (b) Finance clearing house functions to: (i) assist Parties operating under paragraph 1 of Article 5 [on Special Situation of Developing Countries], through country specific studies and other technical co-operation, to identify their needs for co-operation; (ii) facilitate technical co-operation to meet these identified needs; (iii) distribute... information and relevant materials and hold workshops, training sessions and other related activities, for the benefit of Parties that are developing countries; and (iv) facilitate and monitor other multilateral, regional and bilateral co-operation available to Parties that are developing countries;...'.
205 'Phase-Out Achieved' n27 135.
206 Ibid.
207 London Amendment art 2.
208 As of December 1991.
209 Miller DM 'Montreal Protocol: Third Meeting of Parties' Environ Pol & Law 21 (5/6) December 1991 200. The instrument of Chinese accession had been deposited on June 14, 1991. See ibid.

In addition to the two mainstreams of development mentioned above, two other movements which took place at the London Meeting are also noteworthy. The first is the adoption of an interim non-compliance procedure.[210] It provides essentially that parties with reservations regarding implementation by other parties may report such concerns in writing to the Secretariat. The Secretariat will transmit the submission to an Implementation Committee established by the same procedure. On receipt of the document, the Committee will consider the matter as soon as possible and then report on its work to the Meeting of the Parties. Finally, the Parties 'may... decide upon and call for steps to bring about full compliance... including measures to assist the Party's compliance...'.[211] This procedure may be considered to be supplementary to the provision on settlement of disputes contained in the 1985 Vienna Convention.[212] The second deals with the problem of substances thought to be ozone depleting at the time of the Montreal Protocol.[213] This resulted in the adoption of a resolution[214] designating such substances as 'transitional ozone-depleting substances' which should be phased out by the year 2040 or, if possible, by the year 2020.[215]

While the London agreement is praised as a 'splendid achievement' and a 'great advance'[216], several major areas of concern however remain. First, some groups assert that the Protocol, even as adjusted and amended, does not go far

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210 Text of the procedure in Environ Pol & Law 20 (4/5) September/October 1990 171-2.
211 Ibid.
212 Bodansky D 'Draft Convention on Climate Change' Environ Pol & Law 22(1) February 1992 14.
213 See eg 'Scientists Warn of Perils Posed by Substitutes for CFCs' New Scientist June 30 1990 33. See also n164.
214 Text of the resolution in Environ Pol & Law 20(4/5) September/October 1990 172.
215 Ibid.
216 Miller n209 199.

enough or fast enough.[217] Some scientists especially point out that insufficient attention has been paid to recycling the chemicals to prevent their release into the atmosphere.[218] Secondly, there is a growing sense that agreement upon the Protocol and its adjustments and amendments, even if not completely satisfactory, may have been an easier task than will be the facilitation, monitoring and enforcement of its implementation.[219] Thirdly and most significantly, a scientific report considers two scenarios in one of which all countries ratify the Montreal Protocol as amended and take advantage of all legally permitted exemptions and in the other where they refrain from making use of any of the exemptions. The report states that by 2100 CFCs will have increased 4.6-fold over the 1985 level in the former case and 2.6-fold in the latter case.[220] It is this last case which very clearly shows how important it is to strengthen the 1990 London Amendment still further.[221] To conclude, the task is far from finished.

8.2.5 The 1992 Earth Summit

As mentioned earlier, the 1980s have seen an unprecedented growth in awareness of the problem of climatic change.[222] The issue was specifically listed on the global agenda for the first time in 1979 when WMO convened the First World Climate Conference in Geneva.[223] At that meeting, an urgent appeal was made to the world's nations to foresee and to prevent potential man-made changes in climate that might be

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217 Caron n6 764. See also n205.
218 Ibid.
219 Caron n217.
220 Bach and Jain n46 327.
221 Ibid.
222 See n46 and accompanying text supra.
223 'World Climate Conference' Environ Pol & Law 6(2) June 12 1980 78. Text of the Declaration of the Conference in ibid 103-4.

adverse to the well-being of humanity.[224] In June 1988, the International Conference on the Changing Atmosphere, which was held in Toronto[225], called for a concrete reduction by 2005 in global emissions of carbon dioxide by 20% of the 1988 level.[226] In the fall of 1988, the Hamburg World Congress on Climate and Development called for action by nations to reduce global carbon dioxide by 30% by the year 2000 and 50% by 2015 as compared to the 1988 level.[227] In November 1989, the Noordwijk Declaration on Atmospheric Pollution and Climatic Change[228] called for carbon dioxide emission stabilization at the 1989 level in industrialized countries by 2005.[229] In 1990 at the Second World Climate Conference (SWCC)[230], action was proposed at ministerial level to stabilize emissions of carbon dioxide by the year 2000 at the 1990 level.[231] Nevertheless, international concern in this regard only got its real momentum when WMO and UNEP established the Intergovernmental Panel on Climate Change (IPCC) in 1988 to assess the scientific evidence, impacts and potential response strategies relating to global climate change.[232] The IPCC's first assessment report which was completed in August 1990 called for international negotiations on a framework convention to begin as quickly as possible and identified possible element for inclusion in the convention.[233] In response to this development, the UN General Assembly subsequently adopted Resolution 45/212 on

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224 Ibid 104.
225 'International Conference on Atmosphere' Environ Pol & Law 18(5) October 1988 155.
226 'Conference Statement' Environ Pol & Law 18(5) October 1988 188.
227 Bach and Jain n46.
228 Text in Environ Pol & Law 19(6) December 1989 229-31.
229 Ibid 230.
230 'SWCC: No Agreement on CO_2 Reduction Targets' Environ Pol & Law 20(6) December 1990 196.
231 'Ministerial Declaration' Environ Pol & Law 20(6) December 1990 230.
232 Bodansky n212 5.
233 Generally see IPCC First Assessment Report 1990. See also Bodansky n232.

December 21, 1990, which established the Intergovernmental Negotiating Committee (INC) with the mandate of negotiating a framework convention on climate change, containing 'appropriate commitments', in time for signature in June 1992 at the UN Conference on Environment and Development (UNCED).[234] During the negotiation, states disagreed about the very nature of the convention in contemplation: a framework convention or a more substantive convention containing specific commitments and implementation mechanisms.[235] The United States firmly opposes as premature any targets and timetables for greenhouse gas emissions and argued that the conventions should take a comprehensive approach to all greenhouse gases rather than focus on carbon dioxide.[236] It insisted on a treaty with only the most nebulous goals.[237] The result proves that US succeeded in influencing and considerably weakening the pact. The Climate-Change Convention adopted at the 1992 UNCED in Rio de Janeiro requires countries to control emissions of gases that heat up the planet but sets no deadlines.[238]

Although it has been watered down, one writer however points out that the Climate-Change Convention incorporates into international law the notion that nations must consider the global environmental consequences of internal economic decisions.[239] He emphasizes in particular that legal precedents often start small but grow to instruments of great power.[240] It is therefore praiseworthy, in this sense, that negotiations leading to the Convention at least

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234 Bodansky n212 6.
235 Ibid.
236 Ibid 9.
237 'The Grinch of Rio' Newsweek June 15 1992 6.
238 Ibid.
239 Easterbrook G 'Why Rio Will Make History' Newsweek June

reflect a growing sophistication in the tool kit of international environmental law.[241]

8.3 Other regional arrangements

In addition to global responses to the problem of air pollution, there are also a number of international arrangements at regional level expressing the same concern. The 1974 Paris Convention was extended to cover air pollution by a 1986 protocol.[242] The 1974 Baltic Convention also applies to airborne pollution.[243] These two instruments, however, treat the problem as only a part of land-based pollution in general. The substances controlled by the two conventions for the purpose of dealing with air pollution are identical with those in the black and grey lists dealing with land-based pollution.[244] As a result, they do not touch upon the special issues such as acid rain, ozone depletion and global warming. Amongst UNEP regional seas treaties, the 1983 Quito Protocol clearly follows the Paris and Baltic Conventions in this specific respect.[245] The 1980 Athens Protocol applies to atmospheric pollution but 'only under conditions to be defined in an additional annex'.[246] No such annex has however been agreed.[247] In the Kuwait and Jeddah Conventions, the problem has only been incidentally mentioned without further elaboration in the provisions on land-based pollution.[248] In the Abidjan, Cartagena, Nairobi and Noumea Conventions, there are

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241 See n212.
242 Namely, Protocol Amending the Convention for the Prevention of Marine Pollution from Land-Based Sources. Text in Environ Pol & Law 16(6) December 1986 216-7.
243 Baltic Convention art 6(8).
244 For detailed accounts of operations of these two treaties in dealing with the problem of land-based pollution, see sections 7.3.1 and 7.3.2 in the previous chapter
245 Quito Protocol art II(c).
246 Athens Protocol art 4(1)(b).
247 Boyle n76 33.
248 Kuwait Conventions art VI and Jeddah Convention art VI.

separate provisions on air pollution[249] but, as with the previous two cases, no specific standards have been set up. Generally speaking, all these UNEP efforts reflect merely a minimal level of international control in this area and have not led to any significant action on a coordinated basis.[250] The most significant attempt so far to develop a regional regime dealing with atmospheric pollution is the UN Economic Commission for Europe's CECE Convention on Long-Range Transboundary Air Pollution (LRTAP), 1979 which was particularly inspired by the problem of acid rain.[251]

8.3.1 The 1979 LRTAP

At the 1975 Helsinki Conference on Security and Cooperation in Europe, government representatives were called upon to take an international approach to the problem of, inter alia, environment.[252] The Conference's Final Act not only stresses the importance of fuels desulphurization and control of nitrogen oxides, but also mentioned ECE as a forum for, albeit, scientific/technological, cooperation.[253] Negotiation subsequently got under way in 1977 and two years later LRTAP was adopted on November 13, 1979.[254] It has 31 parties in North America and Western and Eastern Europe and entered into force on March 16, 1983.[255]

The Convention is essentially only a framework for the negotiation of further measures.[256] It therefore contains

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249 Abidjan Convention art 9; Cartagena Convention art 8; Nairobi Convention art 9; and Noumea Convention art 9.
250 See n76.
251 Churchill and Lowe n2 282. Text of LRTAP in Ruster B, Simma B and Bock M ed International Protection of the Environment: Treaties and Related Documents XXVIII 1982 341-45.
252 Brunnee n11 176.
253 Conference Final Act ILM 14(5) September 1975 1292, 1307-8.
254 See n252.
255 See n76.
256 Ibid.

little language of a binding or exigent character.[257] Under the Convention, the contracting parties have a substantive obligation, subject to 'the facts and problems involved', to 'protect man and his environment against air pollution and shall endeavour to limit and as far as possible, gradually reduce and prevent air pollution including long-range transboundary air pollution'[258] (emphasis added). Nevertheless, neither the quantitative reduction of goals for emissions of certain pollutants nor particular time-tables within which reductions have to be achieved receive elaboration.[259] The parties thereunder also have a procedural obligation: 'Consultations shall be held, upon request, at an early stage between, on the one hand, Contracting Parties which are actually affected by or exposed to a significant risk of long-range transboundary air pollution and on the other hand, Contracting Parties within which and subject to whose jurisdiction a significant contribution to long-range transboundary air pollution originates, or could originate, in connection with activities carried on or contemplated therein'.[260] Although it will be hard to define what 'significant' risk and 'significant' contribution imply, it has however been pointed out particularly that the stipulation makes clear that the interests of a concerned neighbouring state have to be considered early in the planning stage of a project which is significant in this context.[261] As an institutional centerpiece, the Convention designates the so-called Executive Body which is to be constituted within the framework of the Senior Advisers in ECE Governments on Environmental Proble...[262] The Body is responsible for the review of the Convention's implementation, the establishment

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257 Ibid.
258 LRTAP art 2.
259 Brunnee n11 177. See also n76.
260 LRTAP art 3.

of appropriate working groups and the fulfillment of other functions appropriate under the provisions of the present Convention.[263] So far as settlement of disputes is concerned, it is simply stipulated that parties thereto 'shall seek a solution by negotiation or by any other method... acceptable' to them.[264] Finally, it is to be noted that the present Convention does not contain a rule on state liability for damage.[265]

Despite the fact that precise details were already lacking[266], an agglomeration of escape clauses was still inserted in this instrument.[267] As a result, the parties are now called upon to develop the best policies and strategies including air quality management systems[268], but not under a comprehensive approach.[269] First, the instrument specifically mentions 'new or rebuilt installations' as a target for measures.[270] This is in contrast to older installations which generally are the greater sources of emissions.[271] Secondly, the obligation is narrowed down by the qualification that the parties are only required to use 'the best available technology which is economically feasible' to pursue the conventional goal.[272] The Convention is therefore criticized in that in effect it requires nothing of the contracting parties![273] Writers generally opine that this 1979 document does not go beyond, perhaps does not even reach, what had already been

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263 LRTAP art 10(2).
264 LRTAP art 13.
265 Official footnote to art 8(f) of LRTAP.
266 Churchill and Lowe n251.
267 Brunnee n259.
268 LRTAP art 6.
269 Brunnee n259.
270 LRTAP art 6.
271 Brunnee n259.

established in Principle 21 of the 1972 Stockholm Declaration.[274]

8.3.2 The 1985 30% Protocol

Subsequent to the entry into force of LRTAP in 1983, the parties began further negotiations in the meetings of the Executive Body. At that stage, however, many of them had already recognized the necessity of establishing a concrete programme to combat the problem practically.[275] The process therefore soon resulted in the adoption of the Protocol on the Reduction of Sulphur Emissions or Their Transboundary Fluxes by at least 30% (the 30% Protocol) on July 9, 1985.[276] The basic substantive rule contained in the Protocol is that 'The Parties shall reduce their national annual sulphur emissions or their transboundary fluxes by at least 30 per cent as soon as possible and at least by 1993, using 1980 levels as the basis for calculation of reductions'.[277] It has been pointed out that this arrangement is characterized by its strictly binding nature which does not offer any loopholes[278] except, of course, the obvious one of non-ratification![279] Although it is regarded as a successful step[280], two problems nevertheless exist in this connection. One is that the percentage-cut method used, although probably less difficult to negotiate than specific standards, will maintain inequity if the nations'

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274 Smith Jr GP 'Acid Rain: Transnational Perspectives' NYLSJICL 4 1983 466. See also Bankes ND and Saunders JO 'Acid Rain: Multilateral and Bilateral Approaches to Transboundary Pollution Under International Law' UNB Law Rev 33 1984 173 and Brunnee n11 184.

275 For a brief account of the negotiations see Brunnee n11 180-3. See also Vygen H 'Air Pollution Control - Success of East/West Cooperation' Environ Pol & Law 15(1) September 1985 6-7.

276 Ibid 6.

277 30% Protocol art 2.

278 Vygen n275 7. See also Brunnee n274.

279 Brunnee n11 184-5.

280 Vygen n275 8. See also n247.

pollution criteria are currently different.[281] In other words, the disadvantage of this approach is that previously unequal levels of pollution would remain unequal.[282] The other is that there are no non-compliance provisions in the agreement[283] save that the contracting parties are obliged to communicate national annual levels of sulphur emissions to the Executive Body each year which in turn will have to check compliance with the relevant reduction obligations.[284] This Protocol has been in force since September 2, 1987.[285] At its 7th meeting in 1989, the Executive Body decided to interpret the Protocol further to the effect that no party may increase emissions after 1993 and to prepare a revised protocol adopting a new approach to sulphur dioxide reduction.[286]

8.3.3 The 1988 Nitrogen Protocol

When the issue concerning reduction of sulphur emissions was first included as a central topic on its agenda, the Executive Body also discussed the question of whether nitrogen oxides should be subject to control.[287] On that occasion, a number of delegations supported the proposals for a programme for reduction of emissions of the latter.[288] It was nevertheless even more difficult to reach international agreement on nitrogen emissions than on sulphur emissions for technical/scientific and economic reasons.[289] This applied especially to nitrogen oxide

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281 Moller n7 1232-3.
282 Ibid 1233.
283 Ibid at n148.
284 30% Protocol arts 4, 5.
285 'UN/ECE: 30% Protocol in Force' Environ Pol & Law 17(5) October 1987 178.
286 See n76.
287 Brunnee n11 180.
288 Wetstone G 'Long-Range Transboundary Air Pollution - Executive Body, First Session' Environ Pol & Law 11(1/2) October 1983 27.
289 Vygen n280.

emissions from vehicles.[290] As a matter of fact, the topic gave rise to considerable debate then.[291] As a result, no concrete decision was made in this regard in the initial talk except that it was agreed that research on nitrogen oxides should be included in the work plan.[292] At a conference in Ottawa in 1984, the parties adopted a declaration[293] reiterating the necessity of establishing additional action for the purpose of achieving substantial reductions of emissions of the substance.[294] However, it was not until 1987 that a draft protocol was elaborated.[295] Although differences persisted to the last minute in the negotiation[296], the Protocol Concerning the Control of Emissions of Nitrogen Oxides or their Transboundary Fluxes (the Nitrogen Protocol) was finally adopted on October 31, 1988.[297] The basic obligation laid down in this instrument is that 'The Parties shall, as soon as possible and as a first step, take effective measures to control and/or reduce their national annual emissions of nitrogen oxides or their transboundary fluxes so that these, at the latest by 31 December 1994, do not exceed their national annual emissions of nitrogen oxides or transboundary fluxes of such emissions for the calendar year 1987 or any previous year to be specified upon signature of, or accession to, the Protocol, provided that in addition, with respect to any Party specifying such a previous year, its national average annual transboundary fluxes or national average annual emission of nitrogen oxides for the period from 1 January 1987 to 1

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290 Ibid.
291 See n288.
292 Ibid.
293 Text in ILM 23(3) May 1984 662-3.
294 Ibid 663.
295 'Nitrogen Oxides' Environ Pol & Law 17(5) October 1987 178.
296 For a brief account in this respect see 'UN/ECE: Nitrogen Oxides' Environ Pol & Law 18(3) June 1988 52-3.

January 1996 do not exceed its transboundary fluxes or national emissions for the calendar year 1987'.[298] The arrangement is however weakened in that objecting states are not of course obliged to ratify.[299] Moreover, controversy surrounds the clause allowing a signing country to specify a year previous to 1987 as its base year.[300] It has been pointed out particularly that, for example, this would enable the United States to specify 1979 as the base year and thereby receive a two million ton nitrogen oxide credit which amounts to a 10-11% increase over its current emission levels![301] Some countries[302] therefore decided, at the same time, to adopt more effective measures by jointly declaring that they 'will implement a reduction of national annual nitrogen oxide emissions in the order of 30 per cent as soon as possible and at the latest by 1998, using the level of any year between 1980 and 1986 as a basis for the calculation of the reduction'.[303] The Protocol entered into force on February 14, 1991.[304]

8.4 Concluding remarks

Generally speaking, air pollution is now a significant problem confronting the states in the South China Sea: the global scope of ozone depletion[305] and the greenhouse effect[306] imposes in effect on every member of the

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298 Nitrogen Protocol art 2.
299 Boyle n76 32-3. Nitrogen Protocol art 14(1) stipulates that '[t]he present Protocol shall be subject to ratification, acceptance or approval by Signatories'.
300 'UN/ECE: Nitrogen Oxides' n296 52.
301 Ibid.
302 They are Austria, Belgium, Denmark, the Federal Republic of Germany, Finland, France, Italy, Liechtenstein, the Netherlands, Norway, Sweden and Switzerland.
303 Declaration on the 30 Per Cent Reduction of Nitrogen Oxide Emissions. Text in Environ Pol and Law 18(6) December 1988 234.
304 See n76.
305 See n30 and accompanying text supra.
306 See n46 and accompanying text supra.

international community the duty to take immediate steps. Southeast Asian countries are of course not immune from this. Acid rain, although regional in nature[307], is becoming notorious and a reality in the area.[308] In respect of the former two problems, there is no doubt that states in the region should follow closely the development of international law in that regard. As far as the latter is concerned, it is submitted that LRTAP and its protocols, together with the non-compliance procedure adopted at the London Meeting, could be a model regime for Southeast Asia when the states begin to elaborate a legal response.

Finally, it should be briefly mentioned that application of the principle of state responsibility in the international control of air pollution is problematic.[309] First, it would be hard, if not impossible, to trace precisely the sources of the emissions of the controlled substances.[310] Second, the time lag between the emissions and their adverse effects[311] make the establishment of causation very difficult.[312] Third, damages in many cases are by no means easy to quantify.[313] Other stumbling blocks include, inter alia, the lack of specialized knowledge[314] and the unavailability of alternatives to excessive emissions.[315] Nanda therefore suggests that the 'damage' that would require compensation here should not be physical harm likely to be caused at some distant (or not so distant) time in the future, but the immediate burdening of the atmosphere with greenhouse gases. Another alternative would consider liability appropriate for mere failure to abide by agreed

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307 See n44 and accompanying text supra.
308 See n61 and accompanying text supra.
309 Nanda n5 199.
310 Ibid.
311 Nanda n46 382.
312 Moller n7 1219.
313 See n309.
314 Pretorius n1 35.
315 See n311.

limits on the theory that such conduct constitutes a breach of contract between sovereigns.[316] At the same time, it has been correctly pointed out that international law may not become effective unless its rules are entrenched in municipal law.[317] Thus, some recommendations are also made in relation to the enforcement of air pollution law at the domestic level. They include, for example: criminal sanctions should primarily rely on fines which in turn should be increased to levels that would provide the culprits with no choice but to comply with the regulations; licensing could be an appropriate administrative measure of control and violations should lead to cancellation of the permit; universal standing should be granted as an initial step in solving locus standi problems in many, if not all, civil suits arising from air pollution incidents.[318] Of course, these suggestions are in no way comprehensive. Further research is apparently still needed. The suggestions already made are however, in the opinion of this writer, noteworthy and deserve to be taken into account in the future development of air pollution law.

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316 Nanda p5 200

PART III - NON-POLLUTION RELATED ISSUES

CHAPTER 9

DELIMITATION OF MARITIME BOUNDARIES

9.1 Maritime boundary disputes - a growing problem in modern international law of the sea

The traditional uses of the sea before World War II made that era of ocean politics relatively simple and straightforward.[1] Prior to 1945, states claimed only narrow territorial sea zones in which they could exercise full sovereignty over the seabed and subsoil, the water column and the airspace.[2] This left the remainder of the oceans as high seas, where the principle of freedom of the seas protected use and exploitation rights for all.[3] Delimitation in general did not weigh as a pressing issue in those days.[4] The lack of concern in this respect was largely attributable to the fact that the seabed and subsoil had no human population warranting legal control and their valuable resources did not come within human control until recent times.[5] Moreover, the maritime projections of three, six or twelve miles overlapped less often and the difficulty

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1 Tangsubkul P ASEAN and the Law of the Sea 1982 3.

2 Collins Jr E and Rogoff MA 'The International Law of Maritime Boundary Delimitation' Maine LR 34 1982 1.

3 Ibid. Of course, one should not forget that an additional zone emerged during the nineteenth century and was called the contiguous zone. Article 24(1) of TSC stipulates that 'In a zone of high seas contiguous to its territorial sea, the coastal state may exercise the control necessary to ... [p]revent infringement of its customs, fiscal, immigration or sanitary regulations within its territory or territorial sea'. For a brief account in this regard, see Harris DJ ed Cases and Materials on International Law 4th ed 1991 409-12.

4 Nweihed KG 'Delimitation Principles and Problems in the Caribbean' in Jhabrala F ed Maritime Issues in the Caribbean 1983 20. See also Lowe AV 'Reflections on the Waters: Changing Conceptions of Property Rights in the Law of the Sea' IJECL 1(1) 1986 12 and Sharma SP Delimitation of Land and Sea Boundaries Between Neighbouring Countries 1989 63.

5 Ibid.

caused by such overlapping was easier to resolve.[6] Indeed, the delimitation of the territorial seas rarely gave rise to major difficulties even when its breadth went beyond the traditional modest three miles.[7] This simple scenario was however changed later by advances in technology[8] which enabled coastal states and maritime nations to use the resources in and under the sea.[9] This, together with a realization that land-based energy resources were finite and alarm that the capacity of the land to sustain a growing population was doubtful, motivated new interest in the potential of the ocean.[10] For the strategic purpose of securing mineral and energy resources contained in the seabed and subsoil beyond the limits of national jurisdiction, the United States first extended its maritime jurisdiction in 1941 through the Truman Proclamation on the Continental Shelf which set in motion similar claims starting on the American continent and spreading later to other parts of the world.[11] However, the seas cannot be divided neatly into national enclaves[12]; there are the inevitable overlaps of jurisdictional claims.[13] It was

6 Lowe n4. See also Weil P The Law of Maritime Delimitation - Reflections 1989 3.
7 Ibid.
8 Beauchamp KP The Management Function of Ocean Boundaries: Prospects for Co-operative Ocean Management Between Canada and the United States (unpublished LL M thesis, Dalhousie University) 1981 2.
9 Katchen MH 'The Spratly Islands and the Law of the Sea: "Dangerous Ground" for Asian Peace' Asi Sur 17(12) December 1977 1167.
10 See n8.
11 Kusumaatmadja M 'The New Zones of National Jurisdiction in the Law of the Sea: Developmental Implications for Southeast Asia' in Johnston DM et al ed International Symposium on the New Law of the Sea in Southeast Asia 1983 8. Text of the Truman Proclamation on the Continental Shelf in Harris n3 428.
12 Morgan J 'Marine Regions and Regionalism in South-East Asia' MP 8(4) October 1984 299.
13 Ibid. See also Wisnumurti N 'Some Impacts of the 1982 Convention on the Law of the Sea on Maritime Jurisdiction: An Indonesian Perspective' in Craven JP, Schneider J and Stimson C ed The International

obvious from the beginning that the problems of continental shelf delimitation would be difficult and matters quickly reached crisis level.[14] The subsequent emergence of the new institution of the 200nm exclusive economic zone (EEZ) added even more complexity to an already troublesome state of affairs.[15] These areas overlap more frequently[16] and the problems of delimiting them are both qualitatively important and numerous.[17] As far as the former is concerned, the interests at stake include natural resources such as hydrocarbons on the shelf and, to a lesser extent, the living resources of the EEZ.[18] Marine resources are more often than not transnational in distribution.[19] Quantitatively speaking, these vast areas within national jurisdiction have been estimated to involve a total of 376 boundaries of 137 coastal states; and most of these boundaries have yet to be delimited![20] Moreover, it has also been pointed out that the problems of delimitation would not have loomed so large if political concerns did not lurk behind the scenes: maritime jurisdiction is limited to sovereign rights of a functional nature, but who can be confident that one day these modest rights will not be transformed into a separate, fully fledged sovereignty, as some states have already said they hope will happen.[21] It is therefore generally agreed that delimitation of maritime

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Implication of Extended Maritime Jurisdiction in the Pacific 1989 45.

14 Weil N6.

15 Ibid.

16 Hamman DB River and Maritime Boundaries Between South Africa and Namibia (unpublished LL D thesis, University of Cape Town) 1991 1.

17 Weil n6 4.

18 See n16.

19 Valencia MJ 'Southeast Asian Seas: National Marine Interests, Transnational Issues and Marine Regionalism' in MacAndrews C and Chia LS ed Southeast Asian Seas. Frontiers for Development 1981 304.

20 Kwiatkowska B 'Equitable Maritime Boundary Delimitation - A Legal Perspective' IJECL 3(4) 1988 287.

21 See n17.

boundaries constitutes one of the most complex issues in the present law of the sea.[22]

Just as the world stage, the South China Sea region is no less illuminating.[23] The geographical characteristics of this area are not so advantageous.[24] Most states are situated within 400 miles of one another.[25] Due to more than 200 islands and islets in the sea, moreover, no point is more than 200nm (370km) from land.[26] As a corollary, littoral state extensions of jurisdictional limits under 200nm regimes will not only bring the entire area under a mosaic of national control[27], leaving no part as high seas[28], but is also bound to cause boundary disputes.[29] As a matter of fact, overlapping claims are preponderant in Southeast Asia[30]: there is no state in the region whose continental shelf or 200nm EEZ is not in conflict with the claim of some other state.[31] The problems here are even more evident than from a global point of view.[32] Two

22 Nweihed n4 19. See also Bravender-Coyle P 'The Emerging Legal Principles and Equitable Criteria Governing the Delimitation of Maritime Boundaries Between States' ODIL 19 1988 171 and Caflisch L 'Maritime Boundaries, Delimitation' in Encyclopedia of Public International Law: Law of the Sea, Air and Space XI 1989 218.

23 Kittichaisaree K The Law of the Sea and Maritime Boundary Delimitation in South-East Asia 1987 10.

24 Ibid. See also Park CH 'Maritime Claims in the China Seas: Current State Practices' SDLR 18(3) April 1981 443.

25 Valencia n19 351.

26 Dzurek DJ 'Boundary and Resource Disputes in the South China Sea' Ocean YB 5 1985 257.

27 Ibid. See also Valencia n19 302, Park n24 454 and Panupong A 'The New Zones of National Jurisdiction in the Law of the Sea: Developmental Implications for Southeast Asia' in Johnston et al ed n11 20.

28 Ibid.

29 Valencia MJ 'The South China Sea: Prospects for Marine Regionalism' MP 2(2) April 1978 91.

30 Wisnumurti n13.

31 Kittichaisaree n23 11.

32 Nweihed points out that maritime boundary disputes become evident in semi-enclosed seas as distinct from

decades ago, many policy makers thought of the Southeast Asian region as a simple collection of several nations surrounding and separated by the South China Sea.[33] But with the extension of jurisdiction over resources and certain activities to 200nm or more, the very shape of nations has changed dramatically and various nations find themselves with new and sometimes unfriendly neighbours in the marine sphere.[34] All of them have interests in benefiting from the additional resources in the maritime zones off their coasts.[35] It has been correctly pointed out that disputes over maritime resources are always economically significant.[36] In general, prospecting for oil and gas is the unchallenged leading factor followed at a respectful distance by fishing.[37] This is particularly true in the present case: in many places basins bearing oil and gas extend into areas of overlapping claims[38] and it is precisely arguments over resources in such areas that hamper actual delimitations.[39] The problems are further complicated by conflicting territorial claims to certain islands including, inter alia, the Spratlies.[40] At present, it appears that none of the countries concerned regard any

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continental coasts on open ocean space. See Nweihed n22.

33 Valencia MJ 'Oil and Gas Potential, Overlapping Claims and Political Relations' in Kent G and Valencia MJ ed Marine Policy in Southeast Asia 1985 155. See also Valencia MJ and Miyoshi M 'Southeast Asian Seas: Joint Development of Hydrocarbons in Overlapping Claim Areas?' ODIL 16(3) 1986 212.

34 See n33.

35 Prescott JRV The Maritime Political Boundaries of the World 1985 232.

36 Tangsubkul P 'The New Zones of National Jurisdiction in the Law of the Sea: Developmental Implications for Southeast Asia' in Craven, Schneider and Stimson n13 55.

37 Nweihed n4 43.

38 See n33. See also Van Dyke and Bennett DL 'Islands and the Delimitation of Ocean Space in the South China Sea' Ocean YB 10 1993 54.

39 Panupong n27.

40 Wisnumurti n13. See also Park n27.

of the maritime disputes as a matter of acute urgency.[41] Taking into account the fact that petroleum still ranks first in the overall energy structure[42], one may expect that offshore exploration activity in the region will eventually increase and extend into deep waters.[43] Should the Southeast Asian nations finally decide to step into the disputed areas, they will sooner or later have to face those intractable problems - the solution of which is apparently a prerequisite for development of hydrocarbon resources.[44] In a nutshell, the delimitation of maritime zones in the South China Sea will be quite a complex task.[45]

9.2 Current international law on maritime delimitation

The definition of maritime boundaries is defined as establishing lines separating from each other the maritime areas in which coastal states exercise jurisdiction, ie internal waters, territorial sea, contiguous zone, continental shelf and EEZ.[46] It is different from that of land boundaries in at least two aspects. First, maritime boundaries are created where previously there were none.[47] Rarely, if ever, would historic title have established specific maritime boundary lines, nor would human activity have fashioned such limits.[48] Secondly, most international land boundary adjudications establish boundaries that delimit territorial sovereignty for all purposes between the competing states; whereas delimitations of the continental shelf or the EEZ determine sovereign rights or jurisdiction

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41 Prescott JRV 'Maritime Jurisdictional Issues' in Kent and Valencia ed n33 79.
42 Yuan PC 'China's Offshore Oil Development Policy and Legislation: An Overall Analysis' IJECL 3(2) 1988 101.
43 Valencia n33 156.
44 Ibid 165.
45 Kittichaisaree n23 12.
46 Caflisch n23 212.
47 Charney JI 'Ocean Boundaries Between Nations: A Theory for Progress' AJIL 78 1984 585.
48 Ibid 585-6.

for limited functional purposes.[49] In settling any maritime boundary dispute, the basic problem facing states is that the concepts found in the process of delimitation are extremely nebulous[50] and there are, it is argued, no precise rules governing the issue.[51] The content of the law in this respect seems meagre.[52] Although the process is just starting when viewed in the light of the number of potential maritime delimitations around the globe[53], it is however to be noted that the international law for the delimitation of ocean boundaries has received considerable attention in recent years.[54] As experience accumulates, rules can be defined with more precision.[55] This is even more true for cases beyond the territorial sea[56] in which the International Court of Justice and other tribunals have played a leading role.[57] By international standards, a substantial body of jurisprudence has already been derived therefrom.[58] Generally speaking, the law in question has

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49 Ibid 586.

50 Evans MD 'Maritime Delimitation and Expanding Categories of Relevant Circumstances' ICLQ 40(1) January 1991 1.

51 Prescott n41 68. See also Charney JI 'The Delimitation of Ocean Boundaries' ODIL 18(5) 1987 497. Churchill and Lowe are of a similar opinion as well arguing that it is extremely difficult to offer any precise account of the principles of delimitation. See Churchill RR and Lowe AV The Law of the Sea 2nd ed 1988 153.

52 Queneudec J 'The Content of the Law of Maritime Delimitation' in Alexander LM, Allen S and Hanson LC ed New Developments in Marine Science and Technology: Economic, Legal and Political Aspects of Change 1989 418.

53 Nweihed n4 19-20.

54 Charney n51.

55 Collins Jr and Rogoff n2 11.

56 Willis LA 'From Precedent to Precedent: The Triumph of Pragmatism in the Law of Maritime Boundaries' CYIL 24 1986 3.

57 Vicuna FO 'The Role of the International Court of Justice and Other Tribunals in the Development of the Law of Maritime Delimitation' in Soons AHA ed Implementation of the Law of the Sea Convention Through International Institutions 1990 601.

58 See n56.

developed greatly in the time involved.[59] Even if it is still not possible to state with confidence what all the current norms are[60] due to a degree of vagueness persisting in them[61], it is to be admitted that the judgments and awards of international courts have progressively brought precision, if not certainty, into this uncertain field.[62] It has been pointed out that the whole series of existing decisions can already be arranged into a pattern.[63] The discernible trend is indeed advancing to predictability.[64] Not only is there an emerging general rule[65], but it is also possible today to speak of a single law - a common law - rather than the laws of maritime delimitation.[66]

9.2.1 Delimitation of territorial sea and contiguous zone

Delimitation of the territorial sea has lagged behind somewhat, not keeping up with developments which have characterized the delimitation of other maritime jurisdictions.[67] The fact that in the past fifteen years

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59 Carleton CM 'The Evolution of the Maritime Boundary - the UK Experience in the Southern North Sea and Channel' IJECL 7(2) May 1992 111.

60 Cook C 'Filling the Gap-Delimiting the Australia-Indonesia Maritime Boundary' AYIL 10 1987 175. See also Marston G 'St Pierre-Miquelon Arbitration: Canada-France Maritime Delimitation Award' MP 17(3) May 1993 170.

61 Churchill RR 'Maritime Delimitation in the Jan Mayen Area' MP 9(1) January 1985 38. See also Politakis GP 'The French-Canadian Arbitration Around St Pierre and Miquelon: Unmasked Opportunism and the Triumph of the Unexpected' IJMCL 8(1) 1993 120.

62 Queneudec n52 419. Charney argues to a similar effect that recent decisons have begun to refine the law and remove some uncertainties. See Charney n51 521.

63 Jennings RY 'Equity and Equity Principles' Annuaire Suisse 42 1986 38. Kwiatkowska shares this point of view. See Kwiatkowska n20 288.

64 Briscoe J 'Islands in Maritime Boundary Delimitation' Ocean YB 7 1988 31.

65 Bravender-Coyle n22.

66 Weil n6 6 and 8.

67 Ibid 100.

there has been no judicial or arbitration case of any importance in this regard has pushed the problem into the background.[68] Modern writers give it less attention than the delimitation of the continental shelf and the EEZ and the question seems to cause few diplomatic problems.[69] One explanation for this lack of interest is clearly that the modest width of territorial sea, even extended to 12nm, reduced the number of delimitations between, inter alia, opposite coastlines.[70] Moreover, a state's entitlement to territorial seas as such may for practical purposes be ignored where maritime boundaries for larger zones, ie the continental shelf and the EEZ, are being fixed.[71] Prior to 1958, boundaries of this maritime belt were delimited by using the equidistant method[72], by following the thalweg, if there was one, or by drawing a line perpendicular to the general direction of the coast.[73] Although the expression 'thalweg' has its origins in river law[74], it is sometimes employed in maritime law to settle boundary issues.[75] Gidel

68 Ibid 135.
69 Ibid.
70 Ibid.
71 Devine DJ 'Delimitation Between the Penguin Islands and Namibia: Some Possible Principles' SAYIL 15 1989/90 125.
72 Hamman n16 196.
73 Caflisch n22 213.
74 O'Connell DP The International Law of the Sea II 1984 659. The rule was defined by the US Supreme Court in New Jersey v Delaware as 'International law today divides the river boundaries between states by the middle of the main channel, when there is one,... now known as the doctrine of the Thalweg'. See US Supreme Court Reports 291 1934 361. See also Hackworth GH ed Digest of International Law I 1940 572 and Parry C, Grant JP, Parry A and Watts AD ed Encyclopaedic Dictionary of International Law 1986 395 under 'Thalweg'.
75 Bravender-Coyle n22 180-1. For example, France and Portugal concluded an agreement in 1886 to delimit the boundary between their colonies in the West Africa, ie French Guinea and Portugese Guinea and art 1 of which stated that: after following first the thalweg of the Rio Cajet (or Kasset) the boundary further runs through the Pass of the Pilots. Pilot's Pass was an exterior

however took the view that the thalweg theory is impossible to accept as a general criterion. It results in practice in lines which can only be regarded as capricious and accidental.[76] As far as the perpendicular method is concerned[77], it has also been pointed out that its use is much more debatable in the case of a coast which is not altogether straight for it presupposes a preliminary decision on the general direction of the coast.[78] Under such circumstances, the standard will be inherently subjective.[79] In some other cases, prolongation of the land boundary (either at the final azimuth or in the general direction)[80] and following the parallel or the meridian of the terminus of the land frontier[81] were also applied as

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thalweg forming the maritime section of the boundary. See BFSP 77 517. See also Verzijl JHW International Law in Historical Perspective III 1970 69 and, in particular, Bravender-Coyle n22 181.

76 Gidel B Droit international public de la mer III 1934 771 et seq. See also O'Connell n74 660

77 This method was applied, for instance, by the Permanent Court of Arbitration in the Grisbadarna Case (Norway v Sweden) in 1909 in which a line was fixed perpendicular to the general direction of the coast. See UN Rep 11 1909 162. See also n73 O'Connell n74 663 and Churchill and Lowe n51 154.

78 Weil n6 275.

79 O'Connell n74 661.

80 This method was once used to delimit the territorial seas between Mexico and the United States. Article V of the Treaty of Guadalupe Hidalgo 1848 stated that the boundary line between the two states should commence 'in the Gulf of Mexico, three leagues from land, opposite the mouth of the Rio Grande'. In the case of United States v Texas, the US Supreme Court held that 'opposite the mouth of the Rio Grande' has been taken to mean a projection of the line of direction of the landward boundary. For the text of the treaty, see BFSP 37 567. For art V thereof in particular, see Moore JB ed A Digest of International Law I 1906 458. For the judgment of the court, see US Supreme Court Reports 363(1) 1959 138-9. Generally see O'Connell n74 668.

81 This technique was enshrined in the Declaration on the Maritime Zone proclaimed by Chile, Ecuador and Peru in 1952. In the document, the maritime boundaries between these states are said to be marked by the parallels

alternative methods for the same purpose.[82] Gidel nevertheless criticized the former on the ground that that does not give equitable results unless the land frontier reaches the coast according to its general direction.[83] Boggs also rejected that practice since, he argued, the land boundary is usually accidental in direction and has no relation to the necessities of delimiting the water boundary.[84] Those uncertainties were removed by the Geneva Convention on the Territorial Sea and the Contiguous Zone (TSC) in 1958.[85] Article 12(1) provided:

> 'Where the coasts of two states are opposite or adjacent to each other, neither of the two states is entitled, failing agreement between them to the contrary, to extend its territorial sea beyond the median line every point of which is equidistant from the nearest points on the baselines from which the breadth of the territorial seas of each of the two states is measured. The provisions of this paragraph shall not apply, however, where it is necessary by reason of historic title or other special circumstances to delimit the territorial seas of the two states in a way which is at variance with this provision'.

It will be seen that the Convention firstly draws the attention of maritime states to the desirability of fixing the boundary line between two territorial seas in common accord.[86] It is only in default of such an accord that the solution provided in the article comes into operation.[87] Caflisch however points out that this reference is, strictly

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which interesect the terminus of the land boundary. For the text of the declaration, see Lay SH, Churchill R and Nordquist M ed New Directions in the Law of the Sea: Documents I 1973 231-2. See also Prescott n35 203.

82 Generally see Verzijl n75 67-8.

83 Gidel n76 710. See also O'Connell n74 662.

84 Boggs SW International Boundaries: A Study of Boundary Functions and Problems 1940 189. See also Hamman n16 193.

85 See n73. Text of TSC in Brownlie I ed Basic Documents in International Law 3rd ed 1983 87-96.

86 Verzijl n75 66.

87 Ibid 66-7.

speaking, unnecessary since sovereign states, in the absence of rules of ius cogens, freely determine the content of their agreements.[88] Weil also indicates that states enjoy complete contractual freedom in this regard for the law of maritime delimitation does not have the character of ius cogens.[89] Generally speaking, international law has only been able to provide guidelines for such agreements.[90] In so far as the remaining part of the stipulation is concerned, the basic formula contained therein, generally dubbed 'the equidistance/special circumstances rule',[91] is simple and clear[92] but not totally devoid of deficiencies.[93] The immediate one concerns its interpretation. Some argue that the equidistance/special circumstances rule gives precedence to equidistance, derogations therefrom being permitted only if the existence of special circumstances is proved by the state invoking them; whereas others maintain that the elements 'equidistance' and 'special circumstances' apply to different factual situations and cannot, therefore, be viewed in any hierarchical relationship.[94] Verzijl nevertheless sheds light on the fact that what the International Law Commission had foreseen, while drafting

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88 See n73.

89 Weil n6 8 and 113. Indeed, few norms are of ius cogens. Ago once wrote that they include only 'the fundmental rules concerning the safeguarding of peace ... fundmental rules of a humanitarian nature (prohibition of genocide, slavery and racial discrimination, protection of essential rights of the human person in time of peace and war), the rules prohibiting any infringement of the independence and sovereign equality of states, the rules which ensure to all the members of the international community the enjoyment of certain common resources (high seas, outer space etc)'. See Ago R 'Droit des traités à la lumière de la Convention de Vienne' Hague Recueil 134(3) 1971 324.

90 American Law Institute Restatement of the Law, Third, the Foreign Relations Law of the United States II 1987 ss517 C(b).

91 See for example Weil n6 136 and Hamman n16 206.

92 O'Connell n74 673.

93 Verzijl n75 67.

94 See n73.

the provision was that the general principle of delimitation should be the equidistant line with exceptional deviations from that line where other boundary lines are justified by special circumstances.[95] The former interpretation would seem, therefore, to be a correct one.[96] Yet this does not resolve another problem associated with the rule: ie it is uncertain what kind of 'special circumstances' are actually implied here[97], except for the reference to the historical title.[98] In the case of Texas v Louisiana, the Special Master accepted that a special circumstance is generally considered to be any physical or geographic feature which can produce an inequitable division of the seabed.[99] Apparently, the term has a wide range of meanings.[100] The travaux preparatoires of the Convention did however mention circumstances such as the exceptional configuration of the coasts, the presence of islands and navigable channels.[101] Some writers have also made a similar identification.[102] In practice, delimitation has taken into account special geographic factors such as islands so located that they distort the effects of a median-line delimitation.[103] Security interests may sometimes arise in this form as

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95 Verzijl JHW International Law in Historical Perspective IV 1971 195.

96 Starke and the American Law Institute uphold this point of view. See Starke JG Introduction to International Law 10th ed 1989 264 and Restatement n90 ss516.

97 See n73. See also n95, O'Connell n74 673-4 and Restatement ss516 C(b).

98 See n73.

99 ILR 59 1974 239.

100 Erasmus G and Hamman D 'Where is the Orange River Mouth? The Demarcation of the South African/Namibian Maritime Boundary' SAYIL 13 1987/88 63.

101 See n73.

102 For example, McDougal and Burke argue that certain circumstances are readily identifiable as such including navigable channels and the presence of small islands in the vicinity of the coasts. See McDougal MS and Burke WT The Public Order of the Oceans: A Contemporary International law of the Sea 1962 436-7.

103 Restatement n97.

well.[104] Indeed, all states bordering upon the seas have common interest in those traditional assertions of comprehensive exclusive authority which permit a state to protect a variety of specific interests, in particular to defend its territory from invasion or attack from the sea.[105] Thus, the problem of the security of the coastal state is pertinent in the present case since the maritime areas subject to delimitation lie close inshore.[106] With regard to'historical title' which is explicitly referred to, its existence may be established by appropriate evidence.[107] Verzijl nevertheless questions the phrase '... this paragraph shall not apply... where it is necessary by reason of historic title...', asking how an exceptional delimitation can ever be 'necessary' on this ground?[108] He therefore considers this text as incorrectly drafted.[109] Generally speaking, legally recognized special circumstances appear to be predominantly geographical.[110] Other trivial questions surrounding the rule include: what authority should determine the existence of special circumstances[111] and whether a justified departure is only possible when states agree by treaty or whether it may legitimately be claimed by one state against another?[112] All the aforementioned difficulties, however, do not undermine the fact that this rule of law appears to be clear and uncontroversial.[113] Furthermore, it has been substantially incorporated without any difficulty at UNCLOS III into art

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104 Hamman n16 211.
105 Sharma n4 26.
106 Devine n71 132.
107 Restatement n97.
108 See n93.
109 Ibid. Verzijl argues that the right wording should be '... where it is justified by historic title ...'. See ibid at n17.
110 Hamman n16 204.
111 See n95.
112 O'Connell n74 674.
113 Weil n91. See also Restatement n90 ss516 RN(1).

15 of LOSC.[114] At present, this compulsory equidistance/ special circumstances solution - in the absence of agreements stipulating otherwise - is commonly regarded as having become part of customary law for the purposes of territorial sea delimitation.[115] This gives a further boost to the practical quality of the conventional provisions.[116] Finally, it is worth mentioning that the above appears to govern internal waters as well.[117]

As far as delimitation of the contiguous zone is concerned, art 24(3) of TSC provides in a similar vein that the zone may not, unless agreement to the contrary is achieved, extend beyond the medial line equidistant from the nearest points of the states' coasts where the states are opposite or adjacent. Notably, there is no reference to 'special circumstances'.[118] This absence may be explained by the limited powers attributed to coastal states in this zone.[119] It results however in the inevitable interpretation that: the equidistance line is the only principle governing delimitation of the contiguous zone; special circumstances do not authorize a modification of the line, the only alternative being agreement to the contrary.[120] LOSC is totally silent on this[121], the reason probably being that

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114 See n73. See also Weil n91, O'Connell n74 677 and Churchill and Lowe n51 155.
115 Weil n91. See also Hamman n16 201 204 and 206.
116 Nweihed has pointed out that the application of equidistance, in the absence of special circumstances or historical titles, within the short scope of the territorial sea is still reliable and basically equitable. See Nweihed n4 25.
117 See n73.
118 Caflisch n22 214. See also Hamman n16 213-4.
119 Caflisch n118. In accordance with art 24(1) of TSC, the coastal state may only exercise control in the zone necessary to prevent and punish infringement of its customs, fiscal, immigration or sanitary regulations within its territory or territorial sea.
120 Hamman n16 216.
121 Caflisch n118. See also Hamman n16 214-6 and Kittichaisaree n23 47.

the contiguous zone forms part of the EEZ and the delimitation of the latter will automatically achieve that of the former.[122] Although this omission may be said not to constitute a serious shortcoming[123], problems could nonetheless arise for states which do not claim EEZs.[124]

9.2.2. Delimitation of the continental shelf

As mentioned above, the emergence of the continental shelf concept in the 1950s has given rise to new delimitation problems and disputes.[125] There are presently three sets of principles for dealing with the issues: the Geneva Convention on the Continental Shelf (CSC), customary law as developed by the practice of states and the decisions of international tribunal and the text of LOSC.[126] The extent to which these coincide or diverge is however controversial.[127]

The first convention that specifically addresses the subject is the 1958 CSC.[128] Article 6 stipulates that:

> '1. Where the same continental shelf is adjacent to the territories of two or more states whose coasts are opposite each other, the boundary of the continental shelf appertaining to such states shall be determined by agreement between them. In the absence of agreement, and unless another boundary line is justified by special circumstances, the boundary is the median line, every point of which is equidistant from the

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122 See n121.
123 Hamman n16 214.
124 Caflisch n118.
125 See n8-14 and accompanying text supra. See also Caflisch n118.
126 O'Connell n74 684.
127 Ibid.
128 Guy NR The Lateral and Vertical Limits of a Hypothetical Republic of South Africa Continental Shelf According with International Law and in Particular Articles 76, 83 and 84 of the United Nations Law of the Sea Convention (1982). Institute of Marine Law, University of Cape Town, Special Publication No 15 1991 52. Text of CSC in Brownlie n30 117-21.

nearest points of the baselines from which the breadth of the territorial sea of each state is measured.

2. Where the same continental shelf is adjacent to the territories of two adjacent states, the boundary of the continental shelf shall be determined by agreement between them. In the absence of agreement, and unless another boundary line is justified by special circumstances, the boundary shall be determined by the application of the principle of equidistance from the nearest points of the baselines from which the breadth of the territorial sea of each state is measured'.

This arrangement is similar to that of TSC except for the lack of reference to historic title.[129] In accordance with the travaux preparatoires of the Convention, the ILC clearly envisaged that the equidistance was the general rule and special circumstances the exception.[130] Although there is no indication as to the kinds of 'special circumstances' that might be involved[131], the solution is still regarded as having the advantage of simplicity and certainty.[132] Indeed, the equidistant method derives considerable support from state practice[133]: governments, while seeking to effect a delimitation by treaty, nearly always take a line of equidistance as their starting point.[134] It has been pointed out that state practice is still a very important

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129 Caflisch n118.
130 YILC 1953 125-35. See also Kittichaisaree n23 61-2 and Cook n60 141 at n59.
131 Restatement n90 ss517 RN(1).
132 Churchill and Lowe n114. Vicuna considers it to be a clear rule. See Vicuna n57 602.
133 Charney n51 512. See also Erasmus and Hamman n108 70, Sharma n4 91 and 117 and Willis n56 50. To cite one concrete example, the principle of equidistance has been the underlying theme in all agreements concluded between UK and her European neighbours of the Netherlands, Belgium and France for delimiting continental shelf boundaries in the southern North Sea and Channel. See n59.
134 Weil n6 206.

source of customary law[135] and simply cannot be ignored.[136] O'Connell therefore asserts that the principle of equidistance has gained normative character by virtue of its presumptive nature, but is nevertheless rebuttable where the facts do not warrant its having full effect.[137] However, the International Court of Justice and subsequent arbitral tribunals not only denied a conventional preference for the equidistant line[138], (which decisions are most debatable)[139], but also decided that there was no opinio juris to this effect in the relevant agreements.[140] This gives unique characteristic to continental shelf delimitation: the most significant legal aspects have been the work of the judiciary.[141]

There have been eight major judicial or arbitral decisions and awards on maritime boundaries beyond the territorial sea since 1969:[142] the North Sea Continental Shelf Cases[143], Arbitration between the United Kingdom of Great Britain and Northern Ireland and the French Republic on the Delimitation of the Continental Shelf[144], Case Concerning the Continental Shelf (Tunisia/Libyan Arab Jamahiriya)[145], Case Concerning Delimitation of the Maritime Boundary in the Gulf of Maine

135 Vicuna FO 'Commentary [on Trends in the Law of Maritime Boundary Limitations]' in Alexander, Allen and Hanson ed n52 423.
136 Ibid 426.
137 O'Connell n74 701.
138 Nelson LDM 'The Roles of Equity in the Delimitation of Maritime Boundaries' AJIL 84 1990 843. See also Cahier P 'The Sources of Law of Maritime Delimitation' in Alexander, Allen and Hanson ed n52 415 and Vicuna n132.
139 See n20.
140 Charney n51 513. See also Weil n6 7.
141 Ibid. See also Vicuna n57 601-2.
142 This is identified by Willis n56, Hamman n16 248 and Weil n6 7-8.
143 ILM 8(2) March 1969 340-433 (hereinafter referred to as the North Sea Cases).
144 ILM 18(2) March 1979 397-493 (hereinafter referred to as the Anglo-French Case).
145 ILM 21(2) March 1982 225-317 (hereinafter referred to as the Tunisia/Libya Case).

Area (Canada v USA)[146], Case Concerning the Continental Shelf (Libya Arab Jamahiriya v Malta)[147], Dispute Concerning Delimitation of the Maritime Boundary (Guinea/Guinea-Bissau)[148], Case Concerning the Delimitation of Maritime Areas Between Canada and the French Republic (St Pierre and Miquelon) (Canada v France)[149] and Maritime Delimitation in the Area Between Greenland and Jan Mayen (Denmark v Norway).[150] The 1958 provision first came under attack in the North Sea judgment of 1969.[151] In that case, the Court reached the conclusion that `the Geneva Convention did not embody or crystallize any pre-existing or emergent rule of customary law, according to which the delimitation of continental shelf areas between adjacent States must, unless the Parties otherwise agree, be carried out on an equidistance-special circumstances basis'.[152] It held that under customary international law, delimitation is to be effected `... in accordance with equitable principles and taking account of all the relevant circumstances...'.[153]

146 ILM 23 1984 1197-269 (hereinafter referred to as the Gulf of Maine Case).
147 ILM 24 1985 1189-276 (hereinafter referred to as Libya/Malta Case)
148 ILM 25 1986 251-305 (hereinafter cited as the Guinea/Guinea-Bissau Case).
149 ILM 31(5) September 1992 1145-219 (hereinafter cited as the St Pierre and Miquelon Case).
150 The text of the Judgement is not published. However, a succinct report on this case may be found in The Times June 24 1993 (hereinafter cited as the Jan Mayen Case).
151 Willis n56 3-4.
152 North Sea Cases n143 373 para 69.
153 Ibid 384 para 101. It is however to be noted that the Court was not unanimous on this point. First of all, Judge Bengzon in his declaration asserted to the contrary that the 1958 formula represented at least a general principle of law. Judge Ammoun and Koretsky, in their separate opinion and dissenting opinion respectively, uphold this point of view. Judges Tanaka and Morelli also dissented from the judgment and maintained that the equidistance principle was the substatnive law of delimitation. Judge Sorensen distanced himself from the Court's ruling as well concluding that the rules embodied in CSC had attained

Since this case was exclusively concerned with adjacent states[154], it could be inferred that the provision in art 6 prescribing median line delimitation between opposite states was declaratory of customary law.[155] Indeed, the Court even held that: 'The continental shelf area off, and dividing, opposite States, can be claimed by each of them to be a natural prolongation of its territory. These prolongations meet and overlap, and can therefore only be delimited by means of a median line'.[156] These pioneer findings were largely confirmed in the subsequent Anglo-French arbitration.[157] The arbitral tribunal laid down that the method applicable in the English Channel, which is an 'opposite states' situation, 'is to draw a median line equidistant from their respective coasts, a conclusion which is in accordance both with Article 6 of the Convention and with the appreciation by the International Court of Justice of the position in customary law'.[158] It also maintained that the equidistance principle and 'special circumstances' were formulated as a combined, single rule and not two separate rules.[159] Nevertheless, the award further muddled the International Court's treatment of the subject in 1969 in at least two aspects.[160] Firstly, it was added that the combined 'equidistance-special circumstances rule', particularly in cases of opposite geographical setting, in effect 'gives particular expression to a general norm that, failing agreement, the boundary between States abutting on the same continental shelf is to be delimited on equitable

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the status of generally accepted rules of international law. See ibid 387, 397, 404, 413, 415 and 429.

154 This has been identified by Cook n60 138. Judge Schwebel has made the same finding in his dissenting opinion in the later Libya/Malta Case n147 1275.

155 O'Connell n74 685. See also Hamman n16 250 and 281.

156 North Sea Cases n143 369 para 57. Emphasis added.

157 Caflisch n118.

158 Anglo-French Case n144 424-5 para 87.

159 Ibid 421 para 68.

160 Willis n56 14.

principles'.[161] This, it is argued, completely disregarded the clear implications of the North Sea decision.[162] Secondly, the award insisted upon the full equality of the two branches of the rule - equidistance and special circumstances - with the result that no legal presumption favoured the former.[163] It has been pointed out that the tribunal, in this specific respect took liberties with the rule in downgrading the legal status of equidistance.[164] These 'ground rules' established by the early jurisprudence[165] were next expanded and refined in the Tunisia/Libya Case.[166] In that judgment, the Court took special pains to disparage the equidistance rule[167] and dispel any lingering doubts about it.[168] It reaffirmed that 'the delimitation is to be effected in accordance with equitable principles,and taking account of all relevant circumstances'.[169] The efforts, however, ended in failure.[170] Given that the dispute before the Court was between adjacent states[171], it could still be argued that it was a misinterpretation of the earlier cases to water down the equidistance principle in cases where the states concerned were opposite.[172] It was not until the Gulf of Maine Case that the door on any attempt to extend the Geneva arrangement beyond its conventional boundary was firmly shut.[173] The Court unambiguously proclaimed that:

> 'What general international law prescribes in every maritime delimitation between neighbouring States could therefore be defined as follows:

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161 Anglo-French Case n144 421 para 70.
162 See n160.
163 Willis n56 13.
164 See n160.
165 See n50.
166 Caflisch n118.
167 Charney n51 509.
168 Nelson n138.
169 Tunisia/Libya Case n145 262 para 133.
170 See n160.
171 Hamman n16 253. See also Cook n60 142.
172 Ibid.
173 Willis n56 22.

(1) No maritime delimitation between States with opposite or adjacent coasts may be effected unilaterally by one of those States. Such delimitation must be sought and effected by means of an agreement, following negotiations conducted in good faith and with the genuine intention of achieving a positive result. Where, however, such agreement cannot be achieved, delimitation should be effected by recourse to a third party possessing the necessary competence.

(2) In either case, delimitation is to be effected by the application of equitable criteria and by the use of practical methods capable of ensuring, with regard to the geographic configuration of the area and other relevant circumstances, an equitable result'.[174]

This 'airtight' approach was finally adhered to in the Guinea/Guinea-Bissau arbitration[175] and particularly the Libya/Malta Case in which the Court, while maintaining that 'according to the "fundamental norm" of the law of delimitation, an equitable result must be achieved on the basis of the application of equitable principles to the relevant circumstances'[176], openly denied once again that 'equidistance is the only appropriate method of delimitation, even between opposite or quasi-opposite coasts, nor even the only permissible point of departure'.[177] Up to this point, the courts had clearly chosen to develop a body of customary rules separate from the conventional.[178] Even so, however, they had not restricted themselves solely to demolition of the latter.[179] Not content with simply limiting the application of the treaty regime to the absolute minimum, the courts had no

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174 Gulf of Maine Case n146 1224 para 112. The Court also emphasized that no trace whatsoever of transforming the 'combined equidistance-special circumstances rule' into a rule of general international law has occurred. See ibid 1225 para 122. Emphasis added.
175 Nelson n138 844.
176 Libya/Malta Case n147 1207 para 62.
177 Ibid p1202 para 43. Emphasis added.
178 Weil n6 280.
179 Ibid 145.

hesitation in further interpreting it in such a way as to deprive it of all content![180] Indeed, it would not be inappropriate to argue at this juncture that the equidistance rule is strictly a treaty obligation[181] and applicable between states that are parties to CSC.[182] As a consequence, more modern developments in the general international law have no effect unless the Convention has been terminated or the superseding agreements have entered into force.[183] Even this view however has been rejected in the decisions, primarily on the ground that the preference for equidistance is not established and that modern developments must be taken into account in interpreting existent international agreements.[184]

The 1958 Convention was also eroded at UNCLOS III.[185] This also originated in the 1969 decision.[186] The International Court of Justice discerned therein that states such as Denmark and the Netherlands would benefit from equidistance beyond the bounds of equity. Thus equity as a principle had to be enshrined in the positive law of delimitation.[187] There was however no consensus on this subject[188] and the Conference was actually divided between the then 'latest'

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180 Ibid 145-7.
181 As a matter of fact, the arbitral tribunal acknowledged this in the Anglo-French Case n144 421 para 70. See also Churchill and Lowe n51 156.
182 Ibid. See also Sharma n4 90 and Charney n51 510.
183 Ibid.
184 Anglo-French Case n144 147 para 48 and Gulf of Maine Case n146 1220 para 83. This has been identified by both Charney n180 and Vicuna n59 606.
185 This has been pointed out by Judge Gros in his dissenting opinion in the Gulf of Maine Case n146 1257 para 8.
186 Willis n56 8. See also Sharma n4 109 and Restatement n90 ss517 RN(1).
187 Nweihed n4 26.
188 Anderson DH 'Maritime Delimitation-A View of British Practice' MP 12(3) July 1988 231 and 237. See also Nelson n138 845.

view and its traditional counterpart.[189] It was only after the long and somewhat unproductive debates[190] that a compromise was reached[191] to satisfy both camps.[192] The shift of emphasis from equidistance to equity was eventually secured in the last-minute proposal[193] in which both had disappeared.[194] That formula is now found in art 83(1) of LOSC:

> 'The delimitation of the continental shelf between States with opposite or adjacent coasts shall be effected by agreement on the basis of international law, as referred to in Article 38 of the Statute of the International Court of Justice, in order to achieve an equitable solution'

Although it has been condemned by almost every writer commenting thereupon for its alleged emptiness[195], it appears however that the object of the article is to establish shelf delimitations on the basis of equitable

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189 Sharma n4 105 and 109. See also Cook n60 154, Willis n186.
190 Ibid.
191 Restatement n186. See also Weil n6 148.
192 Kwiatkowska n20 291.
193 This has been identified by Judge Jimenez de Arechaga in his separate opinion in Tunisia/Libya Case n145 270 para 31. See also Hsu RTS ' A Regional Approach to Maritime Boundary Delimitation' ODIL 13(1) 1983 106-7.
194 Weil n191.
195 Weil n6 148 and 159. See also for example, Nelson n138 853; Sharma n4 49 and 64; Willis n186; dissenting opinion of Judge Gros in the Gulf of Maine Case n185; Vicuna criticizes that the provision contains no clear-cut rules, see Vicuna n57 603; Lowe opines that this is a lame provision, see Lowe n4 14; Caflisch points out that its flexibility perpetuates the unpredictability characterising the existing law on maritime delimitation, see Caflisch n22 217; Churchill argues that this arrangement is extremely vague, see Churchill n61 27; Cook indicates that this article is no more than a non-article which provides no substantive rules, see Cook n189; Judge Oda also expressses that it is difficult to derive any positive meaning from the provision. See his dissenting opinion in the Libya/Malta Case n147 1258 para 48.

principles.[196] In that case, this new rule is substantially similar to the customary law.[197] As a result of all the aforementioned developments, the current basic norm on continental shelf delimitations, to which both customary law[198] and conventional law (whether the 1969 text[199] or the 1982 text[200]) subscribe, is therefore that they are to be effected in accordance with equitable principles, taking account of all relevant circumstances, so as to arrive at an equitable result.

Indeed, the idea of equity runs like a golden thread through all the judgments and awards[201] forming the major axis of the law of maritime delimitation.[202] At this juncture, however, there might still be some confusion about the exact notions of law, equitable principles and special circumstances.[203] Firstly equity, being a fundamental rule[204], has always been carefully confined so as to operate within the law.[205] Equity, as a legal concept, is a direct emanation of the idea of justice[206] according to the rule of law[207] and a court whose task it is to administer justice is bound to apply it[208] so as to display consistency and a

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196 Erasmus and Hamman n100 67.
197 Ibid. Cook argues in a slightly different way that this 1982 rule simply refers states back to customary international law. See Cook n189.
198 In addition to the aforementioned decisions pointing to the fact, see also Kwiatkowska n20 289, Collins Jr and Rogoff n2 33 and Churchill n61 21.
199 As a matter of fact, the arbitral tribunal has already laid down that the object of art 6 of CSC is to achieve an equitable delimitation by taking special circumstances into account in Anglo-French Case n179.
200 Erasmus and Hamman argue that art 83 of LOSC leaves the matter beyond doubt. See Erasmus and Hamman n100 69.
201 Guy n128 41. See also Weil n6 162.
202 Ibid.
203 Cahier n138 414.
204 Nelson n138 839.
205 Kwiatkowska n198. See also Weil n6 163.
206 Tunisia/Libya Case n145 246 para 71.
207 Libya/Malta Case n147 1202 para 45.
208 See n206.

degree of predictability.[209] In other words, 'when mention is made of a court dispensing justice or declaring the laws, what is meant is that the decision finds its objective justification in considerations lying not outside but within the rules'.[210] It has been emphasized that equity not only forms part of international law[211] but is also a general principle directly applicable as law.[212] As a consequence, there is no question of any decision ex aequo et bono[213] in all the jurisprudence.[214] Moreover, equity has no function of mitigating or modifying the rigidity of legal rule(s) but aims at seeking an equitable result ab initio.[215] Normally, it can perform both.[216] The former is effectively ruled out[217] as the 1969 judgment of the Court denounced equidistance as a binding legal principle and did not simply regard it as a general rule of law to be moderated or corrected in its concrete application.[218] Thus, the conception of equity serves as a 'lead rule'[219] assuming an autonomous role[220] to provide principles or criteria in the delimitation process.[221] It is this latter mechanism that

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209 See n207.
210 North Sea Cases n143 379 para 88.
211 Dissenting opinion of Judge Evensen, Tunisia/Libya Case n145 301 para 12.
212 See n206.
213 See n205.
214 Cahier n138 412. For respective decisions in this specific regard, see North Sea Cases n210; Tunisia/Libya Case n206; Gulf of Maine Case n146 1213 para 59; Libya/Malta Case n207 and Guinea/Guinea-Bissau Case n148 289 para 88. But this does not mean that it must necessarily be the same as if the court had been asked by the parties to decide ex aequo et bono. See Weil n205.
215 Kwiatkowska n198.
216 Weil n6 165-6. For a general discussion of the concept of equity, see eg Akehurst M 'Equity and General Principles of Law' ICLQ 25 October 1976 801-25.
217 Nelson n138 857.
218 Separate opinion of Judge Jimenez de Arechaga, Tunisia/Libya Case n145 269 para 21.
219 Ibid para 26.
220 Nelson n138 858.
221 Ibid 841.

lies at the centre of the doctrine[222] upon which maritime delimitation rests.[223] Generally speaking, as summarized by Judge Jimenez de Arechaga '[t]o resort to equity means, in effect, to appreciate and balance the relevant circumstances of the case, so as to render justice, not through the rigid application of general rules and principles and of formal legal concepts, but through an adaptation and adjustment of such principles, rules and concepts to the facts, realities and circumstances of each case'.[224]

Next, there remains the point of equitable principles.[225] The Court once explained in 1969 that 'it is not a question of applying equity simply as a matter of abstract justice, but of applying a rule of law which itself requires the application of equitable principles'.[226] Although there has been no systematic definition of the concept ever since[227] due to its inherently open-ended nature[228], it is however to be admitted, after examining the present state of the case law on delimitation, that the meaning or extent of equity has been clarified to a reasonable degree.[229] Generally speaking, equitable principles are higher ideas of law[230] and must be assessed in the light of their usefulness for the purpose of arriving at an equitable results.[231] They no doubt have a normative character[232], because they are actual rules of international customary law to be readily

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222 Kwiatkowska n20 289-90.
223 Nweihed n4 21.
224 Separate opinion of Judge Jimenez de Arechaga, Tunisia/Libya Case n145 269 para 24.
225 Cahier n138 417.
226 North Sea Cases n143 378 para 85.
227 Gulf of Maine Case n146 1230 para 157.
228 Willis n56 10.
229 Vicuna n57 615.
230 Dissenting opinion of Judge Tanaka, North Sea Cases n143 413.
231 Tunisia/Libya Case n145 246 para 70.
232 See n225.

applied.[233] In essence, the concrete content is necessarily derived from the principles and rules of entitlement.[234] The Court elaborated upon this point very well: 'Delimitation, after all, is merely the means of resolving situations of overlap or interference arising from the titles of the Parties to an area of continental shelf. Thus it is not feasible artificially to separate the right to an area of continental shelf from the rules for delimiting this shelf, as honed by State practice and the decisions of courts. An assessment has to be made of the bounds within which the competing rights can be exercised'.[235] Such being the case, delimitation must, as international law currently sees it, at one and the same time be rooted in legal considerations of title and arrive at an equitable solution.[236] In our present concern, adjacency of the sea-bed to the territory of the coastal state is the basis upon which the legal status of the submerged areas is determined.[237] This concept in effect consists of two interfused ideas: the land dominates the sea and it dominates it by the intermediary of the coastal front.[238] As far as the former is concerned, it is held that 'the land is the legal source of the power which a State may exercise over territorial extensions to seaward'.[239] In the case of the latter, the size of the hinterland is impliedly excluded from the determination of the extent and shape of maritime jurisdiction.[240] In interpreting its function, the Court held 'it is... correct to say that international law confers on the coastal State a legal title to an adjacent

233 Hamman n16 263. Lowe argues to a similar effect that those principles constitute a body of law. See Lowe n4 13-4.
234 Kwiatkowska n20 293.
235 Separate opinion of Judge Mbaye, Libya/Malta Case n147 1231.
236 Weil n6 49.
237 Tunisia/Libya Case n145 247 para 73.
238 Weil n6 51.
239 North Sea Cases n143 382 para 96.
240 Weil n6 54.

continental shelf or to a maritime zone adjacent to its coasts'.[241] However, it has also been added that the notion 'only implies proximity in a general sense, and does not imply any fundamental or inherent rule the ultimate effect of which would be to prohibit any State (otherwise than by agreement) from exercising continental shelf rights in respect of areas closer to the coast of another State'.[242] Thus, 'it would not be correct to say that international law recognizes the title conferred on the State by the adjacency of that shelf or that zone'.[243] In other words, 'absolute proximity' is not relevant in this context.[244]

Initially, 'natural prolongation' was the sole means of expressing this basis.[245] By this the Court meant that 'the submarine areas concerned may be deemed to be actually part of the territory over which the coastal State already has dominion - in the sense that, although covered with water, they are a prolongation or continuation of that territory, an extension of it under the sea'.[246] From this it followed that the appurtenances ended up at ' a marked disruption or discontinuance of the sea-bed' constituting 'an indisputable indication of the limits of two separate... natural prolongations'[247], of which a trough is the case in point.[248] Although the concept is basically a principle governing title over the continental shelf, it was

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241 Gulf of Maine Case n146 1222 para 103. Emphasis original.
242 North Sea Cases n143 364 para 42.
243 See n241. Emphasis original.
244 Libya/Malta Case n147 1201 para 43.
245 Weil n6 50-1.
246 North Sea Cases n143 364-5 para 43.
247 Tunisia/Libya Case n145 245 para 66. See also Libya/Malta Case n147 1201 para 40.
248 The Court unambiguously stated in the 1969 decision that 'the shelf areas in the North Sea separated from the Norwegian coast by the 80-100 kilometres of the Trough cannot in any physical sense be said to be adjacent to it, nor to be its natural prolongation'. See North Sea Cases n143 365 para 45.

attributed a certain role in the delimitation of shelf areas.[248] This, however, is not always of use in giving clear guidance to arrive at the solution[250], particularly when states con- cerned abut upon one single shelf.[251] In such a case the Court ruled that `no criterion for delimitation of shelf areas can be derived from the principle of natural pro- longation as such'.[252] Thus, subsequent decisions have gradually played down the relevance and role of the doctrine.[253]

Under LOSC the distance principle in certain circumstances is substituted for the rule of natural prolongation but does not replace it totally.[254] The Convention specifies that: `The continental shelf of a coastal State comprises the sea-bed and subsoil of the submarine areas that extend beyond its territorial sea... to a distance of 200 nautical miles from the baselines from which the breadth of the territorial sea is measured where the outer edge of the continental margin does not extend up to that distance'.[255] The Court seems to have adopted the conventional provision. It has held that legal title is based solely upon the principle of adjacency as measured by distance.[256] This legal development has weakened the practical impact of the old regime.[257] At present, natural prolongation is neither the overriding principle with regard to the sea-bed and subsoil

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249 Tunisia/Libya Case n145 239 para 43. Devine also asserts that the principle of natural prolongation is of consequence in continental shelf delimitation. See Devine n71 135.
250 Hamman n16 264.
251 Collins Jr and Rogoff n2 20. Weil argues to a similar effect that `where there was a single shelf which could be seen as the natural prolongation of one State just as much as of the other, the idea ... would be unworkable'. See Weil n6 24.
252 Tunisia/Libya Case n145 262 para 133 A(2).
253 Devine n249. See also Sharma n4 166.
254 Guinea/Guinea-Bissau Case n148 300 para 115.
255 LOSC art 76(1).
256 Libya/Malta Case n147 1206 para 61.
257 Dissenting opinion of Judge Evensen, Tunisia/Libya Case n145 300 para 10.

within 200nm from baselines.[258] Nor is it necessarily sufficient, or even appropriate, in itself to determine the precise extent of the rights of a state in relation to those of a neighbouring state in that area.[259] Although it 'now belongs to the past' in this regard[260], this does not however imply that it has been abandoned *in toto*.[261] As a matter of fact, natural prolongation currently completes the 200nm rule[262] by taking care of the situation of states possessing a continental margin with an outer edge exceeding that distance.[263] There is therefore neither priority nor precedence between the two rules[264]: up to 200nm, natural prolongation has disappeared from the concept of the continental shelf[265] in the sense that delimitation by distance is divorced from any relationship it might have with geological or geomorphological facts[266]; beyond that limit, natural prolongation is not entirely dead[267] and can still be effectively invoked where there is a convergence of continental shelves.[268] As a result where two states with opposite coasts whose continental shelves do not extend as far as the minimum legal limits, the rule of the outer edge of the continental margin simply has no part to play[269]

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258 Ibid 298 para 7.
259 *Tunisia/Libya* Case n145 239 para 43.
260 *Libya/Malta* Case n147 1201 para 40.
261 Separate opinions of Judge Sette-Camara and Mbaye, ibid, 1217 and 1230 respectively.
262 Separate opinion of Judge Mbaye, ibid 1231.
263 Indeed, LOSC art 76(1) still keeps the old definition that the continental shelf of a coastal state extends 'throughout the natural prolongation of its land territory to the outer edge of the continental margin'.
264 *Guinea/Guinea-Bissau* Case n148 300 para 116.
265 Remark of Cahier P in 'Discussion [on Trends in the Law of Maritime Boundary Limitations]' in Alexander, Allen and Hanson ed n52 436.
266 Separate opinion of Judge Jimenez de Arechaga, *Tunisia/Libya* Case n145 273 51.
267 Vicuna n57 610.
268 See n264. See also *Gulf of Maine* Case n146 1212 para 47.
269 See n262.

since 'no geophysical feature can lie more than 200 miles from each coast'.[270]

Other equitable principles which have been identified by courts up to now include the following: equal division of areas of overlap of the maritime and submarine zones, where no special circumstances appertaining to the respective coasts of neighbouring states require correction thereof[271]; the necessity, as a basic corollary of 'natural prolongation', to avoid 'cutting-off' areas situated directly before the coastal front[272] or, in other words, the seaward extension of a state's coast should not encroach upon areas that are too close to the coast of another state[273]; equity does not necessarily imply equality and there can never be any question of completely refashioning nature[274]; due respect should be paid to all relevant circumstances[275]; and distributive justice is not of the question here.[276] Weil summarizes all of this by saying that the ultimate justification for any delimitation is the principle that whatever the geographical facts, a maritime

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270 Libya/Malta Case n147 1200 para 39.
271 Gulf of Maine Case n146 1231 para 157.
272 Separate opinion of Judge Jimenez de Arechaga, Tunisia/Libya Case n145 274 para 58. See also St Pierre and Miquelon Case n149 1170 para 70 and Caflisch n118.
273 North Sea Cases n143 378 para 85 (c). See also separate opinion of Judge Jimenez de Arechaga, Tunisia/Libya Case n145 276 para 69; Gulf of Maine Case n271. St Pierre and Miquelon Case n272; and De La Fayette L 'The Award in the Canada-France Maritime Boundary Arbitration' IJMCL 8(1) 1993 96.
274 North Sea Cases n143 381 para 91. See also Anglo-French Case n144 427 para 101 and Libya/Malta Case n147 1202 para 46. At this juncture, however, Weil reminds us that although delimitation ought not to involve a refashioning of nature 'entirely', 'totally', 'completely', it may quite properly make some correction. See Weil n6 88.
275 Libya/Malta Case n274.
276 Ibid 1203 para 46.

boundary must always be at a sufficient distance from each of the coasts.[277]

Having thus disposed of 'equitable principles', one must now turn to another aspect of delimitation, namely, the obligation to take the 'relevant circumstances' into account.[278] This terminology, which has the same meaning as 'special circumstances' does[279], refers to features having an effect upon a delimitation.[280] In a sense, they are different from equitable principles.[281] Qualitatively speaking, these circumstances are not per se equitable. They only acquire that description if they generate an equitable result.[282] Nor are they obligatory since they do not reflect in themselves international customary law[283], although they are indeed the currently governing factors therein.[284] Quantitatively speaking, 'there is no legal limit to the considerations which States may take account of'[285] so long as they are pertinent to the institution of the continental shelf'.[286] As to their function, relevant circumstances operate only within equitable principles[287] so as to ensure an equitable delimitation.[288] In general, however, the law on this matter remains in the process of development.[289]

As mentioned above, only circumstances pertinent to the maritime zone may be taken into account as being

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277 Weil n6 219.
278 Queneudec n52 420.
279 Cook n60 146.
280 Evans n50 3 and 16.
281 See n224. See also Caflisch n22 216.
282 Hamman n250.
283 Ibid 264-5.
284 O'Connell n74 689.
285 North Sea Cases n143 381 para 93.
286 Libya/Malta Case n147 1203 para 48.
287 Evans n50 3.
288 Anglo-French Case n144 421 para 70.
289 Weil n6 215.

relevant.[290] Since 'those aspects of a geographical situation [are] most germane' thereto[291], '[t]he coast of each of the Parties, therefore, constitutes the starting line'.[292] Nevertheless, for the purpose of shelf delimitation between the parties, it is not the whole of the coast of each party which can be taken into account; the submarine extension of any part of the coast of one party which, because of its geographical situation, cannot overlap with the extension of the coast of the other is to be excluded from further consideration.[293] That is to say, coastal segments whose projections do not overlap have no effect upon delimitation.[294] To complete this preliminary observation, the Court further implicitly adopts the idea of a frontal extension of the coast.[295] Although this does not seem to be in broad conformity with recent trends of radial projection in international law[296], it is however well explained that '[s]uch a radical projection may, undoubtedly, exist in the case of islands in the open ocean not facing other State's coast'[297]; whereas '[i]n the case of opposite coasts in closed or semi-closed seas, ...there is a considerable State practice which demonstrates that States, in their bilateral agreements, end their agreed lines of delimitation exactly at the point in which the opposition ceases to exist between the directly facing coasts of the parties, and a different opposition commences vis-a-vis the coasts of a third State'.[298] In geographical

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290 See n286. See also Queneudec n52 421.
291 Libya/Malta Case n147 1203 47.
292 Tunisia/Libya Case n145 247 para 74.
293 Ibid para 75.
294 Weil n6 72.
295 Willis n56 40.
296 Separate opinion of Judge Valticos, Libya/Malta Case n147 1239 para 28. See also dissenting opinion of Weil, St Pierre and Miquelon Case n149 1199 para 8; Marston n60 167 and De La Fayette n273 97.
297 Joint separate opinion of judges Ruda, Bedjaoui and Jimenez de Arechaga, Libya/Malta Case n147 1222 para 5.
298 Ibid para 7. Emphasis added.

situations of the latter nature, a lateral 'cut-off' of the adjacent opposite coast is in effect carefully avoided.[299] In short, the concept of the delimitation area is a legal concept[300] and its actual application is an important means of controlling the range of relevant circumstances in a particular situation.[301]

Ever since 1969, it has been a point of principle that a delimitation must take account of 'the general configuration of the coasts of the Parties'[302], 'that is to say the relationship between the coasts... in dispute'.[303] This factor forms part of the aforementioned theory of coastal projections[304] and is undoubtedly a most relevant circumstance in any continental shelf delimitation.[305] In this category, concave or convex coastlines[306] have been the principal examples.[307] Their effect has been mainly analysed in terms of impact on a delimitation line.[308] Inequity often results from a concave coastline when the adjacent states have convex coastlines. The convexities cause the boundaries to converge inequitably close to shore.[309] These two situations are not, however, the only factors capable of causing problems.[310] Another aspect of configuration is the presence of special or unusual features[311] in particular small islands[312] and

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299 Ibid. See also Willis n56 41.
300 Gulf of Maine Case n146 1210 para 41.
301 Evans n50 24.
302 North Sea Cases n143 p384 para 101(D)(1).
303 Separate Opinion of Judge Jimenez de Arechaga, Tunisia/Libya Case n145 282 para 103.
304 Weil n6 220.
305 See n303.
306 North Sea Cases n143 380 para 89(a).
307 See n304.
308 Willis n56 47.
309 Charney n51 515.
310 Weil n6 221.
311 See n302.
312 Anglo-French Case n144 444 para 196, Tunisia/Libya Case n145 248 para 79, Gulf of Maine Case n146 1238 para

promontories[313], whose effect is much the same as that of convexity.[314] Moreover, the Court has in effect enlarged the list here to include any markedly irregular coastline which may render a delimitation inequitable.[315] It will not be easy, nevertheless, to define what 'irregularities' really are, although Judge Oda has pointed out that an irregular overall shape of the coastline and significant configuration irregularities in a lateral case could be two cases in point.[316] Generally speaking, if the area concerned is comparatively large, the existence of some irregularity may well be ignored; but if it is a small area minor irregularities would probably have to be taken into account.[317] Other geographical circumstances, besides the aforementioned ones, which are often said to produce distortion, are the lengths of the respective coasts and their relationship of opposition or adjacency to one another.[318] As far as the former is concerned, a considerable difference in the length of the respective coasts represents a striking physical fact[319] which is a particularly 'relevant circumstance'.[320] In the 1977 Anglo-French arbitration, a comparison in this regard was made by the Arbitration Tribunal in the process of reaching its

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196. See also Guinea/Guinea-Bissau Case n148 293 para 98.

313 Anglo-French Case n144 454 para 244.

314 See n308.

315 See n310.

316 Dissenting opinion of Judge Oda, Libya/Malta Case n147 1263 para 68.

317 Ibid.

318 Weil n6 222.

319 Joint separate opinion of Judges Ruda, Bedjaoui and Jimenez de Arechaga, Libya/Malta Case n147 1225 para 25. Or in Weil's words, the length of the coastline is an element in the shape of the coast. See Weil n6 70.

320 Gulf of Maine Case n312. See also joint separate opinion of Judges Ruda, Bedjaoui and Jimenez de Arechaga n319 and separate opinion of Judge Valticos ibid 1238 para 20.

decision and not ex post facto.[321] The purpose of doing so is to avoid disproportion by awarding broadly comparable areas.[322] It has however been emphasized that this is not a circumstance of an autonomous nature but is one like any other and must thus be taken into consideration along with others.[323] Moreover, it does not mean that particular segments of coast may have an increased or diminished projection depending on their length.[324] In practice, the idea of coastal length is quite complex for, amongst other things, there are many ways of measuring.[325] Nonetheless, it has been clarified, at least to some extent, that the calculation should not be considered to be a strict mathematical exercise. What is necessry is a general approximation.[326] At this juncture, it is to be noted that 'the circumstance of the respective lengths of the coasts acquires greater significance when the coasts are distant from each other; and tends to be reduced to vanishing point the closer the coasts become'.[327] It therefore appears that once the respective lengths of the coasts have been chosen as a relevant circumstance, the distance between them will be a necessary corrective.[328] As a result, the Court also incidentally accords the status of a relevant circumstance to the latter.[329] In the case of opposition or adjacency, the distinction has been a classical feature of the law of

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321 Joint separate opinion of Judges Ruda, Bedjaoui and Jimenez de Arechaga, Libya/Malta Case n147 1226 para 26.
322 Ibid para 27.
323 Ibid 1227 para 29.
324 St Pierre and Miquelon Case n149 1164 para 45.
325 Weil n6 76.
326 Joint separate opinion of Judges Ruda, Bedjaoui and Jimenez de Arechaga, Libya/Malta Case n147 1227 para 31.
327 Separate opinion of Judge Valticos, Libya/Malta Case n147 1238 para 23.
328 Ibid.
329 Libya/Malta Case n147 1207 para 66. Judge Mbaye however objects to this inclusion in his separate opinion, ibid 1232-4.

delimitation since its inception[330] and is now firmly established.[331] It has been applied mainly for the purpose of assessing the suitability of the equidistance method.[332] It has however been particularly emphasized that 'every effort should be made to prevent the partial relationship of adjacency from ultimately predominating over the partial relationship of oppositeness, or vice-versa'.[333] This latter caveat strengthens radical changes in the mutual relationship between the coasts as relevant circumstances[334], without taking account of which 'no delimitation... could be regarded as equitable'.[335] Finally, the position of the land frontier has also been singled out as a pertinent factor to be considered.[336] It becomes particularly relevant, according to the Court, when 'there has never been any agreement between ... [the parties] on delimitation of the territorial sea, contiguous zones, exclusive economic zones, or the continental shelf'.[337]

Apart from those micro-geographical features, the courts have also taken account of the broad geographical picture[338] or 'macro-geography' of the case.[339] Indeed, judicial or arbitral delimitation, although it is essentially an operation inter partes, cannot be carried out in a vacuum,

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330 Willis n57 46.
331 Weil n6 246.
332 See n330.
333 Gulf of Maine Case n146 1236 para 187.
334 Ibid. See also Tunisia/Libya Case n145 259 para 122.
335 Ibid.
336 Ibid 248 para 81. See also Guinea/Guinea-Bissau Case n148 295-6 para 106.
337 Tunisia/Libya Case n145 249 para 82.
338 Queneudec n52 241. The Court obliges itself to 'consider the general geographical context in which the delimitation will have to be effected' in the Libya/Malta Case n147 1208 para 69. This consideration also dominates the decision in the Guinea/Guinea-Bissau Case n148 297 para 108.
339 Willis n56 28. See also Evans n50 24.

cut off from the world around it and isolated from other delimitations already implemented, or still to be made, in the region.[340] This is even truer when the areas to be delimited are far from the shore.[341] What makes this continental perspective essential is the potential impact of a whole series of delimitations with and between third states up and down the littoral.[342] As a result, the interests of third states come into play at this juncture in a more concrete sense.[343] The Court has held that 'in order to preserve the rights of third States ...'[344], 'the decision must be limited to a geographical area in which no such claims exist'[345] and 'no part of the task of the Court... [shall] define the legal principles and rules applicable to any delimitation between one or other of the Parties and any third State'.[346] However, the claims in question must not be 'obviously unreasonable' and the parties must not be 'deterred by the probability of the Court's judgment being restricted in scope as a consequence' thereof.[347]

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340 Weil n6 252.
341 Willis n56 48.
342 Ibid 28.
343 Indeed, the Court unequivocally held 'interests of other States in the area' to be a relevant circumstance in the Tunisia/Libya Case n145 248 para 81. The arbitration tribunal followed suit declaring that '[a] delimitation designed to obtain an equitable result cannot ignore the other delimitations already made or still to be made in the region' in the Guinea/Guinea-Bissau Case n148 291 para 93. See also Queneudec n338. Evans n339 and Willis n56 29.
344 Libya/Malta Case n147 1196 para 22.
345 Ibid 1195 para 21.
346 Ibid para 20.
347 Ibid 1197 para 23. It is nevertheless to be noted that this decision has given rise to no small objection. Judge Mosler pointed out in his dissenting opinion that 'the Court... has no power to take into account a line which it is not even entitled to examine' ibid 1241; Judge Oda indicated in his dissenting opinion that '[b]y so doing, the Court loses sight of the scope of the dispute between the two original Parties' ibid 1248 para 11; and Judge Schwebel in his dissenting

Other particulars selected are rooted in economic geography[348] such as 'known or readily ascertainable... natural resources... of the continental shelf areas involved'.[349] More specifically, the presence within a disputed area of a sedentary fishery or oil and gas, all of which are continental shelf resources, might justify a modification of a delimitation line if one of the parties has established an exclusive exploitation right.[350] The Court notes that this may occur in a number of ways.[351] In the first place, there is the principal contention based upon historic rights.[352] In theory, indeed, the fact that a

> opinion asks 'would... [such a judgment] not constitute a measure of endorsement by the Court of ... [third states'] claims without troubling... [them] either to justify those claims or to place them at stake in the current proceedings between the principal Parties?' ibid 1269. On the other hand, Weil also argues to the contrary 'Can the principle of the consensual nature of judicial settlement allow the involvement of a third State in the proceedings, without its agreement or presence? Does not the principle of the relative effect of the matter adjudged render inoperative any position the courts may take vis-a-vis third parties? Apart from the difficulties of a procedural nature, there is a fundamental objection to the inclusion of the interests of the third States in the category of relevant circumstances... [:] only the coasts actually abutting on the area of delimitation whose projections may overlap are relevant to a delimitation'. See Weil n6 253. In short, these disagreements probably arise from the fact that the Anglo-French arbitral tribunal did refuse to attach any weight to the possibility that the line of delimitation it was called on to draw between France and the UK risked cutting across the future delimitation line between the UK and Ireland. See Anglo French Case n144 412 para 28 and 452 para 236.

348 Hamman n16 265.

349 North Sea Cases n143 384 para 101 (D)(2).

350 Collins Jr and Rogoff n2 42-3.

351 Tunisia/Libya Case n145 254 para 102.

352 Ibid. Although only long-established fishing activities are referred to in the quoted passage, it is however to be noted that this notion, according to the Court in the Gulf of Maine Case, is by all means applicable to the offshore extraction of oil and gas provided that

state has long enjoyed exclusive or particular benefits in an area could be a means of entitlement to the area in derogation of the standard rules.[353] Although the notion is governed by distinct legal regimes in customary international law[354], it has however been emphasized that both equity and law compel respect for it in the cases of maritime delimitation.[355] According to the Court, the practice in question must be of long duration, its manifestation must be clear and there must be consistent acceptance by others.[356] The Court adds that the conditions for acquiescence and estoppel must be satisfied.[357] The former is equivalent to tacit recognition manifested by unilateral conduct which the other party may interpret as consent, the latter is linked to the idea of preclusion.[358] In other words, a claim based upon the conduct of one state only does not serve the purpose.[359] It must not fall short of opposability of rights to other(s).[360] Generally speaking, `[h]istoric rights must be respected and preserved, but as they were and where they were, that is to say, within the limits established by usage and history'.[361]

the elements of fact and of law are met. As to the latter aspect, see Gulf of Maine Case n146 1229 para 144.

353 O'Connell n74 713.

354 Tunisia/Libya Case n145 253 para 100.

355 Separate opinion of Judge Jimenez de Arechaga ibid 281 para 96.

356 Gulf of Maine Case n146 1229 para 144-5.

357 Ibid para 145.

358 Ibid 1227 para 130.

359 Evans n50 25.

360 Tunisia/Libya Case n145 259 para 121.

361 Separate opinion of Judge Jimenez de Arechaga ibid 284 para 114. Judge Gros however opposes this `historical justification' asking `[h]ow is it possible to believe that a specialized maritime limit extending into the high seas could, at the period in question, have been tacitly accepted as dividing areas of the high seas which were not by any token subject to the sovereignty of States as then defined by international law?' He therefore maintains that `one cannot pass from this to the notion of the boundary of territorial waters,and from the latter to the notion of the boundary of

In the second place, the Court also acknowledges the existence of natural resources in the shelf in the recognition of de facto offshore exploration and exploitation lines as a modus vivendi.[362] In this case, the lines must not only be respected by the parties[363] over long period of time[364] but also represent an equitable solution.[365] In essence, this is rather an indication of how the negotiating parties saw the geographic equities through their own eyes.[366] Just like historic use, however, the present argument requires only minor modifications of delimitation lines as part of a modus vivendi.[367] Finally, at the very least, the Court is prepared to admit, in the

continental shelf areas'. See his dissenting opinion ibid 293 para 20.

362 This has been identified by Cook n60 148. Indeed, the Court held that '[t]his line of adjoining concessions [for offshore exploration and exploitation of oil and gas], ... which had in the past been observed as a de facto maritime limit, does appear to the Court to constitute a circumstance of great relevance for the delimitation'. Tunisia/Libya Case n145 252 para 96. Although only non-living resources are mentioned in the passage, it is nevertheless to be noted that the fishing interests will equally be covered should, of course, sufficient evidence be produced. See ibid 251 para 95.

363 Gulf of Maine Case n146 1229 para 149. Indeed, it is precisely the lack 'of proving the existence of a recognized maritime boundary between the two Parties' that rendered the modus vivendi relating to fishing activities inapplicable in the Tunisia/Libya Case n145 251 para 95.

364 When the period is 'too brief', the modus vivendi will not produce 'a legal effect of this kind'. See Gulf of Maine Case n146 1229-30 para 151.

365 This has been identified by Charney n51 520. For origin, see Tunisia/Libya Case n145 259 para 120. At this juncture, nevertheless, Judge Evensen disagreed with the decision saying: 'But a modus vivendi arrangement basically implies two elements, namely, that the modus vivendi arrangement is provisional pending a solution of the disagreement and that the arrangement is non-prejudicial for the two Parties' (emphasis original). See his dissenting opinion, ibid 309 para 20.

366 Willis n57 54.

367 Collins Jr and Rogoff n2 44.

context of mineral extraction, that the mere presence of oil-wells 'may, depending on the facts, be an element to be taken into account in the process of weighing all relevant factors to achieve an equitable result'.[368]

The remaining factors originate in political geography. Here security and the political independence or otherwise of an island can be considered.[369] As far as the former is concerned, the Court confirms that 'considerations [in that respect] are of course not unrelated to the concept of the continental shelf'.[370] Indeed, the need to defend a country from invasion or attack from the sea is one raison dêtre why

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368 Tunisia/Libya Case n145 255 para 107. Judge Evensen however disagrees with the inclusion of this consideration arguing that '[a]ny acceptance by the Court that the drilling of oil-wells, in an area which was disputed, should have any relevance for the delimitation... might invite aggressive attitudes, through the staking out of claims, instead of conciliatory approaches'. He particularly points out that 'Positive actions are not required for a coastal State to possess a continental shelf. Vice versa, positive actions by another State should not easily deprive a coastal State of its rights'. See his dissenting opnion, ibid 315 para 26.

369 See n348.See also De La Fayette n296 and dissenting opinion of Judge Gotlieb, St Pierre and Miquelon Case n149 1193 para 55 and 1194 para 58. Although the court in the St Pierre and Miquelon Case held that 'there are no grounds for contending that the extent of the maritime rights of an island depends on its political status' (para 49), however, this must be read in the context that Newfoundland is an island too and neither St Pierre and Miquelon nor Newfoundland is an independent or semi-independent state (paras 51-2). The real meaning of the ruling, therefore, should be that the political status of islands, as a relevant circumstance, did not come into play in that case.

370 Libya/Malta Case n147 1204 para 51. Although the tribunal in the Guinea/Guinea-Bissau Case emphasized that 'neither the exclusive economic zone nor the continental shelf are zones of sovereignty', it however also poiunted out that '[t]his is not without interest' and in fact 'has [already been] taken care [of in the case]'. See Guinea/Guinea-Bissau Case n148 302 para 124.

states demand expansion of exclusive authority over maritime areas.[371] The Court observes that this factor may have a part to play if the delimitation line is close to the coasts.[372] This may well mean security is unlikely to be relevant in practice in cases of continental shelf or EEZ delimitation, simply because these areas are a considerable distance from the coasts.[373] It may also mean that the interests in question are more relevant in delimitation between adjacent states, where the aim should be to allow each state to control maritime territories opposite its coast and in its immediate vicinity. The same considerations do not necessarily apply between opposite states, where a departure from equidistance would not necessarily enhance the security of either party.[374] Generally speaking, if there is 'a major route of international maritime navigation serving ports outside the territories of either of the Parties' in the areas concerned, the weight of such considerations will be diminished to the extent that they 'may support and strengthen, but they cannot negative, any conclusions'.[375] Otherwise the Court seems to regard them as 'exercising a decisive influence on the delimitation'.[376] (It is however to be noted that navigational importance may be considered a relevant circumstance in its own right[377] with exactly the same function. Thus a navigable channel is important to both parties to the dispute, it may only 'support and strengthen, but... cannot negative' a delimitation[378];

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371 Sharma n4 26 and 63.
372 Libya/Malta Case n370. See also separate opinion of Judge Valticos, ibid 1239 para 27.
373 Devine n71 132.
374 Ibid 133.
375 Anglo-French Case n144 442 para 188.
376 Ibid.
377 Perhaps as a variant in the present case, since Judge Nervo has added this to the catalogue 'cables, safety or defence requirements' in ICJ Reports 1969 92. See also n350.
378 See n375.

otherwise as where it is important to one party only, it would seem to have more influence in the process.)[379]

It should be emphasized again that although the doctrine of natural prolongation has been excluded from the definition of the continental shelf within 200nm, it is nevertheless still applicable beyond that distance.[380] Hence geological, geophysical and geomorphological factors have not yet ceased to be relevant in the latter case.[381]

In addition to the positive identification of relevant circumstances mentioned above, in which geographical features predominate[382], the courts have also justifiably rejected some classifications as irrelevant.[383] Indeed the 'history of maritime delimitation decisions since the North Sea cases may be viewed as a progression of attempts to reduce the factors that may be considered'.[384] Apparently, a factor which has no part to play in the establishment of title should not be taken into account for the purposes of delimitation.[385]

Generally speaking, non-geographic factors may be almost totally irrelevant within 200nm from the coastline.[386]

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379 As a matter of fact, a part of the maritime boundary in the Guinea/Guinea-Bissau Case was delimited along Pilots' Pass (a navigable channel), prevailing over other considerations at the portion of the boundary. See Guinea/Guinea-Bissau Case n148 298 para 111. This has been identified by Bravender-Coyle n22 181.

380 See n245-68 and accompanying text supra.

381 The Court in fact acknowledges this in Libya/Malta Case n147 1200 para 39.

382 Collins Jr and Rogoff n2 24 and 44. See also Sharma n4 146 and Churchill and Lowe n51 198.

383 See n366.

384 Collins Jr E and Rogoff MA 'The Gulf of Maine Case and the Future of Ocean Boundary Delimitation' Maine LR 38 1986 39. See also Willis n57 52.

385 Libya/Malta Case n147 1200 para 40.

386 Charney n365.

These include: just and equitable share[387]; equality of states[388]; unity of mineral deposits, which is regarded only as a factor to be taken into account by the parties in negotiations and not as a relevant circumstance in itself[389]; environmental factors[390]; the subjective distinction involving a value judgment between so-called 'primary' and 'secondary' coasts[391]; the historic presence of man[392]; the landmass, which 'has never been regarded as a basis of entitlement to continental shelf rights'[393]; geological, geophysical and geomorphological characteristics within 200nm[394]; and the relative economic position of the parties[395], which in the words of the Court 'are virtually extraneous factors since they are variables which unpredictable national fortune or calamity, as the case may be, might at any time cause to tilt the scale one way or the other'.[396]

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387 North Sea Cases n143 356 para 18. This has been identified by Evans n50 30 at n187.

388 Anglo-French Case n144 443 para 195. See also Evans n387 and Weil n6 236.

389 North Sea Cases n143 383 para 97. See also Tunisia/Libya Case n145 255 para 107, Evans n50 8 and 19, Collins Jr and Rogoff n2 42 and Hamman n16 276. As a matter of fact, even state practice does not support the theory that the existence of such deposits constitutes 'special circumstances'. See O'Connell n74 712. See also Erasmus and Hamman n100 68 and Hamman n16 224.

390 Gulf of Maine Case n146 1213 para 54. This has been identified by Evans n50 10. Weil however dubs this category 'bio-geographical considerations'. See Weil n6 216.

391 Gulf of Maine Case n146 1210 para 36.

392 Ibid 1244 para 233. This has been identified by Evans n390.

393 Libya Malta Case n147 1203 para 49. The arbitral tribunal decided similarly in the Guinea/Guinea-Bissau Case n148 301 para 119.

394 See n270.

395 Libya/Malta Case n147 1203 para 50. See also Guinea/Guinea-Bissau Case n148 301-2 para 121, Sharma n4 136, Hamman n389, Kwiatkowska n20 302, Evans n390 and Weil n6 258, 261-2.

396 Tunisia/Libya Case n389. In the Guinea/Guinea-Bissau Case, the arbitral tribunal rules to similar effect 'it would be neither just nor equitable to base a

Up to this point, the listing of pertinent circumstances for delimitation may be said to be well established and is in effect generally predictable.[397] Nevertheless, all the elements still need to be further weighed when transferred from the sphere of theoretical claims into that of practical delimitation.[398] Indeed, the Court said in 1969 that '... it is the balancing-up of all such considerations that will produce... [the] result rather than reliance on one to the exclusion of all others'.[399] This is now firmly established as a matter of law.[400] Basically there is a need to deal with the possibility of conflict between relevant circumstances. This requires the establishment of a hierarchy.[401] Unlike the preceding parts of the law on continental shelf delimitation, which are relatively clear, this key mechanism remains quite uncertain[402] and no attempt has been made by the courts to clarify the matter.[403] It is only stated that 'no rigid rules exist as to the exact weight to be attached to each element in the case'.[404] The process has however been made far more simple with the priority now accorded to geography and the narrowing of the categories of circumstances that are considered relevant. This enables one to state with confidence that geography will always prevail over non-geographical circumstances themselves.[405] Strictly speaking, therefore, there is no general rule of law in this regard.[406] As a result, all the

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delimitation on the evaluation of data which changes in relation to factors that are sometimes uncertain'. See Guinea/Guinea-Bissau Case n148 302 para 122.

397 Vicuna n57 624.
398 Hamman n389.
399 North Sea Cases n285.
400 Hamman n389.
401 Weil n6 267.
402 Vicuna n135 424.
403 Evans n50 28.
404 See n206.
405 Willis n56 55.
406 See n397.

considerations must, at present, be weighed against each other and considered together in each particular case with a view to attaining an equitable result in all the circumstances.[407]

Having thus developed the delimitation process, the tribunal then rules an equitable solution 'requires recourse to... the application of methods'.[408] All things considered, it is actually the method which determines the boundary line, the establishment of which is the ultimate purpose of the delimitation exercise.[409] Like the process of weighing relevant circumstances, however, no attempt has been made here to integrate principles of equity into the law.[410] The distance principle has no bearing on such a hierarchy.[411] As a result, there are no legally preferred methods and this has been a consistent theme in jurisprudence ever since the North Sea Cases.[412] Up to now, the Court has only laid down one general rule on this subject: '[a]ny examination of methods, like the examination of applicable rules and principles, must take as starting-point the particular geographical situation,... especially the extent and features of the area found to be relevant to the delimitation'[413]; and the application of the selected method

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407 Kwiatkowska n395.
408 Guinea/Guinea-Bissau Case n148 289 para 88.
409 Weil n6 184.
410 Ibid 183.
411 Willis n56 36.
412 Ibid 48. See also Hamman n348.
413 Tunisia/Libya Case n145 257 para 114. The Court reaffirmed this in the Gulf of Maine Case stating that '[t]he greater or lesser appropriateness of one method or another can only be assessed with reference to the actual situations in which they are used'. See Gulf of Maine Case n146 1232 para 163. As a matter of fact, the tribunal also upheld this line of ruling in Anglo-French Case declaring that 'the appropriateness - the equitable character of the method is always a function of the particular geographical situation'. See Anglo-French Case n144 424 para 84.

is to arrive at a reasonable result.[414] The ILC had already in fact identified four methods of delimitation for consideration some forty years ago. They include: the continuation in a seaward direction of the land frontier between two adjacent coastal states; the drawing of a line perpendicular to the coast at the point of intersection with the land frontier; the drawing of a line perpendicular to the line of the general direction of the coast; and the drawing of an equidistant line.[415] Case law shows that those methods have been considered as useful tools to assist a decision-maker locate an ocean boundary.[416] As far as the perpendicular is concerned, the Court is detailed when it lays down that: 'It is almost an essential condition for the use of such a method in a specific case that the boundary to be drawn in the particular case should concern two countries whose territories lie successively along a more or less rectilinear coast, for a certain distance at least. The ideal case, so to speak, would be one in which the course of the line would leave an angle of 90° on either side'.[417] In a word, 'the method of delimitation by the perpendicular to the coast or to the general direction of the coast might possibly be contemplated in cases where the relevant circumstances lent themselves to its adoption, but is not appropriate in cases where these circumstances entail so many adjustments that they completely distort its

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414 North Sea Cases n143 380-1 para 90.
415 Charney n51 516-7.
416 Ibid 517.
417 Gulf of Maine Case n146 1234 para 176. Judge Evensen however reminds us that geographical conditions are very seldom straight lines for any considerable distance and consequently a perpendicular system might easily be inapplicable or unfair. See his dissenting opinion in Tunisia/Libya Case n145 310 para 22. As a matter of fact, it is worth mentioning in passing, this judge also opposes the concept of prolongation of the general direction of the land boundary for '[n]o legal principle exists to this effect'. See ibid para 21.

character'.[418] The equidistance method, nonetheless, has invited a great deal of judicial and academic comments.[419] As mentioned above, equidistance has been denied the status of a legal principle.[420] Although a number of arguments have been advanced in its favour[421], the courts have still

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418 Gulf of Maine Case n146 1234 para 177. Weil nevertheless rejects this method in toto since, he claims, it is not appropriate for the general application of the spatial criterion. See Weil n6 59.

419 Hammman n16 266.

420 See n128-200 and accompanying text supra.

421 For example Weil has pointed out there is a fundamental error in the North Sea Cases which is the earliest judicial decision demoting the equidistance principle: it drifts from the idea of equidistance as sometimes inequitable to equidistance as sometimes equitable. He argues that the need to make corrections to the initial equidistance line is not in the least attributable to the need to remedy some instrinsic defect in the equidistance method, but rather to the judges' feeling that the consequences of geography as it is are not equitable and should not be accepted. Thus, the cut-off or encroachment effect is not the perverse results of the equidistance method, but entirely due to the shore-line, to the actual geographical facts. According to him, moreover, there are at least four advantages in employing this method: it leaves the distance principle of entitlement intact; it allows the boundary to be fixed at the maximum distance; it is the most developed technical expression of the distance criterion and of multi-directional projection; and it is the best way to ensure that the coastal configuration is reflected in the delimitation. See Weil n6 59-60, 69, 73, 204 and 218. Similarly, Willis criticizes the North Sea Cases too in that the Court adopted an unduly restrictive interpretation of the equidistance - special circumstances rule, focusing almost exclusively on the equidistance component and virtually ignoring the special circumstances feature which is in effect complementary. See Willis n56 8. Charney also indicates that `the objectivity of equidistance, the value of a division in accordance with proximity, and a relatively equal sharing of the areas mandates the use of equidistance or an approximation thereof'. See Charney n51 511. Likewise, Hamman emphasized that `[e]quidistance's intrinsic worth lies in its scientific value and ease of application, responding as it does in a scientifically predictable manner to configuration of the coasts'. See Hamman n16 267. O'Connell advocates the principle

constantly maintained that this concept is no more than a method[422] which is, moreover, neither obligatory[423] nor given privileged status over any other methods.[424] This has, in effect, been settled jurisprudence since 1969[425] and equidistance does not seem to be capable of re-emerging as a general rule of conventional or customary international law.[426] At present, it is therefore only a cartographic technique[427] which can be based on all the points on the coastline[428] or on so-called 'simplified lines', ie straight lines between the principal points, so as to make the line less complicated.[429] As to application, the Court ruled that with opposite states 'the position of an equidistance

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of equidistance as well in that it embodies the idea of equitable delimitation between, inter alia, opposite states while ensuring the features of stability and certainty. See O'Connell n74 637. On the other hand, Kwiatkowska concludes that the principle of distance 'enhanced the role of equidistance as an equitable principle applicable to delimitation of these areas in general, and delimitation between opposite states in particular'. See Kwiatkowska n20 301. Finally, even Judge Oda acknowledges that '[i]f the baselines had been adjusted to rectify the irregularity of the coastlines, the Court [in the North Sea Cases] would surely have hesitated to refuse merit to the equidistance method'. In his view, therefore, the 'equidistance/special circumstances' rule as suggested in the 1958 Convention still remains a basic rule for the delimitation of the continental shelf. See his dissenting opinion in Libya/Malta Case n147 1255 para 38, 1263 para 67.

422 North Sea Cases n143 358 para 23. See also Queneudec n52 422 and Hamman n421.

423 North Sea Cases n143 377 para 82. See also Guinea/Guinea-Bissau Case n148 294 para 102, Sharma n4 116 and Hamman n421.

424 Tunisia/Libya Case n145 256 para 110. See also Gulf of Maine Case n146 1223 para 107, Guinea/Guinea-Bissau Case n423 and Hamman n421.

425 Nelson n138.

426 Vicuna n57 606. Willis even asserts that 'That door has been firmly shut'. See Willis n57 58.

427 Nweihed n4 21.

428 Weil n6 272.

429 Anglo-French Case n144 419 para 111 at n1. This has been identified by Weil n6 272-3.

line becomes a factor to be given more weight in the balancing of equitable considerations than would otherwise be the case'.[430] '[I]n these circumstances', it says, 'the tracing of a median line between those coasts, by way of a provisional step in a process to be continued by other operations, is the most judicious manner of proceeding with a view to the eventual achievement of an equitable result'.[431] 'The median line drawn in this way is thus only provisional' in the sense that 'the equidistance method is not the only method applicable to the... dispute, and it does not even have the benefit of a presumption in its favour'.[432] The Court has here in effect engineered a two stage operation. In addition to the above step, 'it must then ascertain what corrections... are rendered indispensable by the special circumstances of the case'.[433] Up to now, the 'sliding median' technique has been adopted to serve the latter purpose - ie establish first a true median line between two opposite coasts, then shift it away from the equidistant point in order to reflect a disparity in the lengths of the coasts.[434] Alternatively, a

430 Tunisia/Libya Case n145 260 para 126.

431 Libya/Mata Case n147 1206 para 62. See also St Pierre and Miquelon Case n149 1171 para 73, Jan Mayen Case n150 and De La Fayette n273.

432 Libya/Malta Case n147 1206 para 63. While voting against the delimitation as determined in the judgment, Judge Mosler however seems to support the ruling on the equidistance method up to this point. He observes: 'A delimitation according to equal areas on either side is in conformity with the rule of equity only in so far as the relevant criteria and circumstances in their totality in fact indicate this result. If this is the situation in a given case, the equidistance method suggests itself as the technical means which is first to be applied. If this method fails in the particular facts and circumstances of the case, it must be supplemented or even replaced by another method'. See his dissenting opinion ibid 1242.

433 Gulf of Maine Case n146 1241 para 215. See also Libya/Malta Case n147 1206 para 60.

434 Gulf of Maine Case n146 1242 para 222. See also Libya/Malta Case n147 1209 para 73, Weil n6 274 and Willis n57 35. Judge Oda however questions this kind

correction can also be made by adjusting the base-points rather than the method itself.[435] This may mean, confirms the Court, that the baselines chosen by a coastal state for determining the outer limit of its territorial sea need not necessarily be identical with the coastal points adopted for drawing the delimitation line.[436] Nevertheless, such a manoeuvre is apparently restricted to cases in which disputants are not parties to CSC in that an equidistance line under that convention is to be drawn from the territorial sea baselines.[437] Generally speaking, therefore, 'where the coastlines of two opposite States are themselves approximately equal in their relation to the continental shelf... the boundary in normal circumstances [should] be the median line'.[438]

Other methods include the bisector of the angle formed by the two coastlines.[439] In some respects, however, this is just a variant of equidistance.[440] The technique of simplifying the coastline geography to represent it as a uniform geometric form is also common.[441] For example, the

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of adjustment. In addition to some technical problems, he points out particularly that 'this line, once adjusted/transposed, is deprived of all the properties inherent in the concept of equidistance' (emphasis original). For details, see his dissenting opinion in Libya/Malta Case n147 1251-2 paras 24-8.

435 Weil n6 273.

436 Libya/Malta Case n147 1207 para 64.

437 See n435.

438 Anglo-French Case n144 426 para 95 and 441 para 182 in particular.

439 This is the method used by the Chamber for the sector within the Gulf of Maine. See Gulf of Maine Case n146 1241 para 213. Weil however opposes this method for it is not appropriate for the general application of the spatial criteron. See Weil n418.

440 Weil n6 59 and 276. Judge Oda nevertheless further adds that this will be true 'only on condition that it [ie the bisecting line] starts from the apex'. See his dissenting opinion in Libya/Malta Case n147 1266 para 75.

441 Charney n51 517.

rectangle[442], polygon and arc[443] have thus far been considered to represent the geographic situation and give the decision-maker a perspective on it.[444]

Last but not least, 'reduced effect' techniques are applied to avoid the substantial diminution of shelf areas as a result of the presence of islands.[445] Indeed, islands are used in the delimitation of the continental shelf between states whose coasts are opposite or adjacent to each other[446] where the effect of such islands may distort solutions.[447] However, the legal definition of 'island' which has been generally accepted for quite a long time is now disclosing long-latent ambiguities.[448] Moreover, there is in effect no special conventional rule on the present subject.[449] In the 1958 Geneva Conventions, it was simply mentioned that '[a]n island is a naturally-formed area of land, surrounded by water, which is above water at high tide'[450] and the continental shelf includes the submarine areas contiguous thereto.[451] No further distinctions were made on the basis of size, importance, population, or other factors.[452] Such factors would qualify in delimitation cases as 'special circumstances'[453] which might however be discounted under certain circumstances (for example, the islands are small, uninhabited and distant from the coast) for, inter alia non-parties to the Convention .[454] LOSC

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442 Gulf of Maine Case n146 1208-9 paras 28-34.
443 Guinea/Guinea-Bissau Case n148 297-8 paras 109-10.
444 See n441.
445 Hamman n16 268.
446 Briscoe n64 14.
447 Guy n201.
448 See n446.
449 Weil n6 229.
450 TSC art 10(1).
451 CSC art 1(b).
452 O'Connell n74 715.
453 Heins J 'The Role of Insular Formations in the Generation and Delimitation of Maritime Zones' Sea Changes 2 1985 66.
454 O'Connell n74 716.

restates word for word the 1958 definition of 'island'.[455] Ambiguity thus persists.[456] For example, the definition does not deal with cays, ie low islands built of sand and coral rubble by wave action on a wash reef. These can be destroyed by exceptional waves in severe storms.[457] It must be asked, therefore, whether a state's claim to maritime zones disappears when the cay vanishes?[458] The 1982 Convention even introduces some new problems.[459] It provides that '[r]ocks which cannot sustain human habitation or economic life of their own shall have no... continental shelf'.[460] The text is not followed by a definition of 'rock' nor does it explain what is meant by the phrase 'sustain human habitation or economic life of [its] own'.[461] As far as the former question is concerned, there is no certain rule.[462] Geologically speaking, rocks must consist of solid parts of the continental crust and sand islands or cays could never be so construed.[463] Trying to give legal substance to the notion, Hodgson once defined a rock as having less than 0.001 square mile in area.[464] Hamman argues that this circumscription appears to be the one intended by UNCLOS III.[465] As to the latter two requirements, it has been firstly pointed out that they are not cumulative, ie one capacity saves the formation from

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455 LOSC art 121(1).
456 Briscoe n64 15.
457 Prescott n41 76. See also Prescott n35 93.
458 See n457.
459 Van Dyke JM and Brooks RA 'Uninhabited Islands: Their Impact on the Ownership of the Oceans' Resources' ODIL 12 (3/4) 1983 282.
460 LOSC art 121(3).
461 Heins n453 69. See also Van Dyke and Brooks n459 267 and Brand C 'The Legal Relevance of South African Insular Formations off the SWA/Namibian Coast' Sea Changes 4 1986 96.
462 Prescott n35 73.
463 Ibid.
464 Hodgson RD 'Islands' Normal and Special Circumstances' in Gamble JK and Pontecorvo G ed Law of the Sea: Emerging Regime of the Oceans 1974 150-1.
465 Hamman n16 228.

being a 'rock'.[466] To ascertain whether protruberances above sea level can 'sustain human habitation' it is suggested that habitability rather than actual habitation should be the criterion.[467] This could mean that the rock had to be large enough to permit a shelter to be built, or that the rock had also to provide all necessities of life[468] of which an indigenous source of fresh water might be a case in point.[469] Apparently, actual habitation would not automatically imply that the formation had the capacity to be inhabited in this sense.[470] If it is necessary to resort to an 'economic life of its own', Hamman submits that this alternative should imply the presence of a resource in such quantities, capable of renewal in such a manner as to be capable of generating economic activity on an on-going basis.[471] While arguing similarly, others add that there should also be a permanent population on the formation[472]and the economic life thus engendered should not necessarily be of a commercial nature.[473] As a result, regular collection of guano and subsistence use by traditional societies would presumably qualify the rock to claim the complete range of maritime zones[474]; whereas the presence of lighthouses, military or policy installations[475] and the mere

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466 Ibid.

467 Symmons CR The Maritime Zones of Islands in International Law 1979 49. See also Heins n453 70, Brand n461 98 and Hamman n16 229.

468 See n462.

469 Hamman n16 230.

470 Ibid.

471 Ibid 232.

472 Van Dyke and Brooks n459 286-7. See also Brand n461 100, Hamman n16 231 and Van Dyke and Bennett n38 78-9.

473 See n462.

474 However, it is less clear that the use of the rock for the collection of weather data, or as the site for a navigational aid, would allow the rock to be so qualified. It would also be a nice question to decide if a rock had an econoic life of its own because it was a tourist attraction. See ibid.

475 Hoffmann AJ Die Regime van Eilande in die Internasionale Reg met Spesiale Verwysing na die Suid-

availability of natural resources at one time would not.[476] In short, the provision on rocks in LOSC remains open to wide interpretation[477] and it is exactly such a state of affairs that renders the subsequent question whether 'rocks' qualify as special circumstances in delimitation cases more debatable.[478] Moreover, this new arrangement is in effect fundamentally in conflict with state practice[479] in which all formations, irrespective of size and capacity, can generate the internationally recognized maritime zones.[480]

The courts do not take this all-or-nothing approach and instead have accorded partial effect to islands.[481] All the decisions affirm the proposition that, except for independent island states which are always entitled to their own continental shelf[482], islands do not generate extended maritime jurisdiction in the same way that other land masses do. Not even inhabited islands do if the impact of such an extension is to interfere with the claim of another nation based on a continental land mass.[483] Generally speaking, the 'power' of the island to generate a continental shelf has been determined by the size of the island, its population and its location.[484] The closer the island is to

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Afrikaanse Eilande aan die kus van Suidwes-Afrika/Namibië 1987 43. See also Hamman n16 232.

476 Ibid.

477 Guy n201.

478 Heins n453 83.

479 Devine n71 128 at n37. See also Brand n461 101.

480 Hamman n16 246.

481 Van Dyke JM 'The Role of Islands in Delimiting Maritime Zones: The Case of the Aegean Sea' Ocean YB 9 1989 44-5 and 61.

482 Anglo-French Case n144 442 para 186. See also Cook n60 140.

483 Van Dyke n481 64. Judge Schwebel however disagrees with this stance arguing that '[t]here is no rule of international law which affords islands less than their full effect in the delimitation of the continental shelf'. See his separate opinion in the Tunisia/Libya Case n145 266.

484 Van Dyke n481 65.

the mainland of its country, the greater its power is to generate a full zone; indeed, if it is close enough to the mainland, a baseline can be drawn directly connecting the island to the mainland.[485] If the island is far from the mainland and especially if it is on the 'wrong' side of a 'delimitation' line dividing the state's continental land mass from that of the opposite or adjacent state, then the island is likely to be viewed as a 'special circumstance' which can generate its own territorial sea but may have little or no effect on the location of the primary maritime boundary between the two nations.[486] In practice, however, the courts are less inclined to categorize situations than to evaluate them.[487] The effect thus meted out differs from one island to another.[488] The classic 'reduced effect' technique is the attribution of half-effect to an island or promontory.[489] This 'involves drawing two delimitation lines, one giving to the island the full effect attributed to it by the delimitation method in use, and the other disregarding the island totally, as though it did not exist. The delimitation line actually adopted is then drawn between the first two lines, either in such a way as to divide equally the area between them, or as bisector of the angle which they make with each other, or possibly by treating the island as displaced toward the mainland by half its actual distance therefrom'.[490] In extreme cases of course, the feature can be entirely disregarded[491] and this generally occurs when it is very small and does not lie in a position

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485 Ibid.
486 Inid. Weil also argues similarly. See Weil n6 230.
487 O'Connell n74 723.
488 Weil n6 229-30.
489 Willis n384.
490 Tunisia/Libya Case n145 261 para 129. For the practical application of the method in its three variational forms, see Anglo/French Case n144 455 para 251, Tunisia/Libya Case n145 261 para 129 and Gulf of Maine Case n146 1243 para 222 respectively.
491 This was the course adopted with respect to the island of Filfla in the Libya/Malta Case n147 1207 para 64.

where the boundary line would pass close to it.[492] Alternatively, the islands can also be semi-enclaved by deviating the boundary around them at a set distance such as the breadth of the territorial sea[493], or even completely enclaved (usually with a 12nm belt) when they lie too far on the 'wrong' side of the boundary.[494] Although such judicial treatment might be argued to lack of objectivity[495], '[i]t must [however] be admitted that it would be difficult, if not impossible, to devise a general formula applicable to all cases'.[496]

To sum up, the normativity of the law on delimitation methods as a whole remains extremely meagre.[497]

After going through all the constituents of continental shelf delimitation described above, ie identification of applicable principles of law, determination of relevant circumstances, geometric construction of the disputed area and various mathematical computations, the boundary line thus generated is finally to be checked against the rod of proportionality.[498] This idea originated in the North Sea Cases[499] in which the Court decided that a 'factor' which must be taken into account in the equitable delimitation was 'the element of a reasonable degree of proportionality...

492 Hamman n16 221.
493 Ibid.
494 Ibid. This was the approach applied to the Channel Islands in the Anglo/French Case n144 444-5 para 202. Devine once posed the question whether the principle of non-encroachment in continental shelf delimitation applies to mainland territory, but not to islands? See Devine n71 134. However, the court in St Pierre and Miquelon Case answered this question. The principle was applied to Newfoundland (an island!). See St Pierre and Miquelon Case n272.
495 Weil n6 234.
496 Dissenting opinion of Judge Oda Libya/Malta Case n147 1264 para 70.
497 Weil n6 183.
498 Charney n51 508.
499 Collins Jr and Rogoff n2 36.

between the extent of the continental shelf areas appertaining to the coastal State and the length of its coast measured in the general direction of the coastline'.[500] In the subsequent application, it was however confused with comparison of coastal lengths *per se*, which has been a relevant circumstance for some time.[501] It was not until the *Libya/Malta* Case that the term 'proportionality' appears to be reserved to applying an *expost facto* test through the use of the 1969 formula.[502] While not denying the double role of coastal length[503], the Court emphasizes that:

> 'this latter operation is to be employed solely as a verification of the equitableness of the result arrived at by other means. It is however one thing to employ proportionality calculations to check a result; it is another thing to take note, in the course of the delimitation process, of the existence of a very marked difference in coastal lengths, and to attribute the appropriate significance to that coastal relationship, without seeking to define it in quantitative terms which are only suited to the *ex post* assessment of relationships of coast to area. The two operations are neither mutually exclusive, nor so closely identified with each other that the one would necessarily render the other supererogatory'.[504]

Moreover, 'there is no reason of principle why the test of proportionality... should not be employed to verify the equity of a delimitation between opposite coasts, just as

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500 *North Sea* Cases n143 384 para 101 (D)(3).

501 For example, this was what actually happened in the *Gulf of Maine* Case n146 1242-3 paras 221-2. This has been identified by Weil n6 236 and 239. For coastal lengths categorization, see n318-21 and accompanying text supra.

502 Willis n57 44.

503 Ibid. As a matter of fact, Judge Valticos has unambiguously pointed out that, although he has reservations on this matter, 'the difference in the length of the coasts is taken into consideration both as a relevant circumstance and as a final check in the verification of the result' in his separate opinion *Libya/Malta* Case n147 1238 para 20.

504 Ibid 1207 66.

well as between adjacent coasts'.[505] With its present status, proportionality is therefore neither a general principle providing an independent source of rights to areas of continental shelf[506] nor a relevant circumstance[507], nor a method in its own right.[508] Although one may as a consequence attribute less value to it[509], it should be noted that it is still intimately related to the governing body of equity.[510] The pertinent general principle, to the application of which the proportionality factor may be relevant, is that there can be no question of 'completely refashioning nature'.[511] In practice, only flagrant disproportion will render the boundary line legally suspect[512] and anything less can be discounted.[513] The determination of this need not be in arithmetical terms[514], for the operation 'does not concern mathematical equality'.[515] As to the overall assessment itself, the Court has pertinently pointed out that it must be made on

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505 Ibid 1209 para 74. See also St Pierre and Miquelon Case n149 1175 para 92

506 Anglo-French Case n144 427 para 101.

507 Separate opinion of Judge Jimenez de Arechaga, Tunisia/Libya Case n145 285 para 117.

508 The Court ruled that 'the use of proportionality as a method in its own right is wanting of support in the practice of States, in the public expression of their views at (in particular) the Third United Nations Conference on the Law of the Sea, or in the jurisprudence' in Libya/Malta Case n147 1205 para 58. See also Willis n502.

509 See eg O'Connell n74 725.

510 Libya/Malta Case n147 1204 para 55. See also n507; Anglo-French Case n144 427 para 98; Devine n71 136; O'Connell n74 724; Erasmus and Hamman n100 69; and n502.

511 Libya/Malta Case n147 1205 para 57.

512 Ibid 1210 para 75. See also Gulf of Maine Case n146 1236 para 185, Weil n6 241, Hamman n16 267 and Devine n510.

513 Hamman 512. Weil also argues that 'Insignificant distortions do not call for any correction: de minimis non curat delimitator'. See Weil n6 227.

514 Libya/Malta Case n147 1210 para 75. See also Jan Mayen Case n150.

515 Guinea/Guinea Bissau Case n148 301 para 118.

the basis of counting the whole area which is adjudicated to each party.[516] This may well include, in addition to the continental shelf stricto sensu, the sea-bed areas of the territorial sea and internal waters[517] provided that the disputants 'claim territorial waters of the same breadth, around coasts of generally similar configuration and calculated from baselines determined on the same general basis'.[518] For the sake of simplicity, however, the Court allows the employment of latitudinal and longitudinal lines to limit the area under consideration.[519] In the result, the proportionality test might give rise to some mathematically computed adjustments of the boundary line.[520] The only other appendix of this nature to the delimitation process is the 'legitimate scruple' that 'the overall result... should [not] unexpectedly be revealed as radically inequitable, that is to say, as likely to entail catastrophic repercussions for the livelihood and economic well-being of the population of the countries concerned'.[521] Other facts do not justify adjustment.[522]

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516 Libya/Malta Case n147 1210 para 75. As a matter of fact, Judges Ruda, Bedjaoui and Jimenez de Arechaga also agree with the Court on this point in their joint separate opinion ibid 1228-9 paras 39-40. Moreover, the tribunal decided similarly in the Guinea/Guinea-Bissau Case n148 301 para 120.

517 Tunisia/Libya Case n145 254 para 103.

518 Ibid. In other words, the extent of coasts and sea areas are to be in relative equilibrium. See separate opinion of Judge Schwebel, Gulf of Maine Case n146 1252.

519 Tunisia/Libya Case n145 262 para 130. See also Libya/Malta Case n147 1196-7 para 22. This has been identified by Charney n51 518.

520 See n498. Weil however fundamentally opposes the idea of proportionality saying that it has no legal basis. For details see Weil n6 242-4. As a matter of fact, Judges Oda and Schwebel do not fully uphold this approach either in their dissenting opinion, Libya/Malta Case n147 1249-50 paras 13-18 and 1275-6 respectively.

521 Gulf of Maine Case n146 1245 para 237. See also St Pierre and Miquelon Case n149 1173 84-5.

522 See n498.

In conclusion, the law on continental shelf delimitation may be said to have already attained a degree of clarity and predictability.[523]

9.2.3 Delimitation of the EEZ

While the rules in relation to the continental shelf are fairly well developed and clear even if circular, the rules in relation to the EEZ which is only of recent provenance are far from clear.[524] In the first place, present state practice is too diverse to give rise to any rules of customary international law.[525] A median line, subject to modification where appropriate, seems to have been the method of delimitation most commonly used.[526] This however, it has been pointed out, not only lacks the opinio juris necessary for the formation of rules[527] but scarcely seems to be of a fundamentally norm-creating character at all.[528] At the conventional law level, LOSC - the only place in which formal rules applicable to the EEZ can be found - adopts a provision which is, mutatis mutandis, identical to article 83(1) on continental shelf delimitation and, as a result carries the same characteristic of a non-article[529] scarcely representing anything substantial at all.[530] It simply refers back to customary international law but, as has just been seen, no such rules yet exist.[531] There are no judicial decisions on the subject either[532] and strictly speaking, one is therefore left with nothing.[533]

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523 Kwiatkowska n20 303.
524 Cook n60 155 and 163.
525 Churchill n61 20.
526 Cook n60 163. See also O'Connell n74 731.
527 Cook n60 162 and 167.
528 See n525.
529 Cook n60 156.
530 O'Connell n74 728.
531 Cook n526.
532 Ibid 157.
533 Ibid 160.

In dealing with arguments about 'water column' equities however, the Court in the Gulf of Maine Case indirectly touches upon the problem.[534] In that case '... [the] great mass of water is taken into consideration not as some inert mass, but as the habitat of an exceptionally extensive wealth of fauna and flora. Even more, perhaps, than the hydrocarbon potential of the sedimentary basins under the area, it is the fishing resources of the delimitation area which... have led to the extraordinary acute divergences of interests of the Parties'.[535] 'Exploitation of the sea's fishery resources', rules the Court, 'called for the existence of clear boundaries of a constant course, that do not compel those engaging in such activity to keep checking their position in relation to the complicated path of the line to be respected'.[536] In practice, this may be accomplished by adopting a line corresponding to the 'natural boundary'[537] provided that there are, inter alia, 'ecological or other factors sufficiently important, evident and conclusive to represent [such] a single, incontrovertible natural boundary'.[538] The Court also observes that 'the antiguity or continuity of fishing activities carried on in the past within... the delimitation area' is not to be ascribed any decisive weight, as the establishment of the EEZ automatically deprives third states and their nationals of any right of access to the sea areas therein.[539] In a similarly indirect manner, the Court in the

534 Indeed, this case has been identified as relevant in the present context by both Cook n60 155 and Churchill n61 21.

535 Gulf of Maine Case n146 1212 para 48. Emphasis added.

536 Ibid 1239 para 202.

537 Ibid 1239 para 168.

538 Ibid 1213 para 56.

539 Ibid 1245 para 235. In relation to the traditional fishing activities, Blum has long since argued, in effect, that: 'It is difficult to see how rights of such a temporary nature, which are to be enjoyed only for a definite period of time and not in perpetuity, are to be regarded as "historic rights" in the meaning normally attached to this term'. See Blum YZ Historic

Jan Mayen Case further adds that the delimitation of fishery zones should assure parties of equitable access to the fish stocks.[540] Amongst scholars, on the other hand, Churchill suggests that disputes here should be settled on the basis of equitable principles.[541] He opines that the factors relevant to EEZ delimitation should be wider than those relevant to continental shelf, for the EEZ has a broader purpose and ambit than the continental shelf.[542] Caflisch also mentions that a significant imbalance in the distribution of living resources may require a different delimitation line here.[543] Cook even argues that the future basic rule of delimitation of the EEZ, at least between opposite states, would be that the border follows the median line.[544] Strictly speaking, nevertheless, no law regarding EEZ delimitation can yet be said to exist.[545]

9.2.4 Single Maritime Boundary

In four cases, ie the Gulf of Maine Case and the Guinea/Guinea-Bissau arbitration, the St Pierre and Miquelon Case and the Jan Mayen Case, the courts were asked to draw a single maritime boundary for the continental shelf and superjacent waters.[546] Although the idea is not new[547] and

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Titles in International Law 1965 319. According to this, therefore, Collins Jr and Rogoff also state that the concept of historic rights is inapplicable to the exclusive economic zone and surely such rights are of insufficient weight to effect the delimitation of it. See Collins Jr and Rogoff n2 61.

540 Jan Mayen Case n150.

541 Churchill n61 33.

542 Ibid 21 at n26.

543 Caflisch n22.

544 Cook n60 167.

545 See n543.

546 Churchill and Lowe n51. In the latter case, even the territorial waters were to be delimited by that line.

547 As a matter of fact, it is quite an old practice. For example, in 1952, Chile, Peru and Ecuador - and later Columbia when it joined the system of the South Paific - all agreed on a single maritime boundary for their respective delimitations. See Vicuna n135 425-6.

is in effect popular in state practice[548], judicial attitudes to it were still cautious because of different views regarding the relationship between the concepts of the continental shelf and the EEZ.[549] The problem is intricate[550] and there are no conventional rules here.[551] On the one hand it has been argued that all facts speak in favour of the monogenity of the two regimes within the 200nm zone.[552] For example, Weil points out that only a handful of states can lay claim, thanks to the generosity of nature, to an outer limit for their continental shelf different from that for their EEZ and the existence of continental shelf rights up to at least the 200nm limit of the EEZ, in contrast to the situation beyond this distance which is still uncertain, has certainly acquired the validity of customary international law.[553] He therefore asserts that the single boundary is now a general rule[554] - an indispensable element of the law of the sea.[555] Kwiatkowska also claims that EEZ - inner continental shelf parallelism has already entered the realm of general international law and this is clearly evidenced by the legislative history of LOSC and state practice.[556] On textual grounds she argues that coastal states' rights with regard to living resources have in effect the same exclusive character as those with regard to sea-bed resources. No one can explore, exploit, conserve or manage the living resources or carry out other economic activities in the EEZ without the express consent of the coastal state. Other states are prevented from

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548 Ibid 426. See also Guy n128 50 and Churchill n61 26. Weil however emphasizes that the infatuation with the single maritime boundary revealed by state practice is not universal. See Weil n6 132.
549 Ibid 127-8.
550 Hamman n16 302.
551 Devine n71 127.
552 Sharma n4 172.
553 Weil n6 p130.
554 Ibid 134.
555 See n553.
556 Kwiatkowska n20 298.

claiming title to this EEZ even where the coastal state has not undertaken any of these activities. Nor does a state's 'obligation' to grant access to other states to fisheries in its 200nm zone detract from its rights since access is dependent upon agreement.[557] To a lesser extent, Sharma maintains that at least a partial integration has occurred[558], which implies that 'although the continental shelf within 200 miles is included in the regime of the exclusive economic zone, it retains some measures of juridical autonomy and distinctiveness within the general framework of the zone'.[559] He accordingly argues that this creates an initial legal presumption in favour of a single, general purpose maritime boundary to divide jurisdictions within the 200 mile zone, which could be rebutted if the states advanced special reasons for having divergent boundaries for the seabed and superjacent waters.[560] On the other hand, however, it is concluded that the continental shelf and EEZ regimes continue to be independent and separate one from the other and no meagre has occurred.[561] This can be explained largely by their separate origins and purposes, the different nature of the resources - depending upon whether they are living or non-living, renewable or non-renewable - included in the seabed and the water column and probably by different socio-economic factors related to the exploitation of these resources.[562] As a matter of fact, the Court itself inclines to this point of view stating that 'the two institutions - continental shelf and exclusive economic zone - are linked together in modern law' but '[t]his does not mean that the concept of the continental shelf has been absorbed by that of the exclusive

557 Ibid 297.
558 Sharma n4 173.
559 Legault LH and Hankey B 'From Sea to Seabed: The Single Maritime Boundary in the Gulf of Maine Case' AJIL 79 1985 984.
560 Sharma n4 173-4.
561 Vicuna n57 619.
562 Sharma n4 173.

economic zone'.[563] While recognizing that there is an increasing demand for single boundaries[564], the Court in the Gulf of Maine Case rules carefully that 'there is... no rule of international law to the contrary'[565] and leaves the legal justification for such a line completely unanswered.[566]

The main difficulty of giving effect to the single boundary is that, as mentioned above, there is no prior indication of what the relevant factors and applicable law are.[567] The courts seized of the four cases decided that the question is governed by the same fundamental norm as for other dividing lines, namely that an equitable result be achieved by, inter alia, the application of equitable principles.[568] In the Gulf of Maine Case, the Chamber further pointed out that it is not a legal requirement that a single boundary must

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563 Libya/Malta Case n147 1199 para 33.

564 Gulf of Maine Case n146 1238 para 194. See also O'Connell n74 729 and Churchill and Lowe n51. For practical reasons, Vicuna has pointed out, it is very unlikely that states will continue to submit continental shelf delimitations alone to courts without submitting at the same time the delimitation of the boundaries of the superjacent waters. See Vicuna n135 426.

565 Gulf of Maine Case n146 1208 27. Judge Gros however does not fully agree with the judgment on this point and argues that '[t]here is nothing on delimitation of continental shelf or fishery boundaries in conventional, in customary law, or more particularly in the Convention of 1982, which gives any indication of any obligation to proceed by means of a single line'. See his dissenting opinion ibid 1257 para 8.

566 See n556. As a matter of fact, the tribunal in the Guinea/Guinea-Bissau Case has not touched upon the problem either. It seems to perceive the single boundary simply as a fact of the current law of the sea, against which it sees no need to raise, or even examine, any objection. See Weil n6 126.

567 See n551. See also Evans n50 8.

568 Gulf of Maine Case n146 1224 para 112, Guinea/Guinea Bissau Case n148 289 para 88 and 290 para 91 and St Pierre and Miquelon Case n149 1163 para 38. This has been identified by Hamman n16 316.

protect existing fishing patterns, nor is it a rule that such a line should ensure optimum conservation and management of living resources.[569] It rules that these and other considerations such as the notion that a SMB should ensure non-encroachment and not isolate seaward projections of coasts can all contribute to an equitable result by assuming the character of equitable criteria though they are not, by definition, rules of customary law.[570] While delimitation of the SMB is thus basically governed by equitable principles, the determination of equities involved in the present case may however still prove problematic. What is equitable for the continental shelf may not be equitable for the EEZ.[571] Accordingly, the Court excluded criteria exclusively connected to the particular characteristics of only one of the natural phenomena: ie the natural separation of the various eco-systems formed by the aquatic fauna of the delimitation area and the distinctive geological characteristic of the continental shelf.[572] In practice, this not only renders activities connected with fishing, navigation, defence or petroleum exploration and exploitation irrelevant[573] but also means that relevant circumstances can only be derived from geography, primarily in a purely physical sense[574], such as the length[575] and the relationship of the relevant coasts.[576] 'Within this

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569 Gulf of Maine Case n146 1223 para 110.
570 Ibid 1223-4 para 110.
571 Caflisch n22. See also Churchill and Lowe n51 160, Churchill n548 and Vicuna n135 426.
572 Gulf of Maine Case n146 1237-8 para 193. See also St Pierre and Miquelon Case n149 1165 para 47 and 1175 para 91 and De La Fayette n273 89.
573 Gulf of Maine Case n146 1245 para 237. Judge Gros however questions the appropriateness of doing so and argues that 'it is a sea deprived of all meaning, an empty sea, which is to be divided' thereunder. See his dissenting opinion ibid 1258-9 para 14.
574 Ibid 1238 para 195. See also St Pierre and Miquelon Case n149 1160 para 24 and 1173 para 83.
575 Ibid 1162 para 33. See also Jan Mayen Case n150.
576 St Pierre and Miquelon Case n149 1162 para 34.

framework'. The Court finds further 'it is inevitable that the... basic choice should [actually] favour a criterion long held to be as equitable as it is simple, namely that in principle, while having regard to the special circumstances of the case, one should aim at an equal division of areas where the maritime projections of the coasts of the States between which delimitation is to be effected converge and overlap'.[577] In this context, it has been subsequently pointed out, tiny islets, uninhabited rocks or low-tide elevations lying at a considerable distance from the mainland may have an appropriate corrective effect provided that they have some degree of importance.[578] Relevance has also been attributed to existing delimitations in the region.[579] A feature particularly cited as one without a corrective effect is the geographical phenomenon of concavity, even if it gives rise to a line cutting a coast off from a seaward projection.[580] As to practical methods, the Court maintains that they must be not only appropriate for use against a background of geography but also, like the underlying criteria, just as suitable for the delimitation of the seabed and its subsoil as for the delimitation of the superjacent waters and their fishery resources.[581] Moreover, a degree of simplification is undeniably another elementary requisite to the drawing of any delimitation line in such a complex environment.[582] 'In the outcome, therefore, only geometrical methods will serve'.[583] At this juncture, the Court once again emphasizes 'the necessity of not allowing oneself to be too easily swayed by the perfection which is apparent a priori, from the viewpoint of equally dividing a disputed area, in a line drawn in strict

577 Gulf of Maine Case n146 1238 para 195.
578 Ibid 1239 para 201.
579 Guinea/Guinea-Bissau Case n148 291 para 93.
580 Gulf of Maine Case n146 1242 para 219. This has been identified by Hamman n16 315.
581 Gulf of Maine Case n146 1239 para 199.
582 Ibid para 203.
583 See n581.

compliance with the canons of geometry, ie, a line so constructed that each point in it is equidistant from the most salient points on the respective coastlines of the parties concerned'.[584] In the cases in which the coasts of the two states are opposite, it admits however 'the application of any method of geometrical origin... can in practice only result in the drawing of a median delimitation line'.[585] Finally, the tentative result achieved on the basis of geography in the physical sense may be assessed by the criteria derived from economic and human geography.[586] As far as the former is concerned, the question will be whether the solution effects an equitable distribution of all the resources, actual and potential.[587] In the latter case, one is to inquire whether the result will cause substantial economic dislocation or detrimentally affect the economic livelihood of populations in the area.[588]

Although multi-boundaries, to which there is no theoretical objection, may in practice create complex situations[589] and thus confuse the jurisdictions being exercised[590], it has however been pointed out that a SMB between neighbouring states is not the best answer in all cases.[591] While particularly applicable in cases where delimitation is complicated by disputes over title to islands[592], it is more often than not only a convenient solution which ignores the real interests at stake.[593] Without a fisheries

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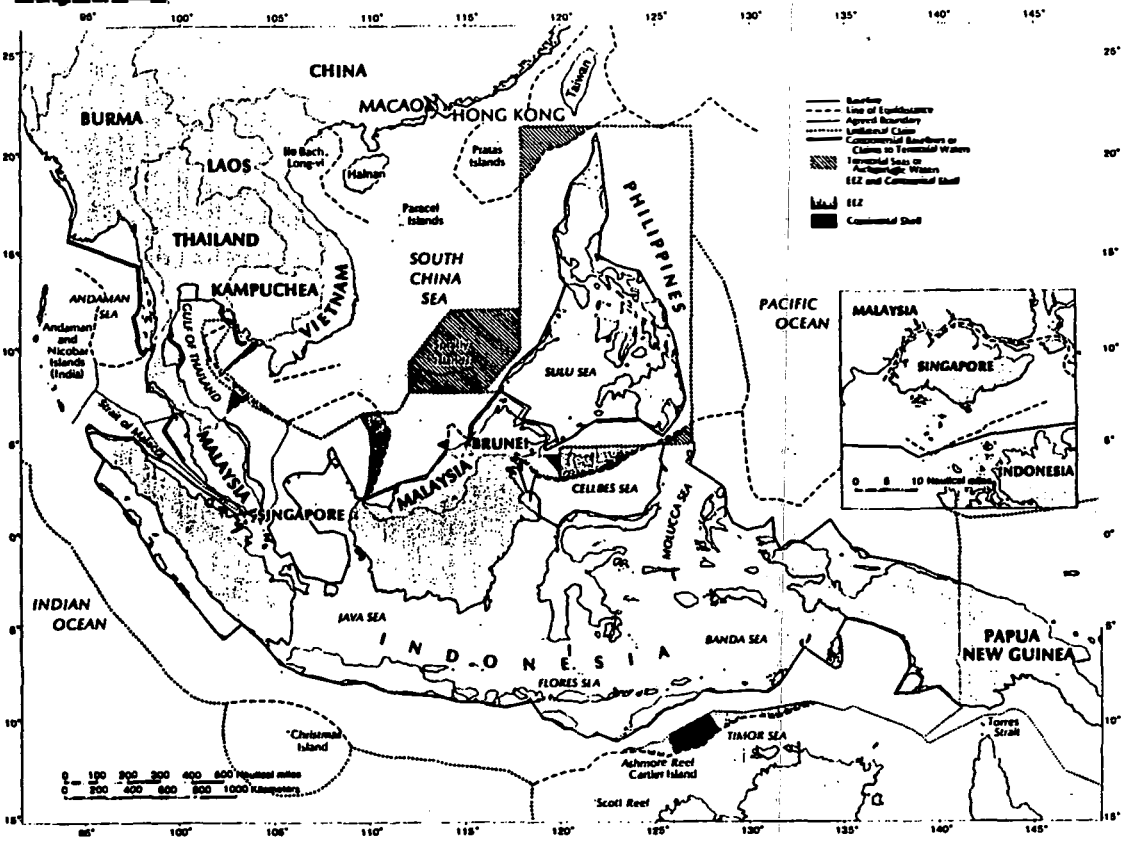
584 Gulf of Maine Case n146 1239 para 201.
585 Ibid 1241 para 216.
586 Ibid1244 para 232.
587 Ibid.
588 Ibid 1245 para 237.
589 Vicuna n135 427.
590 O'Connell n564.
591 Beauchamp n8 121.
592 Churchill and Lowe n51 158.
593 Hamman n16 322. Following this line of argument, Judge Gros even further points out that 'simplicity comes near to facility, and facility is no criterion for delimiting boundaries' and concludes that the SMB is an

arrangement, rational management of living resources will be impossible, Without a mineral-sharing plan, hydrocarbon deposits near the boundary will continue to be a source of conflict.[594] In some circumstances, in spite of the administrative convenience of a single boundary, there may still be reasons for more than one maritime boundary between states, each delimited on different principles.[595]

9.3 The scenario of maritime boundary disputes in the South China Sea

As mentioned above, overlapping maritime claims are predominant in Southeast Asia due to the geographical setting[596] (see Figure 1).

Figure 1



[Reproduced from Prescott n41 65]

unwarranted confusion. See his dissenting opinion, Gulf of Maine Case n146 1259 para 15 and 1261 para 20.

594 Beauchamp n8 355.

595 See n598.

596 See n23-32 and accompanying text supra.

Although EEZ boundaries have not yet been agreed[597], the coastal states in the region have accumulated considerable experience over the last two decades in the treatment of ocean boundary delimitation issues with particular regard to continental shelf or seabed boundaries.[598]

Indonesia, for example, has already settled most boundary problems of this nature.[599] It negotiated the first continental shelf boundary agreement in this area with Malaysia in 1969.[600] This defined seabed limits in the Malacca Strait, in the seas between peninsular Malaysia and its Natuna Islands and northwards from Tanjong Datu where the land boundary between them terminates.[601] The first two segments are lines of equidistance, but the segment north of Tanjong Datu lies west of the equidistant line and therefore favours Malaysia.[602] This was followed later by a similar agreement with Thailand settling differences in the northern part of the Malacca Strait.[603] In 1971, it entered into an

597 Dzurek n26 276.
598 Tangsubkul n36 53.
599 Kusumaatmadja n11 10. See also Agoes' comment on boundary making in 'SEAPOL International Conference: Report of the Rapporteurs on the Technical Workshop (26-28 April 1987)' MP 12(1) in January 1988 56.
600 The instrument is the Agreement between the Government of the Republic of Indonesia and the Government of Malaysia relating to the Delimitation of the Continental Shelves between the Two Countries. Text in Tangsubkul n1 138-40.
601 Prescott n35 217.
602 Ibid.
603 As a matter of fact, the Andaman Sea which lies outside the region of the South China Sea was also partially included therein. In that case, Indonesia and Thailand agreed on a partial delimitation of their maritime boundary beginning from the tri-junctional common point in the Agreement between the Government of the Republic of Indonesia and the Government of the Kingdom of Thailand relating to the Delimitation of a Continental Shelf Boundary between the Two Countries in the Northern Part of the Straits of Malacca and in the Andaman Sea, signed on December 17 1971. Text in Nordquist MH and Park CH ed North America and Asia-Paific and the Development of the Law of the Sea;

arrangement with both Malaysia and Thailand to establish a tri-junctional 'Common Point' of their continental shelf boundaries in the northern part of the Malacca Straits.[604] That tri-point however did not rigidly adhere to the equidistance solution and is therefore not equidistant from the nearest points on the respective baselines.[605] Indonesia has also concluded territorial sea boundary agreements with Malaysia[606] and Singapore.[607] In the former case, the boundary 'shall be the line at the center drawn from baselines' of both countries.[608] This is however only applicable to the segment in the Malacca Strait and other territorial sea boundaries between the two remain to be settled.[609] As to the latter, the boundary which extends for 25nm is defined by six points: the three eastern points are

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Thailand October 1981 39-42. In 1975, it is worth mentioning in passing, both parties agreed to extend the 1971 line in a northwesterly direction by the Agreement between the Government of the Kingdom of Thailand and the Government of the Republic of Indonesia relating to the Delimitation of the Sea-Bed Boundary between the Two Countries in the Andaman Sea. Text in Nordquist MH and Park CH ed North America and Asia-Pacific and the Development of the Law of the Sea: Indonesia October 1981 57-60.

604 The instrument is the Agreement between the Governmnt of the Republic of Indonesia, the Government of Malaysia and the Government of the Kingdom of Thailand relating to the Delimitation of the Continental Shelf Boundaries in the Northern Part of the Straits of Malacca. Text in Nordquist and Park ed (Thailand) n603 23-7.

605 Ibid 23.

606 Treaty between the Republic of Indonesia and Malaysia on Delimitation of Boundary Lines of Territorial Waters of the Two Nations at the Strait of Malacca, signed on March 17 1970. Text in Nordquist MH and Park CH ed North America and Asia-Pacific and the Development of the Law of the Sea: Malaysia October 1981 7-9.

607 Agreement Stipulating the Territorial Sea Boundary Lines Between Indonesia and Singapore in the Strait of Singapore, signed on May 25 1973. Text in Nordquist MH and Park CH ed North America and Asia-Pacific and the Development of the Law of the Sea: Singapore October 1981 3-5.

608 Treaty n606 art 1(1).

609 See n601.

equidistant from Singapore and Indonesia, whereas the westerly three points lie closer to Indonesia.[610] The common characteristic of all those agreements, as has been pointed out, is that the delimitation methods were the median or equidistant line, modified where necessary, dividing the coastlines and/or islands or groups of islands which were situated in relatively uncomplicated geographical positions.[611] It is evident that Indonesia has played a major role in promoting international agreements which result in a striking concentration of such boundaries in the southern part of the region.[612] To a lesser extent, Thailand has reached a number of agreements concerning delimitation of maritime boundaries with neighbouring countries.[613] In addition to the one with Indonesia mentioned above[614], it settled the territorial sea boundaries with Malaysia in the Straits of Malacca and in the Gulf of Thailand.[615] In both segments, equidistant lines were drawn to serve the purpose.[616] At almost the same time and after establishing part of the continental shelf boundary in the Gulf of Thailand[617] extending some 50 odd km (31 miles) from land[618], the two countries further agreed on a joint zone in the adjoining one which roughly covered the seabed area in dispute at the mouth of the

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610 Ibid.
611 Kittichaisaree n23 69.
612 Prescott n41 63.
613 Panupong n27.
614 See n603 and accompanying text supra.
615 By the Treaty between the Kingdom of Thailand and Malaysia relating to the Delimitation of the Territorial Seas of the Two Countries, signed on October 24 1979. Text in Kittichaisaree n23 186-8.
616 Ibid 47-8.
617 By the Memorandum of Understanding between the Kingdom of Thailand and Malaysia on the Delimitation of the Continental Shelf Boundary between the Two Countries in the Gulf of Thailand, signed on October 24 1979. Text in Kittichaisaree n23 193-4.
618 Valencia n33 168.

Gulf.[619] This joint zone, which is a pentagon enclosing about 2 100 sq nm[620], has been divided by a single line to distinguish areas of jurisdiction over criminal offences.[621] A joint authority composed of an equal number of members from each country[622] presently regulates the exploration and exploitation of the seabed.[623] It has been decided that this arrangement will last for fifty years in the absence of any agreement about the final division of the zone.[624] Moreover, there is a provision that the existing institution will continue if no boundary has been negotiated within that time.[625] Recently, the same solution of creating a joint zone while negotiations continue has also been adopted on the other side of the Gulf of Thailand.[626] In 1982 Kampuchea and Vietnam struck an agreement proclaiming a joint area of historical waters which they have placed under a regime of internal waters.[627] This roughly quadrilateral-

619 Up to now, this has been materialized by two instruments: Memorandum of Understanding between Malaysia and the Kingdom of Thailand for the Establishment of the Joint Authority to the Exploitation of the Resources of the Sea-bed in a Defined Area of the Continental Shelf of the Two Countries in the Gulf of Thailand 1979 and Agreement between the Government of Malaysia and the Government of the Kingdom of Thailand on the Constitution and Other Matters relating to the Establishment of Malaysia-Thailand Joint Authority 1990. Text of both can be found in IJECL 6(1) February 1991 61-72.

620 See n601.

621 Memorandum n619 art V.

622 Ibid art III(3).

623 It now operates in accordance with the detailed provisions of the 1990 Agreement.

624 Memorandum n619 art III(1).

625 Ibid art VI(2).

626 Prescott n41 86.

627 That is, the Agreement on Historic Waters of Vietnam and Kampuchea. Text in Kittichaisaree n23 180-1. Thailand however objects to this move declaring not only that such claims cannot be justified on the basis of the applicable principles and rules of international law, but also that the then government of Kampuchea which was installed by the Vietnamese after the latter's invasion in 1979 did not represent and could not be considered to represent, Kampuchea in any matter

shaped area, which measures about 4 000 sq nm[628], is bounded by the terminus of the land boundary, the islands of Tho Chu and Poulo Wei and a point on the Kampuchean coast near Veal Renh.[629] The Brévié line, which was drawn by the French Governor-General of Indo-China in 1939 for the purpose of separating the administrative and police jurisdiction between the French Colony of Indo-China (Vietnam) and the Protectorate of Cambodia[630], has been agreed as the dividing line for the islands in this zone.[631] This arrangement has particularly placed the disputed Phu Quoc Island under Vietnamese jurisdiction.[632] Generally speaking, the record of settlement of maritime boundaries in the South China Sea is fairly good[633], although the rate at which agreements are concluded has evidently declined in recent years.[634]

Of course, not all problems have been solved. There are still many maritime boundaries to be drawn.[635] In the remaining cases there are however various complications.[636] According to Prescott, the circumstances that might complicate boundary negotiations here can be grouped into three categories: political - eg poor relations, conflicting claims to territory, domestic problems, historical attitudes, continuation of previous boundaries; geographical - nature of islands or rocks, location of islands, geographical disadvantage, nature of the seabed; and

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whatsoever. Singapore also adopts a similar position in this regard. The official statements of the two countries can be found in Simmonds KR ed New Directions in the Law of the Sea C16 May 1987 and C20 March 1988 respectively.

628 Kittichaisaree n23 41. See also n626.

629 Agreement n627 art 1.

630 Kittichaisaree n628.

631 Agreement n627 art 3.

632 See the reply of LK Chung in 'Discussion [on Southeast Asia]' in Craven, Schneider and Stimson ed n13 72.

633 Kusumaatmadja n599.

634 Prescott n41 64.

635 Ibid 80.

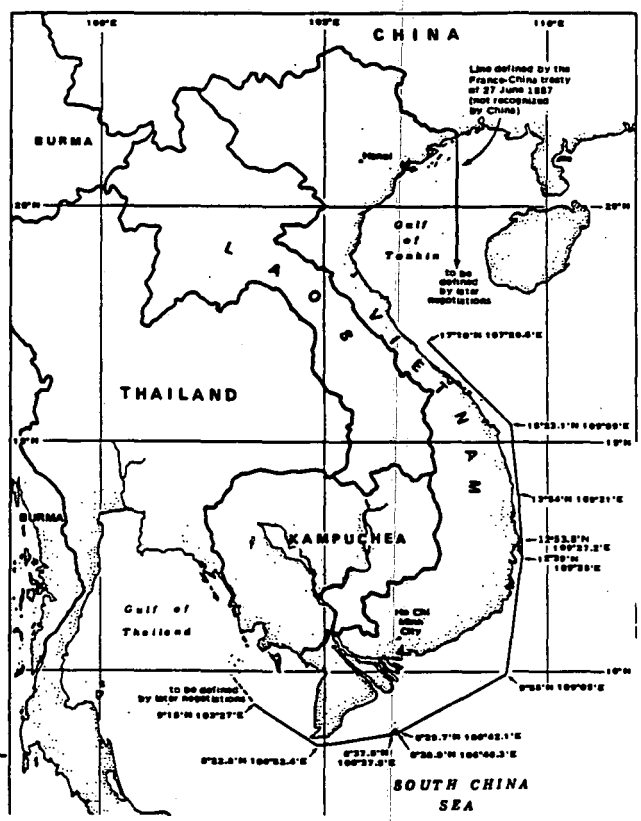
636 See n634.

economic - disparity in wealth, high or unknown economic potential.[637] This variety in turn results in very complicated and uncomplicated boundary segments.[638] In many cases, nevertheless, it is questionable baselines that exacerbate the problems in the first place.[639]

9.3.1 Problematic baselines of states surrounding the area

Vietnam announced its baselines on November 12, 1982.[640] Starting in the north, at an island 13nm off the coast in the general vicinity of Hue, the baseline extends south and then west for a distance of about 850nm to an island 80nm off the Vietnam-Kampuchea land boundary on the coast[641] (see Figure 2).

Figure 2



[Reproduced from Alexander n641 520]

637 Ibid 71-2.
638 Ibid 78.
639 Indeed, the baseline is the basic point of departure in the international law of the sea. See Erasmus and Hamman n100 55.
640 Text of the announcement in Kittichaisaree n23 178-9.
641 Data from the Office of the Geographer, US Dept of State. See also Alexander LM 'Baseline Delimitations and Maritime Boundaries' Vir JIL 23(4) 1983 518-9.

During its course, the baseline has nine turning points, two of them more than 80nm offshore and three others more than 50nm offshore. The four longest of the ten baselines are 162, 161, 149 and 105nm in length and the area of water enclosed by the baselines is 27 000 sq nm.[642] Not only would the statistics of the baseline system appear exhorbitant[643], but it is doubtful whether the coast of Vietnam qualifies at all for the use of a straight baseline regime.[644] Moreover, this has been the subject of protest by, inter alia, PRC and Thailand.[645] In 1972, Kampuchea proclaimed straight baselines along its entire coast starting at the land terminus of the boundary with Thailand and proceeding via Ile Kusrovie and Koh Prins to surround Phu Quoc Island.[646] Since it was later known that Phu Quoc Island had been placed under Vietnamese jurisdiction[647] and the aforementioned Vietnamese proclamation stated that the terminus of its baseline would coincide with the terminus of the Kampuchea baseline at a common point located on a straight line linking Ko Way and dao Tho Chu[648], it was therefore reasonable to assume that Kampuchea's baseline would proceed from either Koh Prins, or Koh Tang or Ilots de Sudest, to Ko Way and from there to the defined juncture[649] (see Figure 3). However, the sections which passed through Kusrovie islet/rock and Koh Prins departed appreciably from the general direction of the coast.[650] It had been pointed out that if such a line was claimed it would depend on a

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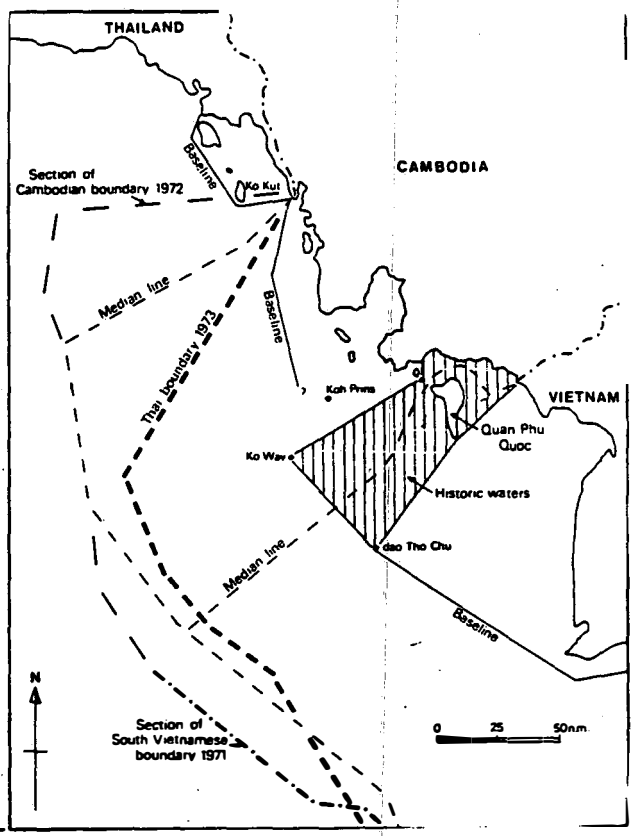
642 See n641.
643 Alexander n641.
644 Ibid. See also Prescott n35 212 and Briscoe n64 25.
645 Kittichaisaree n23 28.
646 Ibid 14. See also Prescott n644.
647 See n627-32 and accompanying text supra.
648 Announcement n640 para 2.
649 Prescott n644.
650 Kittichaisaree n23 14. See also Prescott JRV and Morgan JR 'Marine Jurisdictions and Boundaries' in Morgan JR and Valencia MJ ed Atlas for Marine Policy in Southeast Asian Seas 1983 44-5.

remarkably liberal interpretation of the concepts of fringing islands and enclosed waters linked closely to the land domain.[651] In 1982, Kampuchea re-adopted straight baselines, but still in a similar manner, connecting its outer islands from the frontiers with Thailand, through Kusrovie islet/rock to meet the straights baselines of Vietnam at Panjang Island.[652]

In the case of Thailand, it first claimed the Bight of Thailand as an historic bay on September 22, 1959.[653] The 53nm long straight-closing-line[654] was defined as the parallel 12° 35' 45" north.[655]

Figure 3

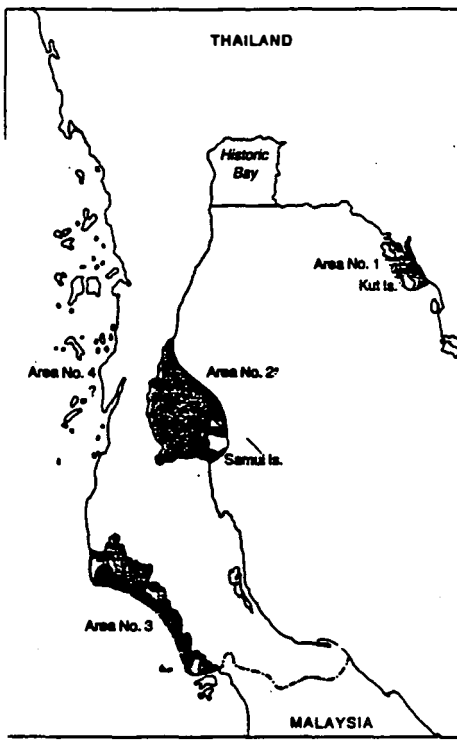


[Reproduced from Prescott n35 224]

651 Prescott n35 212-3.
652 Council of State Decree of July 31 1982. See also Kittichaisaree n650.
653 By the Declaration of the Office of the Prime Minister concerning the Inner Part of the Gulf of Thailand. Text in Nordquist and Park ed (Thailand) n603 7-8. See also Kittichaisaree n23 18 and Prescott n35 211.
654 Kittichaisaree n653.
655 Prescott n653.

The enclosed waters were regarded as internal waters by virtue of immemorial possession.[656] Although no evidence has been offered, no protests seem to have been recorded either.[657] On June 12, 1970, Thailand subsequently proclaimed straight baselines in three different areas with fringes of islands along the coast and in its vicinity[658]: Area No 1 (the North-east Gulf of Thailand near Kampuchea), with a number of small offshore islands, produces a ratio of water to land of 5:1; Area No 2 (the Western Gulf of Thailand), by including Tao Island, produces an even higher ratio and considerable divergence from the coast, with the largest line segment 59:15nm; Area No 3 (the Andaman Sea near Malaysia) excludes a number of islands from the enclosed area (See Figure 4).[659]

Figure 4

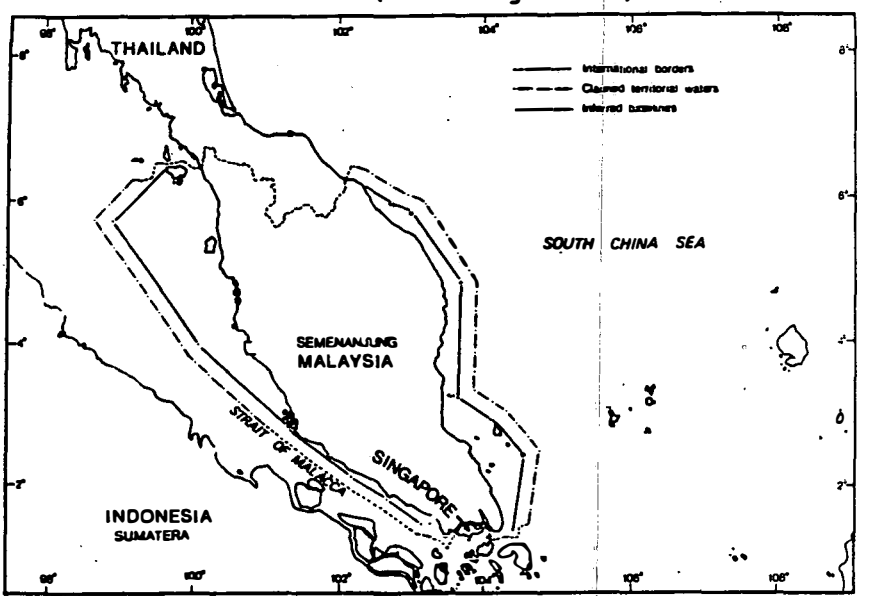


[Reproduced from Kittichaisaree n23 19]

656 Kittichaisaree n653.
657 Ibid.
658 By the Decree of June 12 1970 on Straight Baselines. Text in Nordquist and Park ed (Thailand) n603 11-14. See also Prescott n653 and Kittichaisaree n653.
659 Ibid.

The segments in the vicinity of Ko Kut and Ko Chang and in the Strait of Malacca are unimpeachable and conform to the spirit and letter of the existing rules for drawing baselines.[660] However, it has been particularly pointed out, the segment totalling 126nm which links to Ko Phangan and Ko Samui appears to be based on a very liberal interpretation of the concepts of fringing islands and enclosed waters closely linked to the land domain.[661] Malaysia appears to have drawn its territorial seas from straight baselines that have never been proclaimed.[662] They can only be identified, therefore, by drawing parallel lines 12nm landward of the outer limit of the territorial sea.[663] An inspection of the assumed baselines, nevertheless, reveals the following troublesome points. In the Malacca Strait the apparent baseline links distant islands called Perak and Jarak, instead of following the fringe of islands close to the coast in the western sector. The segment linking them measures 125nm (see Figure 5).

Figure 5

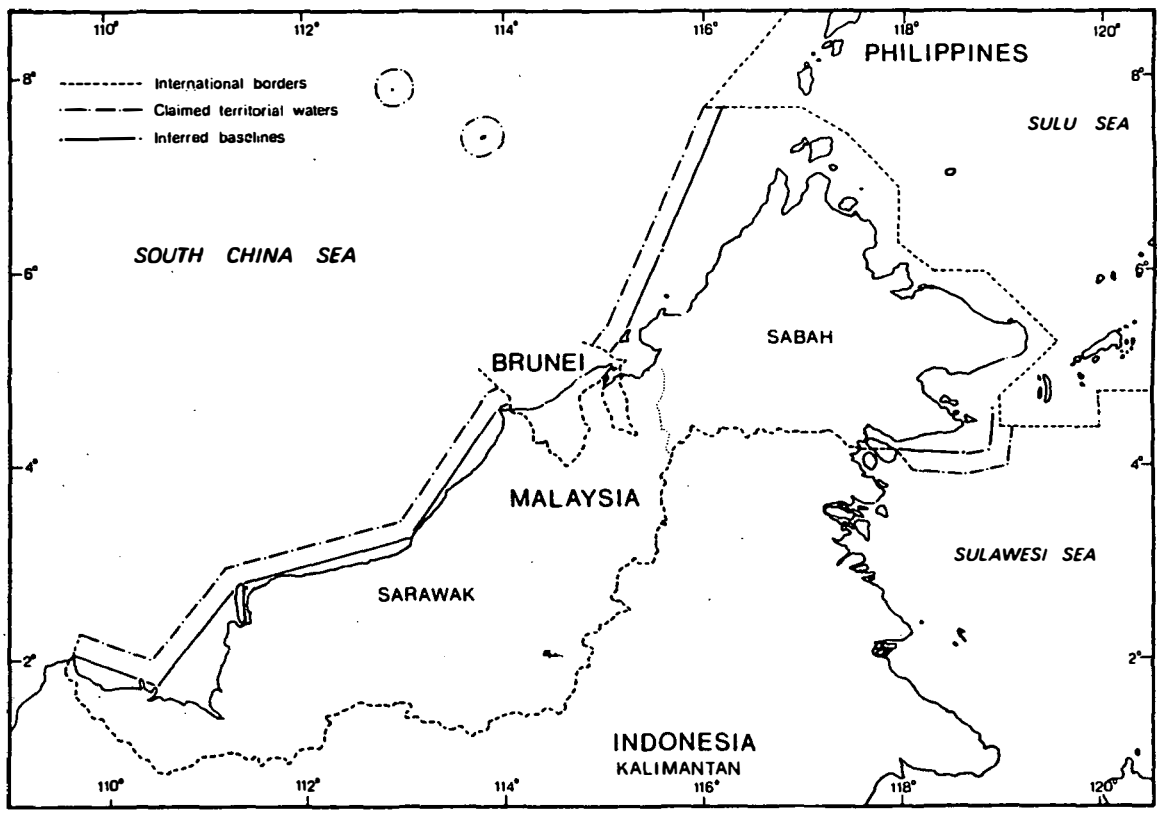


[Reproduced from Prescott n35 215]

660 Prescott n644.
661 Ibid. See also Prescott and Morgan n650 44.
662 Prescott n41 87. See also Prescott and Morgan n650 45.
663 Ibid. See also Prescott n35 213.

With the exception of the short segment closing the bay bounded by Tanjong Sipang and Tanjong Po, the straight baseline lies along the coast of Sarawak. This is not deeply indented and does not possess a fringe of islands. The inferred baseline ignores the fringe of islands close to the coast of Sabah in the South China Sea and instead connects the islands called Labuan and Mangalum and then proceeds to a point in the open sea (see Figure 6).[664]

Figure 6



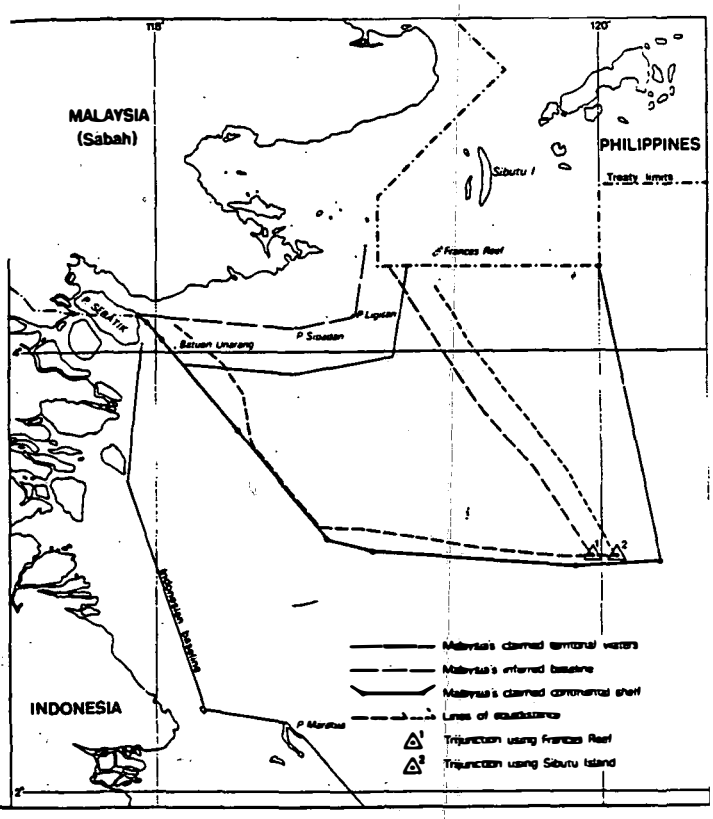
[Reproduced from Prescott n35 p216]

The apparent baseline in the Celebes Sea, which links Malaysian territory on Sebatik Island with Pulau Sipadan, does not connect islands fringing the coast nor does it enclose a deeply indented coast and it deviates appreciably

664 Ibid 214. See also Prescott and Morgan n662.

from the general direction of the coast (see Figure 7).[665] It has been pointed out that the effect of using these baselines, if they exist and then considering waters within the baselines as territorial waters, is to produce claims to territorial seas 61nm wide in part of the Malacca Strait and 57nm wide off northern Sabah.[666] As a result, there are unconfirmed reports that Indonesia has indicated to Malaysia that it cannot rely on unproclaimed baselines.[667] As to the baselines of Brunei, the major problem lies in the Ampa Light which is located on an offshore feature, Ampa Patches, a shoal of sand and coral.[668] There is a controversy over whether baselines could be drawn so as to include Ampa Patches.[669]

Figure 7



[Reproduced from Prescott n35 229]

665 Ibid. See also Prescott n41 90.
666 Prescott n35 214.
667 Prescott n662.
668 Prescott n41 96. See also Prescott and Morgan n650 48.
669 See n668. This is even further aggravated by the fact that Brunei, while claiming straight baselines and having enabling legislation, has not given effect thereto yet. See Smith RW 'Global Maritime Claims' ODIL 20(1) 1989 87.

In June 1961, the Philippines established its archipelagic baselines.[670] Eighty straight lines were drawn around the outermost islands[671] to enclose the 7 104 islands[672] with a total length of 8 174.8974nm.[673] The resultant ratio of water to land is 1.841:1[674] which thus meets the criteria established in art 47(1) of LOSC requiring such ratio to be between 1:1 and 9:1.[675] There is however a difficulty with the length of baselines.[676] While they average 102.185nm[677] and three of them, or 2.4%, exceed 100 miles[678], the segment to the south-east of Mindanao in the Gulf of Moro measures 140nm.[679] This is incompatible with art 47(2) of LOSC which requires that the length of straight archipelagic baselines must not exceed 100nm, except that up to 3% of the total number of baselines may exceed that length, but only up to a maximum of 125nm.[680] Nevertheless, Prescott opines that the segment in question could easily be brought into conformity with LOSC.[681] Indeed, a bill introduced recently envisages

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670 By the Republic Act No 3046 entitled 'An Act to Define the Baselines of the Territorial Sea of the Philippines'. Text in Nordquist MH and Park CH ed North America and Asia-Pacific and the Development of the Law of the Sea: the Philippines October 1981 3-9.

671 Drigot DC 'Oil Interests and the Law of the Sea: The Case of the Philippines' ODIL 12(1/2) 1982 30. See also Kwiatkowska B 'The Archipelagic Regime in Practice in the Philippines and Indonesia - Making or Breaking International Law?' IJECL 6(1) 1991 4 and Kittichaisaree n23 154.

672 Ibid.

673 Ibid. See also Kwiatkowska n671.

674 Ibid. See also Kittichaisaree n671 and Prescott n35 211.

675 Kwiatkowska n671. See also McDorman TL 'Implementation of the LOSC Convention: Options, Impediments and the ASEAN States' ODIL 18(3) 1987 291.

676 Ibid.

677 Kittichaisaree n671.

678 Kwiatkowska n671.

679 Ibid. See also Prescott n674, McDorman n675 and Kittichaisaree n671.

680 Kwiatkowska n671.

681 Prescott n674.

an adjustment to this effect![682] In contrast to the Philippine case, Indonesia has complied with LOSC in this regard from the very beginning.[683] It promulgated its archipelagic baselines in February 1960.[684] The system is defined by 196 turning-points and its total length amounts to 8 069.8 miles.[685] There are five segments longer than 100nm, two of which measure 124nm, while the water to land ratio is 1.2:1.[686]

9.3.2 Uncomplicated boundaries

By way of contrast, a triangular-shaped area of overlapping EEZ and territorial sea claims extends northeast from the Malaysian Sarawak-Indonesian Kalimantan land boundary.[687] The agreed continental shelf boundary deviates from an equidistant position in Malaysia's favour.[688] In fixing the remaining maritime limits in the area, the fundamental difficulty is that the inferred Malaysian baseline east of Tanjong Datu proceeds directly to Tanjong Sipang.[689] As mentioned above, there is no obvious justification for this line. The coast is not deeply indented nor is it fringed with islands.[690] Although the delimitation line may well coincide with the established continental shelf boundary[691], it is quite possible however that Indonesia will require any boundary between EEZs to follow the equidistant course.

682 Bill No 206 now defines 80 archipelagic baselines with the longest one measuring 120.8nm in length. See Kwiatkowska n671.
683 As a matter of fact, the Indonesian model was an essential influence on the test now devised by the Convention. See Prescott n674 and Kwiatkowska n671 14.
684 By the Act concerning Indonesian Waters (Act No 4). Text in Tangsubkul P The Southeast Asian Archipelagic States: Concept, Evolution and Current Practice 1984 69-72.
685 Kwiatkowska n683.
686 Prescott n674.
687 Prescott n41 66.
688 Ibid 75. See also n600-2 and accompanying text supra.
689 Prescott n41 87.
690 Ibid. See also n664 and accompanying text supra.
691 Dzurek n26 278.

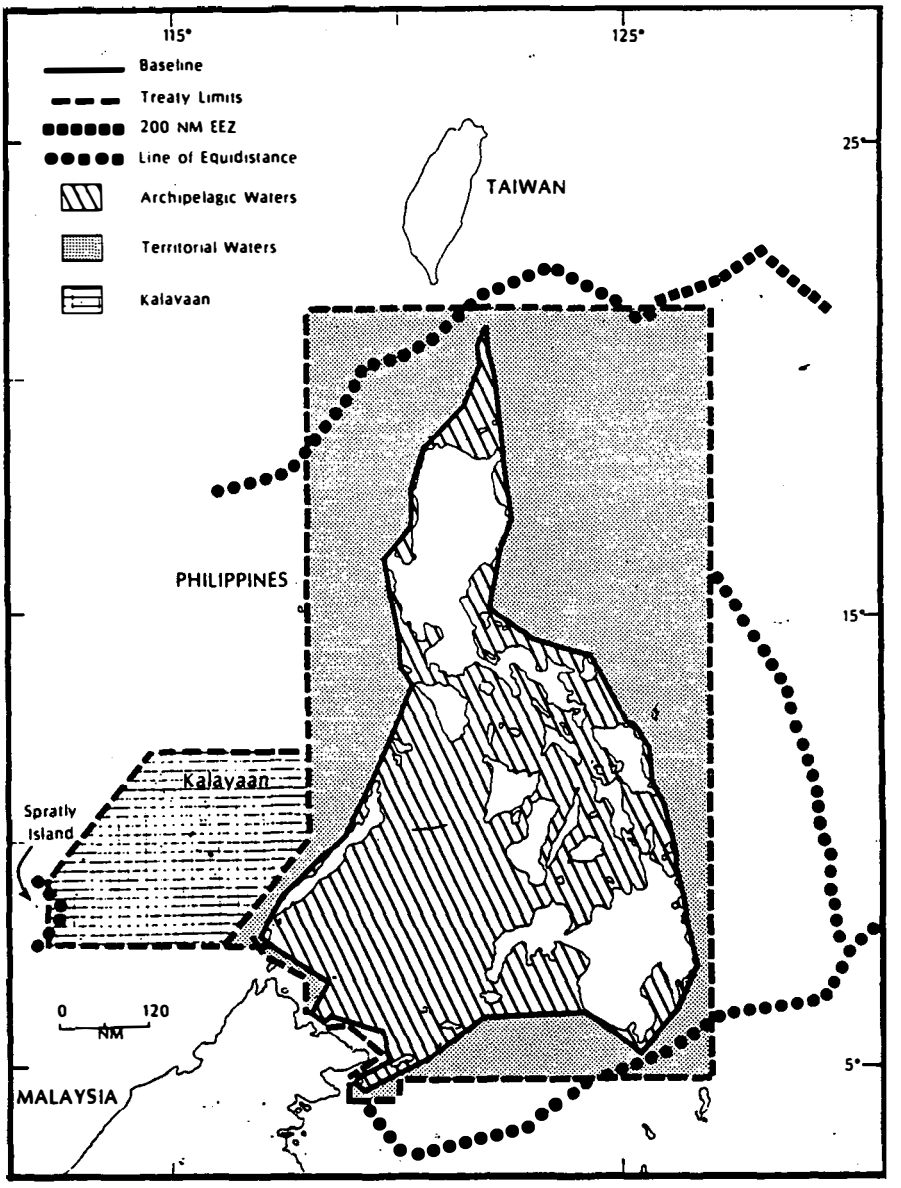
This would give Indonesia control of some waters above Malaysia's seabed.[692] In the Celebes Sea, issues involving Malaysia with Indonesia and the Philippines arise because Malaysia has claimed territorial seas and a section of the continental shelf which goes beyond the equidistant line with its two neighbours.[693] Looking at the boundary between Indonesia and Malaysia, it appears that Malaysia has unilaterally drawn the common territorial sea boundary as a line that bisects the angle formed by Indonesia's archipelagic baseline and Malaysia's inferred baseline.[694] Such a line ignores Batuan Unarang rock from which Indonesia is entitled to claim territorial seas.[695] On the other hand, as mentioned above, it appears that the inferred baseline, which links Malaysian territory on Sebatik Island with Pulau Sipadan and Pulau Ligitan, does not connect islands fringing the coast nor does it enclose a deeply indented coast and it deviates appreciably from the general direction of the coast.[696] Further, one might even question Malaysian ownership of the latter two islands since they lie south of the parallel which defines the last segment of the Anglo-Dutch border in Borneo.[697] While Malaysia's claim rests upon the fact that for many years residents of what is now Sabah have collected turtles' eggs and coconuts on the islands and planted tapioca, that an unmanned lighthouse was constructed on each island by Malaysia in the 1960s and that the area is regularly patrolled by Malaysian authorities, Indonesia is not estopped from claiming them.[698] The basis for the Malaysian claim to the continental shelf in the direction of the Philippines is unknown.[699] The area Malaysia appears to have claimed beyond the line of

692 Prescott n41 75.
693 Ibid 87.
694 Ibid 90.
695 Ibid.
696 Ibid.
697 Prescott n35 228.
698 Ibid 228-9.
699 Prescott n41 91.

equidistance is 2 420 sq nm assuming that Frances Reef, which is part of the Philippine archipelagic system, may be used to calculate the line of equidistance.[700] Competition for this continental shelf might not be very intense since the seabed in this region of the Celebes Sea descends steeply to depths in excess of 2 000 fathoms.[701] If Malaysia's seabed claim is an indication of the EEZ it might eventually claim, there could however be disagreement over the control of the waters above the deep floor.[702] In the same area, substantial overlapping of EEZ claims by Indonesia and the Philippines also remains to be resolved.[703] The Philippines might use the so-called Treaty Limits as a basis for further claims (see Figure 8).[704] Based on the limits set forth in the 1898 Treaty of Paris, whereby Spain ceded the Philippines to the United States, the Philippines has established a territorial sea[705] approximating to a parallelogram[706] with a land-to-water ratio of one to five.[707] The distance between the baseline and the outer edge of the Treaty Limits varies from 270nm in the Pacific Ocean to 147-284nm in the South China Sea. It diminishes to 0.5-2nm in width at its narrowest part - in the southeast corner.[708]

700 Ibid.
701 Ibid.
702 Ibid.
703 Ibid 95. See also Morgan n12 307.
704 Prescott n41 95.
705 This was firstly done by the Note Verbale of March 7 1955 and has been subsequently consolidated by the Republic Act No 3046 mentioned earlier. Relevant text of the former in YILC II 1956 70. For a more detailed account, see Chiu H 'Some Problems Concerning the Delimitation of the Maritime Boundary Between the Republic of China and the Philippines' CYILA 3 1983 1-10 and Sun K The Problems of Delimitation of the Exclusive Economic Zone Between Taiwan and the Philippines with Special Reference to the Legality of Their Claims Institute of Marine Law, UCT, Special Pulication No 12 1990 5-6, 42-5.
706 McDorman n675 289.
707 Park n24 450. See also Kittichaisaree n671.
708 Ibid. See also Drigot n671 32.

Figure 8



[Reproduced from Prescott n35 231]

Though it has been reiterated from time to time[709], this claim has however failed to win international approval.[710] As a result, Indonesia will certainly dispute it.[711] A separate but related problem is the status of the waters surrounding Miangas (Palmas) Island situated between Mindanao and Kepulauan Taland (see Figure 9).[712]

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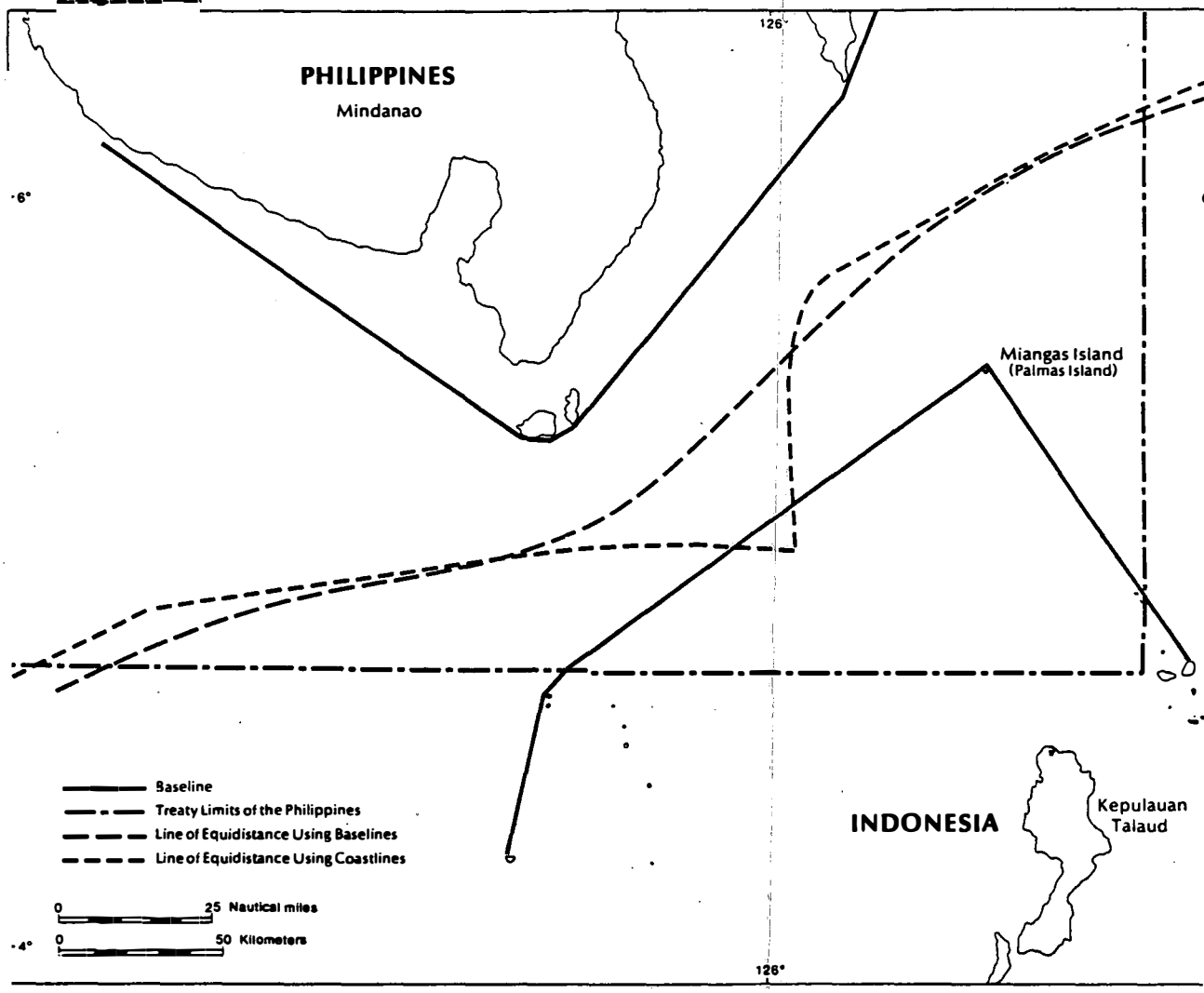
709 'Report' n599 64.
710 Prescott n35 230. See also Kittichaisaree n23 156.
711 See n704.
712 Valencia n19 322. See also Tangsubkul n36 54.

Figure 9



[Reproduced from Prescott and Morgan 650 52]

Indonesia owns the island by virtue of a decision of the Permanent Court of Arbitration.[713] The island lies however within the abovementioned Treaty Limits of the Philippines.[714] By using it as a base point for archipelagic claims[715], Indonesian government wishes to claim their zones beyond the territorial waters.[716] An

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713 That is, Island of Palmas Case (1928) (Netherlands v US) RIAA 2 829 ff. For a brief extract see Harris n3 173-80.

714 Prescott n41 94. See also Prescott and Morgan n650 51.

715 See n714. See also Valencia n712.

716 Prescott n41 95. See also Prescott and Morgan n714.

equidistant line related to the baseline would give Indonesia rights over 6 200 sq nm of ocean and seabed within the Treaty Limits of the Philippines.[717] An equidistant line related to the coasts would reduce only slightly the area that would fall to Indonesia.[718] In the Sulu Sea, it seems that Malaysia and the Philippines intend to retain the 1930 Anglo-American line as their common maritime boundary for territorial waters and the continental shelf.[719] On January 2, 1930 the United Kingdom and the United States agreed on a division of islands in the Sulu Sea and instead of naming each island they simply defined a line separating them.[720] That segment has been incorporated in the Treaty limits claimed by the Philippines and in the limits of Malaysia's continental shelf and is now shown on the map by the symbol representing an international boundary.[721] The maritime boundary between Malaysia and Singapore in the Johore Strait does not pose any difficulties, since both states have decided to respect the agreement concluded in 1928 between the United Kingdom and the Sultan of the State and the Territory of Johore - The Straits Settlements and Johore Territorial Waters Act - which divided the area between the northern part of Singapore and the southern part of Peninsular Malaysia.[722] In the Strait of Malacca, however, there is a gap of 17nm between the areas covered by the two Malaysia-Indonesia agreements on territorial waters. Agreement is necessary here and should extend through the Singapore Strait.[723] Here the issue of Horsburgh Lighthouse could come to the fore.[724] The lighthouse is located on

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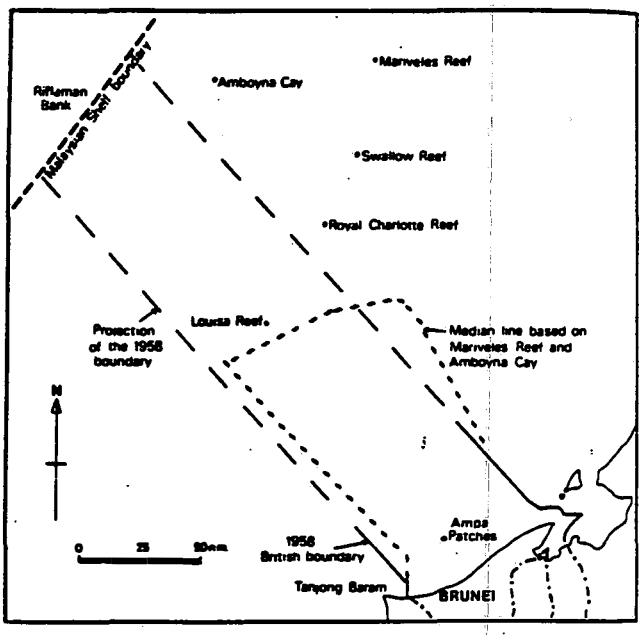
717 See n716.
718 Ibid.
719 Prescott n41 63.
720 Ibid.
721 Ibid.
722 Tangsubkul n1 11, 16. See also n666. Text of the agreement in Davies DJ et al ed The Laws of the Colony of Singapore III 1955 5-7.
723 Prescott n41 93.
724 Ibid.

Pedra Branca, a feature that rises above 8m (24ft) and marks the southern edge of the Middle Channel.[725] On the one hand, it is apparently used as one of the termini of the inferred baselines used by Malaysia; on the other hand, Singapore claims that the navigation aids on Pedra Branca have been administered from Singapore since the beginning of the first half of the nineteenth century.[726] If Singapore's claim is valid, it would have direct access to the South China Sea.[727] Generally speaking, all the above disputes between Singapore, Malaysia, Indonesia and the Philippines have been dormant for years. The states have not actively pursued their claims so that the potential disagreement would not harm their relationships.[728]

In September 1958, the United Kingdom defined continental shelf boundaries separating the shelf appertaining to Sabah and Sarawak from the shelf belonging to Brunei (see Figure 10).[729]

Figure 10



[Reproduced from Prescott (n35) p228]

725 Ibid.
726 Ibid.
727 Prescott n674.
728 Prescott n35.
729 See n719. See also n666 and Prescott and Morgan n650 48.

The lines terminate at the 100 fathom isobath, close to the 200m depthline nominated by the 1958 CSC as part of the definition of the outer limit.[730] While the line between Brunei and Sabah follows a course which is almost equidistant[731], the western limit of Brunei's seabed, initially following a line of equidistance, diverges from it at the 10 fathom isobath, giving Brunei about 300 sq nm of seabed it would not possess if the equidistant line continued.[732] It appears that Malaysia has accepted the unilateral British boundaries since they are shown by the symbol standing for an international boundary on the Malaysian maps.[733] If it is assumed that Brunei will also continue to accept the 1958 limits as defining the territorial sea out to 12nm and the continental shelf out to 100 - fathom isobath[734], two problems however remain: it still has to fix the outer limits of its claim to the continental shelf and negotiate the EEZ boundaries with Malaysia.[735] In the former case, Amboyna Cay and Mariveles Reef are recognised as islands and the full range of maritime zones can be drawn around them.[736] As a result, the median line between Brunei and the two islands appears to be the maximum distance Brunei can claim if an equidistant solution is applied.[737] If Malaysia insisted that there was an island on its Swallow Reef, the median line with Brunei would be moved southwards towards Brunei.[738] If Malaysia further argued that the rocks on its Royal Charlotte and Louisa Reefs had an economic life of

730 Ibid. See also n666 and n704.
731 See n666.
732 See n704. See also Prescott and Morgan n729.
733 See n719. See also n666.
734 Prescott n35 227.
735 Ibid. See also Valencia n19 306 and Weatherbee DE 'Brunei: The ASEAN Connection' Asi Sur 23(6) June 1983 733.
736 See n704. See also n734 and Prescott and Morgan n729.
737 See n734.
738 Ibid.

their own which permitted them to be used as base-points from which the continental shelf could be claimed, then the median line would again move southwards to the disadvantage of Brunei.[739] As to the problem of negotiating boundaries for the EEZ, it could be avoided if a single set of boundaries was used to delimit all maritime zone.[740] In general, relations between Malaysia and Brunei remain cordial.[741] As a matter of fact, both countries have long had a history of close collaboration in petroleum development operations for the Fairley-Baram oil field which straddles their common boundary.[742] Moreover, no wells have been drilled near the edge of the shelf in the potential dispute area.[743] Apparently, the issues have not been allowed to interfere with the consolidation of the rapprochment.[744]

Finally, the declaration of an EEZ following the equidistant line by the ROC has produced a large triangular-shaped area of overlap in the Bashi Channel within the Treaty Limits of the Philippines.[745] This problem is fundamentally complicated by the questionable northern boundary of the latter.[746] The 1898 Treaty reads 'A line running from west to east along or near the 20th parallel of north latitude and through the middle of the navigable channel of Bashi...'. whereas official maps of the Philippines show the northern limits as a straight line through Bashi Channel in

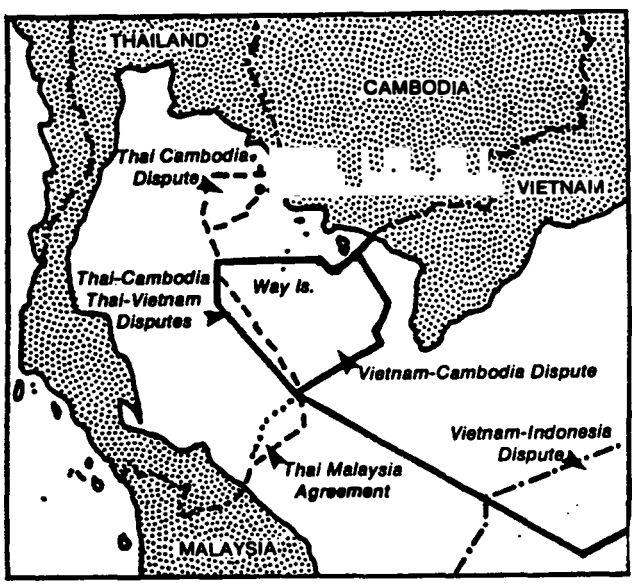
739 Ibid.
740 Ibid.
741 O'Brien R South China Sea Oil Two Problems of Ownership and Development 1977 23.
742 Mahmud AA 'The Development of Non-living Resources: Problems and Opportunities for Marine Regionalism in Southeast Asia - the Malaysian Perspective' in Johnston et al n1 75.
743 Valencia n33 171.
744 Weatherbee n735.
745 Valencia n19 321, 334. See also Prescott and Morgan n650 45 and n687.
746 See Prescott n668. See also Prescott and Morgan n650 50.

the vicinity of 21° 30'N.[747] This extension to the north raises another cumbersome issue, that is the inclusion of the Batan Islands in the Philippine Archipelago. This will no doubt further affect the delimitation of the overlapping area.[748] Obviously, the government of the Philippines has chosen the most favourable interpretation of the northern boundary of its territorial waters.[749] The ROC however assumes a passive attitude in the matter.[750]

9.3.3 Complicated boundaries

The more important jurisdictional disputes lie in the Gulf of Thailand.[751] There are large maritime areas to be delimited between Thailand, Kampuchea and Vietnam (see Figure 11).[752]

Figure 11



[Reproduced from Mahmud n742 p80]

747 See n746.
748 Chiu n705 18.
749 See n746.
750 Sun n705 4.
751 Samson ED 'Fisheries' in Kent and Valencia ed n33 151.
752 See n687.

Between June 1971 and May 1973, the three states made unilateral claims to overlapping portions of the seabed. The area of each overlap was: Kampuchea-Vietnam, 14 580 sq nm; Kampuchea-Thailand, 5 798 sq nm; Thailand-Vietnam, 233 sq nm; and Kampuchea-Thailand-Vietnam, 3 610 sq nm; for a total of 24 221 sq nm.[753] In making these unilateral claims, each state chose an interpretation of lines of equidistance that gave the maximum area of seabed to the claimant.[754] In the northern area, Kampuchea claims Kut Island and thus draws its shelf (and EEZ) boundary along a parallel extending from the Kampuchea-Thailand coastal border to include Kut Island in Kampuchean waters.[755] Thailand also claims Kut Islands and draws its shelf boundary along a 45° angle from the land border and thence an equidistant line to include Kut Island in Thai waters.[756] Prescott however points out that the Kampuchean action seems to be totally misguided and to result from a reading of the 1907 Franco-Thai boundary treaty and protocol.[757] Although it was noted in the protocol that 'the frontier between French Indo-China and Siam starts from the sea at point opposite the highest point of the Koh Kut', there was certainly no intention to continue the boundary at sea by drawing a line from the terminus of the boundary on the mainland through the highest point on Koh Kut.[758] To the south, Kampuchea (as well as Vietnam) claims Wai Island and has drawn its boundary along a line equidistant from Wai Island and the opposite Thai coast.[759] This limit ignores

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753 Prescott n41 89. See also Prescott and Morgan n650 49.
754 See n753.
755 Valencia n19 314.
756 Ibid.
757 Prescott n35 223. The original French text of the said treaty in 'Supplement Section of Documents' AJIL 1 1907 263-7. For the English translation see US Foreign Relations 2 1907 1003-7.
758 Prescott n757.
759 See n755.

the Thai offshore islands of Phangan and Samui.[760] Thailand however appears to have drawn its boundary as a line of equidistance between the Thai mainland and large islands such as Kao Rong that are close to the Kampuchean and Vietnamese coasts.[761] Such a procedure involves discounting the Thai islands of Ko Kra and Ko Losin, the Kampuchean islands Kao Wai and the Vietnamese islands Hon Panjang.[762] On the eastern side, the extensive area of overlap between Vietnam and Kampuchea remains unsettled[763] despite the fact that they have agreed upon the 1939 Brévié Line to allocate, inter alia, the Phu Quoc Island to Vietnam.[764] The dispute now involves the meaning of this historic solution. On the one hand, Kampuchea has proposed that the Brévié Line be the maritime boundary between the two countries. On the other hand, Vietnam disagrees and insists that the two countries continue to use the line only for island ownership.[765] This disputed zone even overlaps a small portion of the Malaysian continental shelf in the southwestern corner.[766]

The basins under the disputed waters are hydrocarbon-prone and may contain 13 billion to 530 billion dollars worth of oil and gas.[767] As a result, leases have been unilaterally granted by all three claimants.[768] While Vietnam warns Thailand not to allow international companies to explore for oil in areas claimed by Vietnam and Kampuchea[769], Thailand has indeed been very careful to restrict its drilling

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760 Ibid.
761 Prescott n753.
762 Ibid.
763 Prescott n757. See also O'Brien n741 21.
764 See n631-2 and accompanying text supra.
765 Valencia and Miyoshi n33 224. See also Kittichaisaree n23 41.
766 Prescott n753.
767 Valencia MJ 'Taming Troubled Waters: Joint Development of Oil and Mineral Resources in Overlapping Claim Areas' SDLR 23 1986 666.
768 Valencia and Miyoshi n33 218.
769 Ibid 226.

activity to the Thai side of the disputed area.[770] Maps published by the Thai government show their claims as being only tentative pending resolution.[771] At present, all the Thai gas discoveries are situated outside the disputed areas.[772] Only one structure extends more than five percent into the Vietnamese and Kampuchean claimed zone. The Petroleum Authority of Thailand planned to delay exploitation by that structure and to recommend to the Industry Ministry that any gas found there be excluded from international pricing negotiations.[773] Although in January 1978 Thailand and Vietnam agreed to settle their difference on the basis of equitable principles[774], there has however been no progress in negotiations[775] since each regards the other's claim as spurious.[776]

Most of what has been said about the Gulf of Thailand also applies to the Gulf of Tonkin.[777] In this geostrategic region the PRC and Vietnam are the only two countries vying for sovereignty and jurisdiction over the maritime territory and resources.[778] They disagree that the maritime boundary begins from their land boundary and proceeds through the Gulf out into the sea.[779] By citing the Sino-French Treaty of 1887 which stated that the islands in the Gulf lying to the east of longitude 108° 3' 13" E belonged to China and

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770 McDorman n675 295.
771 O'Brien n741 22.
772 Valencia and Miyoshi n33 236.
773 Energy Asia 3 May 1988 21. See also Valencia n33 182 and Valencia and Miyoshi n33 236-7.
774 See n626. See also Tangsubkul n1 89 and 101.
775 Ibid 105.
776 Valencia and Miyoshi n33 237.
777 Morgan n12 305.
778 Ibid.
779 Dzurek n26 277. See also n687 O'Brien n741 21, Valencia n19 329, Prescott n35 224-5 and Park CH 'Offshore Oil Development in the China Seas: Some Legal and Territorial Issues' Ocean YB 2 1980 308.

islands to the west of this meridian belonged to Vietnam[780], the Vietnamese assert that the meridian marks the sea boundary between the two countries.[781] They claim the waters to the west as historic internal waters.[782] The PRC contends that both the wording of the treaty and the attached map make it plain that the article refers only to the offshore islands and does not lay down a sea boundary.[783] The Chinese position is to share the area 'half and half'.[784] It has been pointed out that the Vietnamese stance seems rather implausible. The treaty does not specify any southern terminus for the meridian, which means that the PRC would be entitled to argue that its southern terminus is located where the meridian cuts the Vietnamese coast, or the outer edge of its territorial waters, just south of Hue![785] The situation is even further complicated by a small Vietnamese island called Île Bac-long-vi, 56m above sea level and 38nm from the nearest Vietnamese territory.[786] If this island were given full weight in the delimitation with the opposite and much larger Hainan Island of the PRC, Vietnam would gain approximately 1 700 sq nm that would not accrue to it were its island entirely discounted as China has demanded.[787] In trying to alleviate the problems, the two states, while granting leases for hydrocarbon development to countries outside the

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780 Hobday C 'China-Vietnam: The Gulf of Tonkin Dispute' in Day AJ ed Border and Territorial Disputes 1982 279. See also Prescott and Morgan n729.

781 Ibid. See also Valencia n33 175, Valencia and Miyoshi n33 242, Dzurek n779, Valencia n779 and Prescott n35 225.

782 Vietnam Courier 12 1982 6. See also Valencia n33 177 and Dzurek n779.

783 See n780. See also Valencia and Miyoshi n781, Valencia n779 and Prescott and Morgan n729.

784 Valencia n782.

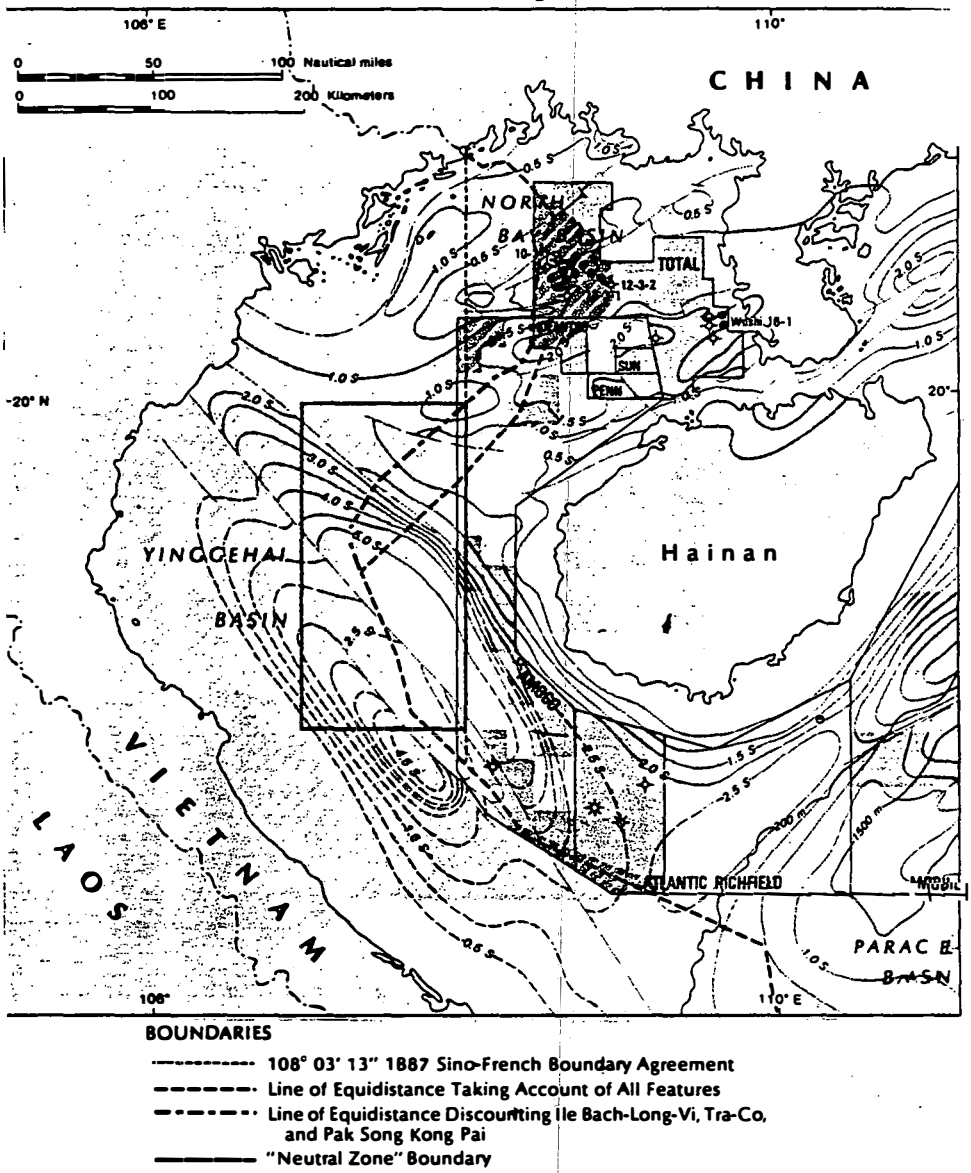
785 Prescott n662.

786 Kittichaisaree n23 89. See also Prescott and Morgan n729.

787 See n786.

region[788], agreed to set aside a rectangular area as a 'neutral zone' in the middle of the gulf, bounded by the 18° and 20° parallels and the 107° and 108° meridians and to keep it free from exploration until an agreement on delimitation could be reached (see Figure 12).[789]

Figure 12



[Reproduced from Valencia n33 176]

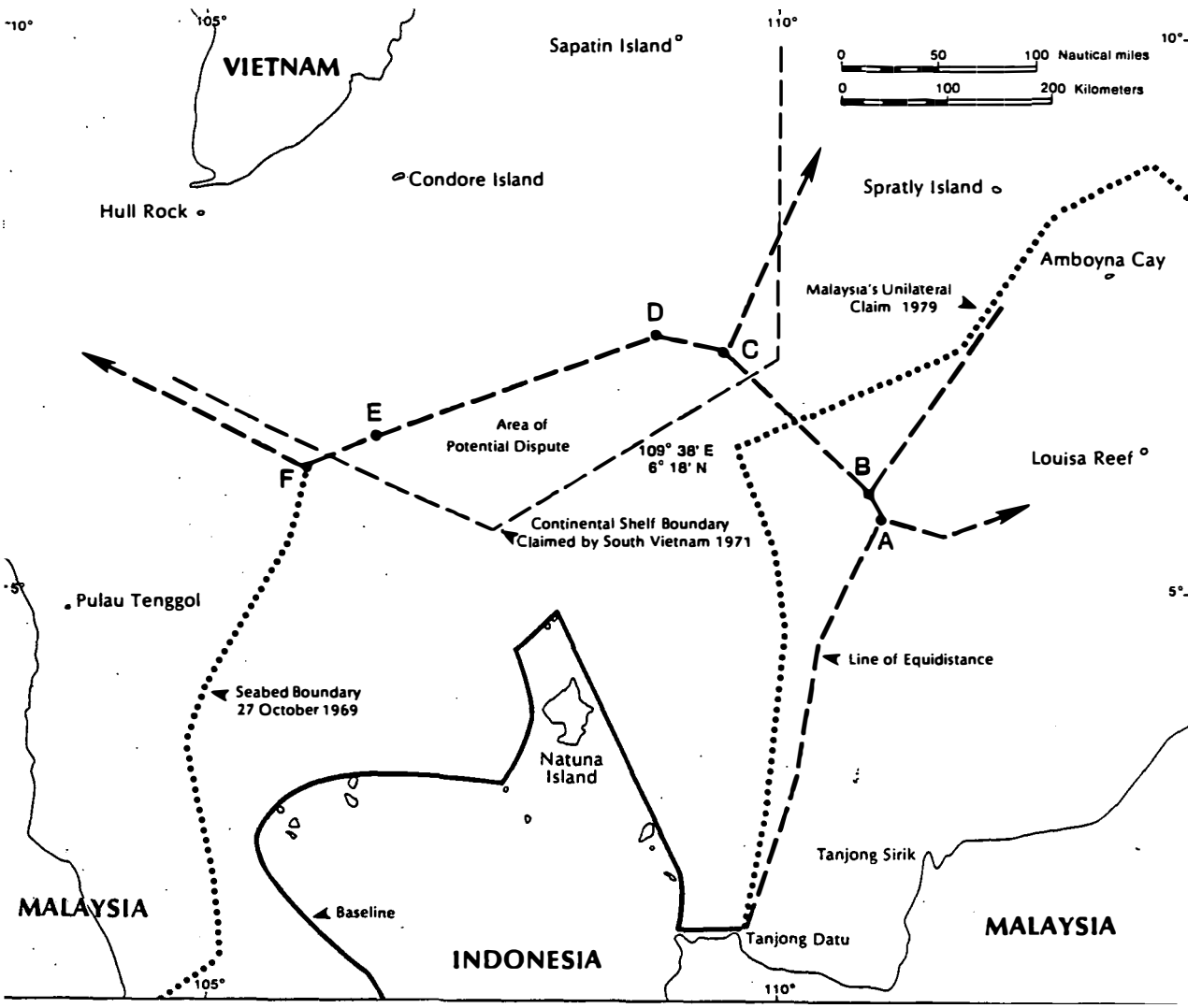
Generally speaking, however, the PRC does not regard Vietnam's claim as bona fide or based on international

788 Morgan n12 306.
789 Valencia n33 175.

law.[790] There has also been threats to use force by each side.[791]

Another area that may become contentious is to the north of the Natuna Islands, where extensive overlapping claims exist between Indonesia and Vietnam (see Figure 13).[792]

Figure 13



[Reproduced from Prescott and Morgan n650 52]

790 Valencia and Miyoshi n33 219, 236.
791 See n788.
792 Langeraar W 'Delimitation of Continental Shelf Areas: A New Approach' JMLC 17(3) July 1986 401-2.

This trapezoid-shaped area measures 11 270 sq nm and is bounded on the south by a unilateral continental shelf claim by South Vietnam made in June 1971.

The Vietnamese government maintained this claim by unilaterally drawing an equidistant line between the Indonesian archipelagic baselines and Vietnamese baselines.[793] This line is not recognised by Indonesia so the question remains open. Measurements on charts make it appear that the Vietnamese claim totally discounts Indonesia's Natuna Islands. The Vietnamese line appears to be roughly equidistant between the Vietnamese coast and the coast of Indonesian Kalimantan.[794] Vietnam once claimed that the deepest points of a trench extending from the northern coast of the Anambas Islands to an area just north of the Natuna Islands formed the effective boundary (the so-called 'thalweg' principle). This considerably expanded the disputed area. Vietnam later dropped the claim.[795] The eastern portion of the area appears gas-prone and the west oil-prone.[796] It was once suggested that the overlap be divided into a western Indonesian section and an eastern Vietnamese part.[797] However, both states have acted unilaterally in granting concession in the area. Moreover, Indonesia has gained the upper hand having already leased most of the disputed area to American oil companies which have discovered large amounts of gas.[798] When Vietnam proposed to conclude a provisional arrangement pending the

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793 See n626. See also n743 and Valencia and Miyoshi n33 232.
794 Ibid. See also n626.
795 Sacerdoti G 'Smoothing Troubled Waters' FEER December 12 1988 19. See also n743 and Valencia and Miyoshi n793.
796 See n743.
797 Prescott n662.
798 Valencia and Miyoshi n33 231.

final settlement[799] Indonesia rejected it.[800] In short, Indonesia does not recognise the validity of Vietnam's claim[801] considering it to be weak.[802] The two countries have also claimed EEZ's and this boundary will also have to be settled.[803] If the continental shelf boundary is not an agreed equidistant line, it is possible for the EEZ boundary to be different from it.[804]

9.3.4 Very complicated boundaries

The islands and reefs of the South China Sea are the focus of most of the sovereignty and jurisdictional disputes within the region.[805] As might have already been noticed, the ownership of islands is related to continental shelf claims in two ways: first, islands may themselves give rise to a continental shelf and second, the presence of islands may affect the division of the shelf between two or more littoral states.[806] As a result, title to some group of islands has been forcefully disputed.[807] On the whole, there are more than two hundred uninhabited islands scattered in the area which are grouped into four archipelagoes, namely, the Patras Reef, the Macclesfield Bank and the Paracel and Spratly Islands.[808] The Pratas Reef is approximately 140nm from the Chinese mainland and 240nm from Taiwan.[809] Sovereignty over it has not however been

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799 Chung LK 'The Socialist Republic of Vietnam and Her Exclusive Economic Zone (EEZ) in Relations with Neighbouring Countries in Southeast Asia' in Craven, Schneider and Stimson ed n13 60-1.
800 'Discussion' n632 71.
801 Valencia and Miyoshi n793.
802 See n626.
803 Prescott and Morgan n650 52.
804 Ibid.
805 Dzurek n26 258.
806 O'Brien n741 26.
807 Birnie PW 'Contemporary Maritime Legal Problems' in Barston RP and Birnie PW ed The Maritime Dimension 1980 185.
808 Park n24 452-3. See also Park n779 314.
809 Dzurek n26 259.

contested[810] and it was under the firm control of the ROC.[811] The Macclesfield Bank is an extensive submerged atoll, approximately 140km long (northeast to southwest) situated roughly midway between Luzon and Vietnam.[812] Chinese title (whether PRC or ROC) has not been challenged either[813], although it is doubtful whether these underwater formations can really be owned at all.[814] The Paracel Islands are indeed subject to a Sino-Vietnamese dispute about sovereignty.[815] Lying between 110° 11' and 112° 54' East longitude and 15° 46' and 17° 8' North latitude, the archipelago comprises 14 islets covering a total land area of less than 5 sq km and more than a dozen partly or temporarily submerged reefs and rocks scattered over a sea area forming a large oval with a diameter of about 200km.[816] From Woody Island which covers 1.85 sq km and is the largest island in the Paracels, it is about 300km to the Chinese island of Hainan and about 420km to the Vietnamese coast.[817] According to Vietnam, its organised exploitation of the islets had begun sometime by the end of the seventeenth century[818] and culminated in the 1816 annexation by order of the emperor Gia Long.[819] However, there appears to be no

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810 Park n24 453. See also Park n779 314 and Chiu H and Park CH 'Legal Status of the Paracel and Spratly Islands' ODIL 3(1) 1975 5.

811 Central Daily News January 4 1990 1.

812 See n809.

813 See n810.

814 Chiu and Park n810. See also Park n779 314 and Bowett DW The Legal Regime of Islands in International Law 1979 293.

815 Valencia MJ 'Southeast Asia: National Marine Interests and Marine Regionalism' ODIL 5(4) 1978 460. See also Valencia n29 92 and Bowett n814 297.

816 Chiu H 'Paracel Archipelago' in Encyclopedia of Public International Law: Gepographic Issues XII 1990 290.

817 Ibid.

818 Samuels MS Contest for the South China Sea 1982 43. See also n816.

819 Chiu and Park n810 7. See also Van Dyke and Bennett n38 70.

formal Vietnamese recording of this event.[820] Moreover, there are a number of chronological discrepancies in the argument.[821] Although it further claimed that the Paracels subsequently appeared in its official map in 1838, it was not until 1932 that the first move was made when the French Governor-General of Vietnam made the Paracels an administrative unit of the Thua Thien Province.[822] Interrupted by the Japanese intrusion during World War II[823], France resumed its occupation of the islands in 1946 and handed them over to Vietnam in 1950.[824] The latter was expelled from the islands by the PRC after an armed clash in January 1974.[825] As to the Chinese claims, it is argued that the Paracels appeared first in an historical Chinese book written under imperial ordinance at the end of the 8th century and were subjected to Chinese naval patrols from 1023-1063.[826] In 1755, they re-appeared in an official Chinese map.[827] In the absence of any physical sign denoting Vietnamese ownership[828], the 1902, 1908 and 1928 official inspection of the islands,and administrative incorporation of the archipelago into Kuangtung Province sometime between 1908 and 1921, offer strong support for the Chinese position.[829] Moreover, although Vietnam once

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820 As a matter of fact, this is derived from French missionary reports written twenty years after the event. For more details see Samuels n818 49 at n31.
821 Ibid 73 at n40.
822 Chiu and Park n810 7-8.
823 Ibid 8. See also Bowett n814 298; n816; Park CH 'The South China Sea Disputes: Who Owns the Islands and the Natural Resources?' ODIL 5(1) 1978 33; and Hobday C 'China-Vietnam: The Paracel Islands' in Day ed n780 280-1.
824 Chiu n816 291.
825 Ibid. See also Park n823 28, 30; Chiu and Park n810 1; Dzurek n26 271; and Bowett n814 299.
826 Chen HY Nan-hai chu-tao chu-ch'uan yu kuo-chi chung-tu (transl from Chinese The Sovereighty of the Islands in the South China Sea and International Conflict 1987 36.
827 Ibid 53.
828 See n813.
829 Samuels n818 67.

objected to the Chinese argument that all islands - including those in question - situated east of the line specified in the Sino-French treaty of 1887 belonged to China[830], the North Vietnamese government had in effect officially recognised the Paracels as PRC territory from 1954 to 1974.[831] The battle of January 1974 could be regarded as Beijing's final consolidation of its hold over the archipelago.[832] At present, the Paracels are still firmly controlled by the PRC.[833]

The most problematic issue related to the Spratly Islands.[834] The archipelago, which is the largest of four groups[835], lies roughly between 109° 30' and 117° 50' longitude East of Greenwich and between 11° 30' and 4° North latitude.[836] It consists of more than 50 islets, shoals, reefs or cays, scattered over a vast oval with a maximum diameter of about 1 000 kilometers.[837] The centre of the Spratlies is located at a point about 1 000km from the Chinese island of Hainan, 400km north-east of the northern tip of Borneo or Malaysia and the Palawan Island of the Philippines and about 500km from the Vietnamese coast.[838] Currently there are five states claiming title to all or part of the islands: the PRC, the ROC, Vietnam, the Philippines and Malaysia.[839] The grounds of the claims of both the PRC and the ROC are, by and large, the same, since

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830 Chiu and Park n810 12-3. See Park n823 34. In re the 1887 treaty, see n780-3 and accompanying text supra.
831 Hobday n823 281.
832 Samuels n818 101.
833 Park n823 28.
834 Sun K 'Dawn in the South China Sea? A Relocation of the Spratly Islands in an Everlasting Legal Storm' SAYIL 16 1990/91 35.
835 Park n810.
836 Chiu H 'Spratly Archipelago' in Encylopedia n816 357.
837 Ibid.
838 Ibid.
839 Park n810. See also Dzurek n26 272; n777; n834; and Davidson S 'South East Asia' IJECL 3(4) November 1988 347.

both base their arguments on the following: discovery, occupation and administration; international treaties and international recognition; declarations of sovereignty over the islands; and archaeological findings.[840] It is primarily argued that the Spratlies firstly appeared in an official Chinese map in 1755 and were afterwards brought under Chinese naval surveillance.[841] Later, Chinese title was formally attested to by the Sino-French Treaty of 1887 which clearly placed the islands, because of their being east of the specified line, on the Chinese side.[842] In support of their arguments, both also resort to archaeological evidence. They contend that the ancient temples, statutes and other architectural remains on the islands are similar to those on the Chinese mainland. This indicates that Chinese people inhabited the islands over a long period of time.[843] After World War II, the ROC further invoked the 1952 Treaty of Peace between the Allied Powers and Japan[844] and the 1952 Treaty of Peace between the ROC and Japan[845] in both of which Japan, which occupied the islands during World War II[846], `... renounces all right, title and claim to the Spratly Islands...'.[847] The ROC then sent troops to Itu Aba, the largest island in the archipelago[848] and has

840 Chen n826 105-6. See also Sun n834 40.
841 Chen n826 53. See also Sun n834 41.
842 Park n823 33-4. See also Van Dyke and Bennett n38 63; Davidson n839 350; Chen n826 105, 111; and Sun n834 46-7.
843 Chen n826 105. See also Sun n834 53.
844 Text in `Supplement to Document' AJIL 46 1952 71-86.
845 English text in UNTS 138 38ff. Chinese text in Tu H Chung-Wai t'aio-yueh kuan-hsi chih p'ien-ch'ien (transl from Chinese The Vicissitudes of Treaty Relations between China and Foreign States) 1981 281-3.
846 Chiu n836 358. See also Davidson n842; Bowett n814 300; Hobday C `The Spratly Islands' in Day ed n780 330; and Katchen MH `The Spratly Islands and the Law of the Sea: "Dangerous Ground" for Asian Peace' Asi Sur 17(12) December 1977 1178.
847 The 1952 Treaty of Peace between the Allied Powers and Japan, art 2(f); and the 1952 Treaty of Peace between the ROC and Japan, art 2.
848 See n809. See also Chiu n836 359-60; Hobday n846 329.

occupied it ever since.[849] The PRC argues likewise and adds that North Vietnam recognised the Spratlies as Chinese territory before 1975.[850] It was not however until 1987 that the PRC began to exercise control over an island there.[851] In July 1992, it successfully landed troops on another island and erected a monument.[852] Vietnam initially maintained that the Spratlies, which firstly appeared in its official map in 1834[853], became part of the Empire of Annam in the early 19th century and had not previously been under the administration of any country.[854] The argument of the present Vietnamese government does not however rely on the above historical facts.[855] Instead it is simply based on the 1933 French occupation of the islands.[856] Succeeding to the French[857], the Vietnamese government incorporated a number of the Spratly Islands as part of Phuoc Tuy Province in 1956 for the purpose of administration.[858] Vietnam has thus also occupied eight islands since.[859] The Philippines has only claimed the Spratlies since about 1968, when its

849 Prescott n35 218 and 222. See also Chiu n836 360, Dzurek n26 274, Katchen n846 1180, Davidson n842 351 and Sun n834 44.
850 Chen n826 111. See also Sun n834 47.
851 Chiu n836 359.
852 Central Daily News July 10 1992 2.
853 Fact Sheet No 2/74 South Vietnamese Embassy, Washington DC January 28 1974 2. See also Park n823 32 and Sun n834 54.
854 Hobday n846 329.
855 Chiu n836 358.
856 Ibid. As a matter of fact, the United Kingdom has already announced its annexation of the Spratlies in 1877, long before France decided to do so. However, the British admitted that their claim had not been perfected by administration and occupation and they therefore decided to recognise the 1933 French action. For a detailed account see Marston G 'Abandonment of Territorial Claims: The Cases of Bouvet and Spratly Islands' BYIL 57 1986 344-56.
857 FBTS Daily Report: Asia and Pacific October 1 1980 'Letter dated 1 October 1979...' (A/4/93). See also Dzurek n26 273.
858 Davidson n849. See also Chiu n836 358-9; Chiu and Park n810 9.
859 Dzurek n857.

forces occupied several islands.[860] In July 1971, President Marcos announced that the 53-island group known as Kalayaan, exclusive of the Spratly per se, which the Philippine explorer Tomas Cloma explored and occupied from 1947 to 1959, was regarded as res nullius and could be acquired according to the modes of acquisition of territory recognised by international law, among which are occupation and effective administration.[861] In 1974, the Philippines further raised the argument that the 1952 Treaty of Peace between the Allied Powers and Japan did not stipulate to whom the Islands should be assigned.[862] On June 11, 1978, Presidential Decree No 1596 was finally issued to give effect to the formal incorporation[863] of the Kalayaan area, under the hypothesis that the islands in the area did not legally belong to any state or nation, 'by reason of history, indispensable need and effective occupation and control' or proximity.[864] In consolidating its claims, the Philippines is even more active than others[865]: it not only occupies eight islands[866] but has also granted concessions to explore oil and gas in the Reed Bank.[867] Malaysia is the latest competitor[868] claiming a number of features in the southern region of the Spratly Islands in 1978.[869] In 1979, Kuala Lumpur published a map depicting its continental shelf in the area. This included the Amboyna Cay, Swallow Reef and

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860 Prescott n41 83-4.
861 'A 2000-year-old Claim' FEER August 7 1981 30-3. See also Chen n826 122; n851 and Sun n834 57.
862 Chen n861. See also Sun n861.
863 Davidson n849. See also n851; Sun n861 and Dzurek n26 273-4.
864 Ibid 274. For a more detailed account in this regard, see Drigot n671 40-8 and Davidson n839 351-2.
865 Birnie n807 186.
866 See n852.
867 Valencia and Miyoshi n33 219. See also Valencia n33 173; Chen n826 22-3; Drigot n671 25 36 48; Park n779 314; Park n823 41 and O'Brien n741 29.
868 Sun n834 58.
869 Davidson n839 352. See also Kittichaisaree n23 144.

the rocks on Louisa Reef.[870] The legal basis of the Malaysian claim is mainly that the islands in question are situated on its continental shelf.[871] In 1983, it was further argued that the Amboyna Cay, according to a survey, is in the Malaysian EEZ.[872] Soon afterwards, Malaysia sent armed forces to occupy Swallow Reef to prevent occupation by 'foreign forces'.[873]

The center of the problem lies in the ensuing legal stalemate.[874] No country's claim is considered bona fide by the others[875], although most of them are not even confident that their own claims can be vindicated in international law.[876] For example, the positions of the PRC, ROC and Vietnamese are said to be essentially irredentist in nature.[877] The Chinese ignore the fact that the French did occupy the Spratlies. Vietnam continues to disregard the French acknowledgment that the only people on the islands were Chinese when it occupied them.[878] It has also been pointed out that the Malaysian claim is a 'reverse' approach to the question of territorial title.[879] It is not water which give title to islands but island which confer rights to water.[880] Only the Philippines asserts a primarily legal argument.[881] As a result, although agreement was reached between the Philippines and Vietnam in January 1978 to solve

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870 Ibid. See also Dzurek n26 274.
871 Das K 'Perched on a Claim' FEER September 29 1983 40-1. See also Davidson n869 and n868.
872 Chen n826 92. See also Davidson n869 and n868.
873 Kittichaisaree n869. See also Dzurek n870; and Valencia and Miyoshi n33 234.
874 See n834.
875 Valencia and Miyoshi n873.
876 Kittichaisaree n869.
877 Samuels n818 7.
878 Katchen n846 1178-9.
879 Sea Changes 8 1988 15.
880 Prescott n35 222.
881 See n877. See also Katchen n846 1180-1 and Prescott n41 84. However, even this is still disputed by Davidson n869 and Kittichaisaree n23 142.

the dispute 'in a spirit of conciliation and friendship'[882] and this was soon followed by a similar agreement between the PRC and the Philippines[883], none of the states concerned has as yet recognised or acquiesced in the claims of the others.[884] No overall solution is in sight.[885] Recently the problem has been even further exacerbated by potential living and non-living resources, particularly hydrocarbons, in addition to the major international navigational routes[886] in the area.[887] When the PRC declared in June 1992 that it would use its 'entire naval forces' to defend its oil interests in the overlapping zone[888], many in the region fear, for the first time, that hostilities might erupt on the islands and spill over into the region as a whole.[889]

9.4 Settlement of disputes: possibilities and recommendations

It seems likely that the whole area of the South China Sea will in the end be appropriated as national jurisdiction.[890] At present however the positions of the disputants on the maritime boundary issues still vary from one another.[891] First resort by the PRC and Vietnam to international adjudication to solve the problems has been ruled out.[892] PRC reasons include: the zero-sum nature of judicial

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882 FEER February 24 1978 12. See also Tangsubkul n1 100 and Hobday n846.
883 Newsweek March 27 1978 18. See also Valencia n19 332, Tangsubkul n882 and Hobday n846.
884 Kittichaisaree n23 139 145.
885 Ibid 139. See also McDorman TL 'The South China Sea Islands Dispute in the 1990s - A New Multilateral Process and Continuing Friction' IJMCL 8(2) 1993 272.
886 Bowett n814 299. See also Park n823 48 and McDorman n885 267.
887 Morgan n12 304. See also Valencia n33 165.
888 Central Daily News June 21 1992 2.
889 Sun n834 58-9.
890 Bowett n814 310.
891 Park n24 444.
892 Park n886.

decision, where one party 'wins' and the other 'loses'; the unpredictability of and the substantial loss of control over the ultimate outcome of the dispute, particularly when a huge oil resource is involved; and the Chinese attitude to 'loss of face' which is rooted in culture and history.[893] Instead, it has expressed its preference for direct negotiation or consultation.[894] It admits that negotiation or consultation is not a mere procedure, but is a legal obligation which cannot be lightly treated and that serious efforts should be made to attain the best possible results.[895] As to the general legal principle to be applied in delimitation of the continental shelf, the PRC officially supports the natural prolongation theory.[896] It does not concede the application of the equidistance rule failing agreement and in the absence of special circumstances.[897] In its view, delimitation should be effected by agreement in accordance with equitable principles taking into account all relevant circumstances and employing any appropriate method to lead to an equitable solution.[898] Being one of the criteria for delimiting maritime boundaries, the equidistant

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893 Lee WC 'Troubles Under the Water: Sino-Japanese Conflict of Sovereignty on the Continental Shelf in the East China Sea' ODIL 18(5) 1987 596.

894 Ibid 597. See also Gao Z 'China and the LOS Convention' MP 15(3) May 1991 205 and Wang TY 'China and the Law of the Sea' in Johnston DM and Letalik NG ed The Law of the Sea and Ocean Industry: New Opportunities and Restraints 1984 587-9.

895 Ibid 587.

896 Ibid. See also Gao n894; Lee n893 593-4; Park n779 309; Valencia n29 93; Park n24 445; Valencia MJ 'Northeast Asia: Petroleum Potential, Jurisdictional Claims and International Relations' ODIL 20(1) 1989 46; Yuan PC 'China's Offshore Oil Development: Legal and Geopolitical Perspective' Texas ILJ 19 1983 119; Yuan PC 'China's Jurisdiction Over its Offshore Petroleum Resources' ODIL 12(3/4) 1983 196.

897 Yuan PC 'China's Offshore Oil Development: Problems and Prospects' in Johnston and Letalik n894 460.

898 Chiu H 'The People's Republic of China and the Third United Nations Conference on the Law of the Sea' IPIJ 1 1983 572. See also Lee n893 593 and Gao n894 207.

method is acceptable only when in accordance with equitable principles.[899] In like manner, Vietnam is willing to resort to negotiation only, but not to the compulsory jurisdiction of the ICJ or any other compulsory arbitral procedure.[900] It advocates a policy of settling disputes by peaceful method[901] on the basis of respect for mutual independence and sovereignty and in conformity with international law and practice.[902] In practice, it agrees to solve its overlapping claims with Thailand, as mentioned earlier, on the basis of equitable principles[903] and supports the median line in dealing with the disputed central part of the South China Sea.[904] Strictly speaking, both the PRC and Vietnam do not adhere rigidly to, or depart conspicuously from, any particular principle of delimitation as is evident from a series of offshore boundary problems with their adjacent and opposite neighbours.[905] Kampuchea, Indonesia and Malaysia in effect also hold the above views on the settlement of dispute procedures. They maintain that all problems pertaining to overlapping maritime zones are to be solved through negotiation. They have not accepted compulsory jurisdiction.[906] While all rely on the median-line principle for actual delimitation[907], Kampuchea however further favours the idea of the multi-purpose boundary.[908]

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899 Wang n894 587.
900 Kittichaisaree n23 103-4,126.
901 Hobday n846 331.
902 Chung n799 60.
903 See n774 and accompanying text supra.
904 Valencia n29 93.
905 Park n779 309.
906 Kittichaisaree n23 103-4. For the part of Malaysia see O'Brien n741 45-6. For the part of Indonesia see also Jayakumar S 'The Third UN Conference on the Law of the Sea: Proposals, Issues and Trends Relevant to Southeast Asia' in MacAndrews and Chia n19 300.
907 Park n823 42. For the part of Indonesia see also Wisnumurti N 'Indonesian Developments in Offshore Oil' in Johnston et al ed n11 105.
908 Kittichaisaree n23 73.

Of those Southeast Asian coastal states, Singapore is the only one in favour of compulsory third party adjudication with minimal exceptions.[909] Furthermore, it desires a single maritime boundary which divides the continental shelf and EEZ.[910] Although the Philippines also supports compulsory jurisdiction leading to a binding decision[911], it nevertheless feels that there should be exceptions and reservations to safeguard a state's vital interests provided that they are not so broad as to negate the concept of compulsory jurisdiction.[912] It is more willing to conclude agreements[913] settling continental shelf boundary issues 'in accordance with legal and equitable principles'[914] or the EEZ on the basis of 'pertinent generally recognized principles of international law'.[915] In sharing Indonesia's view, the Philippines further stresses that the ASEAN regional machinery for settling disputes is to be preferred but as a supplement to traditional and direct bilateral negotiations between ASEAN states.[916] This refers to the 1976 Treaty of Amity and Cooperation in Southeast Asia[917], Article 15 of which stipulates that: where no solution is reached through direct negotiations, the High Council (comprising ministerial level representatives of the parties to the treaty) 'shall recommend to the parties in dispute appropriate means of settlement such as good offices,

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909 Ibid 103. See also Jayakumar n906.
910 See n908.
911 'SEAPOL International Conference: Summary of Proceedings of the Public Syposium' (30 April 1987) MP 12(1) January 1988 64. See also Jayakumar n906 and Kittichaisaree n23 104.
912 Ibid. See also Jayakumar n906.
913 'Summary of Proceedings' n911.
914 Presidential Proclamation No 370.
915 Presidential Decree No 1599. Text in Nordquist and Park ed (the Phillipines) n670 17-9.
916 Kittichaisaree n911. See also Kayakumar n906.
917 Text in ILM 27(3) May 1988 610-2.

mediation, inquiry or conciliation... for the prevention of a deterioration of the dispute or the situation'.[918]

Thailand is between the above two extreme positions on procedural matters.[919] Although it has withdrawn its acceptance of the compulsory jurisdiction of the ICJ because of the Temple of Preach Vihear Case in which it failed, it nevertheless still expresses a preference for other judicial means of settlement - arbitration for example.[920] For actual demarcation, it opposes the equidistance rule[921] and upholds equitable principles.[922] Moreover, it probably prefers to regard the agreed continental shelf boundaries with its neighbours as EEZ boundaries as well.[923] Finally, the ROC, unable to have access to the ICJ because of its ambiguous status in international law[924], is nevertheless still willing to negotiate with its neighbours to solve continental shelf issues by applying the natural prolongation principle[925] and EEZ disputes 'in accordance with generally accepted principles of international law'.[926] Generally speaking, the chances of peacefully solving all the disputes have not been absolutely foreclosed since all states in the South China Sea have invariably been saying

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918 With respect to the ASEAN as a whole, see Section 2.2.1 of Chapter 2.
919 See n916.
920 Tangsubkul n36 58.
921 Jayakumar n906 297. See also Sharma n4 107.
922 Kittichaisaree n23 125. See also Jayakumar n921 and Tangsubkul n1 101.
923 Kittichaisaree n23 75.
924 Fu KC International Oceans Law and Fishery Disputes (in Chinese) 1990 241.
925 Park n24 449. See also Park n779 305, Chiu n705 13 and Park CH 'Boundary Delimitation in the South China Sea' in Johnston et al ed n11 135.
926 Para 2(2) of the Resolution of the Administrative Yuan on September 6 1979. English text in Nordquist MH and Park CH ed 1981 6. See also Sun n705 9 and Park n24 449.

that, at least, boundaries should be determined through consultations.[927]

In trying to facilitate the settlements of maritime boundary issues, various theoretical models have been proposed.[928] Beauchamp, for example, thinks of a functional approach to jurisdiction in the oceans which will demand that boundaries drawn to allocate specific jurisdictions take account not only of location, but also of scientific and ecological realities.[929] Boundaries drawn on a functional basis take account of purposes and consequences.[930] Langeraar elaborates upon the equiratio method of delimitation defining it as '[a] boundary line between the offshore areas under the jurisdiction of two coastal States, with either adjacent or opposite coast lines, will be called an equiratio line when every point of it is defined by a constant fraction, or ratio, of its distance from the nearest point of the base line from which the breadth of the territorial sea of each of the two States is measured'.[931] The advantage of this method, he argues, include its adaptability, the straightforwardness of its unambiguous construction, its objective, applicability in all geographical circumstances, its remedial capacity of tending to diverge increasingly from the equidistance line further offshore; the acceptable equitableness of the mutually agreed ratio and its foundation on perfectly unambiguously mathematical rules.[932] He also points out that it can well accommodate historical rights and concessions already granted.[933] Charney constructs the factor analysis approach which involves a five-step procedure.[934] Beginning with the

927 Park n779 312.
928 Vicuna n57 614.
929 Beauchamp n8 91.
930 Ibid.
931 Langeraar n792 394.
932 Ibid 396-7, 400 and 402.
933 Ibid 402.
934 Charney n47 597.

identification of the functions to be served by coastal state jurisdiction in the specific zone to be delimited, his theory next requires that all factors that reflect on the functions to be served by the zone must be sorted out.[935] The possible factors are classified under four headings, but only by way of example. They include: geomorphological considerations such as concepts of proximity and appurtenance, natural features, proportionality; geological considerations, of which natural prolongation is a case in point; resource interests, including unity of deposits and stocks, usage, environmental considerations; and prior governmental activities in the boundary area.[936] These facts must then be used to construct a line or range of lines appropriate for the function to which it relates.[937] The alternative lines and factors should then be weighed according to their importance in order to arrive at the line that best reflects the relevant factors considering their importance to the zone and lastly, an appropriate cartographic method should be selected to describe the line accurately and reliably.[938] Valencia recommends the arrangement of joint development as an alternative way out of the impasse.[939] International joint development is, according to him, the common exercise of sovereign rights by two or more states for the purpose of exploration and exploitation of the non-living resources of an area under national jurisdiction[940], when they are unable to compromise on a single line and recognize that the other party's arguments have some force.[941] This is in fact one of the

935 Ibid.
936 Ibid 599-602.
937 Ibid 597.
938 Ibid.
939 Valencia n33 187. Tangsubkul also argues to this effect. See Tangsubkul n36 59.
940 Valencia n767 683.
941 Prescott n41 82. For a more detailed account of this concept, see Miyoshi M 'The Basic Concept of Joint Development of Hydrocarbon Resources on the Continental Shelf: With Special Reference to the Discussions at the

provisional arrangements into which states are required to enter under LOSC pending agreement on the boundary of an EEZ and continental shelf.[942] Perhaps the strongest reason for a state's opting for a joint undertaking would be its sense of urgency or obligation to protect its interests in potential oil and gas deposits combined with a desire to maintain good relations with another state with an equally valid claim to the area.[943] Since the PRC has expressly supported this idea in dealing with maritime boundary disputes[944], Valencia, together with Miyoshi, therefore stresses that the joint development should be a reasonable solution, at least in the region of the South China Sea.[945] At the technical level, Prescott suggests that it is better for two states to draw all the necessary maritime boundaries at the same time for the following reasons. Firstly, teams of experts will have been assembled at the time of agreement. They will have mastered the technical facts and agreed on a common body of knowledge. Any repetition of such onerous tasks should be avoided. Secondly, the chief negotiators will have established a working relationship that might well generate a certain momentum to make it easier to overcome problems. Thirdly, if a total package of boundaries is considered, more scope is provided for trading mutual advantages in different areas than would exist if

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East-West Centre Workshops on the South-East Asian Seas' IJECL 3 (10) 1988 1-18.

942 Valencia n767 664. Relevant provisions of LOSC are arts 74(3) and 83(3), both of which stipulate that 'Pending agreement... the States concerned, in a spirit of understanding and co-operation, shall make every effort to enter into provisional arrangements of a practical nature and, during this period, not to jeopardise or hamper the reaching of the final agreement. Such arrangements shall be without prejudice to the final delimitation'. For a more detailed account in this regard, see Lagoni R: 'Interim Measures Pending Maritime Delimitation Agreements' AJIL 78 1984 345-68.

943 See n939.

944 Wang n894 589. See also Lee n893 600.

945 Valencia and Miyoshi n33 214.

only a single type of boundary or a boundary in only one area were being considered. Finally, future changes in governments, the international climate or domestic circumstances might cause a worsening of relations and reduce the prospects of bilateral negotiations.[946] Valencia add that a carefully constructed web of bilateral agreements of a similar nature may eventually form the basis for multilateral negotiations and adjustments towards common policies.[947]

As to the intractable disputes over the Spratlies, it has been particularly suggested that the effective occupations by claimants of some formations should be recognised[948] and the maritime area be delimited in jurisdictional zones measured from the occupied formations.[949] However, the five disputants might not even be able to agree on which Spratlies are 'islands' rather than 'rocks' - and therefore entitled to a continental shelf and EEZ - let alone to fix boundaries for so many overlapping areas.[950] Moreover, this would create enclaves of water belonging to one state surrounded by waters claimed by another.[951] This has the potential for friction because citizens of a state that own an enclave clearly have the right to travel to it through waters controlled by another country.[952] Moreover, the enclose solution is, it has been pointed out, certainly impractical in the present case where islands are scattered all over the undelimited area.[953] Such a solution would inevitably lead to further complications in the future

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946 Prescott n41 74-5.
947 Valencia n19 352.
948 Katchen n846 1180. Kittichaisaree argues to a similar effect. See Kittichaisaree n23 148.
949 Ibid. For a more detailed proposal, see Valencia and Miyoshi n33 246-7.
950 Sun n834 59.
951 Prescott n41 76.
952 Ibid.
953 Kittichaisaree n23 95.

demarcation of maritime boundaries.[954] On the other hand, De Venecia suggests that 'the only logical approach is to partition the South China Sea along the lines of Europe's North Sea Convention, or through the creation of a demilitarized five-nation condominium that could jointly develop the underwater resources'.[955] It should be pointed out, nevertheless, that both approaches would necessarily involve concessions by claimants to sovereignty.[956] Present developments in this respect seem to indicate the opposite: 'The squabbles show no sign of abating' vividly describes a situation, where 'the claimants are not likely to lessen efforts to strengthen their ownership rights with an eye toward the future'.[957] Apparently no resolution will be possible without first dealing with the issue of the ownership of the islands, bearing in mind that 'sovereignty is not a divisible commodity'.[958] After all, the problem does not lie in the detailed techniques of demarcation of maritime boundaries, but rather in the most fundamental question - who owns what?[959] In view of the fact that national sentiments may easily flare up in any dispute involving territorial claims in Southeast Asia by reason of the historic background and psychological implications[960] which will further add to the complexity[961], it is submitted that the only feasible way (perhaps as a first step) to deal with the Spratlies as a whole seems to be the adoption of the basic formula created by the 1959 Antarctic Treaty.[962] Article IV of the regime stipulates:

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954 Sun n834 58.
955 Burton S 'Tiny Sparks for the Major Flash Point' Time June 24 1991 35.
956 See n950.
957 See n955.
958 Dzurek n26 280.
959 Sun n834 34.
960 Park n925 131.
961 Nweihed n4 37.
962 Text of the treaty in Triggs GD International Law and Australian Sovereignty in Antarctica 1986 325-30. Some

'1. Nothing contained in the present treaty shall be interpreted as:

(a) a renunciation by any Contracting Party of previously asserted rights of or claims to territorial sovereignty in Antarctica;

(b) a renunciation or diminution by any Contracting Party of any basis of claim to territorial sovereignty in Antarctica which it may have whether as a result of its activities or those of its nationals in Antarctica, or otherwise;

(c) prejudicing the position of any Contracting Party as regards its recognition or non-recognition of any other State's right of or claim or basis of claim to territorial sovereignty in Antarctica.

2. No acts or activities taking place while the present treaty is in force shall constitute a basis for asserting, supporting or denying a claim to territorial sovereignty in Antarctica or create any rights of sovereignty in Antarctica. No new claim, or enlargement of an existing claim, to territorial sovereignty in Antarctica shall be asserted while the present treaty is in force'.

The legal essence of this provision is that, in one word, non-recognizing states undertake during the operation of the treaty not to make protests in exchange for undertakings by claimant states not to assert present (or past) territorial sovereignty nor to treat the non-repetition of protests as prejudicing the non-recognizing states' legal position.[963] Although this has not resolved root questions of territorial sovereignty in Antarctica[964], it has however been pointed out that the mechanism has been remarkably successful[965] in that it has removed the need for the parties to the treaty

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important provisions may also be found in Harris n3 213-5.

963 Fox H 'The Relevance of Antarctica to the Lawyer' in Triggs GD ed The Antarctic Treaty Regime: Law Environment and Resources 1987 82.

964 Trolle-Anderson R 'The Antarctic Scene: Legal and Political Facts' in Triggs ed n963 60.

965 Triggs GD 'The Antarctic Treaty System: Some Jurisdictional Problems' in Triggs ed n963 88.

to reassert repeatedly their respective views on the issues and has made it possible for the parties to cooperate peacefully in spite of differences of view.[966] Moreover, this preserving prescription has laid down the basis on which all subsequent conventions can be linked to the Antarctic Treaty itself.[967] It is therefore the opinion of this writer that the establishment of an Antarctic Treaty-like instrument is the only practical starting point in the case of the Spratlies. This may eventually lead to other suggested solutions such as the condominium[968], the joint development zone[969], the five-nation trusteeship[970], or, of course, final delimitation. In the meantime, Park correctly suggests that the states concerned proceed with seabed oil development in undisputed near-shore waters and gradually expand their operation seaward.[971] This policy has in effect already been adopted by the PRC.[972]

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966 See n964.
967 'Introduction' in Triggs ed n963 56.
968 Indeed, Starke argues that it is not impossible that the Antarctic Treaty regime could evolve into a condominium. See Starke JG Introduction to International Law 10th ed 1989 116.
969 In a recent conference, the Indonesian representative recommended this concept as a solution for the present case in particular. See 'Indonesia and the LOS Convention' MP 14(4) July 1990 369. See also Van Dyke and Bennett n38 54, 89.
970 Drigot n671 50.
971 Park n779 316.
972 Yuan PC 'Disputes Over Marine Resources in East Asia: Conflict Ahead?' IJECL 1(4) December 1986 395.

CHAPTER 10

FISHERIES MANAGEMENT

10.1 Recent developments in fisheries: global trends in general and the scenario in the South China Sea in particular

In the quarter century since the early 1960s the world demand for fishery products has steadily increased, as population levels in many parts of the world have continued to rise.[1] Fish provides about 6% of total protein supply and if one allows for the contribution of fish meal to the feeding of livestock, fishery products supply as much as 24% of total animal protein.[2] In developed countries the level of fish consumption has remained fairly stable, fluctuating only slightly with the rise and fall of prices.[3] In developing countries, on the other hand, fishery products have assumed a significantly higher proportion of the total diet:[4] roughly 70% of the fish landings is utilized for human consumption and an estimated 27% is converted to fish meal for use as a feed supplement for poultry and livestock.[5] Hence, fish is the most important source of animal protein in human diets, particularly for the people in the Third World and for the poorer and undernourished populations.[6] While the world population is increasingly

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1 Johntson DM The International Law of Fisheries: A Framework for Policy Oriented Inquiries 1987 xxxii.

2 Robinson MA Trends and Prospects in World Fisheries FAO Fisheries Circular No 772, September 1984 1. In 1988, the world supply of animal protein was an estimated 253 million gross tonnes of meat of all kinds. Marine fisheries contributed 65 million gross tonnes, assuming first place as a source of animal foods. See Hinds L 'World Marine Fisheries: Management and Development Problems' MP 16(5) September 1992 394.

3 See n1.

4 Ibid.

5 Hinds n2.

6 Ibid.

dependent upon this source of nutrition[7], however, the total global fish supply is now threatened by overfishing.[8] Although there had been a slow but steady average increase in total world landings in recent years (2.3% between 1979 and 1983) this is modest compared with the period between 1948 and 1970 which witnessed an increase of over 250% in total world production.[9] The steady increase was reversed in 1990 for the first time in some 20 years.[10] The estimated total of 97 million tones was some three million tonnes below the record set in 1989[11], which stood at 100 million tonnes.[12] This has brought some facts to the fore: that the natural limits of supply have been reached in many countries[13]; that very few substantial untapped resources of conventional species remain[14]; and that roughly 25% of the

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7 Indeed, in almost all countries where fish is an important element in the diet, there has been an increase in per capita consumption during the past two decades. See Robinson MA 'World Fisheries to 2000: Supply, Demand and Management' MP 4(1) January 1980 20.

8 Hinds n2. See also Briesch CFP 'Marine Fisheries Management: The Common Fisheries Policy of the EEC - its Relevance to Southern Africa with Particular Reference to the Possibility of an Interim Agreement between South Africa and Namibia Pending a Final Delimitation of the Maritime Zones' Sea Changes 12 1990 42 and 48; 'Report of the Secretary-General of the United Nations, 5 December 1991' in Simmonds KR ed New Directions in the Law of the Sea U 6.7 March 1992 26 para 91; and Arnason R 'Ocean Fisheries Management: Recent International Developments' MP 17(5) September 1993 334.

9 Johnston n1 xxxiii.

10 Hinds n2 395.

11 Hjul P 'World Catch' Fishing News International May 1992, based on FAO statistics.

12 McElroy S and Mills L 'Asian Fisheries to the Year 2000' MP 17(2) March 1993 140.

13 'Report of the Secretary-General of the United Nations, 19 November 1990' in Simmonds KR New Directions in the Law of the Sea U 6.6 May 1991 25 para 113. This is due to the fact that fishing of all known stocks, in most cases, is approaching or has reached the maximum level. See '1991 Report' n8.

14 '1990 Report' n13 25 para 114.

world's fish stock are now overfished.[15] As a result, it has been pointed out that the period of rapid expansion has ended and is unlikely to return.[16] Moreover, demand is expected to outstrip supply from now on.[17] By the year 2000, it is estimated, the world's population is expected to reach 6 billion, which at current consumption rates will require an additional 19 million tonnes of fish per year as human food[18] and will produce a shortfall on the basis of present supply of 20m tones.[19] Projecting further ahead, by the year 2025, when the world's population is expected to reach 11 billion, the shortfall over present fish supply is projected at 100 million tonnes.[20] In view of the stress on[21] and the scarcity of[22] the resources, proper management is urgently needed[23], without which even maintaining production at current levels may not be sustainable.[24] Generally speaking, the fact that uncontrolled development of fishing leads to disaster is now widely acknowledged by scientists and by fisheries development and management authorities, so that the future of common resources must be considered carefully.[25]

In Southeast Asia, fish and fishery products have traditionally been a major source of food.[26] The average annual consumption per capita for the region is higher than

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15 Ibid 25 para 115. See also Hinds n2 394 and 397.
16 See n9.
17 See n12. See also Robinson n7 20.
18 See n1.
19 See n12.
20 Ibid.
21 '1991 Report' n8 27 para 95.
22 Mackenzie LDM 'Sea Fisheries Management: the EC Position' MP 17(5) September 1993 343.
23 Robinson n7 30. See also Arnason n8 335 and '1990 Report' n13 25 para 117.
24 See n12. This is particularly true when one realizes it is practically impossible to exploit all the world's fish stocks to 100% of their potentiality. See n1.
25 '1990 Report' n13 24 para 108.
26 Tangsubkul P ASEAN and the Law of the Sea 1982 43.

the world average.[27] Fish, in fact, are the single most important source of animal protein for the people in the region.[28] It is estimated that one-half or more of the total intake of animal protein by an average Southeast Asian comes from fish.[29] Fisheries in this regional maritime zone can firstly be characterized by the multiplicity of fishery stocks.[30] There are some 2 500, largely short-lived[31], species of fish[32] which may be broadly divided into these major categories, namely, demersal, pelagic and migratory.[33] The demersal group includes those species that live at or near the bottom of the sea, eg shrimps, sea bream, flat fish etc.[34] The pelagic group includes those that dwell and feed at the surface or in the water column.[35] The third group encompasses those species that move extensively, from the waters of one country to another, or throughout an entire ocean.[36] This group includes several species of pelagic fish and oceanic fish such as scad, sardines, billfish[37], mackerel and tuna.[38] In addition, there are also several anadromous and

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27 Marr JC 'Southeast Asian Marine Fishery Resources and Fisheries' in MacAndrews C and Chia LS ed Southeast Asian Seas, Frontiers for Development 1981 76.

28 Tangsubkul P and Lai FF 'The New Law of the Sea and Development in Southeast Asia' Asi Sur 23(7) July 1983 868.

29 Ibid.

30 Tangsubkul n26 49. See also 'General Discussion' in Johnston DM et al ed International Symposium on the New Law of the Sea in Southeast Asia 1983 70.

31 Valencia MJ 'The South China Sea: Prospects for Marine Regionalism' MP 2(2) 1978 89.

32 Marr n27 78. See also Tangsubkul n30 and Samson ED 'Fisheries' in Kent G and Valencia MJ ed Marine Policy in Southeast Asia 1985 101.

33 Menasveta D 'A Regional Approach to the Development of Living Aquatic Resources in the Southeast Asian Region' in Johnston et al ed n30 36.

34 Ibid.

35 Ibid.

36 Ibid.

37 Ibid.

38 Ibid. See also Christy Jr FT 'Fishery Problems in Southeast Asia' in Johnston DM ed Regionalization of

catadromous species, as, for example, the Indian shad which lives in the ocean as an adult and ascends rivers to spawn, as do salmon at higher latitudes and the Malaysian prawn which lives in rivers and enters the sea (or at least brackish-water coastal areas) to spawn.[39] The second characteristic of regional fisheries in the South China Sea is that many species are wide-ranging[40], either migrating between, or occurring in, the waters of two or more countries.[41] For example, skipjack, yellowfin and other tuna swim through the archipelagic and exclusive economic zone (EEZ) waters of Indonesia and the Philippines at various times of the year.[42] Moreover, mackerel are believed to be shared by Malaysia and Indonesia in northeast Borneo[43] and by China and Vietnam in the Gulf of Tonkin[44]; Malaysia and Indonesia share the mackerel and roundscad stock within a wide radius off Natuna Island[45]; Kampuchea, Vietnam and Thailand share the mackerel, roundscad and sardine stock in the northeast portion of the Gulf of

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the Law of the Sea 1978 219 and Hanson AJ 'Coastal and Ocean Resource Management: The Vietnam Case' Ocean YB 7 1988 246.

39 Marr n27 81.

40 Tangsubkul n26 48.

41 Marr n27 94.

42 Samson n32 107. See also Menasveta n33 44; Christy Jr n38; Unar M 'Distributional Factors in the Fisheries of Southeast Asia' in Johnston et al ed n30 53; Ronquillo I 'The Law of the Sea and its Impact on the Development of Fishery Resources in Southeast Asia' in Johnston et al ed n30 60 and 62; and Munro GR 'Extended Jurisdiction and the Management of Pacific Highly Migratory Species' ODIL 21(3) 1990 302. As a matter of fact, tuna also appears in the coastal waters of PRC. See Du B 'China's Strategy for Development of its Marine Living Resources in the EEZ' in Kuribayashi T and Miles EL and The Law of the Sea in the 1990s: A Framework for Further International Cooperation 1992 461.

43 Samson n31 108.

44 Ibid. See also Valencia MJ 'Vietnam: Fisheries and Navigation Policies and Issues' ODIL 21(4) 1990 436.

45 See n43.

Thailand.[46] The third feature of Southeast Asian fisheries is that productivity is high in the continental shelf areas and low in the surface waters of the deep oceans.[47] Thus, important fishing areas concentrate in the western Malacca Strait, the Gulf of Thailand, the southern South China Sea, the coast off southern Vietnam, the Gulf of Tonkin, the seas northwest of Palawan and the north-central South China Sea.[48] At present, the pelagic resources are less heavily exploited than those of the demersal fish.[49] The areas of largest potential yield are the east coast of Peninsular Malaysia, the Indonesia-South China Sea, Natuna Islands, off Sarawak, off Sabah, off the Mekong mouth and Central Sunda Shelf.[50] It was particularly estimated that of the potential yield of 3.3 million tonnes from the demersal resources in the Sunda Shelf, only about 1 million are presently harvested.[51] However, the demersal fish stock in the Gulf of Thailand and the Malacca Strait have been heavily fished.[52] Moreover, it has been reported that over-fishing is particularly acute in the Java Sea and in the waters off the west coast of Peninsular Malaysia.[53]

Individually, fisheries in Indonesia are basically small scale, employing small boats and traditional fishing gear operating in coastal waters - particularly in the coastal

46 Ibid. See also Christy Jr n38. Hanson n38, Menasveta n42, Valencia n44 and Valencia MJ 'Southeast Asian Seas: National Marine Interests, Transnational Issues and Marine Regionalism' in MacAndrew and Chia ed n27 329.

47 Tangsubkul n30.

48 Meith N and Helmer R 'Marine Environment and Coastal Resources in Southeast Asia: A Threatened Heritage' Ocean YB 4 1983 271.

49 Tangsubkul and Lai n28 870.

50 Ibid 869. See also Tangsubkul n26 113.

51 Ibid. See also Tangsubkul and Lai n28 869.

52 Menasveta n33 38-9.

53 Tangsubkul and Lai n51. See also Tangsubkul P and Lai F 'Possible Effects of the Law of the Sea on Development in Southeast Asia' in Johnston et al ed n30 207.

waters off Sumatra in the Malacca Straits and off the north coast of Java.[54] The present harvesting capacity is therefore low[55], standing at 1.8 million tonnes only.[56] Compared with an estimated maximum sustainable yield of 4.7 million tonnes[57], the resources of Indonesia's marine waters are obviously underutilized.[58] Presently, the Indonesian government has begun to develop commercial-scale fishing of shrimp and, inter alia, skipjack and other tunas.[59] The exploitation of the latter within Indonesia can be subdivided into three areas: the shallow waters of the Sunda Shelf; the deep, exposed waters of the Indian Ocean; and the deep, oceanic waters of east Indonesia, including Sulawesi, Maluccu, Irian Jaya and Bali/West Nusa Tenggara/East Nusa Tenggara/East Timor.[60] Today, Indonesia is probably the world's fourth largest producer of tuna after Japan, the USA and Spain.[61] Malaysia is geographically divided into two regions separated by 640km of the South China Sea.[62] This geographical position makes fish a more readily accessible source of food compared to other animal proteins.[63] With the introduction of mechanized fishing techniques and trawl

54 Wisnumurti N 'Some Impacts of the 1982 Convention on the Law of the Sea on Maritime Jurisdiction: An Indonesian Perspective' in Craven JP, Schneider J and Stimson C ed The International Implication of Extended Maritime Jurisdiction in the Pacific 1989 47. See also Tangsubkul n26 51 and 53.

55 Wisnumurti n54.

56 Kwiatkowska B 'Indonesia and the LOS Convention' MP 4(3) July 1990 369.

57 Samson n32 115. An earlier estimation was 4 million tonnes. See Soegiarto A 'The Potential Impact of Pollution on Indonesian Coastal Resources with Special Reference to the Major Energy Shipping Routes' in Valencia MJ, Gold E, Chia LS and Letalik NG ed Shipping, Energy and Environment: Southeast Asian Perspectives for the Eighties 1982 121.

58 See n56. See also Samson n32 116.

59 Ibid 117.

60 McElroy JK 'Indonesia's Tuna Fisheries: Past, Present and Future Prospects' MP 13(4) October 1989 287-8.

61 Ibid 285.

62 Tangsubkul n26 53.

63 Ibid.

fishing in 1965, fish production has increased rapidly[64] and reached 747 000 tonnes in 1989.[65] The outcome of this development, however, has been the overexploitation of fishery resources (eg anchovy), both biologically and economically: particularly on the west coast of Peninsular Malaysia.[66] As a result, the Malaysian Government is now encouraging its fishermen to shift fishing operations out of the west coast of Peninsular Malaysia toward the South China Sea, particularly in areas facing Sabah and Sarawak.[67] A recent survey reveals that the total potential resource of the Malaysian EEZ is 976 994 tonnes. 442 385 tonnes are distributed in Peninsular Malaysia, 379 495 tonnes in Sarawak and 115 114 tonnes in Sabah.[68] The Philippines, another archipelagic state of Southeast Asia, is at approximately the same stage of development in fisheries production as Indonesia.[69] Various estimates from the South China Sea Programme and FAO place the maximum sustainable yield of Philippine - claimed waters at 1.45 - 1.85 million tonnes.[70] Most of the major fishing grounds within the

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64 Ibid 54.

65 Omar IH, Noh KM, Mustapha N, Abdullah R and Kuperan K 'Malaysian Fisheries Policy: Search for New Grounds' MP 16(6) November 1992 438.

66 Ibid 438 443.

67 Tangsubkul n26 55. See also Samson n32 120.

68 Mohamed MIH 'National Management of Malaysian Fisheries' MP 15(1) January 1991 7. An earlier estimation was higher, which stood at 1.1 million tonnes per annum for the country as a whole. See Jothy AA 'Malaysia: Valuable and Vulnerable Marine Resources' in Valencia, Gold, Chia and Letalik ed n57 148. For other estimates, see Samson n32 119-20.

69 Tangsubkul n26 56.

70 See for example, FAO-SCSP Summary Report of the Workshop on the Demersal Resources of the Sunda Shelf, Penang, Malaysia, 31 October - 4 November 1977 12. Of the estimated 1.85 million tonnes, it has been further pointed out, 1.6 million tonnes are from internal waters and 0.25 million tonnes are from waters gained as a result of the Philippine EEZ declaration. See Samson n31 123. The potential yield of the Philippine EEZ was previously estimated at 165 408 tonnes. See Umali RM 'Coastal Resources Development and Management:

country's internal waters, such as the Visayan Sea, Lingayen Gulf, Manila Bay and Samar Sea, are overexploited.[71] On the other hand, offshore waters, such as those off the eastern coast of the Philippines and in the South China Sea, are under-exploited.[72] Like Indonesia, the Philippines, in recent years, has begun to develop commercial fishing of the tuna resource primarily for export.[73] Except for tuna, however, fishing activities are still largely confined to archipelagic and territorial waters.[74] In the case of Thailand, the estimated potential catch,in the Gulf of Thailand (including the zones of Kampuchea and Vietnam), of demersal fishery resource is 844 000 tonnes and of small pelagic fish is about 100 000 tonnes. Off the west coast of Thailand, the potential catch for that country has been estimated at approximately 85 000 tonnes for pelagic fish and around 200 000 tonnes for demersal fish.[75] At present, the demersal fishery in the Gulf of Thailand is heavily exploited, particularly in the shallower parts.[76] Moreover, pelagic fisheries on the west side of the gulf have also been overexploited.[77] Although the depletion of conventional stocks results in the increase of squid, inkfish and octopus[78], there is not much room for expansion.[79] As a result, it has been pointed out that the Thai fishing industry, probably the most developed among the

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The Philippine Experience' in Valencia, Gold, Chia and Letalik ed n57 180.

71 Ibid.

72 Ibid. See also Ronquillo n42 58-9.

73 Samson n32 125.

74 Ibid 126.

75 South China Sea Fisheries Development and Coordinating Programme Report of the Workshop on Management of Resources of the Sunda Shelf, Malacca Strait and Related Areas, Manila, 7-9 December 1977 SCS Gen/78/18 (Manila) 1978 1-5.

76 Ibid 2.

77 Samson n32 129.

78 See the remark of Sucharitkul S in 'Discussion' in Craven, Schneider and Stimson ed n54 70.

79 Samson n32 131.

ASEAN member states[80] and ranking with the largest and most advanced deep-sea fleets in the world[81], is a classical example of overfishing and over-capitalization.[82] In the case of Vietnam, its 200nm EEZ and other marine claims give it access to vast fishing grounds that are rich in resources and have hardly been tapped in the previous era.[83] In the early 1970s it was estimated in the FAO-South China Sea Programme study that the maximum sustainable yield for demersal species over the northern Sunda Shelf of the South China Sea was 150 000 tonnes and that over the central Sunda Shelf it was 290 000 tonnes.[84] Those areas are adjacent to the souther part of Vietnam.[85] Another UNDP-FAO report also estimated the potential yield of pelagic fish in the fishing grounds off the southeast coast of Vietnam (Mekong Delta), east coast (South China Sea) and west coast (Gulf of Thailand) at 680 000 tonnes.[86] Although some areas, particularly the Gulf of Thailand and the northern Sunda shelf, presently appear to be overexploited, there is still some scope for growth in offshore fisheries.[87] Finally, China's geography makes it a beneficiary of a huge marine resource area.[88] There are more than 50 fishing grounds totalling approximately 2.8 million sq km.[89] Encouraged by resource abundance, therefore, PRC began to develop its fisheries, with a view to increasing food production as well as employment, as early as the end of the civil war in

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80 Tangsubkul n26 60.
81 Torell M 'Thailand's Fishing Industry: Future Prospects' Ocean YB 7 1988 132.
82 Marr n27 90. See also Tangsubkul n26 61.
83 Samson n32 132.
84 Generally see FAO-SCSP 1977 Report n70. See also Valencia n44 432.
85 See n83.
86 UNDP and FAO The South China Sea Fisheries: A Proposal for Accelerated Development SCS/DEV/73/1 May 1974. See also Valencia n44 434.
87 Hanson n38 247 and 261.
88 Song YB 'China's Ocean Policy: EEZ and Marine Fisheries' Asi Sur 29(10) October 1989 985.
89 Du n42 462.

1949.[90] The effort culminated in 1989 when it became the third largest fishing nation in the world.[91] Along with this rapid development, however, resource problems have arisen,[92] According to a FAO fisheries expert, the optimal yield for China's waters would be around 3.7 million tonnes[93] and by 1984 China's total marine catch had already reached 3.31 million tonnes.[94] Moreover, most of the species including aku, besugo, tuna and flying fish[95], taken from the five fishing grounds in the South China Sea[96] are heavily exploited.[97] As a result, it appears that China is depleting most of its important resources.[98]

In short, marine fisheries in the region of the South China Sea have now passed the development phase - although some species have not been harvested to their maximum potential yet - and are entering the management phase.[99] Moreover, since the stocks do move freely between jurisdictional zones, a single multilateral agreement establishing an 'umbrella' scheme would obviously be needed to resolve fisheries management problems in this case.[100]

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90 Wang SDH and Zhan B 'Marine Fishery Resource Management in PR China' MP 16(3) May 1992 198.
91 Yu H 'Marine Fishery Management in PR China' MP 15(1) January 1991 23.
92 Wang and Zhan n90 197.
93 Hanson JR 'Chinese Fisheries' in China's Economy Looks Toward the Year 2000, Vol 1, the Four Modernizations Selected Papers, Joint Economic Committee, US Congress (Washington DC: GPO 1986) 435.
94 Song n88 998.
95 Du n42.
96 See n90. See also Yu n81 24.
97 Samson n32 134.
98 Ibid. See also Du n42 464, Song n88 995 and 998, Wang and Zhan n90 199 and n91.
99 Tangsubkul n26 50 and 113.
100 Valencia n31 95.

10.2 The international law of fisheries ante and post UNCLOS III

Generally speaking, there are two different approaches to the conservation of fish stocks on the (high) seas: first, the establishment of international fishery commissions which exercise appropriate managerial functions; and second, the extension of coastal state jurisdiction.[101] Prior to UNCLOS III, the regulation of fishing on the high seas by fishery commissions was the main trend.[102] Those fishery commissions have been created either by bilateral or multilateral agreements or by resolutions promulgated by an international organization.[103] The latter is particularly limited to fisheries bodies related to the FAO, such as Indo-Pacific Fisheries Council, the General Fisheries Council for the Mediterranean, the Regional Fisheries Advisory Commission for the South West Atlantic, the Indian Ocean Fishery Commission and the Fishery Committee for Eastern Central Atlantic.[104] While varying greatly in their terms of reference, composition and powers and functions, however, the fishery commissions have in common the fact that the majority of them operate on a regional rather than a global level and they deal with specific species only.[105] The legal provisions concerning membership in fishery commissions can be classified in three categories: (i) closed membership (membership limited to the states which ratified the founding agreement of the organization); (ii) conditionally open membership (other states may become members, provided they meet certain conditions); (iii) unconditionally open membership.[106] As

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101 Wolfrum R 'Fisheries, International Regulation' in Encyclopedia of Public International Law: Law of the Sea, Air and Space XI 1989 110.
102 Ibid 111.
103 Wolfrum R 'Fishery Commissions' in Encyclopedia n101 117.
104 Ibid.
105 Ibid 117 and 119.
106 Ibid 117.

to the functions assigned to fishery commissions, they vary widely, ranging from merely advisory functions allowing for recommendations concerning conservation measures, the allocation of resources and the economic efficiency of fisheries, to administrative function concerning fish stocks.[107] Most fishery commissions, however, only have the right to recommend conservation measures.[108]

The underlying objective of these organizations is, as mentioned above, the conservation of fisheries.[109] The results of their performance are however disappointing.[110] The reason for this may be threefold.[111] First, this international regulation of fisheries still relies on national enforcement and no fishery commissions have established a system according to which conservation measures are enforced by the commission itself.[112] Thus, it entirely depends on voluntary cooperation amongst states.[113] Secondly, decisions in the commissions are arrived at by consensus[114] allowing individual members to dissent.[115] Thirdly, organizational participation is voluntary[116] and the fishery commissions lack the power to make their conservation measures binding upon non-members.[117] As a result of unilateral extension to 200nm of exclusive fisheries zones by many countries in the 1970s[118], most of

107 Ibid 119.
108 Ibid.
109 Ibid 117.
110 Johnston n1 xxix.
111 Driver PA 'International Fisheries' in Barston RP and Birnie P ed The Maritime Dimension 1980 43.
112 Ibid. See also Wolfrum n103 120, n110, Hinds n2 402 and Anand RP 'The Politics of a New Legal Order for Fisheries' ODIL 11 (3/4) 1982 277.
113 See n110. See also Wolfrum n103 119.
114 Hinds n112.
115 See n111.
116 Hinds n112.
117 Wolfrum n112.
118 Lawson R 'Fisheries Research and the Law of the Sea' in Brown ED and Churchill RR ed The UN Convention on the Law of the Sea: Impact and Implementation 1987 393.

the regional fisheries organizations have either been disbanded[119], as UN funds have been withdrawn[120], or have at least changed considerably.[121] For example, after the United States and Canada established national fishery zones, the International Commission for the Northwest Atlantic Fisheries (ICNAF) was terminated and the Northwest Atlantic Fisheries Organization (NAFO) was created.[122] NAFO retained functions similar to those of ICNAF only with respect to the high seas. Its powers with respect to the waters under national jurisdiction were reduced to research and information when requested by the coastal states concerned.[123] In short, fishery commissions have turned out to be an ineffective mechanism[124], if not a total failure[125], for the protection of fish stocks against over-exploitation.

Although the Geneva Convention on the High Seas did manage to mention that freedom of fishing shall be exercised 'with reasonable regard to the interests of other States in their exercise of the freedom of the high seas'[126], this had however little appeal for, inter alia, developing coastal states.[127] Nor had the 1958 Convention on Fishing and Conservation of the Living Resources of the High Seas.[128] Ratified by only 34 states accounting for less than 25% of

119 Ibid 393, 395. See also Johnston n1 xliii and Wolfrum n112,
120 See n118.
121 Wolfrum n112.
122 Ibid.
123 Ibid.
124 See n101. See also Johnston n1 xliii, lxviii and lxxiv; n111; Hinds n112; and Powell DM 'The EEC's Common Fisheries Policy: A Possible Model for Conservation in Namibia' Sea Changes 12 1990 109.
125 Some commentators have opined that these earlier efforts at regional cooperation had almost completely failed. See, for example, Arnason n23, Anand n112 and n118.
126 HSC art 2.
127 Johnston n1 xxviii.
128 Wolfrum n101 110-1.

world catch, the legal significance of this Convention was actually quite limited.[129] In UNCLOS III, thus, the majority of states finally decided to establish exclusive economic zones, assigning the management of about 90%[130]-95% of the world fishery resources to coastal states.[131] Accordingly, no less than 15 of the 21 articles in Part V of LOSC, which deals with the exclusive economic zone, contain fishery provisions of one kind or another.[132] The cornerstone of this regime is that in the exclusive economic zone the coastal state has 'sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the sea-bed and of the sea-bed and its subsoil'.[133] 'Sovereign rights' in this context is generally understood to be related to one or more specific purposes.[134] On the one hand, the term conveys the idea of a functional approach: the coastal state does not have full sovereignty as on its land territory or in the territorial sea, but jurisdiction that is related to certain purposes.[135] On the other hand, insofar as the specific purposes are concerned, the coastal state is 'sovereign': it has the exclusive right to make decisions with regard to the rules which are to apply and the exclusive right to enforce the measures.[136] Moreover, the managing state is committed

129 Ibid 111.
130 Johnston n1 xxxviii, xlv and lvi.
131 Wolfrum n101 111. See also n21.
132 Johnston n1 xlv.
133 LOSC art 56(1)(a).
134 Felischer CA 'The New Regime of Maritime Fisheries' Hague Recueil 209 (2) 1988 136 and 149.
135 Ibid 149. See also Wolfrum R 'The Emerging Customary Law of Marine Zones: State Practice and the Convention on the Law of the Sea' NYIL 18 1987 133 and Robertson Jr HB 'Navigation in the Exclusive Economic Zone' Vir JIL 24(4) 1984 876 at n52.
136 Fleischer n134 149. See also Robertson n135, Brown ED 'The Exclusive Economic Zone:Criteria and Machinery for the Resolution of International Conflicts Between Different Users of the EEZ' Marit Pol Mgmt 4 1977 334 and Burke WT 'National Legislation on Ocean Authority Zones

to six principal obligations.[137] Article 61 sets out its responsibilities: (i) to determine the 'allowable catch' of the exclusive economic zone fishery resources[138]; (ii) to 'ensure through proper conservation and management measures that the maintenance of the living resources in the exclusive economic zone is not endangered by over-

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and the Contemporary Law of the Sea' ODIL 9 (3/4) 1981 301. As a result, Pharand, in his dissenting opinion in Dispute Concerning Filleting within the Gulf of St Lawrence, asserts that 'this first provision [ie LOSC art 56(1)(a)] contains the basic norm of complete and exclusive jurisdiction of the coastal State in all of the relevant aspects of the resources (here, the living ones): exploration, exploitation, conservation and management. In other words, for those specific purposes the coastal State is absolutely sovereign. And this economic sovereignty has been confirmed and exercised through national legislation and State practice'. See Dissenting Opinion of Donat Pharand in Dispute Concerning Filleting within the Gulf of St Lawrence ('La Bretagne') (1986) (Canada v France), in ILR 82 1990 642 para 13. See also Puri R 'Exclusive Economic Zone: A New Dimension in the Law of the Sea' IPSR 14 1980 46. Hudson C 'Fishery and Economic Zones as Customary International Law' SDLR 17 1980 670 and Tsamenyi BM 'The South Pacific States, the USA and Sovereignty over Highly Migratory Species' MP 10(1) January 1986 29. Although O'Connell argues that the rights of the coastal state over living resources in the EEZ are essentially only preferential and they are exclusive only when the coastal state is able to harvest the maximum sustainable yield (which will rarely be the case), he recognizes however that a claim to exclusive rights in the sea, however framed on paper, is inherently a claim to dominion. See O'Connell DP The International Law of the Sea I 1982 552-3 and 575. In this regard, only a few commentators insist that a coastal state has merely a preferential right to harvest the living resources in the EEZ if it can establish that this is within its harvestable capacity. See Kumar U Developing Countries and the Developing Law of the Sea: The Exclusive Economic Zone and Related Issues 1978 17 and 22 and Jacobson JL and Cameron DB 'Potential Conflicts Between a Future Law of the Sea Treaty and the Fishery Conservation and Management Act of 1976' Wash LR 52 1977 485.

137 This has been identified by Johnston n1 lix and lxvii.

138 LOSC art 61(1).

exploitation'[139]; and (iii) to make available to other states, through appropriate international organizations, 'scientific information, catch and fishing effort statistics and other data relevant to the conservation of fish stocks'.[140] Article 62 prescribes further coastal states responsibilities: (i) to 'promote the objective of optimum utilization'[141]; (ii) to determine its own 'capacity to harvest the living resources of the exclusive economic zone'[142]; and (iii) if the coastal state does not, by its own admission, have the capacity to harvest the 'entire allowable catch', to give other states 'access to the surplus of the allowable catch'.[143]

The underlying objective of the 1982 regime is, of course, the 'maximum sustainable yield' (MSY).[144] This concept is employed to designate the level of (sustainable) exploitation at which fishing mortality relative to the recruitment of juveniles approximates a state of equilibrium.[145] Since the biological MSY in the past was not a satisfactory management principle for fisheries management, determination under the Convention is based on[146] 'relevant environmental and economic factors, including the economic needs of coastal fishing communities...'.[147] Thus, attention is now focusing on

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139 LOSC art 61(1).
140 LOSC art 61(5).
141 LOSC art 62(2).
142 LOSC art 62(2).
143 Ibid.
144 Kwiatkowska B: 'Conservation and Optimum Utilization of Living Resources' in Clingan Jr TA The Law of the Sea: What Lies Ahead? 1988 263. Indeed, the attainment of MSY has been held to be the general objective of fisheries management. See Driver n111 36.
145 Briesch n8 56. See also Hinds n2 396 and Powell n124 117.
146 Hinds n145. See also Shinaver GM 'Fishery Conservation: Is the Categorical Exclusion of Foreign Fleets Next Step?' Calif WILJ 12 1982 184.
147 LOSC art 61(3).

approaches that can address both the demand for fish and fish products and the need to decrease pressure on fish stocks and thus achieve an optimum relationship between environmental, economic and social factors.[148]

Although the coastal states' exclusive economic zone fishery laws and regulations are required to be consistent with the Convention, little if anything in these management and conservation requirements seems sufficiently precise and mandatory to constitute an effective restriction on the coastal state's sovereign rights of exploitation.[149] This is first evident in the determination of 'allowable catch'.[150] The allowable catch, in practical terms, refers to the amount of fish that can be caught from a particular stock over a certain period of time without that stock being over-fished.[151] Moreover, the notion has a juridical connotation, seemingly implying two important restrictions on the sovereign rights of coastal states, that makes it different from the biologically-orientated notion of a 'sustainable yield', be it 'maximum' or 'optimum'.[152] The first restriction is primarily resource-oriented. There is no right to catch whatever amount the coastal state or others might wish to utilize because of short-term economic benefits or because there is no effective regulation of the fisheries in question.[153] The second aspect of the allowable catch is of a politico-economic nature: it deals with the allocation of the right to fish to other states.[154] Together with the fixing of a coastal state's harvesting

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148 '1991 Report' n8 28 para 95.
149 Johnston n1 lix.
150 Fleischer CA 'The Exclusive Economic Zone Under the Convention Regime and in State Practice' in Koers AW and Oxman BH ed The 1982 Convention on the Law of the Sea 1984 263.
151 Powell n124 103.
152 Felischer n150 264.
153 Ibid.
154 Ibid.

capacity, the fixing of an allowable catch is also instrumental in deciding the amounts available to the fishing fleets of other countries.[155] However, it is too onerous[156] and practically impossible for almost any coastal state to make such a determination for all living resources of the exclusive economic zone.[157] As a result, this requirement cannot be viewed as generally mandatory.[158] At best, it may mean only that the managing state is urged, whenever practicable, to make such a determination.[159] After all, decisions on allowable catch, in practice, will have to be political decisions.[160] Secondly, the duty to make information available, contained in art 61(5), is apparently an example of a soft law provision that falls under the category of desirable but unenforceable norms.[161] Thirdly, the purported obligation to promote optimum utilization is no less free of difficulties of interpretation.[162] The core of 'optimum utilization' refers to the point below the MSY at which it is no longer economically profitable to increase the catch.[163] However, an obligation to promote is certainly as vague as a duty to cooperate. It is designed to serve an ethical or educational, rather than rule-making, purpose.[164] Moreover, the obligation to promote is qualified by the phrase 'without prejudice to Article 61', which depends on the 'sovereign rights' of the coastal states.[165] Fourthly, the coastal state's determination of its own harvesting

155 Ibid.
156 Briesch n8 84.
157 Johnston n1 lxvii. See also Oda S 'Fisheries Under the United Nations Convention on the Law of the Sea' AJIL 77 1983 743.
158 Kwiatkowska n144.
159 Johnston n157.
160 Johnston n1 lxviii.
161 Ibid lxix.
162 Ibid.
163 Knight G The Law of the Sea: Cases, Documents and Readings 1980 12-13 to 12-19. See also Shinaver n146.
164 Johnston n1 lxix.
165 Ibid.

capacity, in conformity with art 62(2), is by its very nature a discretionary act.[166] Each coastal state is free to introduce foreign capital and to obtain technical assistance from foreign nations. It is also free to allow any foreign nations or foreign enterprises it chooses to engage in fishing activities through concessionary agreements and to secure the maximum of the total allowable catch for itself.[167] Fifthly, controversy as to the appropriate determination of the 'allowable catch' is likely to be accompanied by controversy over the allocation of the surplus among foreign fishing interests.[168] The latter requirement is central to the concept of optimum utilization.[169] However, it is not clear what is meant by 'surplus' under the 1982 Convention.[170] In other words, it is not know whether the 'surplus' refers to the difference between the total allowable catch which the coastal state determines under art 6(1) and the domestic harvesting capacity of art 62(2), or it is calculated on the basis of the difference between optimal utilization and domestic capacity to harvest, which would give a significant advantage to maritime states.[171] Moreover, the Convention does not indicate any priority in competition for allocations amongst foreign interests.[172] These include the interests of: developing countries in the subregion or region[173]; land-locked states[174]; states with traditional fishing rights[175]; and states which have made substantial

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166 Ibid.
167 Oda n157 744.
168 O'Connell n136 565.
169 Edeson WR and Pulvenis JF The Legal Regime of Fisheries in the Caribbean Region 1983 25.
170 Nadelson R 'The Exclusive Economic Zone: State Claims and the LOS Convention' MP 16(6) November 1992 471.
171 Ibid.
172 See n168. See also Attard DJ The Exclusive Economic Zone in International Law 1987 167.
173 LOSC art 62(3).
174 LOSC art 69(1).
175 LOSC art 62(3).

efforts in research and identification of stocks.[176] Whether the catalogue is closed and whether allocations may be traded against concessions not in the field of marine resources is left altogether unclear.[177] As a result, although the requirement to grant access to surplus stocks is in the order of an obligation, the decision actually lies within the coastal state's discretion.[178] The coastal state is not obliged to harvest the catch only through its own nationals and with its own technologies.[179] It can simply manipulate its harvesting capacity so as to create a small surplus or no surplus[180] without defaulting on its obligation.[181] After all there seems to be nothing to suggest that there is an obligation to create surplus.[182] This dependence on the coastal state's willingness[183] could portend policies of: total phasing-out of foreign fishing[184]; denying allocations to countries which do not reciprocate in other matters[185]; giving participating rights preference over surplus allocations[186], since the Convention envisages joint ventures as well[187]; and linking allocations to concessions in matters unconnected with fishing.[188] Finally, the concept of MSY has received considerable criticism from the academic community.[189] In the first place, the evaluation of MSY is highly controversial[190],

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176 Ibid.
177 O'Connell n136 566.
178 See n148. See also Puri n136 51.
179 See n167 and accompanying text supra. See also Attard n172 159.
180 Phillips JC 'The Economic Resources Zone - Progress for the Developing Coastal States' JMLC 11(3) April 1980 352.
181 See n149.
182 Attard n172 166.
183 See n164.
184 Shinaver n146 185.
185 See n177.
186 O'Connell n136 567.
187 LOSC art 62(4)(i).
188 See n186.
189 Powell n145.
190 O'Connell n136 564.

particularly bearing in mind that the Convention's approach involves subjective judgments of verifiable economic and ecological factors.[191] Moreover, it is extremely difficult to determine accurately the level for a particular stock[192] in most multi-species fisheries where some species or substocks have higher sustainable harvest rates than others.[193] In this respect the solution reached at UNCLOS III does little to reduce the possibility for conflict and perhaps even does something to increase it.[194] In view of all the aforementioned analyses, it therefore appears that fishery management responsibilities in the exclusive economic zone rest on a discretionary, rather than a mandatory, basis.[195]

In addition to these six (and related) 'guidelines' to good management in the general situation, the Convention also designates five 'special case' situations for separate treatment through cooperative or consultative management in one form or another.[196] In the first instance, art 63 stipulates that two or more coastal states sharing in their exclusive economic zones, 'the same stock or stocks of associated species... shall seek... to agree upon the

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191 Attard n172 153.
192 Powell n145.
193 Hinds n2 401. In this regard, it has been particularly emphasized that it is futile to determine the MSY of a stock in isolation to factors such as the interrelationship of stocks. See Powell n145. Although the Convention, in the attempt to solve this problem in its art 61(4), states that the coastal state shall take into consideration 'the effects on species associated with or dependent upon harvested species with a view to maintaining or restoring populations of such associated or dependent species above levels at which their reproduction may become seriously threatened', it does not however define the words 'associated or dependent species' at all. See Attard n172 153-4.
194 See n190.
195 See n164.
196 Ibid.

measures necessary to co-ordinate and ensure the conservation and development' of such straddling stocks.[197] This is designed to alleviate the problem of assessing (the maximum sustainable yield of) stocks common to the EEZs of two or more states. These obviously cannot be calculated by one of the states without reference to others.[198] Although the essence of the provision is no more than simple cooperation[199], it is 'without prejudice to the other provisions of this Part'.[200] Moreover, the provision contains only a pactum de negotiando, that is, an obligation to enter into negotiations in good faith with a view to reaching an agreement on necessary measures.[201] There is no duty to conclude an agreement.[202] Having sought to agree and failed, the coastal state has the duty and the right to take other unilateral steps.[203] As a result, this duty is wholly dependent on the coastal state's discretionary authority.[204] In the second paragraph of art 63, a similar 'duty to negotiate' is created with respect to stocks straddling the line between a coastal state's exclusive economic zone and an area beyond and adjacent to it.[205] Interestingly, the qualifying phrase 'without prejudice to the other provisions of this Part' is omitted in this

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197 LOSC art 63(1).
198 O'Connell n136 568.
199 Sanger C Ordering the Oceans: The Making of the Law of the Sea 1986 151.
200 Johnston n1 lxx.
201 ILA Cairo Conference (1992), International Committee on the EEZ. Report of the Committee by Lagoni R on 'Principles Applicable to Living Resources Occurring both Within and Without the Exclusive Economic Zone or in Zones of Overlapping Claims' 5 para 12.
202 Hayashi M 'The Management of Transboundary Fish Stocks Under the LOS Convention' IJMCL 8(2) 1993 252.
203 Applebaum B 'The Straddling Stocks Problem: The Northwest Atlantic Situation, International Law and Options for Coastal State Action' in Soons AHA ed Implementation of the Law of the Sea Convention Through International Institutions 1990 289 and 302.
204 See n200.
205 Ibid.

case.[206] The second paragraph may therefore be presumed to apply to only a few geographical situations where there is a significant degree of commercial fishing in the high seas immediately outside the exclusive economic zone.[207] It should be noted that the reference is to 'conservation', not management. On a literal reading this could be construed to narrow the scope of cooperation intended.[208]

In the second instance, art 64 lays down that, in respect of highly migratory species (HMS), coastal and fishing states 'shall co-operate... with a view to ensuring conservation and promoting the objective of optimum utilization of such species throughout the region, both within and beyond the exclusive economic zone'.[209] Moreover, such cooperation must be undertaken directly or through appropriate international organizations and when no such organization exists they are obliged to cooperate to establish one.[210] This, it has been pointed out, is the most significant provision amongst the five special articles[211], since various species of tuna-like fish of very considerable commercial value migrate extensively throughout the Pacific, Atlantic and Indian oceans, across dozens of exclusive economic zone lines recognized at UNCLOS III.[212] While preferring a regional approach[213], however, the Convention does not extend the scope of the cooperative duty to encompass management decisions.[214] This, coupled with the

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206 Ibid.
207 Ibid.
208 Ibid.
209 LOSC art 64(1).
210 Ibid.
211 Burke T 'Highly Migratory Species in the New Law of the Sea' ODIL 14(3) 1984 281.
212 See n200.
213 Hayashi n202 250.
214 Sutherland WM 'Management, Conservation and Cooperation in EEZ Fishing: The Law of the Sea Convention and the South Pacific Forum Agency' ODIL 18(6) 1987 621 and 633.

unambiguous assertion that art 64 is in addition to the other provisions of Part V on the Exclusive Economic Zone[215], means therefore that it does not confer on non-coastal states any right to participate in management decisions.[216] In addition, the obligation to cooperate is one of a more general nature.[217] It hints that full discharge of the duty may well require voluntary restrictions by coastal states.[218] As a result, the provision under discussion does not fundamentally displace the sovereignty of the coastal state over HMS in the exclusive economic zone.[219] It suggests, at best, that coastal and distant fishing states should try to negotiate cooperative management arrangements, with or without arrangements for access to underutilized stocks of tuna within EEZ limits.[220]

In the third instance relating to marine mammals, art 65 simply provides that 'States shall co-operate with a view to the conservation of marine mammals'. In the case of cetaceans, they shall in particular work through the appropriate international organizations. Apparently, the drafters of the Convention intended not to prejudice the work of the International Whaling Commission.[221]

In the fourth instance, the Convention establishes detailed rules for the conservation and management of anadromous species, which normally migrate between EEZs, as well as between an EEZ and the high seas.[222] First of all, it confers on those states in whose rivers such stocks

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215 LOSC art 64(2).
216 Sutherland n214 621.
217 Hayashi n202 251.
218 Sutherland n214 623.
219 Wolfrum n135 136. See also Fleischer n134 151, Tsamenyi n136 35-6 and Burke n211 309.
220 Johnston n1 lxxi.
221 Hayashi n202 250-1.
222 Ibid 251.

originate 'the primary interest in and responsibility for such stocks'.[223] The states of origin therefore are given, in addition to sovereign rights in the EEZ[224], special rights over such stocks even when they are located on the high seas[225], where fisheries for such stocks are in principle prohibited (except in cases where this could result in economic dislocation for a state other than the state of origin).[226] The jurisdiction of the state of origin, however, does not obviously extend into the EEZ of another state into which such stocks migrate.[227] In the case of such transboundary stocks, thus, the Convention further provides that such state 'shall co-operate with the State of origin with regard to the conservation and management of such stocks'.[228] (In the latter case, it is however to be noted that, unlike the situations involving ordinary transboundary stocks where the two states concerned share a common EEZ boundary, those involving anadromous stocks may include the states whose EEZs are not immediately adjacent to that of the state of origin[229], such as 'transit' and 'feeding' states.[230]) Although the stipulation concerns only a few states with strong commercial or non-commercial interests in salmon[231], yet it is the most tightly drafted of the five special management provisions.[232]

In the last instance, the Convention deals with fisheries for catadromous species (eg certain kinds of eels).[233] In

223 LOSC art 66(1).
224 Fleischer n134 152.
225 See n217.
226 LOSC art 66(3)(a).
227 See n217.
228 LOSC art 66(4).
229 See n217.
230 That is, states through whose waters such stocks migrate and in which they feed during a part of their life cycle. See Johnston n1 lxxii. See also Sanger n199 150.
231 Ibid 148. See also Johnston n230.
232 Ibid.
233 Ibid.

this respect, it first places the 'responsibility' for the management on the coastal state in whose waters such species spend the greater part of their life cycle.[234] Moreover, where such species migrate through the EEZ of another state, the two states are required to 'regulate' their management 'by agreement' .[235] This no doubt goes a step further than the abovementioned cases, for the obligation to regulate by agreement unquestionably implies a duty to reach agreement and not merely to seek to agree.[236] In general terms, however, the provision as a whole still fundamentally serves the inherent interests of the managing coastal state.[237]

Generally speaking, the Convention tries to introduce the concept of 'qualified discretion' in the five particular situations. The coastal state is to negotiate special cooperative or consultative arrangements with other states with management concerns in such situations.[238] It may be expected that this will induce some degree of sharing of fishery management authority over the EEZ. The larger view however is that the coastal state's authority in these areas will remain highly discretionary and be exercised accordingly.[239]

As to the enforcement, the Convention stipulates that '[t]he coastal state may... take such measures, including boarding, inspection, arrest and judicial proceedings, as may be necessary to ensure compliance with the laws and regulations adopted by it in conformity with this Convention'.[240] This is in nature equivalent to that in the

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234 LOSC art 67(1).
235 LOSC art 67(3).
236 Hayashi n202 251-2. In other words, the obligation to cooperate in this case is stronger. See Fleischer n134 153.
237 Johnston n1 lxxiii.
238 Ibid lxvii.
239 See n237.
240 LOSC art 73(1).

territorial sea.[241] Accordingly, every vessel in the EEZ might lawfully be stopped and boarded in connection with enforcement of local fishing laws.[242] Moreover, any person charged with violating the fishery regulations of the coastal state may be punished, if found guilty, by the courts of that state.[243] These measures are recognized to be an exercise of the coastal state's sovereign rights over living resources in the economic zone.[244] There is however a restriction on the type of punishment in 1982 Convention.[245] In judicial proceedings against the arrested vessel and crew, the coastal state may impose only a financial penalty[246] and must promptly release the vessel and crew upon the posting of reasonable bond or other security.[247] This concept was introduced, understandably, because it was feared that unreasonably prolonged detention of fishing vessels might cause an enormous amount of damage to the fishing industry; but it certainly causes some difficult problems in practice.[248] In the first place, for example, it is not clear whether the restriction to a financial penalty should apply only to those foreign vessels allowed by the coastal state to fish the surplus of the allowable catch under art 62 or, more broadly, to vessels that might not have been authorized at all to fish in the EEZ.[249] Moreover, there is no international standard for the financial penalties to be imposed or the 'reasonable

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241 Oda n157 747.
242 Burke WT 'Exclusive Fisheries Zones and Freedom of Navigation' SDLR 20 1983 618.
243 See n241.
244 See n242.
245 See n241.
246 LOSC art 73(3).
247 LOSC art 73(2).
248 Oda n157 748.
249 Ibid 747. Although no positive indication seems to have been given in either the provision or the drafting process of UNCLOS III, Oda however argues that it seems likely that in practice the first interpretation will be followed. See ibid.

bond or other security' to be required.[250] Thus, although a coastal state is faithful to the 1982 Convention, these areas will certainly give rise to disputes in connection with the application of the provision.[251] The only mechanism available to resolve the question of release from detention is that it 'may be submitted to any court or tribunal agreed upon' by the two states in question[252], which could of course include a domestic court of the coastal state.[253] If such an agreement is not reached within 10 days of the commencement of detention, the question of release may be brought before any of the four courts or tribunals accepted by the detaining state under art 287 or, if the parties do not otherwise agree, before the International Tribunal for the Law of the Sea.[254] These four courts or tribunals are then expected to order the prompt release of the vessels that have been arrested.[255] (But they are not to pronounce on the merits of whether the arrest of a foreign vessel for its alleged violation of the coastal regulations would be justified under international law or not, or whether the coastal regulations are consonant with the requirement of the Convention or not.[256]) In view of the lack of detailed rules in international law, however, it is doubtful whether the courts or tribunals could easily carry out the suggestion in the Convention that they determine the reasonableness of the bond or other financial security to be deposited.[257]

Finally, the Convention provides a system for the settlement of fishery disputes.[258] In it, it is stated that such

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250 Ibid 747 and 749.
251 Ibid 749.
252 LOSC art 292(1).
253 See n248.
254 LOSC art 292(1).
255 LOSC art 292(4).
256 LOSC art 292(3).
257 Oda n157 749.
258 Johnston n1 liii

disputes may be settled, if not by negotiation, then by recourse to any procedure agreed upon by the parties concerned or by their submission to the conciliation procedure.[259] However, it should be noted that the Conciliation Commission cannot substitute its discretion for that of the coastal state[260] and the report drawn up by the Commission cannot be binding.[261] (At this juncture, it has been pointed out that the Conciliation Commission may in practice find it difficult to write a report that cannot be construed as an attempt to 'substitute its discretion' for that of the coastal state. To avoid such a possibility, the Commission would be obliged, in effect, to enter into consultations with the coastal state to ensure that its preliminary recommendations were not regarded as discretionary in character and inconsistent with the coastal state's own interpretation of the crucial facts of the situation. Such a procedure, so clearly biased in favour of one party to a dispute, is scarcely likely to attract other governments accustomed to the tradition of impartial adjudication.[262]) In addition, the lack of any substantive law (as evidenced in the ambiguity of the concept of surplus of allowable catch and the lack of criteria for granting other states access to the surplus) will greatly hinder the settlement of disputes of this nature.[263] Moreover, under the Convention, such disputes are exempted from compulsory settlement by the four different categories of tribunal.[264] The coastal state is not obliged to submit to compulsory settlement

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259 LOSC art 297(3)(b).
260 LOSC art 297(3)(c).
261 LOSC Annex V, art 7(2).
262 Johnston n1 liv and lv.
263 Oda n157 746. See also Barrie GN 'Fisheries and the 1982 United Nations Law of the Sea Convention' Ac Jur 1986 46.
264 LOSC art 297(1).

> 'any dispute relating to its sovereign rights with respect to the living resources in the exclusive economic zone or their exercise, including its discretionary powers for determining the allowable catch, its harvesting capacity, the allocation of surpluses to other States and the terms and conditions established in its conservation and management laws and regulations'.[265]

As a result, there seems to be no real effective legal mechanism in the 1982 Convention with which to challenge major actions taken by the coastal state in its management of its fishery resources in the EEZ.[266] In designing such a scheme to minimize the likelihood that any exclusive economic zone fishery dispute of substantial significance will be taken to any form of adjudication against the wishes of the coastal state, the new international law of fisheries apparently indicates the extent to which it relies on the efficacy of negotiated arrangements.[267]

In conclusion, although the Convention, as far as the fishery management is concerned, creates a system consisting of the resource and the industry[268], the provisions - particularly those embodying limitations- are too ambiguous and uncertain[269] to enforce.[270] This, it has been pointed

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265 LOSC art 297(3)(a). Johnston however argues that disputes which take the form of a boundary dispute, or concern right of participation of a state claiming such entitlement by virtue of geographical (as well as economic) characteristics, may not be exempted from the provisions on compulsory dispute procedures. See Johnston n1 lxi.

266 Juda L 'The Exclusive Economic Zone: Compatibility of National Claims and the UN Convention on the Law of the Sea' ODIL 16(1) 1986 22.

267 Johnston n1 liv, lv and lx.

268 Ibid xxxvi.

269 Ibid xli, xlviii, lix, lxiv, lxxi, lxxx. See also Applebaum n203 284; the introductory remark of Clingan T in Soons ed n203 281; and the remark of Koh T in 'Discussion' in Van Dyke JM ed Consensus and Confrontation: The United States and the Law of the Sea Convention 1985 392.

out, leaves the coastal state in a pre-eminent position [271] to have a broad discretion[272], or almost unlimited authority.[273] As a result, the management of EEZ fisheries remains the prerogative of the coastal state concerned. Any involvement by noncoastal states in management decisions is ultimately a matter for the coastal state to decide.[274] Moreover, while the institution of EEZ is declaratory of customary international law[275], the 1982 fishery provisions, except for the one concerning enforcement measures such as boarding, inspection, arrest and judicial proceedings[276], are legislative.[277] They do not constitute customary international law.[278] Hence, as a matter of general

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270 See n149. Indeed, it has been pointed out, proper implementation of the LOSC provisions requires a clear understanding of the specific rights and duties of states. See '1991 Report' n8 38 para 131.

271 Wolfrum n135 134.

272 Johnston n1 lx and lxvii. See also Kwiatkowska n144 261 and Shinaver n146 198.

273 Anand n112 283-4.

274 Sutherland n214 624. See also Fleischer n134 216.

275 This has been confirmed by the International Court's judgment in the Continental Shelf (Libya v Malta) Case, in which it is clearly stated 'the institution of the exclusive economic zone ... is shown by the practice of States to have become a part of customary law'. See ILM 24 1985 1199 para 34. Earlier in the Continental Shelf (Tunisia v Libya) Case, the Court had also stated that the zone 'may be regarded as part of modern international law'. See ILM 21(2) March 1982 253 para 100. See also Anand n112 283 and Fleischer n134 205.

276 It has been pointed out that this specific provision reflects state practice and customary law. See n242. See also Attard n172 180.

277 Devine DJ 'Southern Africa and the Law of the Sea: Problems Common, Uncommon and Unique' Ac Jur 1986 32. See also Clingan n269.

278 Briesch n8 83. See also Fleischer n134 153, 164 and 167; Wolfrum n135 144; O'Connell n136 572; Nadelson n170 470; and Weiss EB In Fairness to Future Generations: International Law, Common Patrimony and Intergenerational Equity 1989 50. Indeed, almost all national laws and regulations omit any acknowledgement of responsibilities inherent in the possession of an exclusive economic zone. See Johnston n1 lxii. As a matter of fact, there were disputes over anadromous species such as salmon even after the principle was

international law, a coastal state may adopt any fishery regulation and administrative measure[279], provided that they - particularly the latter - do not amount to an unjustifiable interference with freedom of navigation.[280] Finally, it is worth noting that, since most states have problems in the determination of the total allowable catch in their 200nm zones and in the surveillance of foreign vessels to ensure that the latter comply with their regulations, regional cooperation is obviously desirable under the 1982 framework.[281]

10.3 Regional cooperation: the European Union model

The European Union (EU) has a very complicated fisheries management system.[282] Briefly speaking, its very essence rests on the principle of equal access to the fishing grounds in the EU[283] (except that: (i) a 12nm zone off the coasts of member states is generally reserved for local vessels only that in the outer six miles some states' vessels enjoy certain historic rights of fishing; and (ii) this does not apply to so-called Orkney/Shetland box,

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accepted that they belonged to the 'state of origin'. See Sanger n199 138. Despite this majority view, there are however still a few commentators arguing that the section of the Convention pertaining to EEZ fisheries, or at least part of it, reflects customary international law. See Munro n42 292; Kwiatkowska n144 248, 252 and 259; Edeson and Pulvenis n169 41, 74 and Attard n172 150, 156, 158 and 163.

279 This is clearly evidenced by the diversity, and increasing diversification, of national fishery enactments and administrative measures at present. See Johnston n1 lxiii. Burke also emphasizes that legislation for protecting fisheries is considered permissible under customary international law. See Burke n242 613.

280 Attard n172 179. See also Edeson and Pulvenis n169 158.

281 Sanger n199 153-4.

282 Koers AW 'What Trends and Implications? The Northeast Atlantic: EEC' in Miles EL ed Management of World Fisheries: Implications of Extended Coastal State Jurisdiction 1989 97.

283 Regulation 2141/70 art 2(1). Text in OJ Special Ed 1970 (III) 703.

Portugal and Spain[284]), with respect to which the Council has the power to take conservation measures.[285] In January 1983, a Common Fisheries Policy (CFP) emerged.[286] The main objective of this scheme was 'ensuring the protection of fishing grounds, the conservation of the biological resources of the sea and their balanced exploitation on a lasting basis and in appropriate economic and social conditions' and safeguarding 'the particular needs of regions where local populations are especially dependent on fisheries and related industries'.[287] According to this, total allowable catches (TACs) are firstly to be fixed for certain zones (the North Sea, the North and North-West Atlantic) and certain stocks (eg herring, haddock, whiting, cod, plaice and sole in the North Sea).[288] (In a recent proposal, it has been suggested that this be extended to measures such as multiannual total allowable catches, total allowable fishing effort and multispecies TACs.[289]) In practice this has been done each year by qualified majority of the Council on a proposal from the Commission which is, in turn, advised by the Scientific and Technical Committee and the International Council for the Exploration of the Sea.[290] Next, the system of TACs is required to be divided up into quotas allocated to eligible member states[291], 'in a manner which assures each Member State relative stability of fishing activities for each of the stocks concerned'.[292] In

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284 Churchill RR 'The EEC's Fisheries Management System: A Review of the First Five Years of Its Operation' CML Rev 25 1988 382.
285 Regulation 2141/70 art 5.
286 Breisch n8 70 and 74. See also 'CFP is no CAP' Actualities 445 August 1983 4, Churchill n284 369 and Gradel C 'The Common Fisheries Policy (CFP)' (unpublished paper, on file with the Institute of Marine Law, University of Cape Town) 1990 5.
287 Regulation 170/83 OJ 1983 L24/1.
288 Regulation 172/83. See also Gradel n286.
289 Mackenzie n22 344.
290 Churchill n284 370-1. See also Gradel n286 5-6.
291 See n151. See also Churchill n284 370 and Gradel n286.
292 Regulations 170/83 art 4.

carrying out the latter task, three criteria have been used in practice to allocate fairly:(i) past catches (1982 catches are regarded as a key); (ii) the needs of certain regions dependent on fishing (eg Ireland, Scotland, Northeast England);(iii) the loss of catches as a result of 3rd states have extended their limits.[293] Moreover, in order to fully utilize the quotas, a member state, after allocating its quotas between different sections of the fishing fleet[294], is permitted to swop the underutilized quotas with other member states.[295] At the technical level, these measures are implemented in the form of minimum mesh sizes, other gear restrictions, minimum fish sizes, closed seasons and closed areas, etc.[296] As to enforcement, a general obligation has been laid down on member states to inspect Union vessels in their ports and waters to ensure compliance with the management regulations.[297] (This means that enforcement jurisdiction lies largely in the hands of member states.[298]) Moreover, skippers of certain types of vessels fishing for a stock for which a TAC has been set must keep a logbook containing information about their fishing operations and member states must record the landing of all stocks subject to TACs and must notify the Commission each month of the quantities of fish landed and where the catches were taken.[299] An important feature of the enforcement of CFP is the system of Union inspectors, whose function is to oversee the inspection procedures conducted

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293 Churchill n284 374. See also Powell n124 103 118 and Gradel n286 7.
294 Ibid 8.
295 Powell n124 104. See also Churchill n284 376.
296 Those technical specifications were firstly introduced by Regulation 171/83, OJ 1983 L24/14. This regulation was however subsequently repealed and replaced in October 1986 by a revised consolidating regulation - Reg 3094/86 OJ 1986 L 288/1.
297 Regulation 2057/82 OJ 1982 L220/1.
298 Churchill n284 383. See also Gradel n286 8.
299 Churchill n284 384. See also Powell n124 106-7.

by national fisheries inspectors.[300] Although Union inspectors have no sanctions of their own, yet they are in a position to embarrass - and have embarrassed - national authorities into modifying existing practices where these run counter to Union rules.[301] Finally, the regime provides a sanction, in addition to resort to the Court of Justice by the Commission, in the possibility of reducing the offending state's quota for the following year.[302]

In general, the EU fisheries regime has operated relatively smoothly since the introduction of CFP.[303] In view of the fact that this is the result of a highly centralized legislative process[304] and the Union legal order is a supranational system of legal rules operating independently of national legal system and creating internal law within the member states[305], the transferability of the European structures to other regions is fraught with difficulty.[306]

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300 Churchill n284 386-7. See also Powell n124 107.
301 Churchill n284 387.
302 Ibid 377 and 379. See also Powell n124 107-8 and Gradel n286 9.
303 Briesch n8 79. But this does not mean that it is free of problems. As a matter of fact, studies on the state of stocks in the region, in relation to the management record, reveal many years of overfishing compounded by TACs being set too high; non-compliance with technical conservation measures so that too many young fish are caught; overcapacity in fleets (at present 40%); and excessive discarding, particularly in mixed fisheries, to avoid exceeding quotas and to comply with by-catch regulations. See '1991 Report' n8 32 para 111. See also Powell n124 109, Churchill n284 373, 379, Gradel n286 8-10 and Symes D 'North Sea Fisheries: Trends and Management Issues' IJECL 5 (1/3) February 1990 280, 282, 284-5.
304 Powell n124 108.
305 Briesch n8 37 and 47.
306 Ibid 93.

10.4 Regional cooperation: the South Pacific Forum

A more feasible model for other regions to follow is the South Pacific Forum.[307] This was established in 1971[308] to address policy and political matters.[309] Members are all the independent countries of the region.[310] In order to tackle the problem of fisheries management[311], it first adopted a convention in 1979 establishing the South Pacific Forum Fisheries Agency (FFA).[312] The Agency's objectives are 'the conservation and optimum utilization of the living resources of the South Pacific region... [particularly] the highly migratory species' and 'to secure the maximum benefits from the living marine resources of the region for the peoples and for the region as a whole'.[313] It is made up of a Forum Fisheries Committee and a Secretariat[314], the latter being immediately responsible to the former.[315] Composed of representatives of all member states, the Committee meets at least annually but special sessions may be called at the request of at least four parties.[316] Decisions are by consensus or, failing that, by a two-thirds

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307 Hayashi n202 260. See also Johnston DM 'Is Coastal State Fishery Management Successful or Not?' in Kuribayashi and Miles ed n42 120.

308 Sutherland n214 637 at n1.

309 Swan J 'Tuna Management in the South Pacific' in Clingan Jr ed n144 188.

310 The Forum is composed of the Heads of Government of 15 South Pacific States: Australia, New Zealand, Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Nauru, Niue, Papua New Guinea, Solomon Islands, Tonga, Tuvalu, Western Samoa, Palau and Marshall Islands. See Lodge M 'Minimum Terms and Conditions of Access: Responsible Fisheries Management Measures in the South Pacific Region' MP 16(4) July 1992 278 at n4.

311 Ibid 277.

312 The instrument is South Pacific Forum Fisheries Agency Convention. Text in Ocean YB 2 1980 575-8.

313 FFA Convention, Preamble.

314 FFA Convention art 1(2).

315 Sutherland WM 'Coastal State Cooperation in Fisheries: Emergent Regional Custom in the South Pacific' IJECL 1(1) 1986 16.

316 FFA Convention art 4(1).

majority of members present and voting.[317] The Committee formulates its own rules of procedure[318] and is empowered to establish subcommittees, 'including technical and budget subcommittees'.[319] As to the functions, the Committee, in addition to providing detailed policy and administrative guidance to the Agency[320] and acting as a consultative forum for states parties[321], is also obliged to carry out 'such other functions as may be necessary' to give effect to the Convention.[322] There are also promotional duties[323], that is, 'the Committee shall promote intra-regional co-operation' in relation to (i) the harmonization of policy with respect to fisheries management[324] and (ii) co-operation in respect of distant-water fishing countries, surveillance and enforcement, onshore fish processing, marketing and access to the 200nm economic zones of other parties.[325]

The broad parameters of these functions are given more concrete form in the article which, significantly, sets out the functions of the 'Agency', ie the Committee and the Secretariat jointly.[326] In that article, it is provided that, subject to the Committee's direction, the Agency is responsible for the collection, analysis, evaluation and dissemination of a wide range of information:

> 'statistical and biological information with respect to the living marine resources of the region and in particular the highly migratory species; information on management procedures, legislation and agreements adopted by other countries both within and beyond the region; and

317 FFA Convention art 4(2).
318 FFA Convention art 4(3).
319 FFA Convention art 4(4).
320 FFA Convention art 5(1)(a).
321 FFA Convention art 5(1)(b).
322 FFA Convention art 5(1)(c).
323 Sutherland n315 17.
324 FFA Convention art 5(2)(a).
325 FFA Convention art 5(2)(b)-(f).
326 See n323.

information on prices, shipping, processing and marketing of fish and fish products'.[327]

Additionally, the Agency is required to provide, on request, to any party 'technical advice and information, assistance in the development of fisheries policies and negotiations and assistance in the issue of licences, the collection of fees or in matters pertaining to surveillance and enforcement'.[328] Moreover, apart from the residual obligation to 'undertake such other functions as the Committee may decide'[329], the Agency is obliged to 'seek to establish working arrangements with relevant regional and international organizations'.[330] Finally, the Agency is endowed with legal personality.[331] As to this, it is clearly stipulated that the Agency shall have the capacity to sue and be sued'.[332] Moreover, since it is to be, at the same time, 'immune from suit and other legal process and its property shall be inviolable'[333], the intent behind these paragraphs is apparently to give immunity to the Agency for its 'governmental' or 'sovereign' activities but not for its 'commercial' ones.[334]

Responsibility for the day-to-day implementation of the Agency's functions clearly falls on the Secretariat and its activities too are circumscribed by politically-established

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327 FFA Convention art 7(a)(b) and (c).
328 FFA Convention art 7(d).
329 FFA Convention art 7(f).
330 FFA Convention art 7(e).
331 See n315.
332 FFA Convention art 8(1).
333 FFA Convention art 8(2).
334 IT has been pointed out that this distinction is similar to that of the 'restrictive sovereign immunity' theory which denies immunity to nations for their commercial or private activities, but retains the doctrine of sovereign immunity for governmental or public activities. See Van Dyke J and Heftel S 'Tuna Management in the Pacific: An Analysis of the South Pacific Forum Fisheries Agency' UHLR 3 1981 34.

parameters.[335] Both the Director and Deputy Director are appointed by the Committee.[336] The Director is required to submit to the Committee for its approval annual reports on the activities of the Agency and a draft work programme and budget for each successive year.[337] When approved, they are then submitted to the Forum.[338] Significantly, budgetary policy is the responsibility of the Committee[339], but before the budget is approved, the Agency may incur expenditure up to a limit not exceeding 'two-thirds of the preceding year's approved budgetary expenditure'.[340]

In short, the role of the organization is by and large limited to assisting member governments in the exercise of their sovereign rights of management.[341] In other words, management is still a function of the member countries[342], using FFA just as a source of information and advice.[343] In order not to usurp states' sovereign rights[344], the 1979 document only requires state parties to provide the Agency with 'available and appropriate information' with respect to:

> '(a) catch effort statistics in respect of fishing operations in waters under their jurisdiction or conducted by vessels under their jurisdiction;
>
> (b) relevant laws, regulations, and international agreements;
>
> (c) relevant biological and statistical data; and

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335 Sutherland n315 18.
336 FFA Convention art 6(1) and (2).
337 FFA Convention art 6(4)(a) and (b).
338 FFA Convention art 6(5).
339 FFA Convention art 6(5)-(9).
340 FFA Convention art 6(9).
341 Lodge n310 278.
342 Ibid 280. See also Sutherland n214 623.
343 Ibid 628. See also Lodge n310 280.
344 See n341.

(d) action with respect to decisions taken by the Committee'.[345]

In addition to the services provided by the FFA Secretariat, based in Honiara, Solomon Islands, the member governments also cooperate in developing regional fisheries policy.[346] Perhaps one of the most significant regional developments since the establishment of the FFA has been the emergence of the subregional group known as the Parties to the Nauru Agreement.[347] Originally, the group comprised the Federated States of Micronesia, Kiribati, Marshall Islands, Nauru, Palau, Papua New Guinea and Solomon Islands.[348] In 1991, Tuvalu was admitted to membership.[349] Discussions between the original parties began in 1981 and centered on the particular problems of the parties' relationship with distant-water fishing nations (DWFNs) active in their area of the western Pacific.[350] Recognizing the fact that DWFNs were able to weaken their negotiating positions by playing one state off against another[351], the group subsequently adopted and ratified the Nauru Agreement Concerning Cooperation in the Management of Fisheries of Common Interest.[352] Under this Agreement, the Parties are to 'seek to establish a coordinated approach to the fishing of the common stocks in the Fisheries Zones by foreign fishing vessels'.[353] Moreover, this is to be achieved, inter alia, by the mechanism of minimum terms and conditions of access.[354] As a result, it is agreed that the Parties

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345 FFA Convention art 9.
346 See n309.
347 Lodge n343.
348 Ibid.
349 Ibid.
350 Generally see Doulman DJ 'Fisheries Cooperation: The Case of the Nauru Group' in Doulman DJ ed Tuna Issues and Perspectives in the Pacific Islands Region 1987 257-77.
351 Lodge n343.
352 Text in Lodge n310 301-2.
353 Nauru Agreement art II.
354 Lodge n343.

'Shall establish, as a minimum, uniform terms and conditions under which the Parties may licence foreign fishing vessels to fish within the Fisheries Zones regarding:

(i) the requirement that each foreign fishing vessel apply for and possess a licence or permit;

(ii) the placement of observers on foreign fishing vessels;

(iii) the requirement that a standardized form of log book be maintained on a day-to-day basis which shall be produced at the direction of the competent authorities;

(iv) the timely reporting to the competent authorities of required information concerning the entry, exit and other movement and activities of foreign fishing vessels within the Fisheries Zones; and

(v) standardized identification of foreign fishing vessels'.[355]

In other respect the Parties also agree to

'seek to establish other uniform terms, and conditions under which the Parties may licence foreign fishing vessels to fish within the Fisheries Zones, including:

(a) the payment of an access fee, which shall be calculated in accordance with principles established by the Parties;

(ii) the requirements to supply to the competent authorities complete catch and effort data for each voyage;

(iii) the requirement to supply to the competent authorities such additional information as the Parties may determine to be necessary;

(iv) the requirement that the flag State or organizations having authority over a foreign fishing vessel take such measures as are necessary to ensure compliance by such vessel with the relevant fisheries laws of the Parties; and

(v) such other terms and conditions as the Parties may from time to time consider necessary'.[356]

355 Nauru Agreement art II(b).
356 Nauru Agreement art II(c).

(v) such other terms and conditions as the Parties may from time to time consider necessary'.[356]

Finally, state parties undertake to work towards cooperation in the fields of surveillance[357] and enforcement.[358]

A highly significant feature of the Agreement is its direct linkages with the FFA Convention.[359] The Preamble of the Agreement for example pays 'regard to the objectives of the South Pacific Forum Fisheries Agency Convention and in particular the promotion of regional co-operation and co-ordination of fisheries policies and the need for the urgent implementation of these objectives through regional or sub-regional arrangements'.[360] Also, it is stated that '[n]othing contained in this Agreement shall be construed as a derogation of the rights and obligations undertaken by any of the Parties under the South Pacific Forum Fisheries Agency Convention or any other international agreement in effect on the date on which this Agreement enters into force'.[361] Furthermore, state parties are directed to seek not only 'the assistance of the Forum Fisheries Agency in establishing procedures and administrative arrangements' for the exchange and analysis of various types of statistical and technical data[362] but also the 'secretariat services' of the Agency for the purpose of 'implementing and coordinating the provisions of... [the] Agreement'.[363] But cooperation works both ways and, accordingly, the Agreement provides that 'with the concurrence of the Parties', members of the Agency who are not parties to the Agreement may attend as

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356 Nauru Agreement art II(c).
357 Nauru Agreement art VI.
358 Nauru Agreement art VII.
359 Lodge n310 281. See also Sutherland n315 20.
360 Nauru Agreement para 4 of the Preamble.
361 Nauru Agreement art VIII.
362 Nauru Agreement art IV.
363 Nauru Agreement art Y(1).

observers the annual and other meetings[364] of the parties to the Agreement.[365] In short, the parties to the Agreement clearly intended to give further practical effect to the wider cooperative enterprise.[366]

In 1982, the FFA took the first step in the process of developing minimum terms and conditions, holding a Workshop on Harmonization and Coordination of Fisheries Regimes and Access Agreements in Suva, Fiji.[367] The workshop discussed a wide range of issues.[368] After considering and in essence agreeing on the principles embodied in the draft implementing arrangement proposed for the Nauru Group, it presented its report to the seventh meeting of the Forum Fisheries Committee at Honiara, Solomon Islands in May 1982.[369] The recommendations of the workshop were reviewed and as a result the following recommendations were submitted to the Thirteenth South Pacific Forum at Rotorua, New Zealand in August 1982.[370] These recommendations were subsequently endorsed by the South Pacific Forum.[371] Decisions of the Fisheries Committee and of the Forum apply to all members of those organizations.[372] Thus the draft arrangement, which was originally intended to become legally

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364 Nauru Agreement art V(2) stipulates that 'An annual meeting of the Parties shall be convened immediately preceding or following the regular session on the Forum Fisheries Committee in order to promote the implementation of this Agreement. Additional meetings may be convened at the request of three or more Parties. Such request shall be communicated to the Director of the Forum Fisheries Agency who will inform the Parties'.

365 Nauru Agreement art V(3).

366 Sutherland n359.

367 Lodge n359.

368 Ibid.

369 Lodge n310 282.

370 Ibid.

371 13th South Pacific Forum Resolutions on Fisheries and the Law of the Sea Convention, Rotorua, New Zealand, August 9-10 1982.

372 Lodge n310 283.

binding only upon the parties to the Nauru Agreement, took on a greater regional significance by becoming a parallel initiative of the Forum Fisheries Committee and the South Pacific Forum.[373]

The First Implementing Arrangement[374] was concluded and entered into force in September 1983.[375] In the main, it sets out the obligation to establish minimum terms and conditions as follows:

> 'The Parties shall establish the following minimum terms and conditions and utilize the following common formats in all of their subsequent foreign fishing agreements and their licensing requirements concerning foreign vessels fishing the common stocks of fish within the Fisheries Zones'.[376]

In the first place, each foreign fishing vessel subject to this Arrangement shall be individually licensed.[377] Payment, or the guarantee of payment, of the licence fees shall be required prior to the issue of licences[378] and there shall be no transfer of licences.[379] In the second place, the person responsible for the operation of a licensed vessel shall permit authorized personnel to: gather information relevant to the Fisheries Zones of any of the parties[380]; have access to catch on board for the purpose of collecting management-related and biological information and samples[381]; be present at the unloading of the catch for the purpose of collecting management-related and biographical

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373 Ibid.
374 An Arrangement Implementing the Nauru Agreement Setting Forth Minimum Terms and Conditions of Access to the Fisheries Zones of the Parties. Text in ibid 303-4.
375 Ibid 283.
376 The First Implementing Arrangement art II.
377 The First Implementing Arrangement art II(1)(a).
378 The First Implementing Arrangement art II(1)(c).
379 The First Implementing Arrangement art II(1)(f).
380 The First Implementing Arrangement art II(2)(b).
381 The First Implementing Arrangement art II(2)(f).

information and samples.[382] In the third place, the owner, charterer, operator, master or any other person responsible for the operation of a licensed vessel shall keep daily catch and effort records on board the vessel within the Fisheries Zones[383] and make them available to the licensing party within 45 days after the completion of each voyage.[384] In the fourth place, the owner, charterer, operator, master or any other person responsible for the operation of a licensed vessel (except vessels under 20 gross registered tons) shall report, in addition to giving notice of entry of the vessel into the Fisheries Zone of the party, the position of the vessel while within the Fisheries Zone on a weekly basis together with the total catch of the vessel for the last seven days.[385] Moreover, they shall report, at the time of exit from the Fisheries Zone of the party, the vessel's position, the total amount of fish on board and the total catch for the days elapsed since either the entry report or the previous weekly report, as the case may be.[386] Finally, the licensed vessel shall display the radio call sign and the registration number in a prominent position.[387]

Next, the arrangement goes on to require the parties to participate in and comply with the Regional Register rules adopted by the Forum Fisheries Committee.[388] The Regional Register is basically an enforcement tool.[389] The general intention behind it is to shift some of the responsibility for ensuring compliance to the flag state or fishing association.[390] The fundamental requirement of the

382 The First Implementing Arrangement art II(2)(h).
383 The First Implementing Arrangement art II(3)(a).
384 The First Implementing Arrangement art II(3)(c).
385 The First Implementing Arrangement art II(4)(a) & (b).
386 The First Implementing Arrangement art II(4)(c).
387 The First Implementing Arrangement art II(5)(a) & (b).
388 The First Implementing Arrangement art I.
389 Doulman DJ and Terawasi P 'The South Pacific Regional Register of Foreign Fishing Vessels' MP 14(4) July 1990 324.
390 See n372.

Register, which is administered by the Director of the FFA, is that before any vessel may be licensed to fish in the region, it must apply for listing on the regional register either directly from the FFA or indirectly through the member countries.[391] Once the application is accepted, good standing status is automatically accorded to the vessel.[392] This good standing status can be withdrawn basically in two situations: first, where the owner or master of the fishing vessel has been convicted of a serious offence under the fisheries laws of a member country and fails to comply with the judgment entered against him and secondly where there is a prima facie case of a serious offence against the fishery laws and the offender has not submitted to the jurisdiction of the member country concerned.[393] Complex procedures have been established governing the withdrawal of 'good standing'.[394] These are designed to ensure that incidents

391 Moore G 'Enforcement Without Force: New Techniques in Compliance Control for Foreign Fishing Operations Based on Regional Cooperation' in Miles EL and Treves T ed The Law of the Sea: New World, New Discoveries 1993 339.

392 Ibid. See also n372.

393 Procedures for the Establishment and Operation of the South Pacific Forum Fisheries Agency Regional Register of Fishing Vessels para 5.

394 A request for withdrawal of good standing may originate from any participating country. Before making such a request, however, the alleged infringement must first be fully investigated and every effort made to obtain an explanation from the vessel operator concerned. Requests, together with supporting documentation, must be made to the Director who is then responsible for distribution as soon as possible to all members. Also, supporting documentation should include evidence of the alleged offence, any responses to that evidence by the vessel operator and a record of efforts made by the country concerned to obtain satisfaction. Where a request is being considered by the participating countries, the Director must notify the vessel operator concerned. To ensure full knowledge of developments, all participating countries are required, upon receiving communication from the Director about a request for withdrawal, to notify him immediately of the date of receipt for such communication. See ibid para 6.1, 6.3 and 6.4.

withdrawn from any vessel arbitrarily.[395] 'Good standing' can only be withdrawn if the request is endorsed by at least three out of the sixteen countries participating in the scheme[396] and dissented to by none.[397] There are also procedures for the suspension of good standing status.[398] These are more flexible and can be initiated by the Director of the FFA at the request of a single member country.[399] Under a new procedure recently introduced, a total of three suspensions over a period of two years constitutes grounds for the withdrawal of good standing.[400] In short, the regional register is now the center piece for regional cooperation and enforcement in the South Pacific.[401] It essentially works as a regional blacklist against vessels that seriously infringe the laws of any participating state and that do not submit to the legal processes of that state.[402]

At the Ninth Annual Meeting of the Parties to the Nauru Agreement in Nauru in April 1990, a legal drafting group was committed to prepare a draft of a Second Implementing Arrangement.[403] This was largely due to substantial increases in foreign fishing in the region, which made it necessary to amend the minimum terms and conditions.[404] On that occasion, Papua New Guinea introduced a paper calling for revisions to be made to the First Implementing Arrangement to cover urgent matters such as transshipment at

395 See n391.
396 Ibid.
397 Ibid. See Swan n309 190 and Sutherland n315 25.
398 See n372. See also n391.
399 Ibid.
400 Ibid.
401 Moore n391 340.
402 Clark LG and Slatyer AJ 'Economic Development and Management of Fisheries in the Exclusive Economic Zones of Pacific Island States' in Krueger RB and Riesenfeld SA ed The Developing Order of the Oceans 1985 611. See also n391.
403 Lodge n310 296.
404 Ibid.

sea, observer programmes, surveillance and monitoring and an annual registration fee under the Regional Register.[405] Moreover, the Federated States of Micronesia also proposed that an additional arrangement be adopted to cover the areas of high-seas catch reporting, observer costs and transshipment at sea.[406] The resulting draft was endorsed by the meeting and referred to a ministerial meeting of the parties to the Nauru Agreement to be convened in Palau in October 1990.[407] The minimum terms and conditions were finally adopted and signed by the Ministerial Meeting in the form of the Second Implementing Arrangement.[408] They include a provision on the prohibition of transshipment at sea:

> 'The owner, charterer, operator, master or any other person responsible for the operation of a licensed vessel (hereafter referred to as 'the operator') shall not transship fish at sea whether such transshipment is done within a fisheries zone of a licensing Party or on the high seas and shall transship only through ports designated by the licensing Party'.[409]

In addition, it requires that, where a vessel is licensed to fish in one or more Fisheries Zones and is also used for fishing in the high seas during a fishing trip, the operator shall keep daily catch and effort records on board the vessel within the high seas[410] and send to each licensing party a preliminary report within 14 days of the completion of a trip and a final report within 45 days of the completion of the trip.[411] Moreover, upon request by a licensing party, observers shall be placed on board licensed vessels and the operator and/or fishermen's association

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405 Ibid.
406 Ibid.
407 Ibid.
408 A Second Arrangement Implementing the Nauru Agreement Setting Forth Additional Terms and Conditions of Access to the Fisheries Zones of the Parties. Text in ibid 304-5.
409 The Second Implementing Arrangement art I(1).
410 The Second Implementing Arrangement art I(2)(a).
411 The Second Implementing Arrangement art I(2)(c).

vessels and the operator and/or fishermen's association and/or flag state government shall pay the costs of such observers.[412] Finally, under the arrangement, the operator and/or fishermen's association and/or flag state government shall ensure that an appropriate electronic positioning monitoring and data transfer device is installed and maintained in good working order.[413] It was agreed by the Nauru Group that the Second Implementing Arrangement would come into effect on January 1, 1991.[414]

In April 1991, the difficulties encountered by members of the Nauru Group with respect to implementation of the minimum terms and conditions were once again reviewed at the Tenth Annual Meeting of the Parties to the Nauru Agreement at Wellington, New Zealand.[415] This time the minimum terms and conditions were revised, in the main, as follows:

> 'the operator of a foreign fishing vessel shall -
> (i) not transship at sea under any circumstances except for the transfer of catch by a licensed group seiner to its licensed carrier vessel each of which holds good standing on the Regional Register;
> (ii) provide 72 hours notice to a licensing country of a request to transship any or all of the fish on board and shall provide the name of the vessel, its international radio call sign, position, the catch on board by species, the time and port where such transshipment is requested to occur..;
> (iii) only transship at the time and port authorized for transshipment;
> (iv) submit full reports on transshipment on the prescribed forms'.[416]

Moreover, vessels transiting zones shall be required to have all fishing equipment on board stowed or secured in such a manner that it is not readily available to be used for

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412 The Second Implementing Arrangement art I(3).
413 The Second Implementing Arrangement art II.
414 Lodge n310 287.
415 Ibid 288.
416 Ibid 291.

fishing.[417] The former is apparently intended to redress the practice of transshipment at sea, which not only distorts the calculation of a 'fishing trip' (this is of special concern to those countries which have adopted a per vessel per trip licensing system) but also results in a situation of under-reporting.[418] Although the revised minimum terms and conditions are considerably more detailed effectively prohibiting transshipment at sea, the language used is extremely wide and may be construed as a prohibition on transshipment on the high seas.[419] This, it has been pointed out, cannot be supported in law since it would constitute a restriction on the freedom of the high seas.[420] As a result, it has been suggested that the prohibition on transshipment be brought within international law by amending the provision to allow transshipment in the EEZ subject to express authorization by the coastal sate, payment of fees and compliance with reporting requirements.[421] Moreover, it is thought best to limit the catch reporting requirement by reference to the fishing trip, ie full catch reports are required for fishing trips in which fishing takes place both on the high seas and in a zone.[422] The advantage of the approach is that the demand for data can be justified for reasons of conservation of the stock in the zone and is not tied down to any specific area of high seas.[423]

In addition to the minimum terms and conditions, the region also employs the technique of principle of flag sate

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417 Ibid 294.
418 Ibid 290.
419 Ibid 291.
420 Ibid 291, 299.
421 Ibid 291.
422 Ibid 293.
423 Ibid. The disadvantage of the approach is of course that compliance and monitoring my be difficult to ensure. See ibid.

responsibility for compliance control.[424] Indeed, no agreement or legislation has yet taken the concept of flag state responsibility quite so far as the multilateral fisheries treaty concluded in 1987 between the South Pacific Island States and the US.[425] This agreement spells out for the first time not only the basic concept of flag state responsibility, but also detailed procedures for implementing that responsibility.[426] Under the Treaty, as a result, the US government first undertakes to enforce the provisions of the treaty and of licenses and to take the necessary steps to ensure that US nationals and fishing vessels refrain from fishing in the area covered by the treaty, including areas closed to fishing, except as duly authorized.[427] (In other words, the US government is obligated to assist, on request, in the investigation of alleged breaches of the treaty and to communicate the results of the investigation to the requesting party.[428] In addition, it has a duty to take measures to facilitate service of legal process arising out of the activities of its fishing vessels, at least so far as civil suits or penalties are concerned.[429] Moreover, it also has a duty to take all measures to facilitate the prompt and full adjudication of any claim made under the treaty and full satisfaction of any judgment entered.[430]) Next, there is the detailing of procedures for the investigation by the US government itself of offences against the treaty and the Pacific Island States' laws, for the imposition of penalties and for the payment to the Pacific Island States of the

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424 Ibid 294.
425 Moore n391 341. The treaty is Treaty on Fisheries between the Governments of Certain Pacific Island States and the Government of the United States of America. Text in ILM 26(4) 1987 1053-90.
426 Moore n425.
427 The 1987 Treaty art 4(1).
428 The 1987 Treaty art 4(2).
429 The 1987 Treaty art 4(3)(b)(ii).
430 The 1987 Treaty art 4(3)(b)(iii) and (iv).

amounts of fines, penalties, or forfeitures actually collected.[431] Under the treaty, the US government is required to investigate fully any alleged offence and where the investigation reveals a probable infringement of the treaty or applicable national laws, to take all necessary measures to ensure that the offending vessel either submits to the jurisdiction of the coastal state concerned or that the vessel is penalized under US law.[432] Penalties are to be set at the same level as for like violation by foreign fishing vessels operating in the US EEZ.[433] If a judgment is entered against the vessel, the US government is required to pay over to the Treaty Administration a sum of money equivalent to the total value of any forfeiture, fine, penalty, or other amount collected by the US government as a result of its judicial or administrative sanctions.[434] In a real sense, then, US government, administrative and judicial machinery would be acting as agents for the Pacific Island coastal states in the area of fisheries compliance control.[435] This is certainly a far-reaching innovation and a model that must hold attraction both for the Pacific Island countries in their negotiations with other distant water fishing nations and for coastal states in other regions.[436] For this reason, therefore, a new Niue Treaty on Cooperation in Fisheries Surveillance and Law Enforcement in the South Pacific Region[437], signed in July 1992, seeks to make the acceptance of flag state responsibility for compliance control a standard feature of all future access agreements in the region.[438]

431 Moore n391 342.
432 The 1987 Treaty art 4(4) and (6).
433 The 1987 Treaty art 4(6)(b).
434 See n431.
435 Ibid.
436 Ibid.
437 Text in ILM 32(1) January 1993 138-42.
438 The Niue Treaty art IV(5) stipulates that: 'The Parties shall, as far as possible, ensure that foreign fishing agreements with flag States require the flag State to take responsibility for the compliance by its flag

Finally, the aforementioned Niue Treaty provides for a panoply of regional cooperation in physical surveillance and enforcement[439], including regionally agreed operational procedures[440], regional pooling of information[441], the authorization of surveillance and enforcement operations by other parties in a coastal state's EEZ, or even, under separate subsidiary agreements, in its territorial sea and archipelagic waters.[442] Under the new agreement, the parties agree to stand firm in the implementation of harmonized minimum terms and conditions for fisheries access, including regional register requirements, identification and reporting requirements and the principle of flag state responsibility for compliance control.[443] The agreement also provides for regional cooperation in prosecutions, including the possibility of subsidiary agreements on extradition and reciprocal enforcement of judgments.[444] At this juncture, it is worth mentioning that a similar agreement has been signed by the members of the Organization of Eastern Caribbean States. While not so broad in scope, it goes further in certain directions.[445] The agreement, which was signed in 1991, provides directly for authorized officers of any member states to take enforcement action against vessels operating illegally in the waters of any other member state, including its territorial sea.[446] Moreover, the countries which are members of the new Subregional Commission on Fisheries in West Africa have been considering for some time the adoption of an agreement that would provide for regional

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vessels with the terms of any such agreement and applicable laws'.

439 Moore n391 343.
440 The Niue Treaty art III(2).
441 The Niue Treaty art V(1).
442 The Niue Treaty art VI(1).
443 The Niue Treaty art IV(2), (4) and (5).
444 The Niue Treaty art VII(1) and (2).
445 See n439.
446 Ibid.

cooperation in enforcement and in particular for detailed procedures to govern hot pursuit by vessels of one member state into waters under the jurisdiction of a neighbouring member state.[447] While hot pursuit normally stops at the limits of the territorial sea, the agreement would provide for cooperation by a state, into whose territorial sea a fugitive vessel has fled, in seizing the vessel and returning it to the authorities of the pursuing state.[448] The subregional Commission has also prepared a draft agreement on harmonized conditions of access for foreign vessels desiring to operate in the subregion.[449]

Generally speaking, the regional arrangements for fisheries management in the South Pacific have significantly improved compliance.[450] Moreover, they have largely reduced the costs of enforcement and ensured a greater responsibility on the part of the flag state.[451] As a result, it has been concluded that the Pacific island states have had more success in getting together in the Forum Fisheries Agency and under the Nauru Agreement.[452] Here cooperation between developing coastal (island) states has reached a level not found anywhere else in the world.[453]

10.5 Recommendations and new trends in fisheries management

In conclusion, regional cooperation is easiest in relation to environmental measures, but more difficult in fisheries (and more complicated still relating to the development of hydrocarbon resources, especially when there are maritime

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447 Ibid.
448 Ibid.
449 Ibid.
450 Aikman CC 'Island Nations of the South Pacific and Jurisdiction Over Highly Migratory Species' VUWLR 17 1987 109. See also Sutherland n315 19.
451 Lodge n310 294.
452 Lawson n118 395.
453 Ibid.

boundary disputes).[454] But it has to be the way of the future.[455] In this regard, the regional cooperation in the South Pacific could indeed provide a precedent for other parts of the world.[456] In addition, the following fisheries management measures could be taken as a supplement.[457] Most of these may be conveniently grouped into two broad classes: (i) biological fisheries management and (2) economic fisheries management.[458] Economic fisheries management measures may be further divided into (a) direct restrictions and (b) indirect economic management.[459] The first one is undoubtedly the most common fisheries management, which is designed to protect the fish stock.[460] In the main, it employs measures such as fishing stoppages during spawning seasons; closures of nursery grounds; measures for protection of juvenile fish; fishing gear restrictions, etc.[461] Moreover, it imposes an upper limit on total allowable catch.[462] In order to give effect to the latter effectively, it has been particularly suggested that an independent quota board, inter-governmental in nature, could be enjoined with the task of determining and allocating quotas between member states in the region.[463] In the second case, the most frequently employed methods are

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454 Sanger n199 156.
455 Ibid. See also Johnston n1 xxx viii and lxxx, Briesch n8 90; '1990 Report' n3 26 para 120; Du n42 469; Omar, Noh, Mustapha, Abdullah and Kuperan n65 445; Torell n81 142; Nadelson n170 487; Johnston n307 118; Moore n391 336; and Birnie PW 'Contemporary Maritime Legal Problems' in Barston and Birnie ed n111 188.
456 Aikman n450 123. See also '1991 Report' n8 35 para 121; '1990 Report' n13 27 para 127; Nadelson n170 485; n454.
457 Arnason n23.
458 Ibid.
459 Ibid.
460 Ibid 335, 336.
461 Ibid 336. See also Briesch n8 63 and '1991 Report' n8 29 para 99.
462 Arnason n23. See also Johnston n307 124.
463 Powell n124 124.

restrictions on fishing effort[464] and restrictions on investment in fishing capital.[465] The former take various forms: there are limitations on days at sea, fishing time, engine size, holding capacity of the vessels, etc.[466] These methods are basically designed to bring fishing effort and capital down to optimal levels and thus realize the potential economic benefits of the fisheries.[467] Thirdly, the most prominent indirect economic fisheries management methods are corrective taxes.[468] The idea in this context is to alter the economic conditions of the fishing firms so as to induce them to behave in a socially optimal fashion.[469] Although taxes on fisheries inputs do not appear very promising, however, tax on catch is a much more effective way to realize the potential economic benefits of a fishery.[470] By squeezing out the least efficient fishermen, taxes on catch force a reduction in aggregate fishing effort.[471] Thus, depending on the tax rate, the effort level in fishing can in principle be brought down to the economically most rewarding one.[472]

Finally, it is to be noted that, since the general extension of the exclusive economic zones to 200nm in the 1970s, there has been a world wide trend towards the adoption of property-rights-based fisheries management systems.[473] This is a reaction to the historical common property nature of fisheries[474], that is, the resource is owned 'in common' by

464 Arnason n8 336. See also Breisch n8 62 and '1991 Report' n8 31 para 105.
465 Arnason n464.
466 Ibid.
467 Ibid.
468 Ibid.
469 Ibid.
470 Ibid.
471 Ibid.
472 Ibid.
473 Arnason n8 339.
474 Johnston n1 xxxvi. See also '1991 Report' n8 27 para 94; Omar, Noh, Mustapha, Abdullah and Kuperan n65 443; Sanger n199 153; McDorman TL 'Thailand's Fisheries: A

nation's citizens[475] - which results in the 'rush for the fish'[476] and fails to provide individual fishermen with the incentive to conserve or refrain from fishing to allow stocks to replenish.[477] Under the new trend, fishers' organizations and/or fishing communities would have clear-cut rights to fishery access or to a particular quantity of fish.[478] Moreover, they are allowed to buy and sell the rights to harvest certain quotas of fish (which are referred to as 'individual transferable quotas' or 'ITQs').[479] Such market-based systems, it has been pointed out, are seen as providing the ultimate solution to the open-access dilemma, allowing fishers to choose their own level of operation, minimize their fishing costs and maximize economic efficiency.[480] Generally speaking, economic rationalization of ocean fisheries is probably inevitable.[481] A property-rights-based system, such as the ITQ system, appears to be the most effective way of accomplishing this.[482] Therefore, it is advisable to begin preparations for the eventual implementation of such a system in an orderly fashion.[483]

At present, the fishery development activities of the Southeast Asian countries are still based on unilaterally determined policies.[484] It is therefore submitted that a South-Pacific-Forum-like cooperational scheme should be adopted in the region. The advantage of this approach is that it does not involve the establishment of any

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Victim of 200-Mile Zones' ODIL 16(2) 1986 176; Charles AT 'Fishery Conflicts: A Unified Framework' MP 16(5) September 1992 386.

475 Ibid.

476 Ibid. Generally see Retting RB and Ginter JC Limited Entry as a Fishery Management Tool 1978.

477 Omar, Noh, Mustapha, Abdullah and Kuperan n474.

478 Charles n474.

479 Ibid 387.

480 Ibid.

481 See n473.

482 Ibid.

483 Ibid.

484 Samson n32 149.

supranational structure, which would not be very acceptable, at least at this stage, to the states in the South China Sea.[485] Moreover, there is no reason to exclude all the abovementioned fisheries management measures as a supplement. Finally, it is obviously desirable that the idea of ITQs be incorporated into the scheme from the very beginning, so as to maximize economic rationalization of the regional fisheries.

485 Ibid 150-1.

CHAPTER 11

NAVIGATION THROUGH STRAITS IN THE SOUTH CHINA SEA

11.1 Transit through straits: the genesis of the issue

Problems concerning straits are global - for passage through straits affects not only both user and strait states but also other states, which may directly or indirectly be affected from the strategic viewpoint - political, military or economic.[1] At present, maritime communication is dependent upon navigation through roughly 100 international straits that dominate the major ocean avenues of the world.[2] An additional 161 straits are similarly susceptible of use and may become important in the future.[3] Under the traditional 3nm territorial sea rule, adopted by most leading naval powers at the time, ships and aircraft enjoyed unrestricted freedom of navigation and overflight through the high seas corridors which existed in these stretches of water.[4] That situation has however been subject to drastic changes in the past three decades.[5] Coastal states began to extend the breadth of their territorial sea at the beginning of the 1960s.[6] The new 12nm claims subject the vital highways of navigation to the regime of the territorial sea.[7] This placed over 100 straits[8] - in fact 116[9] out of

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1 Koh KL Straits in International Navigation: Contemporary Issues 1982 3.

2 Harlow BA 'UNCLOS III and Conflict Management in Straits' ODIL 15(2) 1985 199.

3 Ibid.

4 Caminos H 'The Legal Regime of Straits in the 1982 United Nations Convention on the Law of the Sea' Hague Recueil 205(5) 1987 23. See also Harlow n2 204.

5 Mahmoudi S 'Passage of Warships through the Strait of Hormuz' MP 15(5) September 1991 338.

6 Koh n1 99 and 126. See also Caminos n4 233.

7 Mangone GJ 'Straits Used for International Navigation' ODIL 18(4) 1987 407. See also n5, Caminos n4 62, Slot PJ 'The International Legal Regime for Navigation' ODIL 15(1) 1985 95, Reisman WM 'The Regime of Straits and National Security: An Appraisal of International Lawmaking' AJIL 74 1980 59, Mahmoudi S 'Customary International Law and Transit Passage' ODIL 20(2) 1989 157, Rothwell DR 'International Straits and UNCLOS: An

153 straits with breadths between 6 and 24nms[10] - used for international navigation under national sovereignty. It also resulted in a total of 201 straits no longer having a high seas corridor[11], including fifty-two straits which had long been so even before the movement because they were less than 6nm wide. This left only 60 with breadths greater than 24nm remaining open.[12] Straits are, however, not just another part of the territorial sea: on most voyages ships can avoid navigating through the territorial sea of a foreign state with little inconvenience, whereas straits are the indispensable gateways of international sea routes.[13] While strait states claim sovereignty over territorial

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Australian Case Study' JMLC 23(3) July 1992 467 and Schachte Jr WL 'International Straits and Navigational Freedoms' ODIL 24(2) 1993 181.

8 Caminos n4 235. See also Schachte Jr n7 186 and Andrew D 'Archipelagos and the Law of the Sea: Island Straits States or Island - Studded Sea Space?' MP 2(1) January 1978 54. O'Connell and Larson however assert that the figure should be over 130. See O'Connell DP The Influence of Law on Sea Power 1975 97 and Larson DL 'Innocent, Transit and Archipelagic Sea Lanes Passage' ODIL 18(4) 1987 414 respectively.

9 Reisman n7. See also Moore JN 'The Regime of Straits and the Third United Nations Conference on the Law of the Sea' AJIL 74 1980 86, Maduro MF 'Passage through International Straits: The Prospects Emerging From the Third United Nations Conference on the Law of the Sea' JMLC 12(1) October 1980 69, Amin SH 'The Regime of International Straits: Legal Implications for the Strait of Hormus' JMLC 12(3) April 1981 388, Mahmoudi n5 339, Mahmondi n7 164; and Kim D and Paik JH 'The Relation Between User States and Coastal States with Respect to International Navigation' in Kuribayashi T and Miles EL ed The Law of the Sea in the 1990s: A Framework for Further International Cooperation 1992 55.

10 Alexander LM 'Exceptions to the Transit Passage Regime: Straits with Routes of "Similar Convenience"' ODIL 18(4) 1987 481.

11 Harlow n4.

12 Alexander n10 480-1.

13 Robertson Jr HB 'Passage Through International Straits: A Right Preserved in the Third United Nations Conference on the Law of the Sea' Vir JIL 20(4) 1980 850.

straits and the right to prevent military and political hazards so as to protect what they perceive to be their legitimate interests[14], the major maritime powers demand, particularly in view of the fact that the majority of the strategically important straits have a breadth between 6 and 24nm[15], the right of unimpeded passage and overflight for all ships and aircraft through these confined waters.[16] As a result, the straits question has become one of the most vital issues in the contemporary law of the sea.[17]

11.2 The customary regime and the 1958 Conventions

There had been no clear legal concept of an 'international strait' for quite some time.[18] Codification exercises between 1894 and 1930 failed to achieve any satisfactory resolution.[19] Ambiguity and controversy persisted.[20] Commentators once wrote that a strait was a maritime passage ex naturae, ie not a man-made canal[21], which was a 'contraction of the sea between two territories, being of a certain limited width and connecting two seas otherwise separated at least in that particular place by the territories in question'.[22] For it to be international, 'it would seem that the degree of importance of the particular strait to the international sea-commerce... must be the decisive factor... [:] only those straits that are of some, not quite inconsiderable importance to the international sea-commerce, enjoy the peculiar legal position accorded to

14 Koh n1 101, 125-5.
15 Mahmoudi n7 165.
16 Koh n1 101-2, 125.
17 Ibid 99 and 171. See also Caminos n4 68, Andrew 8, Andreasen IR 'Commentary [on the Baltic Straits]' in Park CH ed The Law of the Seas in the 1980s 1983 601 and O'Connell DP The International Law of the Sea I 1982 328.
18 Koh n1 13.
19 O'Connell n17 305. See also Rothwell n7 464.
20 Caminos n4 39.
21 Gidel G Le droit international public de la mer III 1934 762.
22 Bruel E International Straits I 1947 19.

straits'.[23] It was also asserted that such straits had a legal position which was sui juris, ie separate from the law of innocent passage through the territorial sea.[24] In practice, it would appear that in peacetime the major straits of the world had been essentially free[25] - in some cases completely free[26] - irrespective of whether the coastal states' claims had left a central 'corridor' of high seas therein[27], so that the quality of the right had approximated to high seas passage. In wartime a channel for transit had always been available, even if its extent was restricted and right degraded to equivalence with innocent passage.[28] It was not until 1949 that the law on passage through straits was clarified by the International Court of Justice in the Corfu Channel Case[29] for the first time.[30] although the extent of the right was probably more extensive than the decision[31], the Court dogmatically held[32] that

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23 Ibid 42-3.
24 Ibid 38-9.
25 O'Connell n17 327.
26 Harlow n2 200. See also Bordunov VD 'The Right of Transit Passage under the 1982 Convention' MP 12(3) July 1988 228.
27 Nandan SN and Anderson DH 'Straits Used for International Navigation: A Commentary on Part III of the United Nations Convention on the Law of the Sea 1982' BYIL 60 1989 180.
28 See n25.
29 Corfu Channel Case (1949) (UK v Albania) ICJ Reports 1949 4ff. For a brief extract, see Harris DJ Cases and Materials on International Law 4th ed 1991 370-5.
30 See n18. See also n20, Rothwell n7 464-5 and Nandan and Anderson n27 161.
31 Indeed, O'Connell has pointed out that passage through straits in customary law is neither high seas passage, because the liberty of choice as to route and behaviour is not as great as in the high seas, nor innocent passage, because that liberty is greater than it is in the territorial sea. He therefore asserts that the exact content of this institution includes more than a mere prohibition of suspension of the right of passage. See n25.
32 O'Connell n17 312.

> 'it is ... generally recognized and in accordance with international custom that States in time of peace have a right to send their warships through straits used for international navigation between two parts of the high seas without the previous authorisation of a coastal State, provided that the passage is innocent. Unless otherwise prescribed in an international convention, there is no right for a coastal State to prohibit such passage through straits in time of peace'.[33]

The Court thus consolidated an autonomous regime[34] of some basic rules in customary law about passage through straits used for international navigation, rules which apply to all ships and which do not depend upon the precise legal status of the waters forming such a strait.[35]

In the case, it was established, as a main proposition, that warships (and a fortiori merchant ships) have a right of innocent passage through international straits in times of undeclared war as well as in peacetime.[36] However, not all straits are considered on an equal footing and therefore governed by the same autonomous rule of law.[37] According to the Court, a 'strait' in the legal sense is dependent on certain extra-legal factors, the main ones being geographical (ie the configuration of the stretch of water) and functional (ie navigational).[38] As mentioned above, the former refers to connecting two parts of the high seas[39] and is the decisive criterion.[40] A geographic strait that leads to a closed sea or an inland sea belonging to a single state and whose entrances fall within its territorial waters, belongs to the strait state and does not fall for

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33 ICJ Reports 1949 28. See also Harris n29 371.
34 O'Connell n17 314 and 327.
35 Nandan and Anderson n30.
36 O'Connell n17 314.
37 Hamman DB Passage Rights Through Straits 1987 5.
38 Vitzhum WG 'The Baltic Straits' in Park ed n17 540. See also Caminos n4 125 and Koh n1 16.
39 See n33 and accompanying text supra.
40 ICJ Reports 1949 28. See also Harris n29 371-2.

consideration under international law.[41] With respect to the secondary requirement of being 'used for international navigation'[42], the Court explained that:

> 'It may be asked whether the test is to be found in the volume of traffic passing through the Strait or in its greater or lesser importance for international navigation. But in the opinion of the Court... it [cannot] be decisive that this Strait is not a necessary route between two parts of the high seas, but only an alternative passage... . It has nevertheless been a useful route for international maritime traffic',[43]

In this regard, the test applied by the Court, though a relative one[44], lays more emphasis on the practices of shipping than on geographic necessities.[45] In considering the importance of communication links[46], it gives relatively little weight to actual use, apparently including as 'international highways' those geographic straits that have only rarely been used by ships of foreign nations.[47] Presumably a low degree[48], or rather, some degree of utility[49], such as episodic transit would satisfy the classification.[50] It is clear that the strait needs not be the only one or indispensable. [51] Thus the existence of an alternative route does not affect the international status of the channel in question.[52] It is equally clear however that mere potential utility is insufficient.[53] In addition

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41 Koh n1 16-7.
42 Koh n38. See also Caminos n38 and Rothwell n7 472.
43 See n40.
44 Koh n1 21.
45 Baxter RR The Law of International Waterways with Particular Regard to Interoceanic Canals 1964 9. See also n44 an Caminos n4 127.
46 See n36.
47 Vitzthum n38 543.
48 Koh n1 20.
49 Caminos n4 128.
50 Reisman n7 66.
51 See n36.
52 See n48.
53 See n36.

to this expansive interpretation[54], the Court, while regarding the strait's existence as a frontier (between Albania and Greece) as yet another matter of subsidiary importance[55], also seemed to imply that an interest in regional passage would suffice and that traffic through straits must generally be destined for ports other than those along the coastlines of the straits.[56] In essence, the Court, in dealing with these two cumulative requirements[57], placed more emphasis on the geographical factors [58] considering the importance of a strait to world commerce not very relevant.[59] In determining the innocence of the passage, the Court ruled that it is the way it is conducted that bears upon the question.[60] This put the test based on the characteristic of ship to rest.[61] As long as it is innocent a coastal state has no right to prohibit passage through straits.[62] Under this principle, thus, coastal states could only, by implication, limit the number of foreign ships traversing straits at any one time, or prohibit passage during hours of darkness, if such measures were necessary to protect their security in the prevailing circumstances.[63] They are not entitled to suspend passage through the strait completely.[64] Although the Court is further categorical about there being no requirement of previous authorization[65], it is however noteworthy that it

54 See n47.
55 Rothwell n7 465. See also O'Connell n32.
56 Koh n1 22.
57 See n50.
58 See n48.
59 Mangone n7 398. See also Churchill RR and Lowe AV The Law of the Sea 2ed 1988 88.
60 O'Connell n17 313. See also Koh n1 34.
61 Ibid.
62 Koh n1 36.
63 Churchill and Lowe n59.
64 Ibid. Koh however argues that as a temporary suspension does not amount to prohibition, such suspension may well be permitted under the Corfu Channel principle n62.
65 This had been emphasized by Koh n1 33, Schachte Jr n7 183 and Churchill and Lowe n59.

is not explicit on the question of prior notification.[66] Conceivably coastal states' regulations could include the requirement of prior notification, particularly when relations are tense.[67] In short, the Corfu Channel Case has established an exceptional rule for warships in customary law[68] according a non-suspendable right of innocent passage through straits.[69]

In 1958, the Convention on the Territorial Sea and Contiguous Zone (TSC), in codifying the dominant customary international law[70], tried to incorporate the judgment in the Corfu Channel Case.[71] It provided that:

> 'There shall be no suspension of the innocent passage of foreign ships through straits which are used for international navigation between one part of the high seas and another part of the high seas or the territorial sea of a foreign state'.[72]

This provision, however, does not fully reflect the wide significance of the 1949 decision.[73] While the nature of the right of innocent passage here follows customary law, the definition of straits within which that right subsists, at first sight, does not.[74] In formulating the geographic requirement which requires that they be between one maritime zone and another[75], the Convention includes not only straits connecting two areas of the high seas[76], but also those connecting the high seas with the territorial sea of another

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66 Koh n65.
67 Ibid.
68 O'Connell DP International Law 2ed 1970 495.
69 Churchill and Lowe n59 89. See also Rothwell D 'The Indonesian Straits Incident: Transit or Archipelagic Sea Lanes Passage?' MP 14(6) November 1990 494.
70 Ibid. See Rothwell n19.
71 Churchill and Lowe n59 87.
72 TSC art 16(4).
73 Nandan and Anderson n30.
74 Churchill and Lowe n69.
75 Rothwell n7 466.
76 Ibid 470.

state.[77] Being a broader version[78] specifically for the purpose of accommodating the right of access to the Israeli port of Eilat through the Straits of Tiran[79], the provision beyond mere codification.[80] In dealing with the utility criterion, the Convention mirrors the position in international customary law[81] and simply repeats the 1930 codification formula and other tests involving mere 'use' of a strait[82], without further elaboration.[83] This raises the question whether the text overrules the Corfu judgment[84], whether it refers to a specific application of the Corfu Channel test, or whether it is necessary to ascertain whether international shipping regularly uses the strait.[85] Apart from the difference in definition[86], the 1958 provision fails to differentiate between passage through the territorial sea in general and transit of straits.[87] Instead of being treated as a separate topic[88], the question of straits is subsumed in the regime of innocent passage through the territorial sea as an incidental aspect.[89] As a result, the standard of passage rights in international straits is potentially degraded in the Geneva Convention. For this, as has been pointed out, there has been no warrant in history or in the judgment of the International Court.[90]

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77 Churchill and Lowe n69.
78 Caminos n38. See also Moore n9 114.
79 For a more detailed discussion, see Lapidoth R 'The Strait of Tiran, the Gulf of Aqaba and the 1979 Treaty of Peace Between Egypt and Israel' AJIL 77 1983 91-7.
80 Churchill and Lowe n69. As a result, the attitude of several governments on this specific issue had not been reconciled with the 1958 Convention. See Mangone n7.
81 Koh n38.
82 See n36.
83 Vitzthum n38 547-8. See also Koh n1 21, 38 and n75.
84 See n50.
85 See n75.
86 O'Connell n17 299.
87 Moore n9 90.
88 Nandan and Anderson n30.
89 Ibid. See also n34 and Caminos n4 101 and 123.
90 O'Connell n17 299 and 316.

Because of this inclusion of the question of straits in the general context of innocent passage in the territorial sea[91], the ambiguities and inadequacies in the latter will further apply in areas within straits overlapped by the territorial sea.[92] Amongst other things, the ambiguous definition of innocent passage poses the most significant problem.[93] Under the Convention, it is confirmed that 'ships of all States, whether coastal or not, shall enjoy the right of innocent passage through the territorial sea'.[94] This has been recognized as part of customary international law.[95] This is subject only to coastal state right to suspend temporarily all passage rights of all foreign vessels (but not the specific passage of a foreign ship), for the purpose of anticipating or preventing some general security threat. An example would perhaps be the suspension of passage rights for all foreign warships while the coastal state is suffering disruption.[96] Although the right is somewhat more guaranteed in straits used for international navigation[97] in that it cannot be suspended

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91 Ibid 316.
92 Moore n9 85.
93 Caminos n7.
94 TSC art 14(1).
95 Jessup argued that '[this] require[s] no supporting argument or citation of authority; it is firmly established in international law'. See Jessup PC The Law of Territorial Waters and Maritime Jurisdiction 1927 120. See also, for example, Caminos n4 48, Koh n1 39, Amin n9 and Harris n29 379. It is however to be noted that the definition of 'passage' in art 14(2) of TSC, which reads '[p]assage means navigation through the territorial sea for the purpose either of traversing that sea without entering internal waters, or of proceeding to internal waters, or of making for the high seas from internal waters', is an extension of the position under the customary law where the right of innocent passage did not include traversing to and from an internal port. See Koh n1 40.
96 Maduro n9 76. Original text in TSC art 16(3).
97 Rothwell n69.

there[98], strait states are not actually prohibited from suspending non-innocent passage, just as in the rest of their territorial sea.[99] The notion of the latter is, however, negatively defined[100] setting no specific guidelines to facilitate the necessary judgment[101]:

> 'Passage is innocent so long as it is not prejudicial to the peace, good order or security of the coastal State. Such passage shall take place in conformity with these articles and with other rules of international law'.[102]

Being only expressed in general terms[103], this formula may prove too open-ended.[104] Despite the general understanding in the conference that, for passage to be innocent, there should be no military or other threats to the sovereignty of the coastal state[105], the coastal state could practically deny passage through straits based on the purpose[106] or destination or cargo or voyage[107], the flag[108] and the type of vessel (public or private, warship or commercial)[109] , as well as acts committed in the course of the passage.[110] It may also have the final say on the route and the number of vessels allowed to pass within a specific period of time[111], or may even impose restrictions on navigation in times of crisis.[112] Thus, the determination of whether passage is innocent is arguably within the subjective discretion of the

98 Koh n1 35.
99 Amin n9 401-2. See also Maduro n9 74.
100 Caminos n4 49.
101 Ibid 49 and 141. See also Amin n9 389 and 403 and Schachte Jr n7 182.
102 TSC art 14(4).
103 YILC II 1956 273. See also Koh n1 39.
104 Reisman n7 61.
105 Koh n1 9 and 39. See also Moore n9 119.
106 Robertson Jr n13 803.
107 Ibid 803, 809, 812. See also Caminos n4 141 and Andrew n8 51.
108 Ibid. See also Robertson Jr n1 809 and Caminos 107.
109 Robertson Jr n13 812.
110 See also n106. See also Koh n95.
111 Mahmoudi n9.
112 Vitzthum n38 548.

bordering state.[113] At the technical level[114], this in turn gives rise to the question whether an infringement of the articles in the Convention and of the rules of international law, ie a technical breach of, for example, regulations of the coastal state pertaining to health, customs and immigration, could take away the 'innocence' of the passage[115] even though the security of the coastal state is not necessarily threatened.[116] With the exception that passage of foreign fishing vessels shall not be considered innocent if they do not observe the laws and regulations of the coastal state in regard to the prevention of vessels from fishing[117], could the coastal state, in all other cases, suspend passage, arrest the ship and impose fines on it?[118] Although one might assert that 'good order' in the text does not include mere technical breaches and that the motive must be taken into consideration[119], such an approach would seem, however, at variance with the customary laws as laid down in the Corfu Channel Case in which the manner is the sole criterion.[120]

Another consequence of subordinating straits to the regime of the territorial sea is the blurring of the right of innocent passage for warships.[121] Although the Corfu Channel Case affirmed the right to send warships through straits used for international navigation, the right of

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113 Robertson Jr n13 803, 809. See also n104, n112, Mahmoudi n9, Maduro n9 74 and 77 and Caminos n4 50 and 141.

114 Reisman has pointed out that it is the first sentence of art 14(4) that deals with the notion of innocent passage; the second sentence would appear to refer to the more technical aspects of passage. See Reisman n7 60-1.

115 Koh n95.

116 Caminos n4 50.

117 TSC art 14(5).

118 See n116.

119 Koh n1 41.

120 Ibid. See also n60 and accompanying text supra.

121 Andrew n8. See also Vitzthum n38 549.

innocent passage of warships in general is however still not beyond doubt[122], having plagued nations for many years.[123] This is particular so when the Convention fails to address the issue specifically.[124] In contrast to the clear stand that there is no right of innocent passage for aircraft[125], which has long been a part of customary law[126] and that submarines must navigate on the surface (and show their flag)[127], the 1958 instrument actually leaves a vacuum in this regard which has elicited a wide variety of opinion on whether or not it provides for a right of passage for warships in the territorial sea at all.[128] Moreover, even if it could be established that the conventional arrangement favours this right[129], ignoring the fact that the relevant state practice at the moment is not uniform[130] and even conflicting in some cases[131], one is still left in doubt whether its exercise must be preceded by notification or authorization[132], particularly taking into account that violation might be regarded as only a technical breach.[133] Apart from the provision that ships exercising the right of

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122 Koh n1 5 and 43. It has been pointed out that this has been a controversial and troublesome issue. See Kim and Paik n9 53 and Caminos n4 54 respectively.
123 Koh n1 5.
124 Caminos n122.
125 Koh n1 4. See also Mangone n7, Andrew n8 51 and 54 and Caminos n4 58-9.
126 Ibid 59 at n108. Although the 1958 Convention contains no specific provision addressing overflight over the territorial sea, the standard international air law, ie the Convention on International Civil Aviation of 1944 (art 5 in particular), codifies the principle that aircraft do not enjoy the same right of innocent passage enjoyed by ships.
127 Caminos n4 58. See also Mangone n7 and Andrew n125.
128 Caminos n4 55.
129 This view is held by, for example, Koh n1 45 and Vitzthum n121.
130 Wolfrum R 'The Emerging Customary law of Marine Zones: State Practice and the Convention on the Law of the Sea' NYIL 18 1987 131.
131 Kim and Paik n122.
132 Mahmoudi n5 342. See also Mangone n7.
133 Koh n129.

innocent passage are generally required to comply with the navigational laws of the coastal state[134], there is no provision addressing these requirements either.[135] Contextually it could be argued that giving notification as a matter of courtesy is not ipso facto to be taken as state practice.[136] Such conditions are implicitly rejected in the Convention[137] but it is also acknowledged that they have been raised in practice more often than not.[138] In short, UNCLOS I is unable to clarify the position relating to warships in foreign territorial waters.[139]

Finally, the question arises whether the Geneva Convention, in its attempt to impose the passage regime of the territorial sea on international straits, covers the case where the waters of a strait are claimed to be internal waters.[140] If the right of passage through straits is only a corollary of a right of passage through the territorial sea and not an autonomous institution of international law, there would be serious doubt whether the Geneva text would literally apply in such cases.[141] In this respect, it has been emphasized that any codification which failed to cover the most significant categories of straits could only be pronounced a failure.[142]

Generally speaking, TSC, in many aspects relating to the present subject, appears to be more legislative than codificatory.[143] It unduly emphasizes the rights of bordering

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134 TSC art 17.
135 Koh n129.
136 Ibid 33 and 45.
137 This view is held by, for example, Mahmoudi n7 172 at n62 and Moore n9 109.
138 Ibid.
139 Mangone n7 405.
140 O'Connell n17 316. See also Rothwell n69.
141 O'Connell n140.
142 Ibid.
143 Ibid 317.

states at the expense of the interests of user states.[144] As a matter of fact, the principle of innocent passage in the only straits article[145], with the ambiguous provision on non-suspension[146], is not a guarantee of free transit. Although strait states only retain the right to prohibit passage which is non-innocent[147], there are no specific criteria under the Convention (or in customary law) on scope[148] and much is left to the subjective interpretation of individual governments.[149] As a result, the 1958 agreement, instituting a straits regime not in favour of users[150], is commonly regarded as inadequate.[151] In conclusion, neither customary law[152] nor the Geneva rule is clear enough[153] to provide proper and secure protection for passage through international straits.[154]

11.3 LOSC

As long as TSC was only to be applied in straits whose breadth was less than 6nm[155], the major maritime powers, in principle, did not dispute its provision on passage.[156] Although straits had not been recognized as an autonomous and distinct legal regime in that instrument, it seemed that

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144 See n13, Koh however argues to the contrary. See Koh n1 35-6.
145 Mahmoudi n9 75.
146 Reisman n7 58. See also n112.
147 See n145.
148 Koh n1 39 and 99. See also Slot n7 97, Maduro n9 73, Kim and Paik n9 and O'Connell n17 331.
149 Koh n1 39 and 46.
150 Reisman n146.
151 Koh n1 99 and 126. See also Caminos n4 81 and Mangone n71 406.
152 The judgment in the Corfu Channel Case has been described as either unsatisfactory or ambiguous. See Mangone n7 400 and O'Connell n19 respectively. See also Koh n1 29.
153 Ibid 9 and 47. See also n92 and Schachte Jr n7.
154 Remark of Burke W in 'Discussion' in Van Dyke JM ed Consensus and Confrontation: The United States and the Law of the Sea Convention 1985 294.
155 Mahmoudi n9.
156 Caminos n4 53.

as long as the high seas corridors in the most important straits remained open, they were willing to accept the restrictions of the innocent passage regime in a small number of less important straits.[157] The assimilation of straits with the territorial sea up to 12nm and beyond, brought a large number of important straits under national sovereignty.[158] This has however increasingly become a major obstacle to, inter alia, the global mobility of military fleets and airpower.[159] These states therefore argue that the straits regime of innocent passage can no longer be maintained.[160] For them, as well as other users, the shortcomings of this lex lata at least include: (1) there is no right of overflight over straits without permission of the coastal state[161]; (2) submarines and other underwater vessels in innocent passage are obliged to show their flag and navigate on the surface[162]; (3) the subjectivity inherent in the definition of 'innocent passage'[163] enables straits states to prevent or suspend passage that they do not think is innocent[164]; (4) the coastal state regulatory competence over vessels in innocent passage is uncertain and unbalanced[165], for there is no definite list de lege lata of permissible or non-permissible restrictions by the coastal state of the right of passage[166]; (5) there exists uncertainties concerning the protected category of 'straits used for international navigation'[167]; (6) warships are obliged to leave the

157 Ibid.
158 See n5-12 and accompanying text supra.
159 Caminos n4 57.
160 Koh n1 97.
161 Ibid 36 and 47. See also n92, n112, Caminos n7 and Robertson Jr n1 804.
162 Caminos n7. See also n92, Vitzthum n38 548-9 and Robertson Jr n161.
163 Moore n9 85-6. See also Koh n1 126.
164 Ibid 30 and 47. See also Mahmoudi n5 340.
165 Moore n9 86 and 108. See also Mahmoudi n164 and Vitzthum n121.
166 Ibid.
167 Moore n9.

territorial sea on demand by the coastal state in the event of non-observance of its laws[168]; (7) it is uncertain whether a technical breach, including the failure to give prior notification for the passage of warships, will render the passage non-innocent.[169]

In rejecting suspension of innocent passage in straits which are part of the territorial sea[170], UNCLOS III recognizes, for the first time, a distinct legal regime of straits used for international navigation.[171] This approach marks a substantial departure from the 1958 Convention[172] and restores the customary law position.[173] Based on this premise, LOSC establishes and defines the new regime of transit passage[174], which effectively balanced the competing interests of states bordering straits and naval powers by merging two ideas.[175] The first was to draw a distinction between two categories of straits, so that a less restrictive regime than innocent passage must be applied only to the most important straits.[176] This was aimed at

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168 Vitzthum n121.
169 Koh n1 47.
170 Ibid 102. That is, it is recognized that the extension of the territorial sea does not change the legal status of the international straits. See Amin n9 403.
171 Caminos n4 101 and 122. See also n86, Moore n9 90 and 120, Maduro n9 70, Harlow n26, Bordunov n26 219 and Vitzthum n38 570.
172 Caminos n4 101. See also n71 and Nandan and Anderson n27 161.
173 See n86. See also Nandan and Anderson n27 162.
174 While innocent passage in the territorial sea is dealt with in Part II s3 of the Convention, the comprehensive legal framework of the present regime is laid down in Part III, this leaves no doubt that transit passage is to be a distinct legal regime, formulated separately from the right of innocent passage. Moreover, the 1982 instrument makes it very clear that passage through straits used for international navigation is to be governed solely by Part III and not by Part II. See Caminos n4 122-3.
175 Ibid 122.
176 Ibid.

preserving unimpeded and free navigation therein.[177] The second idea was to ensure that this new legal regime, being much more liberal than innocent passage, should not be identical to freedoms of navigation and overflight on the high seas[178], thus providing the coastal states with regulatory powers.[179] In other words, the concept is meant to give more freedom to a foreign ship in the territorial waters of a coastal state than it otherwise enjoys under the innocent passage rule and less freedom than can be exercised under the principle of the freedom of the high seas.[180] As a result, the compromise at the conference essentially created an intermediate category of passage[181], lying somewhere between 'freedom of navigation' on the one hand and 'innocent passage' on the other.[182]

On the understanding that the juridical status of waters within straits, whether internal water, territorial sea, contiguous zone, economic zone or high seas, is not affected by the imposition of a servitude of use by other states upon them[183], the regime of transit passage under the 1982 text applies to 'straits which are used for international navigation between one part of the high seas or an exclusive economic zone and another part of the high seas or an

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177 Mahmoudi n9. See also Bordunov n26 and Langdon JBRL 'The Extent of Transit Passage: Some Practical Anomalies' MP 14(2) March 1990 130.
178 Caminos n4 122.
179 Mahmoudi n9.
180 Mahmoudi n7. See also Churchill and Lowe n59 90.
181 See n178. See also Maduro n9.
182 Reisman n7 68. See also Maduro n9.
183 Robertson Jr n13 827. LOSC art 34(1) also unambiguously states that 'The regime of passage through straits used for international navigation established in this part shall not in other respects affect the legal status of the waters forming such straits or the exercise by the States bordering the straits of their sovereignty or jurisdiction over such waters and their air space, bed and subsoil' (emphasis added).

exclusive economic zone'.[184] Like its predecessor in the 1958 Convention, this definition of scope contains only geographical and use factors[185] without any other element.[186] That is, in order for a part of the marine environment to be characterized as a strait it must constitute a link between high seas and/or exclusive economic zones[187] and it must be 'used for international navigation'.[188] The geographical factors are of critical importance in construing the regime as a whole[189] and are fashioned after the 1958 formula.[190] As a result, there seems no reason to adopt a different analysis to that adopted for the latter[191], even though this only continues the previous uncertainties.[192] In this respect, it has been emphasized that the terms have to be construed in their context, which has to do with questions of passage.[193] Neither a strictly literal (or 'mechanical') interpretation nor an overly mathematical approach might be appropriate.[194] On function, the Convention similarly retains the international requirement - 'used for international navigation' - specified in TSC (as well as in the Corfu Channel decision).[195] Although the phrase has been unclear from its inception[196], it has been suggested that, in the

184 LOSC art 37.
185 See n50.
186 Rothwell n7 473 and 483. See also Nandan and Anderson n27 166, Vitzthum n38 571 and Langdon n177.
187 Koh n1 152. See also n50.
188 Ibid.
189 Nandan and Anderson n186.
190 Caminos n38.
191 Rothwell n7 473. In turn, the wording of the article in question must also be interpreted in the light of the judgment in the Corfu Channel Case. See Nandan and Anderson n27 179.
192 Rothwell n191. See also Moore 112 and Vitzthum n38 579.
193 Nandan and Anderson n27 167.
194 Ibid 166-7.
195 Maduro n9 71.
196 See n50. See also Caminos n4 126 and Alexander n10 479-80. For example, the question still exists as to how many foreign-flag vessels must pass through a

LOSC text, it is the use at the time when the question arises that really matters. Any type of use may be relevant, be it civil or military, or both, so long as the military use does not threaten the coastal state. No evidence of use is to be excluded a priori, eg as non-traditional or exceptional.[197] Thus, evidence of past use, whilst relevant in showing a pattern[198], is of lesser significance.[199] Uses of secondary or subsidiary straits which are not indispensable for international navigation may also count so long as they connect two parts of the high seas/EEZ.[200] Though no specific volume of traffic is required[201], very slight or short-lived uses would not be sufficient. Limited use brought about by an oil discovery may quickly put a strait into the category under discussion.[202] Purely potential use would not count.[203] Moreover, the reference to 'international navigation', taken together with reference to the high seas/EEZ, exclude use of a strait for cross traffic between ports on the strait, even if shipping moves thereby from one state's territory to another's.[204]

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strait in order for the waterway to qualify as being 'used'? See Alexander LM 'Uncertainties in the Implementation Process: The Case for Navigational Freedoms' in Clingan Jr TA ed The Law of the Sea: What Lies Ahead? 1988 546.

197 Nandan and Anderson n27 168-9.

198 Pharand and Legault argue that 'before a strait may be considered international, proof must be made that it has "a history as a useful route for international maritime traffic" similar to that shown to exist in the North (*sic*) Corfu Channel Case'. See Pharand D and Legault L Northwest Passage: Arctic Straits 1984. See also Caminos n4 128 and 143.

199 Nandan and Anderson n27 168.

200 Ibid. See also Caminos n4 143.

201 Ibid.

202 See n199.

203 Ibid. The official position of the United States is however to place less emphasis on historical use and look instead to the susceptibility of the strait to international navigation. See Schacte Jr n7 184.

204 Nandan and Anderson n27 169. See also Koh n1 152-3, Caminos n4 145.

In a few states there are internal waters, landward of the one or both of the territorial belts.[205] The Convention specifically excludes from its text these areas, which mainly refer to bays[206], unless they become internal waters as a result of the drawing of straight baselines.[207] The latter exception is intended to apply to baselines drawn in the past, as well as to those to be drawn in the future.[208] Thus, when the right of transit passage applies, it applies throughout the strait and the width of the transit corridor, in most cases, is actually shore to shore.[209] Where the waters are internal waters entirely, the Convention presupposes that the autonomous regime of straits requires that the waters be characterized as territorial waters, although it fails to be explicit about this.[210] For straits wider than 24nm, a high seas/EEZ corridor would exist.[211] Within the corridor, the high seas freedom of navigation and overflight would prevail, assuming of course that it is a usable corridor and there would be no need to impose a transit passage regime.[212] The Convention therefore further provides that, for the straits regime to apply, there must be no 'high seas [route] or [a route] through an exclusive economic zone of similar convenience with respect to navigational and hydrographical characteristics'.[213] If

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205 Alexander n10 480.
206 O'Connell n17 330.
207 Nandan and Anderson n27 173. LOSC art 35 are quite clear on this point: 'Nothing in this Part affects: (a) any areas of internal waters within a strait, except where the establishment of a straight baseline in accordance with the method set forth in article 7 has the effect of enclosing as internal waters areas which had not previously been considered as such'.
208 Nandan and Anderson n27 174.
209 Schachte Jr n7 185. See also Caminos n4 130 and Alexander n10 491 at n8.
210 See n206.
211 See n205. See also Caminos n4 137.
212 See n205.
213 LOSC art 36. Reisman considers this to be another geographical component of the 1982 regime. See n50.

there is a ribbon of high seas or exclusive economic zone through a strait and if navigation within that ribbon is as convenient with respect to navigational and hydrographical characteristics as it is through the territorial-sea portions of the strait, then the ship or aircraft must not navigate through the territorial sea but must remain in the high-seas or exclusive-economic-zone portion.[214] In this formulation, however, it is not clear whether the limitation is applicable only to transit passage - the exercise of the right of innocent passage through territorial waters is not affected, or it is also applicable to parts of straits where the right of innocent passage now exists.[215] It has been pointed out that if the latter interpretation is correct, the provision would be unnecessarily restrictive in that ships and aircraft might be required to extend their voyages in order to navigate in the middle of wide straits, or to operate out of visual contact with coastal navigation aids.[216] In this respect, some clarification is apparently needed.[217] Otherwise it is clear that the similarly convenient route is intended to be the one through the territorial sea in the strait and the convenience is that of

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214 Robertson Jr n13 827-8. An interesting situation could arise where one of the states bordering a strait claims a territorial sea of less than 12nm, forming a very narrow corridor of high seas or exclusive economic zone on one side of the strait and a complete area of territorial sea exists on the other side of the strait. Caminos asserts that, because such a narrow corridor would presumably not be 'of similar convenience with respect to navigation and hydrographical characteristics', LOSC art 36 preserves the regime of transit passage in the entire strait in this case. See Caminos n211.

215 Robertson Jr n13 828.

216 Ibid. Caminos therefore asserts that the exercise of the right of innocent passage, which falls short of overflight and submerged navigation and may be suspended for national security reasons, through the territorial seas portions of the straits is not to be affected. See Caminos n4 138-9.

217 See n215.

the user.[218] Moreover, the convenience relates only to navigational[219] (eg position-fixing, the route's breadth and straightness[220], weather, navigational aids[221] and overall distances[222]) and hydrographical[223] (eg water depth[224], prevailing currents[225] and lack of natural obstructions[226]) characteristics.[227] Economic, military or political convenience is irrelevant.[228] In interpreting the phrase as a whole, the balance, with a view to allowing safe navigation[229], may vary between a very large crude carrier and smaller coasters.[230] (This however may give rise to practical problems for the coastal state authorities to distinguish ships in innocent passage from those exercising transit passage rights.[231])

Transit passage per se is defined as

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218 Nandan and Anderson n27 177.
219 Ibid. See also Koh n1 150, Caminos n4 138 and Kim and Paik n9 65.
220 See n218. At this juncture, one may particularly pose the question as to what should the minimum breadth of the corridor be and whether, under the rubric of 'equal convenience', there should be provisions for two-way traffic through the corridor. In answering this query, Alexander suggests that a three-mile territorial width should take care of the navigation and overflight needs of user states, unless one is concerned with two-way traffic separation schemes through the corridor. See Alexander n10 481 and 483. See also Alexander n196.
221 Kim and Paik n219.
222 Ibid. See also n218.
223 Ibid. See also Koh n219 and Caminos n219.
224 See n218. See also Kim and Paik n219.
225 Ibid.
226 See n218.
227 In reality, a check of the charts of straits containing high seas/EEZ corridors shows no obvious cases of shallow waters, adverse currents, or other physical phenomena that would favour an alternative route of passage through the strait. See n10.
228 Koh n219. See also Caminos n219.
229 Langdon n177 131. See also Rothwell n7 481.
230 See n218. See also Langdon n177 131-2.
231 Ibid 132.

> 'the exercise ... of the freedom of navigation and overflight solely for the purpose of continuous and expeditious transit of the strait between one part of the high seas or an exclusive economic zone and another part of the high seas or an exclusive economic zone. However, the requirement of continuous and expeditious transit does not preclude passage through the strait for the purpose of entering, leaving or returning from a State bordering the strait, subject to the conditions of entry to that State'.[232]

This applies to 'all ships and aircraft'[233], that is, ships and aircraft of any type[234] (public or private, civil or military[235]), nationality, destination, or cargo[236], which literally include warships[237], nuclear-powered ships, ships carrying nuclear or other inherently dangerous or noxious substances or materials[238], military aircraft[239], as well as other categories of vessels and aircraft.[240] (Of course 'all' ships presumably would not include pirate ships, slave traders or ships not sailing under the flag of any state.[241]) Moreover, it 'shall not be impeded'[242] by any action that would interrupt passage, particularly those in the form of restrictive coastal regulation rendering the passage burdensome or impossible.[243]

While there is neither requirement of prior authorization or notification[244] nor a criterion of 'innocence'[245], the

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232 LOSC art 38(2). The latter half of the provision has been called the 'Singapore clause', because the Strait of Malacca provides the only access route to and from the port of Singapore. See Caminos n4 144.
233 LOSC art 38(1).
234 Caminos n4 144. See also Robertson Jr n13 838.
235 Ibid. See also Nandan and Anderson n27 183.
236 Robertson Jr n234.
237 Koh n1 151 and 153. Robertson Jr n13 839 and Moore n137.
238 Koh n237.
239 Ibid. See also Moore n137.
240 Ibid.
241 Robertson Jr n234.
242 LOSC art 38(1).
243 Robertson Jr n13 837-8.
244 Koh n1 153. See also Caminos n234 and Moore n137, Vitzthum n186.

passage, in order to be 'transit passage', must be effected without delay[246], not be a 'threat or use of force against the sovereignty, territorial integrity or political independence of States bordering the strait' and not 'in any other manner in violation of the principles of international law embodied in the Charter of the United Nations'.[247] Moreover, there is an obligation to refrain from any activities other than those incidental to their normal modes of continuous and expeditious transit unless rendered necessary by force majeure or distress.[248] In the former case, it has been explained that to proceed 'without delay', which is an expression in harmony with the requirement of 'continuous and expeditious transit', is to proceed at ships' normal speed, having regard to all relevant factors, including safety requirements, weather conditions, the presence of other ships or aircraft in the strait, etc.[249] In the latter case, it is clear that most if not all the activities listed in art 19(2) of the same Convention[250] are

245 Moore n9 121. See also Maduro n9 82, Churchill and Lowe n59 91.

246 LOSC art 39(1)(a).

247 LOSC art 39(1)(b). The essence of this provision is to extend the general principles of international peace and security embodied in art 2(4) of the United Nations Charter to the transit passage regime in part III. These same principles of international law are advanced to the regime of innocent passage in the territorial sea by art 19 of Part II of the 1982 Convention. Thus, despite the fact that 'innocence' is not a criterion to be satisfied under the transit passage regime, some of the duties imposed upon ships and aircraft exercising the right of transit passage relate to and are in fact similar to, the duties imposed upon ships in the territorial sea exercising the right of innocent passage. See Caminos n4 148-9.

248 LOSC art 39(1)(c). It has however been criticized that these provisions are all unenforceable exhortations. See Andrew n8 61.

249 Nandan and Anderson n235.

250 In this article, twelve categories of activities are specified as rendering passage through the territorial sea by a foreign vessel non-innocent, ie 'prejudicial to the peace, good order or security' of the coastal state. These include threat or use of force, weapon

not incidental[251] and the term 'normal mode' envisages, in addition to the use of radar, sonar[252] (at least for search and identification and not for attack[253]) and air cover[254] for ships[255], submerged transit of submarines and other underwater vehicles.[256] Any other activity than those

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exercises, collecting information prejudicial to the defence of the coastal state, pollution, interference with systems of communication and launching, landing or taking on board any aircraft.

251 Nandan and Anderson n27 184. Koh however argues that exercise (or practice) with weapons is not expressly prohibited for transit passage and could therefore be consistent with transit passage. See Koh n1 170. This view is also shared by Langdon n177 132 and Mahmoudi n5 341.

252 Harlow n2 201. See also Reisman n7 73 and O'Connell n17 333.

253 Ibid. Otherwise it would be forbidden. See Reisman n252.

254 Harlow n252. In this sense, 'in the normal mode' would probably also mean in the case of transit passage that a ship's aircraft may both land and be launched. If this were not permitted under transit passage, a prohibition would have been included under those articles. See Schachte Jr n7 187. However, O'Connell seems to oppose this idea. See O'Connell n17 337.

255 Here it is however not clear whether the expression 'incidental to their normal modes' covers random zig zag courses. See O'Connell n252.

256 Nandan and Anderson n251. See also Schachte Jr n8, Andrew n8 56, Larson n8 418, Kim and Paik n9 56-7, O'Connell n252 and Bordunov n26 223. In addition to the 'normal mode' argument, this inclusion has also been based upon the fact that: (1) no provision other than 'freedom of navigation' is needed to include a right of submerged transit; (2) if submerged transit is to be prohibited it will explicitly be so stated; (3) passage through an international strait is to be subject only to the conditions of transit passage in part III, without reference to, inter alia, the requirement of surface navigation in the regime of innocent passage; (4) it is an intentional act on the part of the conferees to permit submerged transit in straits used for international navigation. See Koh n1 151, 153-5, Caminos n4 154-8, Moore n9 81, 89, 96, 101-2, Robertson Jr n13 844, Hamman n37 33 and Churchill and Lowe n59 93. Only Reisman argues that the text is not explicit on the issue and there is no right of submerged passage. In addition to the fact that the mode would vary depending on many factors such as

permitted is 'non-transit' behaviour[257] and would bring the ship or aircraft under the general regime of innocent passage, in which the passage could be denied for want of innocence.[258] Because these are legal duties and characteristics that the coastal state must assess, 'transit passage' here takes on many of the features of innocent passage.[259] Accordingly, a state bordering a strait may subjectively determine, at least as an initial step, that a specific transit, in given circumstances, violates the abovementioned prescriptions[260] - particularly when it involves threatening activity[261] - and may deny that non-transit passage.[262]

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safety considerations, depth of channel and density of traffic, he particularly points out that the Convention recognizes the coastal state's competence to appraise the contemplated passage for its conformity to the principles of international law embodied in the UN Charter. If submerged passage is secret passage, then how can the coastal state perform that function? See Reisman n7 69, 71, 73, 75-6.

257 Caminos n4 146.

258 Churchill and Lowe n245. See also Kim and Paik n9 157. Bordunov n26 225 and Robertson Jr n237. Indeed, LOSC art 38(3) reads that: 'Any activity which is not an exercise of the right of transit passage through a strait remains subject to the other applicable provisions of this Convention'.

259 Reisman n7 70.

260 Ibid. In relation to this juncture, Devine has pointed out that the incorporation of a subjective appreciation into national law where the corresponding international law contains only objective criteria is not necessarily an infringement of international law. It is obvious that someone at national level must be in a position to make an initial determination *in situ* as to whether or not the international law criteria are met by passing ships. Infringement of international law could only arise in the *application* of that power. In other words, the person in charge at national level might apply the international law criteria incorrectly. In any international case which might arise out of such an incident, the tribunal could determine objectively whether the application was right or not. See Devine DJ 'Bays, Baselines, Passage and Pollution in South African Waters' *CILSA* 19 1986 92-3.

261 Churchill and Lowe n245. Similarly, the strait state may simply consider that the passage is not 'continuous

While in transit ships must comply with generally accepted international regulations, procedures and practices for safety at sea and for the prevention of pollution from ships.[263] Thus, for example, standards in the SOLAS Conventions and the IMO pollution conventions would be applicable to ships in straits even if their flag states are not parties to these conventions.[264] The application of internationally accepted rules lend both uniformity and predictability to the legal regime of straits.[265] Aircraft too must comply with international standards whilst exercising their right of overflight.[266] Because of the obvious technical differences between ships and aircraft, this latter requirement mainly refers to the rules of the air in Annex 2 of the 1944 Chicago Convention.[267] This means that military aircraft are encouraged to observe those rules as well.[268] A number of practical consequences of the 1982 Convention for air navigation have been noted: (1) the

and expeditious' for whatever reason. See n257. See also Koh n1 156.

262 See n259. See also Amin n9 391 and Churchill and Lowe n245. In the absence of such 'activity', however, the only remedy to any threat of force - for example, a threat which may be implicit in the mere fact of the passage of a large number of warships - would appear to be is to pursue the matter as a breach of international law through diplomatic channels and dispute settlement procedures: there is no right to impede the passage. Of course, in extreme cases, a coastal state may take whatever action as necessary under art 51 of the UN Charter to remove a threat of force, ie on the basis of the right of self defence. See ibid.

263 LOSC art 39(2).

264 Churchill and Lowe n59 92. Indeed, Caminos emphasizes that the standards considered as 'generally accepted international regulations' under this provision are provided by IMO. See Caminos n4 151.

265 Ibid.

266 LOSC art 39(3).

267 Caminos n4 159, 161. In addition, regional air navigation agreements concluded under the aegis of ICAO may also apply directly in transit overflight. See Bordunov n26 227.

268 Nandan and Anderson n27 185. See also Caminos n4 162.

article under discussion would extend the legislative jurisdiction of the ICAO council from the high seas to the air space above straits used for international navigation[269]; (2) in the case of non-scheduled flight, such aircraft will enjoy the right of transit passage through the territorial airspace; (3) in the case of scheduled air services such aircraft will be able to exercise the right of transit without special permission or authorization; (4) the right of transit passage cannot be suspended; (5) the right of the coastal state under the Chicago Convention to create restricted or prohibited areas over its territory (including its territorial sea) for reasons of military necessity or public safety will not be exercisable, nor will the right to temporarily restrict or prohibit flying over the whole or part of its territory in exceptional circumstances or during an emergency or in the interest of public safety[270]; (6) the duty to monitor radio frequencies, which is acknowledged to apply only to controlled flights[271], does not exclude flight directions to ship-borne aircraft from their command vessel.[272] The duty to comply with all these international standards is independent of coastal legislation: the advantage of implementing them in such legislation is that they then become directly enforceable by the coastal state authorities[273], whereas the duty of compliance would allow only an international claim[274], through diplomatic channels for breach of the treaty obligation[275] and the international conventions themselves leave enforcement in the hands of the

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269 Bordunov n267. See also Nandan and Anderson n268.
270 Report by the Rapporteur (Mr AWG Kean, CBE) ICAO Working Paper C-WP/8077, October 1 1985. For a brief extract, see Caminos n4 162-3.
271 Ibid 162.
272 O'Connell n254.
273 Churchill and Lowe n264.
274 Ibid. See also Caminos n4 150 and Nandan and Anderson n27 193.
275 Moore n9 103. See also Churchill and Lowe n264.

flag state.[276] That is, it is intended solely to establish a code of self-discipline[277] for the flag state and not to create rights unilaterally enforceable by a coastal state.[278] There is, in addition, a specific duty to refrain during passage from research and survey activities, which are hardly normal incidents of mere transit[279], unless the prior authorization of the states bordering the strait is obtained[280] - even, it seems, if the passage is entirely within the waters of only one of them.[281]

For the purpose of promoting the safe passage of ships, coastal state may prescribe sealanes and traffic separation schemes in the strait, provided that these have been adopted by the competent international organization[282] - presumably the IMO.[283] A precondition to the establishment of sea-lanes or traffic separation schemes is that navigation in straits be unsafe either because of congested transit or areas with natural or artificial obstacles.[284] Thus, if a strait is wide enough to permit the safe navigation of the normal volume of traffic, the coastal state must choose to leave intact the traditional patterns of traffic within the

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276 Ibid.
277 Caminos n274.
278 Moore n9 99 and 104.
279 Robertson Jr n13 833. Of course, radar, sonic or survey type of activities, which are normally required for the safe navigation of narrow or shallow straits, are not prohibited under this rule as long as they serve legitimate navigational functions. See Caminos n4 164.
280 LOSC art 40.
281 Churchill and Lowe n264. Nandan and Anderson however argue that if an agreed maritime boundary exists in a strait, only the consent of the appropriate coastal state is needed for activities in that part of the strait under its sovereignty or jurisdiction. See Nandan and Anderson n27 186-7.
282 LOSC art 41(1) and (4).
283 Churchill and Lowe n264. See also Caminos n4 166 and Robertson Jr n13 834.
284 Caminos n283.

strait.[285] In formulating these measures, the coastal state may take into accounts ships in transit, local traffic (including traffic across a strait), 'deep draught routes' and the requirement of under keel clearance.[286] The initiative to implement traffic separation schemes is strictly that of the coastal state.[287] IMO may adopt the schemes only in agreement with that state (ie modifications have to be agreed).[288] Once these schemes are so established and implemented, ships in transit are obliged to 'respect' them.[289] This includes operating rules as well as charts.[290] The obligation to 'respect' is however less precise than that to 'comply with' the schemes.[291] Any traffic separation scheme promulgated outside this framework would not be binding on foreign ships in transit passage.[292] At present, a number of very important straits, including the Straits of Malacca, already have IMO traffic separation schemes in effect.[293]

On the other hand, coastal states may also enact laws and regulations relating to navigation through the strait.[294] Because the power to regulate can be used to infringe the right of transit, however, it is recognized that this is to be limited to those that will protect legitimate rights of

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285 Ibid.
286 Nandan and Anderson n27 188.
287 Caminos n283.
288 Nandan and Anderson n27 189. LOSC art 41(4) clearly stipulates that '...[t]he organization may adopt only such sea lanes and traffic separation schemes as may be agreed with the States bordering the straits...'.
289 LOSC art 41(7).
290 Nandan and Anderson n288. There is however no obligation for the coastal state to deposit copies of charts depicting the sealanes with the Secretary-General of the United Nations. See ibid.
291 Ibid.
292 Caminos n283.
293 Ibid.
294 Caminos n4 167. See also Bordunov n26 224, Kim and Paik n258 and Amin n262.

those states.[295] As a result, the authority of the coastal state in the present case, in contrast to its regulatory competence in innocent passage cases covering eight areas[296], is narrowly circumscribed[297] to only four subject areas[298] of an all-inclusive list[299], ie traffic safety and the prevention of pollution, fishing and smuggling in straits.[300] In the former two cases, the coastal state is even restricted to giving effect solely to international standards[301], which has the effect of extending the legislation to ships flying the flags of states not parties

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295 Robertson Jr n13 849.

296 Maduro n245.

297 Moore n9 106. See also n295, Vitzthum n186, Amin n262 and Jarman MC 'Disposal of Waste and Right of Passage' in Kuribayashi and Miles ed n9 100. Indeed, it has been pointed out that, for the purpose of properly understanding the nature and extent of regulatory powers recognized by the 1982 Convention for the strait state, it is inappropriate to draw any analogies with the powers of the coastal state related to the innocent passage of vessels through its territorial sea. See Bordunov n26 224-5.

298 Maduro n245. Tangsubkul argues that this is meaningless compared to the traditional control of a sovereign state within its territorial sea. See Tangsubkul P 'Commentary [on the Baltic Straits]' in Park ed n17 611.

299 Schachte Jr n8.

300 Nandan and Anderson n27 192. See also Churchill and Lowe n59 91-2. In the original, LOSC art 42(1) reads that: '... States bordering straits may adopt laws and regulations relating to transit passage through straits, in respect of all or any of the following : (a) the safety of navigation and the regulation of maritime traffic, as provided in art 41; (b) the prevention, reduction and control of pollution, by giving effect to applicable international regulations regarding the discharge of oil, oily wastes and other noxious substances in the strait; (c) with respect to fishing vessels, the prevention of fishing, including the stowage of fishing gear; (d) the loading or unloading of any commodity, currency or person in contravention of the customs, fiscal, immigration or sanitary laws and regulations of States bordering straits'.

301 Caminos n4 168-9. Originally see LOSC art 42(1)(a) and (b).

to the relevant regulations.[302] (But no international standards are imposed upon fishing, customs, fiscal, immigration and sanitary regulation[303], except that these laws, like all others, must not discriminate between foreign ships or have the practical effect of impairing the right of transit passage.[304]) Moreover, such laws and regulations are applicable only to ships.[305] Because of the differences in the history and practices of surface and aerial navigation[306], the control of aviation in straits is exclusively based on violations of international obligations.[307] Thus nowhere in the transit passage section of the Convention is there a grant of authority to coastal states to promulgate regulations governing the passage of aircraft.[308] The only duties of aircraft are those specified in the articles themselves and those flowing from the appropriate international rule-making body (ICAO).[309] There is no duty on aircraft, paralleling that of ships, to comply with the laws or regulations of a coastal state.[310] As regards enforcement[311], the Convention[312], for the very same reason that a right of arrest in a strait might undermine the right of transit passage[313], essentially delinks the regulatory authority of strait states from

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302 Nandan and Anderson n27 191-2.
303 Churchill and Lowe n264. See also n295.
304 LOSC art 42(2).
305 Bordunov n26 228.
306 Robertson Jr n13 843.
307 Bordunov n26 229.
308 Robertson Jr n13 840.
309 Ibid 840-1.
310 Ibid 841.
311 O'Connell asserts that, under customary international law, the coastal state has no competence to enforce its law in the case of ships in transit through straits. See n25.
312 Although it is silent on this question. See Bordunov n258 and Churchill and Lowe n264.
313 Nandan and Anderson n300. Of course, arrest in port, in an appropriate case, in respect of something done in a strait is a different matter. See ibid.

enforcement jurisdiction.[314] Thus the strait state when enforcing must not create hazards for traffic in the strait.[315] In other words, a violation of strait states' regulations does not necessarily correspond to the loss of the right.[316] In principle, the Convention does not contemplate enforcement measures in the strait[317] and the jurisdiction it grants is prescriptive only.[318] Thus, the legal positions of coastal states and flag states in straits used for international navigation have been reversed: whereas the 1958 Convention and its non-suspendable innocent passage provisions explicitly gave the upper hand to the coastal state, LOSC undoubtedly puts the flag state in a superior position[319] resorting to the traditional structure of the regime of international navigation.[320] In concrete terms, ships in transit cannot be seized, refused passage, subjected to inspection or any other type of control that would impair transit passage.[321] In addition to the general territorial sea rules under which enforcement may be exercised where the good order of the territorial sea or coastal state is disturbed or the flag state requests assistance[322], there are only a few exceptions to this general lack of enforcement jurisdiction of the straits state.[323] In the case of marine pollution control, there must be a violation causing or threatening major damage to

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314 Caminos n4 149 and 168. See also Koh n1 155. In Moore's terms, the Convention 'differentiates the flag state duties from the definition of transit passage rights'. See Moore n295.
315 Nandan and Anderson n27 195 at n132.
316 Caminos n4 150. That is, a ship or aircraft which commits a breach of the laws during passage may still be exercising 'transit passage'. See Koh n261.
317 Nandan and Anderson n300. See also Caminos n4 149 and 172, Maduro n148.
318 Caminos n4 168.
319 Mahmoudi n164.
320 Slot n7 93.
321 Caminos n4 169.
322 Churchill and Lowe n264.
323 See n321.

the marine environment of the straits.[324] While this is open-ended in leaving grey areas as to whether the damage threatened is major or minor[325], it has been suggested that the test, in which the state bordering the strait may subjectively determine the probability that the 'threat' will actually materialize[326], should simply be an odds-on possibility that an accident will occur (ie there need not be a high probability of its occurrence[327]), taking into account the occurrence of accidents in the particular strait, the size and the type of the vessel, as well as the volume and substance of its cargo.[328] In this exceptional case[329], strait states may inspect, detain the vessel[330], impose monetary penalties[331] and institute legal proceedings[332], thus reasonably denying, hampering or impairing the passage.[333] However, this arrangement, as has been pointed out, does not apply to warships, naval

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324 Caminos n4 169, 172. See also Bordunov n258 and Churchill and Lowe n264. LOSC art 233 stipulates that 'Nothing in sections 5, 6 and 7 affects the legal regime of straits used for international navigation. However, if a foreign ship other than those referred to in section 10 has committed a violation of the laws and regulations referred to in Article 42, paragraph 1(a) and (b), causing or threatening major damage to the marine environment of the straits, the States bordering the straits may take appropriate enforcement measures and if so shall respect mutatis mutandis the provisions of this section'. Construed strictly, this article prevents a strait state from acting against a ship in transit passage for violations of its marine pollution laws, except when major damage is likely to or does occur. See Jarman n297 100-1. In contrast, the 1958 Geneva Convention makes no provision to counteract pollution in narrow and shallow straits at all. See Koh n1 158.

325 Ibid 160. See also Caminos n4 172.

326 Ibid.

327 Koh n325. See also Caminos n4 173.

328 Koh n1 160 and 163. See also Caminos n327.

329 Koh n1 162. See also Nandan and Anderson n300.

330 Caminos n327.

331 Koh n1 161.

332 Ibid. See also Caminos n327.

333 Koh n1 162-3.

auxiliary or other vessels or aircraft belonging to a state[334] and strait states have no power to request them to leave the strait immediately.[335] Nor does the arrangement properly deal with routine discharges in normal tanker operations which constitute 70-80% of all oil emanating from tankers.[336] In addition, strait states may prohibit fishing in a transit strait[337] to protect their overwhelming interest in this use of the sea.[338] If such a prohibition is violated - failure to stow gear would be taken as prima facie evidence of a violation[339] - the activity of the fishing vessels may be classified as not being an 'exercise of transit passage', with all the ensuing consequences.[340] After all, the policing of fishing operations by small boats is not so hazardous as the attempt to arrest a large tanker in the middle of a busy strait.[341] Moreover, coastal states may also enforce the laws relating to customs, immigration, sanitation and fiscal affairs.[342] However, the only measure which is considered as not constituting a hazardous operation[343] and therefore permitted is control of the 'taking on board or putting overboard of any commodity, currency or person'.[344] Thus it is not any general violation of coastal state regulations in these areas that will trigger intervention.[345] In the case of transit overflight, enforcement is permitted only when the activities of an aircraft in passage result in a threat to the security of the strait sate which is so obvious that the

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334 Bordunov n26 226.
335 Maduro n245. See also Nandan and Anderson n300.
336 Maduro n148.
337 See n334.
338 See n13.
339 Nandan and Anderson n300.
340 See n334.
341 See n315.
342 See n334. See also Robertson Jr n283.
343 See n315.
344 See n13. Originally see LOSC art 42(1)(d).
345 See n13.

state has no other chance save urgent measures.[346] For example, the delivery by helicopter of contraband to ships on routes open for the transit passage and the threat or use of force against the sovereignty, territorial integrity or political independence of the state may require operational interference.[347] Otherwise, the strait state may not take measures.[348] At this juncture, it has been particularly pointed out that the major difficulty in the application of the transit passage provisions to aircraft is that the right of innocent passage does not exist in the airspace over the territorial sea. When an aircraft engages in any activity that is not transit passage the right of innocent passage over the territorial waters of a strait would not automatically apply.[349] As a result, such 'non-transit passage' would require the prior consent of the state overflown.[350] In this respect, therefore, the right of transit passage for aircraft could be said to be stricter than the right of transit passage for ships.[351] In short, the danger of abuse by coastal state enforcement appears small.[352]

As to the problem that some states bordering straits bear the economic burden of rendering services, but receive no corresponding economic benefit, because most ships transiting 'their' straits are bound for ports in other countries[353], The Convention, in an effort to solve it, places a duty on user states to seek cooperation with strait states in the establishment and maintenance of navigation and safety aids within straits and in the control of

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346 See n307.
347 Ibid.
348 Ibid.
349 Caminos n4 158-9.
350 Ibid 159.
351 Ibid.
352 See n13.
353 Robertson Jr n283. See also Caminos n4 170.

pollution from ships.[354] Thus strait states could share a portion of their burden with user states.[355] In practice, this could spread amongst all user states the burden of controlling pollution, as well as the cost of compensating the coastal state, including the expense of maintaining an inspection and monitoring service, pollution control research and clean-up costs in the event of an oil spill.[356] Likewise, it could also form a basis, in the provision of navigational aids, for defraying the cost of such things as new lighting or buoying schemes, as well as the dredging of new channels for deep draught vessels.[357] Although this system is cast in non-mandatory terms[358] and provides neither guidelines[359] nor mechanisms[360], it has however been suggested that the whole matter could be arranged with IMO coordination.[361]

Finally, the Convention inserts a safeguard[362] against impeding the passage of vessels and aircraft:[363]

> 'States bordering straits shall not hamper transit passage and shall give appropriate publicity to any danger to navigation or overflight within or over the strait of which they have knowledge. There shall be no suspension of transit passage'.[364]

This is designed to forbid activities which could have the incidental effect of inhibiting passage.[365] There are three elements in the article. The first - not hampering passage

354 LOSC art 43.
355 See both works cited in n353.
356 Robertson Jr n13 835.
357 Nandan and Anderson n27 194.
358 Ibid 193.
359 Caminos n4 171. See also n356.
360 Ibid.
361 Ibid.
362 Strictly speaking, this is the second safeguard since art 38(1) has already prohibited coastal states from impeding transit passage. See Robertson Jr n13 837.
363 Ibid. See also Koh n1 157 and Caminos n4 147, 168.
364 LOSC art 44.
365 Nandan and Anderson n27 195.

- means that movement must not be obstructed by material obstacles or retarded, hindered, 'impeded'[366] or interfered with.[367] A state bordering a strait may not seek to impose legislative requirement which would in effect retard or prevent passage[368], nor seek, in principle, to arrest ships in transit[369], nor allow the construction of works or installations which would impede ships or aircraft in transit.[370] The second element - notification of dangers -

366 Ibid.

367 It has been pointed out that the word 'hamper' in this article is synonymous with the word 'interfere'. See Robertson Jr n362.

368 See n365.

369 As pointed out, to attempt an arrest in the middle of a busy strait may be a hazardous operation, eg in the case of a larger tanker. Arrest in port is however a different matter, as is the policing of fishing operations or illicit traffic in narcotics by small boats. See n315.

370 See n365. At this juncture, one might ask whether the development of oil and other mineral resources (eg tin in the Malacca Strait) would constitute obstructions? Or in other words, will activities on the continental shelf prevail over other activities in the water column? In replying to this question, it has been suggested that the strait states can implace offshore structures for the purpose of exploration and exploitation, even in the middle of the straits, but only as long as a sufficiently unobstructed area is left for safe navigation. See Jaafar AB 'The Changing Legal Status of the Malacca and Singapore Straits' in Van Dyke ed n154 289-91. As to the issue of bridges across straits, it has been pointed out that the transit passage articles would clearly prohibit the unfettered, unilateral construction of a bridge across a strait used for international navigation. The problem a bridge poses is obvious - it can impede, if not stop, navigation. If it is a non-fixed span, such as a drawbridge,and the width of the non-fixed span is of sufficient width, the problem is greatly reduced, assuming, of course, that the main channel is under the non-fixed span and it is of sufficient depth to allow deep draft vessels to pass. In important straits of restricted width and congested traffic, a single movable span would still cause problems if its width were not sufficient to allow sufficiently broad traffic separation schemes for traffic to pass in both directions. If it is a fixed span, then the bridge, in order to be acceptable, should clearly accommodate ship

is confined to matters within the knowledge of the state bordering a strait.[371] It is probably not intended to extend the duty of such a state beyond waters under its sovereignty.[372] The third element - non-suspension - is a rule to which no exceptions are made in the Convention.[373] It has been emphasized that this requirement not only is imperative, but also serves as a criterion for the lawfulness of actions undertaken by a strait state on the basis of its sovereignty with respect to a transit strait.[374]

Although the conference attempted to make single provision for navigation in all straits, historical and geographical circumstances vary greatly however from one strait to another. Thus it was found necessary to make different provisions for different situations.[375] For these reasons, therefore, the Convention recognizes several exceptions to the right of transit passage.[376] One of these is that 'passage is regulated in whole or in part by long-standing international conventions in force specifically relating to

> designs that are reasonably foreseeable. In short, it is evident that the construction of a bridge across a strait used for international navigation should subject from its inception to certain internationally accepted safeguards and readily applicable standards. As a result, it has been suggested that all future construction plans for bridges over international straits be submitted to the IMO. See Schachte Jr n7 179, 180-1 and 193. Finally, a reference should be made to the recently settled (and withdrawn) Case concerning Passage through Great Belt (Finland v Denmark). In that case the bridge was to be limited, for it would have obstructed the passage of oil rigs! For the case in full see ILM 31(1) January 1992 109-123, as well as ILM 32(1) January 1993 101-5. For a brief account, see Sea Changes 14 1992 14 and Sea Changes 15 1993 19.

371 See n365.
372 Ibid.
373 Ibid.
374 Bordunov n294.
375 Nandan and Anderson n27 165.
376 Caminos n209.

such straits'.[377] This is designed to preserve the legal regime in certain straits.[378] In this case, however, the conventions in question, while they may be bilateral or multilateral and may be in any kind of treaty[379], to which not all states need be parties[380], must be recognized as such by the international maritime community.[381] In addition, it has been pointed out that the regime in each individual strait may be made up of not only the terms of the relevant convention but also the subsequent practice of states.[382] Amendments by the original parties are not binding on nonparties since they do not share the long-standing character nor have they accepted the original provisions. Common sense nevertheless must be applied in instances in which a strait is faced with significantly altered conditions and reasonable changes have gained wide acceptance.[383] If a long-standing convention lacks specificity or its language is obscure due to terminology that has fallen into desuetude, this does not absolve the strait state of its duty under customary international law to follow the appropriate customary international law norm.[384] Moreover, while the regulation may be extensive or may be partial[385] (either geographically or substantially[386]), only those parts so regulated fall within this exception. Unregulated categories are still to be governed by the transit passage regime.[387] Thus, the

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377 LOSC art 35(c).
378 Nandan and Anderson n27 175.
379 Ibid 175-6.
380 Schachte Jr n7 190-1.
381 Ibid 190.
382 See n378.
383 For example, strait state bound by the long-standing convention to accept Weimar Republic currency, which subsequently becomes worthless. See Schachte Jr n7 191.
384 Ibid.
385 Nandan and Anderson n27 176.
386 Remark of Jaenicke G in 'Discussions and Questions' in Park ed n17 615.
387 Schachte Jr n7 190. An alternative interpretation here is that if a long-standing convention regulates the

straits regime of LOSC would not be totally excluded from those straits in which there are no special rules on passage or in which there are constraints only on warships.[388] Even if the long-standing right of passage is immune from coastal state enforcement jurisdiction, the 1982 provisions on coastal legislative jurisdiction would remain applicable thereto.[389] Restricted by all these requirements, therefore, it was generally agreed in the conference that this category, notwithstanding the argument that it cannot be regarded as creating clear-cut rules of international law[390], only includes straits such as the Danish Straits[391]

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straits regime (a) only in certain aspects (for example, in one case commercial vessels but not airplanes, in another case airplanes and commercial vessels but not warships) or (b) in whole (for example, airplanes, commercial vessels and ships entitled to sovereign immunity), that straits regime is totally independent of the normal transit passage regime, which does not apply. As a result, those categories of vessels not regulated by the regime are regulated by other rules of customary international law as evident in state practice. This interpretation, it has however been asserted, is not the intent of the straits articles. See ibid.

388 Churchill and Low n59 95.

389 Ibid.

390 Vitzthum n192.

391 Caminos n4 131. See also Schachte Jr n7 191, Larson n8 and Moore n9 111. The Danish Straits have been governed by the Treaty for the Redemption of the Sound Dues (between Austria, Belgium, France, Great Britain, Hannover, the Hansa Towns, Mecklenburg-Schwerin, the Netherlands, Oldenburg, Prussia, Russia, Sweden-Norway and Denmark), signed at Copenhagen, March 14 1857. For text of the Treaty see Parry C Consolidated Treaty Series 116 357. The 1857 Convention, amongst others, recognized the 'entire freedom of the navigation of the Sound and the Belts' (art 1) and 'free and unencumbered navigation' (art II). The United States has executed a separate bilateral treaty with Denmark abrogating the Sound Dues for ships flying the United States flag. See Convention for the Discontinuance of the Sound Dues between Denmark and the United States, signed at Washington DC, April 11, 1857, text of which is in Parry C Consolidated Treaty Series 116 465. While most experts maintain that the Treaty of Copenhagen of 1857 meets the requirements of art 35(c) of LOSC, however,

and Aaland Strait[392], the Turkish Straits (Bosphorus and Dardanelles)[393] and the Straits of Magellan.[394]

views diverge significantly on this matter. For example, Moore argues that this special convention regime, which embraces an unqualified 'freedom of navigation', is a comprehensive special regime. See Moore n9 111 and 114. Whereas Jaenicke and Andreasen uphold the view that it is a special passage regime only for merchant vessels. See Jaenicke G 'The Third United Nations Conference on the Law of the Sea: A Survey of the Baltic Issues' Law and State 20 1980 131 and Andreasen n17 600 respectively. In one extreme case, Vitzthum and Goralczyk even assert that the treaty did not lay down a special passage regime (not even for merchant vessels) at all, since it was primarily concerned with freedom of trade rather than freedom of navigation. Vitzthum therefore suggests that the general rules of international law respecting passage through international straits are to be enforced in the Danish Straits. See Vitzthum n38 555-6, 562 and 565 and Goralczyk W 'Commentary [on the Baltic Straits]' in Park ed n17 604 respectively.

392 Caminos n391. See also Schachte Jr n391. The Aaland Straits have been governed by the Convention relating to the Non-fortification and Neutralization of the Aaland Islands (Sweden and Finland), signed at Geneva, October 20 1921, text of which is in LNTS 9 213. Article 5 provides that 'the prohibition to send warships into the zone described in Article 2 or to station them there shall not prejudice the freedom of innocent passage through the territorial waters. Such passage shall continue to be governed by the international rules and regulations in force'. Rotkirch therefore asserts that 'innocent passage will remain as the regime through that strait'. See the remark of Rotkirch H in 'Discussions and Questions' in Park ed n17 613.

393 Caminos n209. See also Larson n8 205, Schachte Jr n391 and Moore n391. The Turkish Straits have been governed by the Convention concerning the Regime of the Straits, signed at Montreux, July 20 1936, text of which is in LNTS 173 213. The major provisions state that in time of peace, merchant vessels enjoy complete freedom of transit and navigation (art 2), as well as in time of war, subject to certain provisions. Warships consisting of light surface vessels, minor war vessels and auxiliary vessels enjoy in time of peace freedom of transit, subject to certain conditions (art 10). Submarines of Black Sea Powers may transit on the surface by day for the purpose of rejoining their base, provided prior notification is given (art 12). Warships in transit cannot launch or otherwise utilize

The other exceptions consist of straits formed by an island of the state bordering the strait and the mainland of the same state where there exists seaward of the island a route of similar convenience through the high seas or an exclusive economic zone; and straits which connect a part of the high seas or exclusive economic zone with the territorial sea of a foreign state.[395] In all these areas, the more restrictive regime[396] of non-suspendable innocent passage shall apply.[397] The former category, known as 'island exception'[398], primarily refers to the Strait of Messina (between the Italian mainland and Sicily[399]), which is the only international waterway separating a mainland country

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any aircraft (art 15). Civil aircraft, in order to pass between the Mediterranean and Black Seas, may use air routes prescribed by Turkey, must remain outside of forbidden zones established in the straits and must give prior notification (art 23). Because the Montreux Convention is detailed, Schachte Jr therefore argues that it is a convention which can be said to regulate the regime of passage approximately 'in whole'. See Schachte Jr n7 192. Mangone also particularly emphasizes that although technically this convention binds only the signatory powers, it has in effect been recognized internationally as the norm for passages through the Turkish Straits, which are exempt from the provisions of the 1982 Convention on the Law of the Sea. See Mangone n59.

394 Caminos n391. See also Schachte Jr n391 and Moore n391. This strait has been regulated by the Boundary Treaty' between the Argentine Republic and Chile, signed at Buenos Aires, July 23, 1881, text of which is in Parry C Consolidated Treaty Series 159 45. Article 5 provides that 'Magellan's Strait are neutralized for ever and free navigation is guaranteed to the flags of all nations'. The applicable juridical regime is therefore free navigation.

395 LOSC art 45(1).

396 Caminos n7. See also Moore n9 65, Vitzthum n38 572 and Schachte Jr n65.

397 LOSC art 45(2). See also Caminos n4 139.

398 Ibid 138. See also Moore n192.

399 Ibid. See also Caminos n219. Thus, the island exception is also known as the 'Messina Exception'. See Rothwell n7 474.

from such a large and populous offshore island[400] and the Pemba channel (between Pemba island and the Tenzanian mainland[401]). The fact that there is more than one island is hardly material[402] since the Convention seems to imply that the alternative route might conceivably be two or more islands removed as long as it constitutes an alternative 'of similar convenience'.[403] Moreover, if a mainland is masked by an elongated island close to the coast and a strait is formed between that island and another belonging to the same state, it would be consonant with the intention behind the Convention to assimilate the elongated island to the mainland for the purpose of applying the exception.[404] As to the determination of 'similar convenience'[405], it has been suggested that the Strait of Messina may be taken as a reference point for the application of the exception:[406] were a ship to travel from Marseilles to Trieste, utilizing the Strait of Messina, the route would be about 60nm shorter than would one which circumnavigates the island of Sicily.[407] Thus, if the detour were a significant one, say, much longer than the aforementioned distance, then the criterion of an alternative route of 'similar convenience' would not be met.[408] On this basis, nineteen straits have been identified as possibly falling within the island exception[409] and in all cases the logical alternative routes would not be ruled out by other adverse physical

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400 Alexander n10 484.
401 Moore n192.
402 See n193.
403 Alexander n10 486. That is, the alternative route need not border the same island. See ibid.
404 See n193.
405 It has been pointed out that this constitutes an issue of some importance. See Alexander n403.
406 Rothwell n399.
407 Ibid. See also Alexander n403.
408 Rothwell n399. Robertson Jr emphasizes that this is equally true for the aircraft. See Robertson Jr n13 848.
409 Rothwell n399.

conditions.[410] Of course, the application of the exception in particular geographical situations - eg where there is an archipelago, as in the Aegean, or where there are several islands lying together[411], or where it is not clear what is a state's mainland[412] - may not be free from difficulty, particularly taking into account the fact that no geographical (or functional) criteria are provided in the Convention so to assess whether this important exception should apply.[413] Assuming a fair interpretation by coastal states, however, the Messina clause would create only a minor reduction in the scope of coverage of the transit passage regime.[414]

The category of strait leading from the high seas to the territorial sea of a foreign state includes the Strait of Tiran, Head Harbor Passage, the Strait of Georgia and the Gulf of Honduras, all of which are overlapped by a 3nm territorial sea.[415] The intention is to exempt a small number of relatively unimportant straits in exchange for the acceptance of the overall regime of transit passage.[416] This follows the 1958 Convention.[417] Thus, there are no changes from the previous law[418], except with respect to the clarification of the 1982 innocent passage regime.[419] This gives substantial latitude to the coastal states to regulate[420] and specifies objective standards for the determination of whether passage is innocent.[421] The

410 Alexander n403.
411 Nandan and Anderson n27 181. See also Alexander n10 485.
412 Nandan and Anderson n411. See also n400. This could happen in the case of multi-island states. See ibid.
413 Rothwell n7 483.
414 Robertson Jr n12 831.
415 Moore n192.
416 See n414.
417 Caminos n4 104. See also Moore n9 116.
418 Moore n192.
419 Ibid. See also Robertson Jr n13 836.
420 Larson n256. See also Moore n417.
421 Robertson Jr n13 830.

objective standards now require that the innocence of a vessel's passage be judged solely by its conduct[422] and not

422 Ibid. See also Maduro n9 80-1, Caminos n107 and Kim an Paik n122. LOSC art 19(2) lists twelve activities as 'prejudicial to the peace, good order or security of the coastal State'. Only when the foreign ship engages in any of the activities will its passage become 'non-innocent' permitting the coastal state to take the necessary steps to prevent such passage. See Caminos n274. It is also apparent that the act of non-compliance itself cannot be viewed as non-innocent. It has been emphasized that should the infringement of a law or regulation result in prejudice the passage would be non-innocent, but the non-compliance would not per se be a non-innocent action. See Maduro n9 80. Maduro however criticizes the new definition, which only considers an act of 'willful and serious pollution' to be non-innocent. Pollution caused by accident, negligence, poor standards of seamanships, poor vessel condition, or in any way which is not intentional would ostensibly still be considered as innocent. He also points out that there is no specification of what necessary steps the coastal state can take to prevent such passage. See ibid 79. On the other hand, Reisman questions the 'Charter formula' introduced by the 1982 version of innocent passage, which reads that '[p]assage of a foreign ship shall be considered to be prejudicial to the peace, good order or security of the coastal State if in the territorial sea it engages in any of the following activities: (a) any threat or use of force against the sovereignty, territorial integrity or political independence of the coastal State, or in any other manner in violation of the principles of international law embodied in the Charter of the United Nations'. (LOSC art 19(2), emphasis added). He argues that whatever 'embodied' means, it would not appear to require explicit provision. Hence, it will be for the coastal state initially,and often primarily and effectively, to determine whether a principle of international law it alleges is 'embodied' in the Charter. This may authorize the coastal state to characterize proposed passage by maritime users as non-innocent if the passage is related to activities in violation of international law and the Charter, even though those activities do not threaten the coastal state to the extent of activating a right of self-defence. He therefore opines that the conception of innocent passage in LOSC is even more laden with conditions whose fulfillment must be judged by the coastal state. See Reisman n7 61-3 and 65. In general, the strait states thought that this new concept failed to take into consideration any special

by its character or the nature of the cargoes.[423] This leaves less leeway for subjectivity by the coastal state.[424] In following the 1958 Convention LOSC has however perpetuated controversies surrounding warships' rights of innocent passage.[425] Even if it can be assumed that the 1982 text does contemplate such rights for foreign warships[426], questions remain. Could the coastal state, in this case, require prior permission or prior notification?[427] And, would it inherently have the power to exclude?[428] In this respect, a mere restatement of the vague provisions of the 1958 Convention is apparently not a satisfactory solution.[429] Because the Geneva Convention

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characteristic of the vessel. See Koh n163. Finally, O'Connell poses the question: what is the equivalent in the case of missiles of guns being 'trained fore and aft' See O'Connell n17 332.

423 Kim and Paik n122.

424 Maduro n9 81.

425 Since the treatment of warships in LOSC is virtually identical to that in the 1958 Convention. See ibid 86. Indeed, Devine has pointed out that LOSC does not settle this particular point with finality. See Devine n260 93. Burke also emphasizes that innocent passage for warships is a different question, because the two major naval powers (the US and the former Soviet Union) historically never believed there was a right of innocent passage for warships. The word 'historically' refers to the time prior to World War II, he explains, when both countries took the position that warships did not have such a right. See Burke n154 295.

426 As a matter of fact, some commentators have asserted that this is the case. See for example Kim and Paik n122 and Koh n1 167.

427 Maduro n9 86. Indeed, this is a controversial issue. For example, Alexander points out that there are no specific restraints on such requirements in the Convention. See Alexander n196 546. Whereas Koh and Schachte Jr argue that no authorization or notification is required for warships' passage. See Koh n426 and Schachte Jr n101 respectively. Schachte Jr even asserts that the travaux preparatoires of LOSC have unequivocally testified to this position. See Schachte Jr n65.

428 Maduro n427.

429 Ibid. As a matter of fact, there is another problem in the 1982 provisions on innocent passage through the territorial sea. Article 22(3)(b) provides for the

regime applies in these circumstances, it has been particularly pointed out that there are now two levels of passage rights in straits.[430] As a result, LOSC has actually created a 'dual regime for straits'[431], where transit passage is the general rule applicable in most straits[432] and non-suspendable innocent passage is retained as an exception[433] in a small number of straits.[434] The question of which regime applies in a particular strait may be determined more easily by the geographic characteristics of each strait.[435]

In short, transit passage is reserved in the 1982 Convention, in the light of the extension of the territorial

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designation by the coastal state of sealanes through 'channels customarily used for international navigation'. However, precisely what bodies of water this clause refers to is unclear. Does it refer to the strait routes - those excluded from the transit passage regime - through territorial waters? Or does the article refer to narrow passages joining two territorial seas which, strictly speaking, could only occur in archipelagos? If the former is the case, an argument could still be made for a significant difference between a strait 'customarily used' and one merely used. The difficulty, of course, lies in the lack of a precise legal and linguistic difference between a 'channel' and a 'strait'. Barring any clarification of the precise nature of the waterway to which art 22 refers, it has been particularly asked, what is to prevent a coastal state from designating a sea lane under the provisions of that article through an international strait within its territorial sea, thus taking into consideration only the recommendations of a competent international organization and subjecting foreign vessels to suspendable innocent passage rather than to the broader non-suspendable transit passage regime? See ibid 83-5.

430 O'Connell n148.

431 Koh coins the phrase 'dual regime'. See, for example, Koh n1 129. See also Caminos n417.

432 Caminos n4 104-5. Indeed, 'straits not used for international navigation' are few. See Moore n192.

433 Caminos n4 105.

434 Ibid. See also Slot n7 96.

435 Caminos n200.

sea to 12nm[436], for those straits which provide the only viable waterway.[437] It refers to the continuous and expeditious movement of marine transport, naval and other vessels along a sea route passing through an international strait uniting parts of the high seas or EEZ and which is convenient from the point of view of navigational and hydrographic characteristics.[438] To be subject to the regime, the ship or aircraft must either enter the strait from the high seas or an economic zone or to pass out of the strait into the high seas or an economic zone (or both when simply passing through the strait).[439] The concept is wider than innocent passage.[440] Both are defined in terms of specified purposes and call for passage to be 'continuous and expeditious'.[441] While innocent passage is an exception to the sovereign rights of the coastal state, transit passage is meant to be the rule. It is a flag state right subject only to some limited well-defined obligations vis-a-vis the coastal state.[442] Transit passage is wider than innocent passage in that (1) the regime includes the right of overflight and submerged transit[443]; (2) the coastal state does not have the right to hinder passage which is not innocent;[444] (3) the regulatory power of the straits state is more or less circumscribed either because it is subject

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436 Mahmoudi n7.
437 Caminos n397.
438 Bordunov n26 221.
439 Koh n244. Thus, a ship proceeding from one coastal state to another coastal state within the strait along the designated navigational route in territorial waters of a third state would not be subject to the regime of transit passage. Instead, this falls under the regime of innocent passage. In this sense, it has been pointed out that the regime of transit passage is not mutually exclusive of the innocent passage regime. See ibid 152-3.
440 Koh n426. See also Reisman n7 71, Rothwell n7 477, Langdon n251 and Schachte Jr n254.
441 Nandan and Anderson n411.
442 Mahmoudi n164.
443 Ibid. See also Schachte Jr n203.
444 Mahmoudi n251.

to some qualifications or because its exercise requires the sanction of a competent international organization[445]; and (4) the remedy for violations of the rules of a coastal state by a foreign warship is to be sought through diplomatic channels.[446] In effect transit passage retains the essence, though falls short of full[447] freedom of navigation[448] for navigation.[449] This is evidenced by the right of all states to equal and free use of the sealanes in straits uniting two parts of the high seas or EEZ for the transit passage of vessels; the right of vessels of any type and purpose of all states to transit the international straits in art 37 of the 1982 Convention; and the rights of vessels of any type and purpose of all states to transit an international strait without the consent of the strait state.[450] While this can be said to be a major improvement in international navigation[451], the transit passage regime also introduces an undesirable measure of uncertainty.[452] For example, it would seem that, under the new rules, many traditional high seas freedoms can now be exercised closer inshore in waters which were previously territorial.[453]

445 Ibid. See also Kim and Paik n258 and Rothwell n440.
446 Mahmoudi n251.
447 See n15.
448 Ibid. See also Larson n8, Maduro n245 and n438.
449 Jarman n297 101. See also Maduro n148.
450 See n438. At this juncture, Bordunov has also pointed out that freedom of overflight for the purpose of transit is not entirely the same as the freedom of overflight above the high seas. First, the sphere of operation of transit overflight is limited by straits uniting two parts of the high seas or EEZ and overlapped by the territorial sea of the strait state. Second, when exercising transit overflight a number of activities are prohibited that are not prohibited above the high seas. See Bordunov n267.
451 Robertson Jr n13 851. See also Schachte Jr n203.
452 Langdon n177 136. See also Vitzthum n38 567, Larson n256 and Jaafar n370 290.
453 Langdon n251. It was presumably this realization that caused some states when claiming a general 12nm territorial sea to limit their claims to a lesser distance in straits used for international navigation. See Langdon n177 133.

Moreover, it does not clearly discuss the entrance to straits used for international navigation[454], although it is generally agreed that the regime covers, in the geographical sense, all those normally used approaches to the straits.[455]

454 Ibid. See also remark of Tangsubkul P in 'Discussions and Questions' in Park ed n17 620.

455 Schachte Jr n209. See also Langdon n177 135. But the extent will probably vary according to the characteristics of the vessel. See ibid 136. At this juncture, Langdon also poses the question: the 'Messina Clause' seems to accept that the existence of a large patch of shoal water extending well out to sea from the island would justify the existence of a right of transit passage between the island and the mainland; on that premise, of what significance is the island? Why should not the existence of an offshore shoal, on its own, form a strait with the mainland? Why should this situation not give rise to a right of transit passage through a recently extended territorial sea for ships whose draught will not enable them to cross the shoal? He emphasizes that the situation created by an offshore shoal, as opposed to an island, has not been specifically addressed by the Convention. See ibid 135-6. Another anomaly exists in some straits which enclose small sections of contiguous zone. Under the 1958 Convention this zone is in fact 'a zone of the high seas'. Hence, there is no question that within this zone foreign vessels enjoy a high seas right of navigation, subject only to limited control by the coastal state. (Although coastal state competence is restricted, yet it clearly includes a power of arrest and conduct into port. Thus, it has been pointed out that, while the terms "control" , "prevent infringement" and "punish" are not defined either in the 1958 Convention or in the LOSC, the wording is harsher than that used in the sections on innocent passage or transit passage in the territorial sea.) Under LOSC, however, the precise legal status of the contiguous zone is not clear. Since the contiguous zone is not specifically exempted from the high seas definition, but at the same time overlaps the economic zone, does this mean that it is at once a high seas area for the purpose of prevention and punishment of infringements of its customs, fiscal, immigration and sanitary regulations (as is the case under the 1958 Convention) and an economic zone area for purposes of conservation of living and non-living resources? Or is it an area sui generis? Moreover, vessels passing within the contiguous zone while either entering, exiting, or transiting a strait are technically not in innocent passage, transit passage, or high seas

From the strategic point of view[456], the strait states may even consider the concept of transit passage to be a substantial curtailment of their discretionary power to safeguard their security interests.[457] Thus, the regime - despite the fact that the 'Charter formula' has already rendered 'transit passage' more a species of innocent passage than a high seas freedom in that specific case[458] - may not go far enough in providing strait states with a minimum measure of protection.[459]

As regards the routes used for international navigation within archipelagic waters, the conference treated them as

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passage. Hence, it has been pointed out that a 12nm zone beyond the territorial sea with an undetermined legal status, within which the coastal state has enforcement powers at least as stringent as those applicable in the territorial sea (although only in a limited and specified number of matters) and which is overlapped by the new economic zone, would appear to add a confusing and unnecessary dimension to navigational rights. See Maduro n9 91, 93-4. Finally, it is worth noting that there are occasional instances where a strait state has claimed jurisdiction over enclaves of non-territorial sea and incorporates them as part of its territorial sea. Under a three-mile rule, in straits slightly broader than six miles, enclosing the entire strait and thus small areas of the high seas could be justified - from the point of view of security - for a coastal state. With the general widening of territorial seas to twelve miles, however, there would appear to be little legitimate justification for any further widening of the territorial sea within a strait, since both the contiguous zone and economic zone provisions would presumably allow the coastal state sufficient jurisdiction beyond the territorial sea to protect its resource interests. See ibid 95.

456 Nandan and Anderson n204.

457 Mahmoudi n5 341 and 347. See also Mahmoudi n7 167.

458 See n259. See also Burke KM and DeLeo DA 'Innocent Passage and Transit Passage in the United Nations Convention on the Law of the Sea' YJWPO 9 1983 403. For the 'Charter formula' and its effect, see n259-62 and accompanying text supra.

459 Maduro n99.

if they were straits.[460] As a result, while contemplating the possibility of traversing these waterways[461], the Convention creates an archipelagic sealanes passage regime (ASLP)[462] to mirror that of transit passage.[463] Indeed, the definition of ASLP follows that of transit passage almost verbatim.[464] There are only a few significant variations.[465] Thus 'sea lanes and air routes shall be defined by a series of continuous axis lines from the entry points of passage routes to the exit points'[466] and '[s]hips and aircraft in archipelagic sea lanes passage shall not deviate more than 25 nautical miles to either side of such axis lines during passage, provided that such ships and aircraft shall not navigate closer to the coasts than 10 percent of the distance between the nearest points on

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460 Andrew n8 55-6. See also Moore n9 97, Maduro n9 87 and Symmons CR The Maritime Zones of Islands in International Law 1979 75. In defending this treatment, it has been particularly emphasized that archipelagic waters which ultimately connect two parts of the high seas or one part of the high seas with the territorial sea of a foreign state could indeed be considered as straits. See Koh n1 18.

461 Nandan and Anderson n204.

462 This is a relatively new concept and is usually dated from 1930 when the Dutch government issued some decrees and legislation in regard to the Netherlands Indies or Indonesia. See Larson n8 416.

463 Robertston Jr n13 802. See also Koh n1 151, Andrew n8 57. Indeed, straits and archipelagos were linked in the conference and the regime of transit passage was the model for ASLP. See ibid 57-8. In other words, the latter was intended by the drafters and negotiators to be identical with the former. See Goldie LFE 'Archipelagos' in Encyclopedia of Public International Law: Law of the Sea, Air and Space XI 1989 35-6.

464 Schachte Jr n7 189.

465 Nandan and Anderson n204.

466 LOSC art 53(5). Whereas Part III on straits used for international navigation makes no provision for the designation of air routes in straits and sealanes need not run for the entire length of a strait. See Nandan and Anderson n204.

islands bordering the sea lane'.[467] In essence, therefore, this right is in all major respects the equivalent of the right of transit passage through straits.[468]

Like transit passage, then, ASLP is virtually an unimpeded right of transit, including rights of overflight[469] and inter alia, submerged transit.[470] Like transit passage,

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467 LOSC art 53(5). Slot emphasizes that in the case of transit passage in international straits, no such requirement exists. See Slot n434. See also n464.

468 Moore n9 90, 97, 110-1. See also Koh n463; Slot n7 94, 96; Maduro n9 84, 87-8; O'Connell n17 257; Churchill and Lowe n59 105; n197; Jarmen n449; n462 Kwiatkowska however argues that this is inncorrect. She points out that these involve two different legal regimes: (1) transit passage means exercise of the freedom, while ASLP means the exercise of the 'right', of navigation and overflight; (2) ships and aircraft 'enjoy' transit passage through straits as a matter of general right, while they 'enjoy' a general right of ASLP if the archipelagic state designates sealanes and air routes; otherwise the right of ASLP is facultative as it 'may' (and not 'shall') be exercised through routes normally used for international navigation; (3) unlike the case of straits, ASLP may also be exercised when the archipelagic state has not designated sealanes; (4) unlike transit passage, both sealanes and air routes within archipelagic waters must be established on axis lines; (5) unlike transit passage, archipelagic sea-lanes and air routes are required to include 'all normal passage routes' through and over archipelagic waters; (6) unlike the case with freedom of overflight within the transit passage regime, the right of overflight under ASLP is restricted to air routes above sealanes. See Kwiatkowska B 'The Archipelagic Regime in Practice in the Philippines and Indonesia - Making or Breaking International Law?' IJECL 6(1) February 1991 25-6.

469 Maduro n9 88.

470 Ibid. See also Moore n9 96 and Schachte Jr n254. It may be noted that the term 'normal mode' used in the regime of transit passage appears also in the provisions concerning the right of ASLP. It has been particularly pointed out that the term carries the same meaning in both cases. See Nandan and Anderson n251. Some states however insist that submarines must navigate on the surface. See remark of Narokobi C in 'Discussion' in Van Dyke ed n154 303. At this juncture, Reisman mentions in passing that, by its nature,

there will be no special sealanes for ships with special characteristics, such as nuclear-powered vessels, ships carrying nuclear or other dangerous cargoes, fishing vessels, scientific research vessels or warship and aircraft. Nor are there provisions for prior notification or authorization for the passage of such ships.[471] Moreover, archipelagic states do not have the right to suspend passage of warships failing to comply with the requirements of the archipelagic state concerning passage and cannot require them to leave the archipelagic waters.[472] Archipelagic sea-lanes passage cannot be suspended for security reasons.[473] As is also the case with transit passage, the enforcement of regulations on vessel source pollution in archpelagic sea-lanes is still mostly left to the flag state.[474] Unlike the definition of transit passage, however, ASLP clearly

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submerged passage is not the sort of practice that generates customary rights. The notoriety and opportunity for protest by parties - requisite components of formation of prescriptive rights - can hardly be fulfilled when the strait state does not or cannot know of the passage or lacks the means of stopping it. And even if such practices were deemed to have generated customary rights in one strait, they could not ~~eo ipso~~ be applied to all straits. See Reisman n7 57.

471 Andrew n8 58. Narokobi however argues that the question of movement of warships through archipelagic waters is still an unresolved question. See Narokobi n470.

472 Andrew n471.

473 Ibid.

474 Andrew n8 61. Despite this close linkage between transit passage and ASLP, it is however to be noted that, while provisions on transit passage in international straits include an article whereby user states and strait states are by agreement to cooperate for the prevention, reduction and control of pollution from ships, there is no similar arrangement in articles in the part on archipelagos. See ibid. Therefore, the Convention may be said to be ambiguous in that regard. See Jarman n297 102.

covers, in geographical terms, the approaches to the archipelagic sealanes through the territorial sea.[475]

In archipelagic waters outside the sealanes or through routes not 'normally used for international navigation', there exists a right of innocent passage which is identical to that governing passage through the territorial sea.[476] That is, it may be suspended[477] at the discretion of the archpelagic state[478] for security reasons.[479] However, it is not clear whether the Convention excludes the exercise of the right of innocent passage when sealanes are designated (or, in a more fundamental sense, whether the use of an archipelagic sea lane is mandatory).[480] The question is important in that mandatory use of sealanes would practically annihilate the right of innocent passage in archipelagic waters.[481] Moreover, it is difficult to determine 'routes normally used for international navigation', through which foreign vessels would still have the right to ASLP should the archipelagic state not designate sealanes, as well as the type of seas these routes should join.[482] Although this is a check on the

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475 See n464. See also Andrew n8 62. Indeed, LOSC art 53(1) clearly states that 'An archipelagic State may designate sealanes and air routes thereabove, suitable for the continuous and expeditious passage of foreign ships and aircraft through or over its archipelagic waters and the adjacent territorial sea' (emphasis added).

476 LOSC art 52(1).

477 Slot n8. See also Maduro n9 89 and Goldie n463 36.

478 Ibid. See also Slot n8.

479 Goldie n477. Because it is discretionary for the state to decide its own form of regulation of passage and the operational meaning of its security, a considerable liberty of action may well be provided for these states. Thus, it has been pointed out, innocent passage in respect of archipelagic states may be rendered more restrictive than normal innocent passage through a coastal state's territorial sea. See ibid.

480 Slot n7 94.

481 Ibid 94-5.

482 Maduro n477.

archipelagic state subverting the principle of unimpeded transit through maritime highways within its waters, yet it is not clear whether foreign vessels may exercise ASLP through any 'route normally used for international navigation'.[483] It has been pointed out that the criterion of international use - 'used for international navigation' - retained from the 1958 Convention, is itself a most ambiguous one.[484] The introduction of the word 'normally' would appear only to compound the ambiguity, since it can be argued that a strait 'normally' used for international navigation is one with considerably more traffic than one that is merely 'used'.[485] Generally speaking, while the balance of archipelagic waters is subject to the more restrictive regime of innocent passage[486] which is comparable with that through the territorial sea[487], ASLP preserves, in those important shipping lanes, a high level of free passage[488] comparable to the freedom that existed in these waters when they were part of the high seas.[489] Thus, the maritime powers have, in this way, had their basic interests protected.[490]

483 Ibid.
484 Maduro n9 90.
485 Ibid 89-90. It is also interesting to note that, although applying to strait areas, the article dealing with ASLP does not utilize the term 'strait' (instead it uses 'channel'), presumably since the waters in question are not territorial waters, but 'archipelagic waters'. See ibid 84 and 88.
486 The potential for abuse of this restrictive regime by the archipelagic state is strong. See Barron N 'Archipelagos and Archipelagic Straits under UNCLOS III: No Special Treatment for Hawaii' Hastings ICLR 4(3) 1980-81 521. From the viewpoint of the major shipping powers, therefore, this is less satisfactory. See O'Connell n17 237.
487 Ibid 257. See also Barron n486 519.
488 O'Connell n486.
489 See n480. It is, however, anomalous that these rights are somewhat more extensive than the rights foreign states enjoy in an archipelagic state's territorial sea, which lies seaward of its archipelagic waters. See Churchill and Lowe n59 106.
490 Andrew n475.

In conclusion, the right of passage through straits (including those important sealanes within archipelagic waters) has expanded considerably from a single rule of customary international law to a very detailed series of rules.[491] Although it has not achieved customary law status yet[492], it is generally agreed that this is an important step in the progressive development of international law[493] which will ultimately prevail as the legal regime of international straits.[494] While the straits (as well as the archipelagic sealanes) provisions in LOSC can be regarded as being fairly balanced[495], there are still some fundamental

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491 Rothwell n7 469. See also Koh n1 171 and Caminos n4 232.

492 Ibid 204 and 235. See also Mahmoudi n5 339, Larson n8 422 and 427, Churchill and Lowe n59 94, Goldie n463 37, Rothwell n491 and remark of Koh T in 'Discussion' in Van Dyke n154 298. The right of overflight is particularly questionable, since state practice is to the contrary. See Mahmoudi n7 173 at n68 and Jaafar n370 289. It has been emphasized that the prevailing international law on overflight has been consent. See Burke n425. For a succinct theoretical discussion on the overflight issue, see Caminos n4 60-1. However, Mahmoudi argues that one is tempted to regard the right to transit passage as customary law because of, inter alia, its delicate role in keeping the balance of interests under the imperatives of the consensus rule and package deal mechanism. See Mahmoudi n7 167 and Mahmoudi n5 347. This view is also held by Schachte Jr n209 and Harlow n252. As to the question of overflight in customary international law, O'Connell even maintains that the practice in the case of relevant straits tends to affirm the right rather than otherwise. See O'Connell n17 334.

493 Larson n8 415. See also Bordunov n26 230, Nandan and Anderson n27 170 and Moore n245. In the interim, it may still be argued that the 1982 Convention approximates to the codification of customary international law as it pertains to transit and archipelagic sealanes passage. See Larson n8 422 and 426. See also Rothwell n69 505 and O'Connell n148.

494 Amin n212. See also Caminos n491, Nandan and Anderson n493 and the remark of Anand RP in 'Discussion' in Van Dyke ed n154 297.

495 Koh n491.

problems in the arrangement.[496] Amongst other things, ships can in practice pass in and out of various navigation regimes, including the particular legal system of the coastal state, depending on their position within a strait. This fact may render the law on straits exceptionally technical and potentially unworkable.[497] Despite the provision in LOSC for compulsory third-party adjudication of disputes concerning straits[498], these ambiguities[499] are potential sources of international conflict.[500] In this sense then the Convention can hardly be said to have resolved all the problems.[501]

11.4 The present state of navigation through the Malacca and Singapore Straits

The Malacca and Singapore Straits are between Sumatra in Indonesia and the Malayan peninsula and serve as a major international navigation route linking the Indian Ocean with the South China Sea.[502]. The Straits are approximately 500

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496 Burke and DeLeo n458 405.
497 See n413.
498 Koh n491. LOSC art 297(1) provides that 'Disputes concerning the interpretation or application of this Convention with regard to the exercise by a coastal State of its sovereign rights or jurisdiction provided for in this Convention shall be subject to the procedures provided for in section 2 [Compulsory Procedures Entailing Binding Decisions] in the following cases: (a) when it is alleged that a coastal State has acted in contravention of the provisions of this Convention in regard to the freedoms and rights of navigation, [or] overflight...'. The scope of this provision clearly includes the rights of navigation through and flight over straits (as well as archipelagic sealanes) used for international navigation.
499 Jaafar n370 285.
500 Caminos n8.
501 Mangone n9 391. See also n413.
502 Vertzberger Y 'The Malacca/Singapore Straits' Asi Sur 22(7) July 1982 609.

miles long[503] and range from 220 miles at the widest point to 10 miles at the narrowest.[504] Zones less than 24nm wide occur at three points along the length of the straits. At these points the 12nm territorial waters claimed by Indonesia and Malaysia overlap and cover the whole width of the Straits.[505] In addition, since the navigation channel does not always run along the exact center of the Straits, there are stretches where it runs through the territorial waters of one or the other of these two coastal states.[506] The Strait of Singapore, which is less than 2 miles wide[507], is the eastern continuation of the Malacca Strait and links the latter to the South China Sea.[508] It runs between the Indonesian islands on one side and the southern coast of the Malaysian state of Johore and the island of Singapore on the other.[509] It is 75 miles from east to west and no more than 12 miles wide at its widest point.[510] Here, the navigable passage runs within the six mile limit of waters of the littoral states.[511] Navigable channels within the Straits are, of course, narrow, but it is not just the narrowness of the channels that adds to the difficulties of navigation; they are shallow as well.[512] Within the 330 sq km of the Phillip Channel off Singapore, for instance, there are

503 Ibid. See also Koh n1 54 and Morgan JR and Fryer DW 'The Marine Geography of Southeast Asia' in Kent G and Valencia MJ ed Marine Policy in Southeast Asia 1985 26.
504 Vertzberger n502 609-10. See also Koh n503, Morgan and Fryer n503 and Danusaputro M 'Elements of an Environmental Policy and Navigational Scheme for South East Asia, with Special Reference to the Straits of Malacca' in Johnston DM ed Regionalization and the Law of the Sea 1978 176.
505 Ibid. See also Vertzberger n502 610.
506 Ibid. Generally see United Nations Conference on the Law of the Sea Official Records, Preparatory Documents Vol 1 A/Conf 13/6 and add 1 125-7.
507 Morgan and Fryer n503. See also Danusaputro n504.
508 Vertzberger n505.
509 Ibid.
510 Ibid.
511 Ibid. Generally see UN Conference on the Law of the Sea n506 143-4.
512 Morgan and Fryer n503. See also Danusaputro n504 174.

thirty-seven points less than twenty-three meters in depth[513], the minimum draught for a 250 000 dwt tanker.[514] The problem is largely caused by silt from the short but periodically high-volume rivers of tropical and rainy Malaysia and Sumatra[515], sand waves[516] and the presence of hard rock shoals.[517] Contact with these features may result in grounding or even rupture of the hull.[518] As a result, navigation in the Straits is actually quite dangerous.[519] The Malacca/Singapore Straits may be by-passed altogether through the Sunda, Lombok, Makassar and Ombai-Wetar Straits (which are all within Indonesian archipelagic waters) for the very sake of navigational safety.[520] Most shipowners however still prefer this route in practice[521] due to consideration of speed and competition.[522]

Tested by the Corfu Channel criteria, the Straits are indeed international.[523] Geographically, they satisfy the criterion of connection - they connect two high seas[524] -

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513 Koh n1 55. See also Danusaputro n504 179.
514 Ibid.
515 Anderson TD 'Geographic Limitations on the Movement of Deep-Draft Tankers between Indian and Pacific Oceans' ODIL 10(1/2) 1981 119. See also Koh n513.
516 Ibid.
517 Anderson n515.
518 Ibid.
519 Vertzberger n505.
520 Ibid. See also Tangsubkul n298 612 and Koh n1 76.
521 Danusaputro n504 183.
522 Busha T and Dawson J 'A Safe Voyage to a New World' Ocean YB 1 1978 220. For example, the route from the Persian Gulf to Japan through the Straits of Malacca and Singapore is 6 606 miles long, while through the Straits of Lombok and Makassar it is 7 605 miles, a difference of 999 miles. The time needed for the navigation of the route through the Straits of Malacca and Singapore is normally 17.4 days, while the route through the Straits of Lombok and Makassar would need 20.1 days, a different of 2.7 days sailing time. No doubt this difference will in turn increase the cost of each ship operation. See n521 and Koh n520.
523 Koh n1 75. See also O'Connell n59 319.
524 Koh n523. See also n71.

the South China Sea and the Andaman Sea.[525] Although the South China Sea is now entirely the exclusive economic zones of the surrounding coastal states[526], it could however still be regarded as 'high seas' for the present purpose[527], because the largely unchanged freedom of navigation remains applicable in those zones.[528] Obviously, the straits provisions of LOSC have taken account of this development.[529] Moreover, the Straits are without doubt being used for international navigation.[530] Recent figures show that over 51 000 ships, including commercial vessels, fishing boats and warships[531], pass through the Straits yearly, with an average of over 140 ships a day, which render them the second busiest straits in the world (after the Straits of Dover).[532] Thus, the open character of this

525 See Koh n523.

526 See n112 and accompanying text in Chapter 1. See also n421.

527 Indeed, O'Connell has pointed out that the definition of 'high seas' is the product of several propositions as to behaviour, which may be independent of each other, such as statements about freedom of navigation, freedom of fishing, freedom of scientific research, freedom of discharge, freedom of overflight and freedom of military usage. The fact that one or more of these freedoms is curtailed does not of itself affect the others. To that extent the 200-mile limit is 'high seas' for some purposes but not for others. To assert that it is high seas is only to assert the validity of the freedoms that are not curtailed; to assert that it is not is only to assert that other freedoms are curtailed. If users of the sea establish priority over the interests of coastal states in subsequent state practice, the catalogue of freedoms of the sea will remain relatively large and in that sense the EEZ might even be said to have the residual status of high seas. See O'Connell n59 575-6 and 579.

528 Rothwell n7 471. See also Rotkirch n392.

529 See n421.

530 See Koh n523.

531 Tangsubkul n298.

532 See Koh n523. As a result, the Malacca Strait has been identified as one of the most important straits in the world. See Hodgson RD, Geographer of the Department of State World Straits Affected by a 12 Mile Territorial Sea Chart 51036, February 1971. See also Hollick AL and Osgood RE New Era of Ocean Politics 1974 106.

important waterway has been widely acknowledged.[533] In the second half of the 1960s, however, one saw a change in the state of affairs.[534] After their announcements to extend the territorial sea limit to 12 miles in 1960[535] and 1969[536] respectively, Indonesia and Malaysia jointly declared on November 16 1971 that 'the Straits of Malacca and Singapore are not international straits, while fully recognizing their use for international shipping in accordance with the principle of innocent passage'.[537] Singapore took note of this position.[538] This joint statement reveals that Indonesia and Malaysia want to establish their sovereignty over those portions of the Straits that are embraced by their 12 mile claims.[539] As a result, they contend that only innocent passage is allowed through the Straits and that it ought to comply with the rules and regulations of the straits states.[540] In other words, the two states try to link their 12-mile claim to the de-internationalization of the Straits.[541] Singapore obviously is not prepared to take this stand as it simply 'took note' of the position of Indonesia and Malaysia.[542] Because of the political, military and economic interests resulting from its strategic and vulnerable position, it demands an 'open sea'

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533 Even by Malaysia. See O'Connell n59 318.
534 Vertzberger n505.
535 Act No 4 of 1960 (Indonesia), passed on February 18, 1960. See Koh n513.
536 Emergency (Essential Powers) Ordinance 1969 (No 7 of 1969, Laws of Malaysia), passed on November 3 1969, s3. See also Koh n1 56.
537 For the full statement, see Koh n1 59. See also Jaafar n370 286, Vertzberger n505 and O'Connell n523.
538 Ibid. See also Vertzberger n505.
539 Koh n537.
540 Koh n1 74-5. See also Caminos n4 71. In UNCLOS III, however, the two states once accepted that the right of innocent passage through international straits would be non-suspendable. See Sanger C Ordering the Oceans: The Making of the Law of the Sea 1986 91. See also Churchill and Lowe n59 88-9.
541 Koh n1 57.
542 Ibid 59 and 64. See also O'Connell n523.

approach[543] for the unimpeded passage of all ships. The latter however ought to observe certain rules and regulations to ensure the safety and security of the straits states.[544]

The real issue for Indonesia and Malaysia, amongst all the political, navigational, environmental and economic interests, is probably that of passage of warships and submarines.[545] Of course, the right of warships exists through international straits under the Corfu Channel Case.[546] But Indonesia and Malaysia refuse to recognize such a right.[547] They stress that they will not accept any proposition which claims more than existing rights for warships, submarines and military aircraft.[548] That is, user states are required to give notification and get authorization before passing the Straits.[549] The only clear-cut concurrence between the 1982 Convention and current state practice in the Malacca Straits region relates to art 41 on sealanes and traffic separation scheme.[550] After consulting with IMCO (now IMO), the three Malacca Straits states adopted in February 1977 an 'Agreement on Safety of Navigation in the Straits of Malacca and Singapore' concerning essentially the prevention of accidents.[551] In it, the following recommendations have been, inter alia, agreed upon:

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543 Koh n1 56 and 58.
544 Ibid 64. See also Sanger n540 94.
545 Koh n1 57, 59 and 76. In other words, national security is their major concern. See Larson n8 47.
546 Andreasen n391.
547 Koh n129.
548 Caminos n540. See also Amin n9 390.
549 Koh n1 45 and 60. See also O'Connell n59 320 and Sanger n540 93.
550 Jaafar n537. See also Caminos n4 220.
551 It is significant that the legal regime of the straits was not challenged at this time. See Koh n1 83. Text of the tripartite Agreement in Danusaputro n504 186-7.

- Vessels shall maintain a single under keel clearance (UKC) of at least 3.5 meters at all times during the entire passage through the Straits.[552] In a subsequent 'common interpretation' adhered to by the States bordering the Strait of Malacca and some of its user states (France, the United Kingdom, Japan, Australia and the Federal Republic of Germany), it is further stipulated that a state bordering the Strait of Malacca may hamper or deny passage to a vessel that has violated the under-keel requirements, that such acts shall be considered to be 'appropriate enforcement measures' and shall not be interpreted as denying, hampering or impairing the right of transit passage in violation of art 42(2) or art 44 of the 1982 Convention.[553]
- The delineation of the Traffic Separation Scheme (TSS) in three specified critical areas, namely in the One Fathom Bank area, the Main Strait and Phillip Channel and off Horsburgh Lighthouse.[554]
- Deep draught vessels, namely vessels having draughts of 15 meters and above, are required to pass through the

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552 Recommendation (i).

553 'Common interpretation' of IMO Resolution A 375(4). See Caminos n4 174.

554 Recommendation (ii). The separation scheme for One Fathom Bank was added by IMCO in 1977 when it made some minor amendments to the original tripartite Agreement. See Koh n1 90. As to the TSS per se, it was agreed in 1975 that the deepest channel would be allotted to east-bound tankers as they would then be laden with oil. West-bound traffic would have to use a shallower channel, which would be acceptable since the tankers would be empty. See ibid 79-80. Moreover, the concept of a 'tidal window' is employed. A tidal window is the period on either side of high water during which an adequate depth of water will be available to maintain the required underkeel clearance in the controlled area. Careful assessment is needed to plan a 'target time' at which to arrive in order to take advantage of a tidal high. See Malacca/Singapore Straits Guide to Planned Passages for Draught Restricted Ships 1977 Part 1 5. See also Anderson n515 125.

designated 'Deep Water Route' (DWR) in the Strait of Singapore up to Buffalo Rock and are recommended to navigate in the specified route from Buffalo Rock up to Batu Berhanti area. Other vessels are recommended not to enter the DWR except in an emergency.[555]

- VLCCs (very large crude carriers) and deep draught vessels are advised to navigate at a speed of not more than 12 knots during their passage through critical areas and that no overtaking be allowed in the DWR.[556]
- All tankers and large vessels navigating through the Straits shall be adequately covered by insurance and compensation schemes.[557]

It might be concluded that art 41 has already become part of the customary international law in the Malacca region[558], except for the steps taken by strait states to assert their full authority over the use of the Straits, even for navigation.[559] Thus, this recent action may be more in conformity with the newly refined innocent passage regime than with that of transit passage.[560]

In short, the declaration by Indonesia and Malaysia to de-internationalize the Straits of Malacca and Singapore is unprecedented.[561] Even now, neither Indonesia nor Malaysia has been prepared to agree to the description of the Straits

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555 Recommendation (iii). Vessels most affected by this requirement are laden VLCCs. See Koh n1 86.
556 Recommendation (vii).
557 Recommendation (xii).
558 Jaafar n537.
559 Ibid. In the establishment of the traffic separation scheme, Indonesia and Malaysia were anxious to exclude other countries - they opposed Japan's call to IMCO in 1971 for the international regulation of the Straits, as they wanted to reserve to themselves and to Singapore the right of control. See Koh n1 65.
560 Jaafar n537.
561 Koh n520.

as 'international straits'.[562] On its face, the denial that the Straits are international straits appears harmless, since the principle of innocent passage is recognized, but the language conceals the hidden question of whether the admission of the principle is no more than a gratuitous concession which might be withdrawn.[563] Moreover, it is only a bilateral declaration which has met with protest from, inter alia, the major maritime nations like the United States of America, the former Soviet Union and Japan.[564] In other words, the declaration is actually ineffective under international law.[565] In view of these legal uncertainties[566], therefore, Indonesia and Malaysia are widely expected to reshape their national legislation[567] giving substances to the regime of transit passage.[568] As LOSC comes into force on 16 November 1994, transit passage becomes conventional.

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562 Ji G 'Current Security Issues in Southeast Asia' Asi Sur 26(9) September 1986 980.

563 O'Connell n549.

564 Koh n520.

565 Ibid.

566 To a certain extent, it would appear, in practice, that the Straits are neither absolutely territorial nor strictly international and that the passage regime in the Straits is neither transitory nor innocent. See Jaafar n370 291.

567 From the practical point of view, the implementation of transit passage will not cause much of a problem for Indonesia since: (1) Indonesia does not have the intention to hamper foreign vessels traversing through Indonesian waters with unjust cause; (2) Indonesia has never had to require submarines to navigate on the surface of the Straits of Malacca since the waters of these Straits are too shallow for submerged passage; (3) It is therefore considered unnecessary to require notification since detection of vessels traversing through such a narrow part of the sea will not be a problem. See Indonesia Study Team Passage Through Waters within National Jurisdiction Indonesian Perspective 1987 26. See also Koh n520 and Vertzberger n502 621.

568 Jaafar n566.

11.5 Passage rights in practice in the waters of the Philippine and Indonesian archipelagos

In 1957 Indonesia joined the Philippines in adopting the archipelago theory, whereby they sought to enclose all the waters of the archipelago within a system of straight baselines drawn around the points of the outermost islands.[569] Since then, the two states have formed a geographical barrier for maritime movement in the South China Sea.[570] In navigational terms, they are undoubtedly the most strategic of the archipelagic states[571] due to their position astride the major shipping lanes between the Pacific and Indian Oceans.[572] For example, under a 12-mile territorial sea (ignoring for the moment the archipelago claim), thirteen passages between islands lie totally within Indonesian territorial waters and three within the sovereignty of Indonesia and a neighbouring state.[573] Amongst these, Sunda and Lombok Straits are certainly international straits[574] ie 'routes normally used for international navigation'.[575] Moreover, there are also eight most important straits, out of some 45 used for international navigation in the Southeast Asian region, lying wholly within the Philippine archipelagic system, two of which are Balintang and Babuyan.[576] The remaining six are Sibutu, Mindoro, Verde Island, San Bernardino, Surigao

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569 Wolfrum n130 126.

570 Valencia MJ and March JB 'Access to Straits and Sea-lanes in Southeast Asian Seas: Legal, Economic and Strategic Considerations' JMLC 16(4) October 1985 513.

571 Andrew n8 50.

572 Ibid. See also O'Connell n17 147, Churchill and Lowe n59 99, Kwiatkowska n468 30, Barron n486 522 and Larson n545.

573 See n571.

574 Larson n545. See also O'Connell n140. Other important straits include, inter alia, Ombai Strait. See Hodgson n532.

575 Rothwell n69 501.

576 Alexander LM Navigational Restrictions within the New Law of the Sea Context: Geographical Implications for the United States 1986 169.

and Basilan.[577] As a result, passage through the waters of the Indonesian and the Philippine archipelagos has become extremely important to international commercial and naval navigation.[578]

In the case of Indonesia, the problem is mainly governed by Act No 40 of 1960 concerning Indonesian Waters.[579] According to this Act, innocent passage 'is open' to all foreign ships[580] in the waters, which are classified as internal waters, enclosed by the Indonesian baselines.[581] (However, unlike innocent passage of foreign ships through the territorial waters which is a right recognized by international law, innocent passage through Indonesian internal waters is only guaranteed by Indonesia as a 'privilege' (or a 'facility') rather than as a right and can therefore be withdrawn by Indonesia.[582]) To implement this, Indonesia subsequently enacted, on July 28 1962, Government Regulation No 8 on Innocent Passage of Foreign Vessels through Indonesian Waters.[583] Article 1 of this Regulation re-affirms the guarantee for 'peaceful passage in the "internal waters" of Indonesia from one part of the high seas to another part of the high seas'.[584] Article 2

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577 Ibid.
578 Larson n8 416-7.
579 Text in Tangsubkul P The Southeast Asian Archipelagic States: Concept, Evolution and Current Practice 1984 69-72.
580 Act No 4 of 1960 art 3(1). See also Rothwell n69 497, Indonesia Study Team n567 15, Andrew n8 49, Churchill and Lowe n59 107, Kwiatkowska n468 16, Tangsubkul n579 33 and Agoes ER 'Indonesia and the LOS Convention: Recent Developments in Ocean Law, Policy and Management' MP 15(2) March 1991 124.
581 Act No 4 of 1960, art 1(3). See also Andrew n580, Churchill and Lowe n580, Kwiatkowska n580 and Tangsubkul n580.
582 Indonesia Study Team n567 24. See also O'Connell n17 249, Andrew n580, Kwiatkowska n580 and Tangsubkul n580.
583 The original Indonesian language text is in Tangsubkul n579 73-6. No English text available.
584 Ibid 34.

defines innocent passage as navigation with a peaceful purpose that travels through the territorial sea and internal waters of Indonesia (a) from high seas to an Indonesian port and vice versa and (b) from high seas to high seas. Therefore, stopping, anchoring or navigating to and from without justifiable cause in Indonesian waters or in 'high seas near such waters' is not recognized as innocent passage.[585] Article 3 further explains that navigation is considered peaceful if it neither jeopardizes the peace nor is contrary to the security, public order, or interests of the country.[586] Article 4 grants power to the President to suspend innocent passage temporarily in Indonesian waters, including straits used for international navigation from high seas to high seas, for security reasons.[587]

The Regulation also contains rules for different categories of vessels such as fishing and research vessels, warships and government ships used for non-commercial purposes.[588] As to fishing vessels, they are encouraged to traverse through the sealanes established for this purpose, but are prevented from fishing and have a duty to store fishing gear.[589] Research vessels may carry out research activities in the territorial sea and internal waters with the consent of the President.[590] As for the third category of ships mentioned above, art 7 requires notification to the Minister/Chief of Staff of the Indonesian Naval Force, before proceeding with innocent passage through the

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585 Ibid.
586 Ibid. See also Indonesia Study Team n567 16 and Agoes n580 125.
587 Tangsubkul n579 34. See also Andrew n8 51 at n33, Kwiatkowska n468 17 and Rothwell n580.
588 Indonesia Study Team n567 17. See also Tangsubkul n587.
589 Indonesia Study Team n588.
590 Ibid. See also Tangsubkul n587.

territorial sea or internal waters[591], except if the passage is exercised through the sealanes already established for such purpose.[592] (However, it is to be noted, no such sea-lanes have been established by the Indonesian government up to now.[593] Therefore, notification under this Regulation is still required at present.[594]) During passage, submarines and other underwater vehicles are required to navigate on the surface and to display their flags.[595] Moreover, any ship violating the notification rule must immediately leave the Indonesian waters.[596]

While this is obviously not in conformity with the 1982 regime on passage through the waters of archipelagos[597], however, Indonesia recently gave effect to the new navigational arrangement on one occasion.[598] This was done under the 1982 Jakarta Treaty with Malaysia[599], which was concluded to deal with, primarily, Malaysia's legitimate interests in Indonesian archipelagic waters.[600] Under the Treaty, Malaysian navigational rights, referred to as the

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591 Ibid. See also Agoes n586. Andrew n587, Kwiatkowska n587 and Indonesia Study Team n588.

592 Ibid. See also Agoes n586 and Kwiatkowska n587. In this case, submarines are also, presumably, allowed to navigate submerged. See ibid.

593 Indonesia Study Team n588. See also Kwiatkowska n468 18 and Agoes n586.

594 Indonesia Study Team n588.

595 Ibid. See also Andrew n587, Tangsubkul n587 and Kwiatkowska n587.

596 Indonesia Study Team n588.

597 Churchill and Lowe n489.

598 Kwiatkowska n468 22.

599 Treaty Relating to the Legal Regime of Archipelagic State and the Rights of Malaysia in the Territorial Sea and Archipelagic Waters as well as in the Airspace above the Territorial Sea, Archipelagic Waters and the Territory of the Republic of Indonesia Lying Between East and West Malaysia of February 25 1982 (English text) in Lembaran Negara Republik Indonesia No 155 1983 42-56. For a brief description of the treaty, see Hamzah BA `Indonesia's Archipelagic Regime: Implications for Malaysia' MP 8(1) January 1984 37-9.

600 Kwiatkowska n468 20.

rights of 'access and communication' of ships and aircraft, conform to the right of ASLP under LOSC.[601] The right of innocent passage within Indonesian archipelagic waters and the territorial sea is applicable only to Malaysian traditional fishing vessels.[602]

In essence, the Jakarta Treaty - like art 53 of the Convention - provides for a non-suspendable 'right' (and not 'freedom') of access and communication for all ships (government and commercial) and aircraft (state and civil) of Malaysia.[603] It also qualifies this right in accordance with LOSC as the right of 'continuous, expeditious and unobstructed' navigation and overflight.[604] Malaysian ships can stop and anchor, while aircraft can land on the Indonesian territory if it is rendered necessary by force majeure or by distress.[605] Moreover, Malaysia is obliged to refrain from any threat or use of force and to take necessary measures concerning safety of navigation and marine pollution.[606] Passage of all ships, including warships, is confined to two 'corridors' (sealanes) which are defined by a series of continuous axis lines.[607] The first axis line, known as Axis I, passes along the recommended routes for international navigation between Pulau Repong and Pulan Penghibu and between Natuna Besar and South Natuna.[608] The second axis line, Axis II, also passes between Pulau Repong and Pulau Penghibu but its other end is further south, between Api passage and north of Tanjung Datu.[609] The two corridors therefore have a common entry point and two exit points, or two entry points and one exit

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601 Ibid.
602 Ibid.
603 Ibid.
604 Ibid.
605 Ibid.
606 Ibid 21.
607 Ibid.
608 Hamzah n599 38.
609 Ibid.

point depending on the direction of the passage.[610] Although no notification for passage through the corridors is required, however, the specific tests differ somewhat from those set forth in art 53(5) of LOSC for archipelagic sealanes, since under the Treaty ships cannot deviate more than ten (and not, as the Convention requires, 25) miles to either side of the axis lines in the corridors and ships must not navigate closer than three miles to the coasts.[611] In the sealanes, submerged passage appears to be permitted.[612] Moreover, Malaysia has the right inter alia to conduct naval or aerial manoeuvres including tactical exercises, so long as these manoeuvres do not in any way infringe the general security of Indonesia and do not constitute the threat of or use of force against Indonesia - as a result, no firing of weapons is allowed - or violate the principles of international law and those embodied in the UN Charter.[613] As regards the right of overflight, the Jakarta Treaty - unlike art 53(1) of the Convention - does not confine it to air space above the corridors designated for ships.[614] Instead, the right of access and communication exercisable by such state (military) and civil aircraft applies to the 'air space above the territorial sea, archipelagic waters and the territory of the Republic of Indonesia lying between East and West Malaysia'.[615] In short, the Jakarta Treaty is an important achievement particularly in terms of immediate implementation by a major archipelagic state of the regime of ASLP in accordance with the 1982 Convention.[616]

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610 Ibid.
611 Kwiatkowska n468 21.
612 Ibid.
613 Hamzah n599 38-9.
614 See n611.
615 Ibid.
616 See n598.

Generally speaking, of course, Indonesia is not yet ready with national laws and regulations to implement fully the rules contained in Part IV of the Convention.[617] As described, the existing Indonesian law in force is still law No 4 of 1960, whereby most foreign vessels traversing Indonesian waters enclosed by straight baselines can only enjoy the privilege of innocent passage.[618] Although this has not given rise to difficulties in practice[619], since foreign ships, including warships, actually pass without notification through the routes customarily used for international navigation within the Indonesian waters[620], much apparently still needs to be done[621], particularly taking into account the temporary closure by Indonesia of Sunda and Lombok Straits in September 1988.[622] For this reason, therefore, it has been suggested that innocent passage be clearly qualified as 'the right' enjoyed by all foreign ships.[623] Internal waters - to be excluded from such passage - should be determined within the Indonesian archipelagic waters (eg off its Sulawesi coast) in accordance with art 50 of the Convention and the term 'internal waters' presently used should be replaced by that of 'archipelagic waters'.[624] Moreover, the right of ASLP should be defined in accordance with art 53-4 of the Convention[625] and archpelagic sealanes, which have not been

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617 Indonesia Study Team n567 27.
618 Ibid.
619 O'Connell n17 250.
620 Kwiatkowska n593.
621 Alexander n196 547.
622 For the purpose of sea and air battle manoeuvre exercises. However, Sunda and Lombok Straits were not closed to shipping at the same time. The areas were closed to all ships during 14-16, 20-22 and 27-29 September in the case of Lombok Strait and 18-20 and 25-27 September in the case of Sunda Strait. For this incident, see Rothwell n69 492-4.
623 Kwiatkowska n468 19.
624 Ibid.
625 Ibid.

established by the Indonesian government so far[626] (except for the two specifically accorded to Malaysia), be designated through consultation with the competent international organization.[627]

The Philippines has retained its original archipelagic legislation[628] which accords the waters enclosed by archipelagic baselines the status of internal waters[629] and recognizes no innocent passage of foreign ships.[630] In other words, permission must be granted for any passage.[631] At present, no new legislation has been formulated to implement the 1982 regime.[632] Although the Philippines appears to conform in practice with the navigational regime set forth in the Convention by allowing foreign warships (submerged) and other ships to pass without notification or authorization through the routes used customarily for international navigation within its waters[633], it wishes to designate two sealanes through the heart of the archipelago: one extending from the Sibutu Passage through Mindoro Strait

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626 See n608. See also Rothwell n69 493.
627 Kwiatkowska n468 18-9.
628 Act No 3046 of June 17 1961. Text in Nordquist MH and Park CH ed North America and Asia Pacific and the Development of the Law of the Sea: The Philippines 1 1981 4.
629 Section 2 of the 1961 Act clearly stipulates that: 'All waters within the baselines provided for in section one hereof are considered inland or internal waters of the Philippines'. See also Alexander n196 549, Kwiatkowska n468 4, Churchill and Lowe n580 an Andrew n580.
630 Kwiatkowska n629. See also Andrew n587. According to a Philippine note verbale of 1955, however, there was a right of innocent passage. See Churchill and Lowe n580.
631 Andrew n580.
632 Lotilla RPM 'The Efficacy of the Anti-Pollution Legislation Provisions of the 1982 Law of the Sea Convention: A View from South East Asia' ICLQ 41(1) January 1992 145.
633 Kwiatkowska n468 12.

and the other, from the Surigao Strait through the Balabac Strait[634], but these must still be formally worked out.[635]

Finally, it is worth noting that the two archipelagic nations, while planning to designate sealanes, should coordinate their decisions, since ships leaving Indonesian archipelgic waters and passing through the Celebes Sea may then want to transit the Sulu Sea, which is within the Philippine archipelago.[636]

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634 Valencia and Marsh n570 526.

635 See n621.

636 Morgan J 'Marine Regions and Regionalism in South-east Asia' MP 8(4) October 1984 303. See also Kent G 'Harmonizing Extended Zone Legislation in Southeast Asia' ODIL 13(2) 1983 259.

CHAPTER 12

MARINE SCIENTIFIC RESEARCH

12.1 The development of the issues: its past and present

The ocean has played an important part in human history.[1] Men have not only shown curiosity about it for centuries[2], but have also collected a wealth of information concerning it throughout history.[3] It is not so long since oceanography was the profession of a small number of people, almost all of them men, who devoted their energy, skill and persistence and sometimes their money, to exploring, measuring and seeking to understand the complicated structure and motion of the sea and its creatures.[4] Marine scientific research (MSR) projects tended to be, at best, single-ship, trans-oceanic voyages of long duration carried out by single nations.[5] The majority of the early marine scientists seem to have had only the most general notion that knowledge of the sea would prove useful.[6] At that time, scientific pursuits were generally relatively immune to international political ideologies[7] and there were very few geographical restrictions on MSR.[8] The jurisdiction of coastal states

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1 Soons AHA Marine Scientific Research and the Law of the Sea 1982 11.

2 Sanger C Ordering the Oceans: The Making of the Law of the Sea 1986 123.

3 Soons n1 12-3. For a succinct account of the early phases of this development up to 1958 Geneva Conference, see Menefee SP 'Pre-UNCLOS Marine Scientific Research: An Introductory Survey of Law and Policy' Sea Changes 13 1991 36-67.

4 Charnock H 'Marine Science: Organizing the Study of the Oceans' MP 8(2) 1984 120.

5 Campbell NJ 'Marine Science Programs of the Intergovernmental Oceanographic Commission in the Pacific' in Miles EL and Allen S ed The Law of the Sea and Ocean Development Issues in the Pacific Basin 1983 591.

6 Charnock n4 120-1.

7 Helsley C and Kroenke L 'Scientific Cooperation in the Pacific Basin: Do Science and Politics Mix?' in Miles and Allen ed n5 585.

8 Scholz WS 'Oceanic Research: International Law and National Legislation' MP 4(2) 1980 91. See also Postma

was, with few exceptions, limited to a few miles offshore.[9] Where permission was required it was generally for activities to be carried out in the territorial sea and arrangements were often made through informal contacts with scientists in the coastal states.[10] Even in time of war, scientists generally communicated with their counterparts despite political differences.[11] In essence, ocean scientists retained freedom of movement within the natural environment they studied under the principle of freedom of the high seas.[12]

After World War II, systematic MSR, producing results which could be applied usefully to the improved utilization of the sea, began to develop rapidly.[13] This was a result of three factors: first, the research was very much stimulated by the major scientific advances made during the war; furthermore, because of the apparent importance of ocean research for military purposes, it was very well supported financially by the governments of major maritime powers; and finally advances in technology provided marine scientists with ever more sophisticated instruments and techniques for the collection and processing of data.[14] Modern MSR serves a wide variety of purposes.[15] Amongst the most pressing needs for it probably are those related to the preservation of the

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H 'Marine Scientific Research Projects Undertaken by or Under Auspices of International Organisations' in Soons AHA ed Implementation of the Law of the Sea Convention Through International Institutions 1990 509.

9 Ibid.

10 Scholz n8. See also n7. Generally see Kildow J 'Nature of Present Restrictions on Oceanic Research' in Wooster WS ed Freedom of Oceanic Research 1973.

11 See n7.

12 Soons n1 1.

13 Ibid 12.

14 Fye PM, Maxwell AE, Emery KO and Ketchum BH 'Ocean Science and Marine Resources' in Gullion EA ed Uses of the Seas 1968 22-3. See also Soons n1 13.

15 Churchill RR and Lowe AV The Law of the Sea 2nd ed 1988 288.

marine environment[16] which is dependent upon scientists to discover what substances cause particular kinds of harm to the sea and its living organisms and to find ways in which pollution can be abated or eliminated.[17] Adequate and effective scientific research is also a basic precondition for the national exploitation of the sea's resources[18] - the availability of scientific information not only dictates the successful management of living resources[19], but also extends our understanding of the geological processes that form minerals.[20] Other studies of practical importance include: those related to ocean currents and the interaction of the ocean with the atmosphere, which will improve the possibilities for weather prediction[21]; physical oceanography which is important for the development of alternative sources of energy from the marine environment[22]; and military uses of the sea.[23] Finally, MSR has an intrinsic value by adding to the sum of human knowledge about the earth generally.[24] In contrast to the trend that places a premium on the process of investigating the marine environment, however, the political and legal context for that investigation has been significantly degraded over the past several decades.[25] The erosion of freedom of

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16 Knauss JA 'Development of the Freedom of Scientific Research Issues of the Third Law of the Sea Conference' ODIL 1 1973 101-3. See also Kindt JW 'The Claim for Limiting Marine Research: Compliance with International Environmental Standards' ODIL 15(1) 1985 13 and Soons n1 14.

17 See n15.

18 Ibid.

19 Soons n1 15. Generally see Holt SJ 'The Food Resources of the Ocean' in The Ocean 1969 93-106.

20 Soons n19. Generally see Bullard E 'The Origin of the Oceans' in The Ocean 1969 15-26.

21 Soons n1 16. Generally see Ross DA Opportunities and Uses of the Ocean 1980 275-291.

22 See both works cited in n21.

23 See n15.

24 Ibid. See also Soons n21.

25 Burke W 'Commentary [on Marine Scientific Research]' in Soons ed n8 539.

scientific research started with the Truman Proclamation[26], a prelude to the recent movement towards seaward extension of coastal state jurisdiction[27], which finally gave rise to a landslide of the continental shelf claims.[28] This was soon followed by extensions of territorial seas and a proliferation of economic zones.[29] In these newly established zones, coastal states have been increasingly interested in being informed about research taking place off their shores and in exercising control over it.[30] This development is generated chiefly by the economic importance of offshore resources.[31] Many of them, especially developing ones, fear that if research off their coasts results in knowledge useful for resource development[32], foreign industry may engage in direct and physical exploitation.[33] They therefore want to ensure that they will receive all results[34] in order to safeguard their

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26 Wolfrum R 'Commentary [on Marine Scientific Research: How is Marine Scientific Research to be Conducted After UNCLOS III?]' in Park CH ed The Law of the Sea in the 1980s 1983 321.

27 Knauss JA and Katsouros MH 'The Effect of the Law of the Sea on Marine Scientific Research in United States: Recent Trends' in Brown ED and Churchill RR ed The UN Convention on the Law of the Sea: Impact and Implementation 1987 373.

28 See n26.

29 Helsley and Kroenke n7 586.

30 See n27.

31 Ibid. See also Soons n1 30, Scholz n8 95 and 124.

32 Ibid. See also Helsley and Kroenke n7 586, Kwiatkowska B The 200 Mile Exclusive Economic Zone in the New Law of the Sea 1989 135 and Olson HF and Morgan JR 'Enforcement of Maritime Jurisdictions' in Kent G and Valencia MJ ed Marine Policy in Southeast Asia 1985 349.

33 Menefee n3 58. See also Winner R 'Science, Sovereignty and the Third Law of the Sea Conference' ODIL 4(3) 1977 300 and Yusuf AA 'Toward a New Legal Framework for Marine Research: Coastal State Consent and International Coordination' Vir JIL 19(2) 1979 413.

34 Soons n1 31.

rights in that regard.[35] Another important reason is national security[36] which could be affected by the gathering of military intelligence or subversive activities under the guise of, or along with, MSR.[37] There was indeed a significant number of incidents to suggest to smaller states that more than pure scientific research was often going on near their shores.[38] The US Pueblo was a case in point.[39] Besides these suspicions and because they lack the resources to undertake scientific investigation or to collaborate actively in scientific exploration[40], the gap in research capability has been widening between them and the industrialized countries.[41] National control over science has thus become a lever to redress this imbalance.[42] Other reasons for coastal states to claim control include: prevention of interference by research with other marine activities[43]; prevention of harmful effects of research on the marine environment[44]; and the indication of political

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35 Seen n25. See also n26 and Treves T 'Marine Research' in Encyclopedia of Public International Law: Law of the Sea, Air and Space XI 1989 207.

36 See n27. See also n25, Treves n35, Winner n33 and Scholz n31.

37 Soons n1 32. See also n26, Yusuf n33, Kwiatkowska n32, Helsley and Kroenke n32, Olson and Morgan n32 and Symmons CR and Gardiner PRR 'Marine Scientific Research in Offshore Areas: Ireland and the Law of the Sea Convention' MP 7(4) October 1983 292.

38 Sanger n2 126-7.

39 On January 23 1968, the Pueblo, a US navy intelligence collection auxiliary ship, was captured by the North Koreans while gathering intelligence in their coastal waters. For a brief account of this incident, see Harris DJ Cases and Materials on International Law 4th ed 1991 411-2.

40 Burke W 'Commentary [on Problems of Cooperation in Marine Scientific Research in the Pacific Basin]' in Miles and Allen ed n8 604.

41 Sanger n2 127. See also Scholz n8 124 and 'Report of the Secretary-General (of the United Nations), 5 November 1987' in Simmonds KR ed New Directions in the Law of the Sea U6.3 March 1988 23 para 88.

42 See n40.

43 Soons n37.

44 Ibid. See also Winner n33.

strength.[45] Generally speaking, Third World countries have exhibited acute paranoia in the area of MSR. Unfortunately this paranoia has not been justified very often.[46]

The pervasive implementation of extensive limitations makes a great deal of difference to the conduct of MSR.[47] First of all, much of the important and necessary research at present lies within the EEZ and continental shelf areas.[48] These zones are where the great majority of toxic substances reach the marine environment[49] and where the oceanic process of upwelling occurs.[50] Upwelling, a natural phenomenon of vertical flow and mixing, is of particular practical importance.[51] It re-fertilizes the surface layer[52] providing richer energetics and productivity[53] which in turn results in the greatest abundance of sea life.[54] It accumulates organic matter and phosphorites in the sediments of the regions.[55] It also produces variations in sea surface

45 Ibid. See also Kwiatkowska n32.
46 Kindt n16 14.
47 Jacobson JL 'Marine Scientific Research Under Emerging Ocean Law' ODIL 9(3-4) 1981 188.
48 Soons n1 18 and 268. See also Kwiatkowska n32 136; Ross DA 'Commentary [on Marine Scientific Research: How is Marine Scientific Research to be Conducted After UNCLOS III?]' in Park ed n26 318; Corell R 'Marine Science in the 1990s: Global Change and its Implications' in Alexander LM, Allen S and Hanson LC ed New Developments in Marine Science and Technology: Economic, Legal and Political Aspects of Change 1989 33; Soons AHA 'Marine Scientific Research Provisions in the Convention on the Law of the Sea: Issues of Interpretation' in Brown and Churchill ed n27 366; Wooster WS 'Some Implications of Ocean Research' ODIL 4(1) 1977 44 and 47; Fye P 'Commentary [on Marine Scientific Research and Development and Transfer of Technology]' in Clingan Jr TA ed Law of the Sea: State Practice in Zones of Special Jurisdiction 1982 273.
49 See n47. See also Ross n48.
50 See also Wooster n48 43-4.
51 Ibid 39-40.
52 Ibid 40.
53 Corell n48. See also Ross n48.
54 See n47. See also Wooster n48 40.
55 Ibid. See also Ross n48.

temperature which have important effects on weather conditions in littoral areas.[56] Though scientists are perfectly free to investigate off their own coast, yet upwelling often affects many countries.[57] As a result, working domestically is necessarily restricted.[58] In this case, the comparative study of all upwelling regions is essential to understanding the subject.[59] Moreover, there has been an emerging realization that earth is an integral system[60] and the ocean, which constitutes 70% of the world[61] and itself is a physical unit[62], plays a dominant role in maintaining the life-supporting system therein.[63] This points to the need for global studies[64] and calls for integrated global areas monitoring.[65] In doing so, measurements have to be taken simultaneously at many

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56 Wooster n54.
57 Wooster n48.
58 Charnock n4 136.
59 Wooster n48 47.
60 Duce R 'Introduction [to New Direction in Marine Science and Technology and the Nature of Potential Impacts]' in Alexander, Allen and Hanson n48 16. See also Malone TF 'A New Dimension of International and Interdisciplinary Cooperation' in Alexander, Allen and Hanson ed n48 17, Postma n8 511 and Kullenberg G 'Commentary [on Marine Scientific Research]' in Soons ed n8 542.
61 See n1. See also 'Report of the Secretary-General (of the United Nations), 1 November 1989' in Simmonds KR ed New Directions in the Law of the Sea U6.5 February 1990 17 para 70 and 19 para 81. See also Soegiarto A 'International Cooperation in Marine Scientific Research' in Soons ed n8 526.
62 Soons n1 3. See also n47, Churchill and Lowe n15 292. Beverton RJH 'Introduction [to Science, Law and the Sea]' in Brown and Churchill ed n27 363.
63 '1989 Report' n61 18 para 72 and 22 para 92.
64 Ibid 19 para 78 and 21 para 85. See also Duce n60 15, Horness BH 'Research on the Role of the Ocean in Global Climate Change: The Effect of Extended Jurisdiction' ODIL 22(1) 1991 72 and 'Report of the Secretary-General (of the United Nations), 5 December 1991' in Simmonds KR ed New Directions in the Law of the Sea U6.7 March 1992 39 para 137.
65 '1989 Report' n61 22 para 92.

stations[66] which necessarily transcend national boundaries.[67] A much greater direct involvement by governments is required[68] to fit out vessels for sustained research and to provide laboratory facilities ashore.[69] If scientific investigation of the ocean is to accelerate[70], it is even clearer that one cannot leave out the 200nm zones[71] which cover about 37%[72]-42%[73] of the surface in question. In this respect three main international ocean programmes have already been initiated. They are: World Ocean Circulation Experiment (WOCE); Tropical Oceans and Global Atmosphere (TOGA) and Global Ocean Flux Studies (GOFS).[74] TOGA, which is sponsored by both the World Meteorological Organization (WMO) and the Intergovernmental Oceanographic Commission (IOC)[75] will terminate in 1994.[76] It aims at producing an in-depth characterization of tropical ocean circulation[77] and determining the predictability of inter-annual climate variations[78], including those associated with the El Nino oscillation phenomenon.[79] Started in 1987, the WOCE project is a large-scale extension of the TOGA physical ocean observational regime to the higher latitudes.[80] Its stated goals are to characterize the long-term behaviour and

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66 Sanger n2 124.
67 Ibid 122. See also Menefee n3 57, Scholz n8 94, Corell n48 and Stel JH 'Partners in Science' in Soons ed n8 537.
68 Sanger n2 125. See also Menefee n3 60 and '1987 Report' n41 22 para 83.
69 Sanger n68.
70 '1989 Report' n61 18 para 74.
71 Corell n48.
72 See n59. See also Ross n48 317.
73 Ibid. See also Stel n67.
74 '1991 Report' n64 40 para 140.
75 Horness n64 74.
76 Tsai YK 'Climate Change is a Global Problem: The ROC Participates in the International Ocean-Atmosphere Programme Investigating with Utmost Effort' (in Chinese) Central Daily News May 19 1993 8.
77 See n75.
78 '1989 Report' n61 20 para 83.
79 Ibid. See also n75.
80 See n75.

changes in general oceanic circulation[81] and examine the ocean's role in global climate change.[82] Both programmes are ambitious in scope and address the direct physical impact of the ocean on the atmospheric system.[83] For the two, reliable access to the EEZs is imperative to gather temperature and current data over the broadest spatial and temporal sectors possible.[84] While TOGA and WOCE are studies of ocean circulation, GOFS concerns the removal of CO_2 through oceanic processes.[85] Planned to be fully implemented in the 1990s, this project is designed to identify the mechanisms underlying the transfer of carbon and biogenic elements between the atmosphere/ocean and ocean/sediment interfaces at the global level.[86] Knowledge in this regard will enable large-scale modelling of pollutant distributions and their effects.[87] For GOFS, access to shelf areas to obtain sediment cores is essential.[88] These areas are regarded as the primary sink for biogenic material whose lateral input to the interior below the thermocline may be equivalent in magnitude to the pelagic vertical carbon flux.[89] Hence, the margins are probably a significant link in the removal of atmospheric CO_2 to the interior ocean.[90] In short, it is now the scale of the problem[91] and the extent of the cooperation required to gain a much broader knowledge of ocean systems and processes and of the significance of human impacts on the marine environment that bring new attention to bear on the

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81 Ibid.
82 See n78.
83 See n75.
84 Horness n64 77. See also n74 and '1989 Report' n61 21 para 86.
85 See n75.
86 Ibid.
87 '1989 Report' n61 20 para 85.
88 See n74. See also Horness n84.
89 See n74.
90 Ibid.
91 Beverton n62.

rights and duties of states with respect of MSR.[92] In this context, the issue has also become a sensitive question.[93]

12.2 The initial response of the 1958 Geneva Conference

Prior to the 1958 Geneva Conference, the law of the sea literature contained little mention of scientific research[94] and there were no established international provisions covering this subject.[95] This was largely due to the fact that the economic and military implications of marine science and its diverse applications had not acquired the significance attributed to them, particularly during the last two decades. As a result, it was not considered as one of the important maritime issues.[96] It is the great increase in ocean study since World War II, together with a better appreciation of its practical application, to resources and military purposes, as mentioned above[97], that has led the international community to try to define for the first time the legal status of MSR in the Geneva Conventions.[98]

In the High Seas Convention (HSC), although the problem was not specifically touched upon[99], statements applicable to MSR were incorporated in the general provisions describing access.[100] In stipulating that freedom of the high seas comprises navigation, fishing, laying of submarine cables

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92 '1991 Report' n64 39 para 136.
93 Sanger n2 122.
94 Menefee n3 35. See also Churchill and Lowe n15 288-9.
95 Horness n64 75. See also Van Meurs L 'Regulations Relating to Marine Scientific Research Conducted for the Purpose of Preservation of the Environment or Aimed at Locating Natural Resources' SAYIL 10 1984 97.
96 Yankov A 'A General Review of the New Convention on the Law of the Sea: Marine Science and its Application' Ocean YB 4 1983 152. See also Sanger n2 129.
97 See n13-29 and accompanying text supra.
98 Churchill and Lowe n15 289.
99 Ibid. See also Sanger n2 128, Scholz n8 112, Van Meurs n95 99 and Yankov 96 153.
100 Horness n95.

and pipelines and overflight[101], the International Law Commission (ILC) unequivocally pointed out in its commentary that 'the list... is not restrictive' and 'there are other freedoms, such as freedom to undertake scientific research on the high seas' (emphasis added).[102] No statements were ever made against the existence of such a freedom in the course of the debates at the Conference.[103] Moreover, scientific research had already been conducted on the high seas by the vessels of many different states for the past century or more without giving rise to any recorded protest.[104] As a result, the omission did not affect the correct interpretation of the ILC which has been generally agreed upon by the overwhelming majority of states.[105] Thus, under the Geneva regime, marine research has always been considered to be a freedom of the high seas.[106] In the Convention on the Territorial Sea and Contiguous Zone (TSC), the complete sovereignty of the coastal state in internal waters and in the territorial sea is acknowledged.[107] It follows that research in these areas is always subject to the complete authority of the coastal state and the coastal state may enact any regulations it wishes.[108] Although one might suggest that some types of research would seem permissible as an exception during the course of innocent passage through the territorial sea[109], particularly if the research could be regarded as being incidental to the main

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101 HSC art 2.
102 Report of the International Law Commission covering the work of its 8th session, April 23 - July 4 1956 in United Nations General Assembly Official Records 11th sess, Suppl 9 1956 24. See also n47, n98, Soons n1 52, Yankov n96 and Mangone GJ 'The Effect of Extended Coastal State Jurisdiction Over the Seas and Seabed Upon Marine Science Research' ODIL 9(3/4) 1981 203.
103 Soons n1 53.
104 See n98.
105 Yankov n99.
106 See n98. See also Scholz n8 112 and Van Meurs n95 99.
107 TSC art 1(1).
108 Soons n1 46. See also n98.
109 Scholz n8 98.

purpose of the vessels' passage, yet this argument is controversial.[110] It is generally agreed that access to the territorial sea for the very purpose of conducting research is not innocent passage.[111] Even if a vessel could engage in research while exercising this right, the coastal state could still prescribe conditions regulating research under the regime of innocent passage.[112] The same Convention also provides that in a zone of the high seas contiguous to the territorial sea the coastal state may exercise the control necessary to prevent and punish infringement of customs, fiscal, immigration or sanitary regulations within its territory or territorial sea.[113] There can be no doubt however that the coastal state has no authority over the conduct of MSR by foreign vessels in the zone.[114] Up to this point, UNCLOS I left the question highly polarized[115] but clear[116]: giving coastal states absolute control over research conducted in the territorial sea and leaving complete freedom of research on the high seas.[117] This arrangement also reflects customary international law.[118]

Of the four Conventions, only the Convention on the Continental Shelf (CSC) deals explicitly with the present topic.[119] Based on an implied distinction between pure and applied research[120], it essentially embodies a qualified consent regime[121] in two provisions[122] requiring marine

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110 See n98.
111 Soons n1 47. See also Van Meurs n95 98.
112 TSC art 17.
113 TSC art 24.
114 Soons n1 86.
115 Franckx E 'Marine Scientific Research and the New USSR Legislation on the Economic Zone' IJECL 1(4) 1986 367.
116 Soons n1 96.
117 Ibid 96-7. See also n115.
118 Winner n23 301-2 and 322. See also Soons n1 54.
119 Scholz n8 92. See also Van Meurs n95 and Winner n33 303.
120 Symmons and Gardiner n37 296. See also Yankov n96 154.
121 Winner n119.
122 Scholz n8 109. See also Soons n48 365.

scientists to obtain the consent of coastal states for both types of research. This however will normally be denied in the case of the latter.[123] Beginning with the statement that '[t]he exploration of the continental shelf and the exploitation of its natural resources must not... result in any interference with fundamental oceanographic or other scientific research carried out with the intention of open publication'[124], the Convention stipulates at length that:

> 'The consent of the coastal state shall be obtained in respect of any research concerning the continental shelf and undertaken there. Nevertheless, the coastal state shall not normally withhold its consent if the request is submitted by a qualified institution with a view to purely scientific research into the physical or biological characteristics of the continental shelf, subject to the proviso that the coastal state shall have the right, if it so desires, to participate or to be represented in the research, and that in any event the results shall be published'.[125]

While the broad intent of the provisions is reasonably obvious, the details of the drafting however give rise to many difficulties.[126] The first problem, and probably the most fundamental one, is that the nature of the affected research is ill-defined.[127] Generally speaking, marine scientific (or oceanographic) research is traditionally subdivided into four branches: physical oceanography, which deals with waves, tides, currents, magnetism, heat exchange, etc; chemical oceanography, which involves the study of the complex chemistry of the ocean; marine biology, which consists of the study of plant and animal organisms in the sea; and marine geology and geophysics, which deal with the study of sediments and topography of the ocean floor, as well as the deeper structure of the ocean floor and its

123 Winner n33 310.
124 CSC art 5(1).
125 CSC art 5(8).
126 Churchill and Lowe n15 290. See also Sanger n2 128, Kwiatkowska n32 and Wooster n48 45.
127 Ibid.

physical properties.[128] When the Conference began to deliberate upon the issue of safeguarding free access to the continental shelf with a view to 'fundamental oceanographic or other scientific research', however, Denmark proposed that this category be defined as the study of the phenomena of the ocean, including the seabed and the ocean waters, but excluding the subsoil.[129] It is clear that the Danish proposal was not intended to cover research concerning the subsoil, which, by implication, would thus be subject to coastal state control.[130] On one occasion the delegate from the Netherlands further clarified the position considering that the term 'oceanographic research' only referred to physical and chemical oceanography and 'other scientific research' encompassed the cases in which marine research combined biological and meteorological as well as oceanographic elements.[131] It is significant that he did not mention marine geology and geophysics.[132] Since the Danish proposal was finally adopted[133], the Convention must intend, therefore, that all marine geological and geophysical research shall require the consent of coastal states. This constitutes the exact scope of coastal state control in the first place.[134] Moreover, it may be further contended that certain investigations which are concerned with the natural resources of the continental shelf, but not with the continental shelf itself, eg study of living organisms (sedentary species), should also fall within the consent

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128 Statement by Dr MB Schaefer, attending the First UN Conference on the Law of the Sea as an expert at the request of the UN Secretariat, before the Fourth Committee of the Conference, Official Records (1) Vol VI 1958 89. See also Soons n1 6 and Treves n35.
129 Official Records n128 82. See also Soons n1 63.
130 Ibid.
131 See n129.
132 Soons n129.
133 Ibid 65.
134 Ibid 71.

regime.[135] In addition to the unambiguous recognition of the sovereign rights of the coastal state over 'living organisms belonging to sedentary species' in the same instrument[136], the second sentence of art 58(8) indeed can just as well read that '...coastal state...[may] withhold its consent... [in relation to that which is not] purely scientific research into the physical or biological characteristics of the continental shelf' (emphasis added). The US experience also proves that only research on swimming creatures does not need coastal state consent.[137] After all, the original purpose of the present provisions was to safeguard the interests of the coastal state with respect to its continental shelf, viz, by preventing the exploration of the continental shelf without a licence, under the guise of scientific research.[138] As a result, it is submitted that the 'research concerning the continental shelf', which is now restricted, should be construed as referring to marine geology, marine geophysics and marine biology of sedentary organisms. As a matter of fact, this interpretation fundamentally resolves an apparent inconsistency in the textual construction which permits coastal states to curtail certain research activities while enjoining non-interference with research.[139] Being said to deal with separate issues, these two segments can now be considered together in a more compatible way, that is: paragraph 1 prohibits interference with any fundamental scientific research activities undertaken in the continental shelf area, except those which are subject to the control of the coastal state according to paragraph 8.[140] In the former case, it is worth mentioning

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135 Soons, however, seems to argue to the contrary. See ibid 71-2.
136 CSC, art 2 paras (1) and (4).
137 Burke WT Towards a Better Use of the Ocean: Contemporary Legal Problems in Ocean Development 1969 118-9. See also Van Meurs n95 101.
138 Soons n1 70-1.
139 Ibid 56. See also Horness n95.
140 Soons n1 66-7.

in passing that 'interference' should imply conditions of a legal nature[141], eg imposition of restrictions on the conduct of research by foreign nationals[142] and should also include unjustified physical interference.[143] Otherwise it would be so severe as to render totally nugatory the right of the coastal state to exploit the natural resources of its continental shelf, since in that case even the mere erection of a mining installation would constitute, arguably by its existence alone, physical interference with marine research.[144]

Further confusion arises out of the last-minute-change in draftsmanship which introduced the expression 'and undertaken there' immediately after the words 'research concerning the continental shelf'.[145] It is not known whether this includes the requirement of physical contact with the seabed as a condition for the need to seek consent.[146] Indeed, the phrase 'research concerning the continental shelf and undertaken there' can be interpreted in two different ways.[147] One is that the words 'and undertaken there' are a further specification of 'any research concerning the continental shelf'[148], according to which consent is required only where the research both concerns the continental shelf and involves actual operational contact with the seabed and subsoil eg dredging, coring or drilling[149]; the other is that consent is required

141 Staniland H 'Some Aspects of the International Legal Regime of Marine Scientific Research Concerning the Continental Shelf' CILSA 16 1983 320.
142 Soons n1 67.
143 See n141.
144 Ibid.
145 Soons n1 68. See also O'Connell DP The International Law of the Sea I 1984 1031-2.
146 Ibid 1032. See also Scholz n122 and Wooster n126.
147 Soons n145. See also Churchill and Lowe n126.
148 Soons n1 68.
149 Ibid. See also Churchill and Lowe n126 and McDougal MS and Burke WT The Public Order of the Oceans: A Contemporary International Law of the Sea 1962 722-3.

both for research concerning the continental shelf - whether conducted on the seabed or in the superjacent waters - and for research conducted on the seabed whether it concerns the continental shelf or not.[150] Although the travaux preparatoires of the Conference provide little guidance as to which interpretation is correct[151], yet the ILC did distinguish between research in the superjacent waters and research on the continental shelf itself, ie research involving physical contact with the seabed[152] and always had in mind the latter.[153] Moreover, the Convention per se clearly provides that the rights of the coastal state do not affect the legal status of the superjacent waters as high seas.[154] It is therefore generally agreed that the only research methodology considered here is that involving physical contact with the seabed.[155] Under this view, it is clear that consent is not required for research which is unrelated to the continental shelf but which does involve physical contact with the seabed[156], providing it does not interfere with the exercise of the sovereign rights by the coastal state.[157] Nor is the requirement applicable to research, not relating to the continental shelf, conducted in the superjacent waters, which of course remains free under the freedom of the high seas regardless of any of the interpretations.[158] This approach is however still inconclusive with regard to research which relates to the continental shelf but is conducted in the superjacent waters, eg seismic, gravity and magnetic measurements[159], although it has been suggested that there is no reason to

150 Churchill and Lowe n126. See also Soons n145.
151 See n150.
152 Soons n1 64.
153 Ibid 60 and 71.
154 CSC art 3.
155 O'Connell n145 1032 at n38. See also Van Meurs n95 100 and n141.
156 Ibid. See also Soons n1 60 and 72.
157 Ibid 72.
158 Churchill and Lowe n126. See also O'Connell n145 1032.
159 Soons n1 60 and 71.

suppose that the general principles of law about constructive presence could not apply here.[160]

The pivotal distinction between pure and applied research has also been criticized as unclear.[161] As a matter of fact, they have not been defined by the Convention at all.[162] In theory it may be said that in the case of the former, the object is to obtain data on geological, physical, chemical and biological phenomena in the oceans for the benefit of mankind with a view towards open publication, whereas in the latter case the knowledge gained is intended solely for the economic benefit of the group that acquired it; the information is restricted to that group or those willing to purchase it from them.[163] In practice, however, this distinction[164] may not always be easy to apply.[165] Modern science is often quite practical[166] and it is difficult to conceive of any type of research that will not in some way have economic implication.[167] What may begin and be intended as 'pure' research may turn out to have practical significance once it

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160 O'Connell n158. See also Soons n1 71.
161 See n123.
162 Wooster n126. See also Sanger n126.
163 Franssen HT 'Developing Country Views of Marine Science and Law' in Wooster ed n10 158. See also Scholz n8 85.
164 Stevens LR 'The Role of International Organizations in Developing General Criteria and Guidelines for Marine Scientific Research' in Soons ed n8 528.
165 Churchill and Lowe n126. See also Symmons and Gardiner n37 293; remark of Alverson D in 'Discussion and Questions' in Miles and Allen ed n5 610; remark of Krispis E in 'Discussion and Questions' in Park ed n26 372; and Laughton AS 'The Future of Oceanographic Research in the Light of the UN Convention' in Brown and Churchill ed n27 389.
166 Winner n33 299.
167 Scholz n163. See also remark of Wolf N in 'Discussion and Questions' in Miles and Allen ed n5 613; Krispis n164 373; and remark of Anand R in 'Discussion and Questions' in Park ed n26 374.

has actually been undertaken and the results analyzed.[168] For example, geochemical studies are frequently undertaken not as studies of chemical oceanography per se, but use ocean chemistry as a tracer for physical oceanographic processes or analysis of biogeochemical fluxes in the ocean.[169] There is therefore an inherent problem in drawing the precise demarcation line between the two[170] and, as a result, the distinction is ultimately open to abuse.[171] Textually speaking, the reference to pure scientific research makes it clear that the provision is not intended to cover exploration activities,ie the collection of data with a view to possible future exploitation.[172] Arguably, the reference to `physical or biological characteristics of the continental shelf' is intended to emphasize that the research covered by the provision excludes the collection of data with a view to exploitation.[173] Indeed, the ILC clearly stated in its commentary that `the consent of the State will only be required for research relating to the exploration or exploitation of the seabed or subsoil'.[174] Nevertheless, it is not known at what point `pure scientific research' merges into exploration.[175] Although it has been suggested that the difference lies in the intentions of the party carrying out investigations. Exploration activity is aimed at revealing the existence or otherwise of mineral resources[176] whereas pure research is conducted without paying attention to such practical applications[177] and yet most oceanographic research has a complex mixture of motives.[178] The lack of clarification, which was never made explicit at the

168 Churchill and Lowe n126.
169 Stevens n164 520-1.
170 See n127.
171 Van Meurs n95. See also Staniland n141 232.
172 Soons n1 72. See also Van Meurs n155.
173 Ibid. See also Soons n1 73 and Staniland n171.
174 Report n102 43. See also Yankov n120.
175 O'Connell n145 1027.
176 Ibid 1030.
177 Soons n1 6 and 72.
178 Laughton n165 388.

Conference, renders this distinction difficult to maintain.[179] Another problem in this connection is that it is unclear to what extent exploration is confined to drilling activities.[180] While this question was raised in the course of the hearing of the interim measures phase of the Aegean Continental Shelf Case, the International Court of Justice however seemed to consider that the seismic activity which consisted only of 'small explosions' did not constitute an exploratory operation.[181] The article also distinguishes fundamental research from conservation of the living resources (sedentary organisms). The latter, while falling within the scope of 'research concerning the continental shelf' would probably be classed as applied research.[182] Presumably, hydrographic surveying could be regarded as applied MSR as well under the 1958 regime.[183] In short, the term 'pure scientific research' is shrouded in uncertainty.[184]

Again, while the hope is expressed that consent shall normally not be withheld, there is however no check on the coastal state's power to make that decision.[185] Moreover, the inclusion of the word 'normally', which has a broad meaning[186], substantially weakens the strength of the stipulation.[187] The Convention does not give any guidelines as to what may be 'normal' situations.[188] Nor do the travaux preparatoires and state practice.[189] As to the latter problem, it has however been suggested that 'normally' be

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179 O'Connell n145 1028,1030-1.
180 Ibid 1027.
181 ICJ Reports 1976 10. See also O'Connell n158.
182 Van Meurs n155.
183 Soons n1 7.
184 Mangone n102 204.
185 Wooster n126.
186 Sanger n126. See also n184, Scholz n122 and Staniland n141 233.
187 Ibid. See also Soons n173.
188 Churchill and Lowe n126.
189 Soons n173.

construed as presupposing the 'existence of objective conditions which allow a foreign vessel to remain for a lengthy period' in the research area[190], eg the bona fides of the research programme has been approved in advance by an international scientific body.[191] While the granting of consent is the norm, the coastal state should be expected to explain its refusal when it deviates from the norm by refusing consent.[192] As 'special reasons' could be considered, inter alia : (1) that there are no diplomatic relations, or cold war relations exist, between the coastal state and the researching state[193]; (2) that the applicant has in the past, in connection with previous research activities undertaken with the consent of the coastal state, failed to comply with the requirements imposed by the coastal state[194]; (3) that the coastal state has reasonable grounds to believe that the applicant will not comply with the requirements to be fulfilled in connection with the research project[195]; (4) that the coastal state considers it not to be in its own interests that specific scientific data concerning its continental shelf or its natural resources will become generally available[196]; and (5) that the request is submitted too short in advance.[197]

Other problems include: what is a 'qualified' institution?[198] At what stages in a project should coastal state participation begin and end?[199] As far as the former is concerned, the adjective 'qualified' seems to serve no

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190 Yusuf n33 418.
191 Staniland n186.
192 See n173.
193 Staniland n186.
194 Soons n173. See also Staniland n186.
195 Soons n1 73-4. See also Staniland n186.
196 Soons n1 74. See also Staniland n186.
197 See n196.
198 Churchill and Lowe n126. See also Scholz n122, Wooster n126.
199 Ibid. See also Churchill and Lowe n126 and Staniland n141 232-3.

purpose at all.[200] In the latter case, the right of coastal states to participate probably only covers the actual field work since its original purpose was to enable the coastal state to verify the true nature of the research.[201] Finally, it has also been pointed out that the main stumbling block to the implementation of the requirement of publication is that, in addition to its involving a period varying from several months to several years, it is difficult for the coastal state to determine whether or not all results have been published.[202]

In short, the controls on research introduced by the Convention appear in practice to have led to a definite restriction of marine research.[203] According to the judgment of the ICJ in the 1969 North Sea Continental Shelf Cases, only art 5(1) could be regarded as reflecting an established principle of general international law.[204] At present, however, art 5(8) is also thought to represent customary international law to a large extent[205], except that state practice does not appear to support the restrictive interpretation of the physical contact requirement[206] and the distinction between various kinds of scientific research[207], whereby a coastal state is entitled to require prior consent for any research concerning the continental shelf, however conducted; the coastal state is under a duty to grant consent to such research, unless it can reasonably justify a refusal because of the existence of

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200 Soons n196.
201 Soons n1 75. See also Staniland n186.
202 Soons n1 76.
203 Churchill and Lowe n15 291.
204 North Sea Continental Shelf Cases (1969) (Federal Republic of Germany v Denmark; Federal Republic of Germany v the Netherlands) ICJ Reports 1969 39-40 para 65.
205 See n203. See also Symmons and Gardiner n37 295.
206 Churchill and Lowe n126.
207 Remark of Soons AHA in 'Discussion and Questions' in Brown and Churchill n27 413.

special circumstances[208]; valid reasons for refusal would have to be given to the applicant; consent should be granted within a reasonable time[209]; and the coastal state may require participation, or representation, in the research project and access to all data and samples collected.[210] Although in this sense this treaty could well be said to establish the precedent for coastal state jurisdiction over research in an area outside the territorial sea and for the coastal state's right to place conditions on the research[211], it is however not yet entirely clear.[212] Generally speaking, the CSC, being still rudimentary and incomplete, is not considered an adequate basis on which to build a regime for scientific research.[213]

12.3 Current international law on MSR: LOSC and customary rules

UNCLOS III was faced with much stronger demands for control over marine scientific research than the Geneva Conference had been.[214] As a result, LOSC is much more specific in this regard:[215] out of 320 articles, about 100 deal with the conduct of oceanic investigation.[216] This is the first time in the history of the codification of maritime law MSR has acquired a prominent place within the comprehensive set of legal rules constituting the new regime of the seas.[217]

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208 Soons n1 82.
209 Symmons and Gardiner n165.
210 See n208.
211 Horness n95. See also n115.
212 Soons n1 96. See also Symmons and Gardiner n37 296; Horness n95; Yankov n120; Franckx n115 368 and 380; and Staniland n141 229.
213 Sanger n96.
214 See n203.
215 Soons AHA 'Some Comments on the New Regime for Marine Scientific Research' in Park ed n26 363.
216 Yankov n96 151.
217 Ibid.

Essentially speaking, the 1982 Convention incorporates all those provisions in the 1958 Conventions which remained valid.[218] Indeed, it nowhere alters a coastal state's existing sovereign right to regulate and control MSR in internal waters.[219] In the case of territorial seas, it reaffirms that the coastal state has complete jurisdiction over MSR conducted therein.[220] By way of contrast with the 1958 TSC, this is specifically provided for.[221] The Convention even makes it clear that research may not be undertaken while a ship is exercising the right of innocent passage: any research or survey activities render the passage non-innocent.[222] In practice, this would seem to cover the studies of ocean currents, particularly when the ship's route and speed have been determined specifically with a view to collecting data, the data being collected in a particular area within the territorial sea of a coastal state during many passages.[223] It has however been pointed out that the normal activities associated with the operation of ships, eg the collection of data for the purpose of safe passage or weather forecasting, cannot be considered to be 'research'.[224] In short, this new regulation on innocent passage means that the conduct of MSR during passage through the territorial sea is subject to the prescriptive jurisdiction of the coastal state to the same extent as access to the territorial sea exclusively for the conduct of such research, ie it is prohibited without authorization.[225] As far as the high seas are concerned, the traditional freedom of MSR is similarly carried over into the new dispensation.[226] In this connection, UNCLOS III removed the

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218 Van Meurs n95 104-5.
219 Soons n1 141. See also Winner n33 305.
220 Soons n1 144. See also Churchill and Lowe n62.
221 Van Meurs n95 106.
222 LOSC art 19(i).
223 Soons n1 149.
224 Ibid.
225 Ibid.
226 Scholz n106.

grounds for some unfounded interpretations[227] by specifically providing that marine research is a freedom of the high seas[228] fully applicable, inter alia, in the water column beyond the EEZ.[229] Although at the same time the Convention also designates the ocean floor and its subsoil beyond the limits of national jurisdiction as international seabed area[230] which is subject to a special regime that provides for the particular competence of an International Sea-Bed Authority[231], yet it stops short of requiring approval of the Authority to conduct research.[232] It follows, therefore, that there has been no real change in the situation in customary international law[233] of which freedom of MSR on the deep seabed is always a part.[234]

In addition to these restatements, LOSC however also establishes totally new regimes with regard to international straits and archipelagos.[235] In the former case, a right of transit passage was created[236] which constitutes a very significant limitation on the sovereignty of the coastal state over its territorial sea.[237] At first sight, this casts doubt on the right of ships and aircraft to carry out MSR activities during transit passage.[238] Subsequently, however, the Convention explicitly grants the coastal state authority over the matter.[239] It also states unambiguously that the regime of passage through straits 'shall not in other respects affect the legal status of the waters forming

227 Yankov n99.
228 LOSC art 87(1)(f).
229 LOSC art 257.
230 LOSC art 1 para 1(1).
231 LOSC Part XI s4.
232 See n175. See also Soons n1 228 and Scholz n8 114.
233 See n175.
234 Winner n33 319.
235 Starke JG Introduction to International Law 10th ed 1989 266-7.
236 LOSC art 38.
237 Soons n1 151. See also Scholz n8 99.
238 Soons n237.
239 LOSC art 40.

such straits or the exercise by the States bordering the straits of their sovereignty or jurisdiction'.[240] As far as the present subject is concerned, as a result, this special arrangement in no way undermines the coastal state's complete authority in its territorial sea[241], ie the ship or aircraft in question is still to be treated by the coastal state in the same way as a ship or aircraft admitted to the territorial sea specifically for the purpose of conducting MSR.[242] In the latter case, it is provided that the sovereignty of an archipelagic state extends to its archipelagic waters.[243] Although this is subject to innocent passage[244] and archipelagic sea lanes passage[245] by foreign vessels, yet unauthorized research or survey activities are, as mentioned above, non-innocent[246] and the regime of transit passage applies mutatis mutandis to archipelagic sea lanes passage.[247] They cannot therefore escape the complete jurisdiction of the archipelagic state[248] which is the same as in the territorial sea.[249] Generally speaking, this basic archipelago doctrine has already crystallized into customary international law.[250] In short, the 1982 rules on MSR up to this point are quite simple: in the internal waters, archipelagic waters and territorial sea, research is under complete coastal state jurisdiction, whereas in the high seas and on the international seabed area it is

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240 LOSC art 34(1). Emphasis added.
241 Scholz n237.
242 Soons n1 151-2.
243 LOSC art 49.
244 LOSC art 52.
245 LOSC art 53.
246 See n222 and accompanying text supra.
247 LOSC art 54.
248 Scholz n8 100. See also Soons n1 153.
249 Ibid.
250 Wolfrum R 'The Emerging Customary Law of Marine Zones: State Practice and the Convention of the Law of the Sea' NYIL 18 1987 144. See also Goldie LFE 'Archipelagos' in Encyclopedia of Public International Law: Law of the Sea, Air and Space XI 1989 37.

essentially free.[251] These rules also reflect the norms of customary international law.[252]

The most important provisions of the 1982 Convention dealing with controls over MSR are those relating to EEZ and the continental shelf[253], in which research on the continental shelf is in principle subject to the same regime as that in EEZ.[254] While adopting the same basic approach as art 5(8) of CSC[255], these provisions are however considerably wider in both content and scope.[256] As a result, they are far more detailed than their 1958 counterparts.[257]

Unlike UNCLOS I, the UNCLOS III negotiating texts included a provision defining MSR as 'any study or related experimental work designed to increase mankind's knowledge of the marine environment'.[258] Although it was not retained in the final drafts, this was however due to the fact that there was a consensus at the Conference that the definition in the Convention would not be necessary, since the substantive provisions of the Convention would clearly establish the meaning intended.[259] Having this in mind, it is therefore clear that the regime of MSR under the Convention in principle does not apply to scientific research which does not concern the marine environment:eg astronomical observations carried out at sea[260]and collection of data relating to hazards of navigation or meteorological

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251 Soons n48 366.
252 Soons n1 263.
253 Churchill and Lowe n15 292-3.
254 Soons n1 154. See also Scholz n8 110.
255 Churchill and Lowe n15 293. See also Yankov n96 159 and Mangone n102 206.
256 Treves n128.
257 Van Meurs n95 105. See also Mangone n255.
258 1975 Informal Single Negotiating Text: DOC A/CONF 62/WP8/PART III. See also 1976 Revised Single Negotiating Text: DOC A/CONF 62/WP8/REV1.
259 Soons n1 124. See also n251.
260 Soons n48 367.

conditions which would still be a part of normal activities associated with high seas rights in navigation.[261] Moreover, the Convention further provides for a separate regime for resource exploration: resource exploration in all areas under coastal state jurisdiction is subject to the sovereign rights of the coastal state; resource exploration in the international seabed area is governed by the international regime for that area.[262] Exploration may be defined as data collecting activities (scientific research) concerning natural resources, whether living or non-living, conducted specifically with a view to the exploitation (ie economic utilization) of those natural resources.[263] At issue however is the 'fisheries research' which often involves the actual catching of fish, occasionally in sizeable quantities and the actual use at times of commercial fishing vessels and/or gear.[264] It is difficult to distinguish it definitively from either basic oceanography[265] or prospecting, exploration, scouting and in some cases actual exploitation.[266] Although it has been suggested that motivation may be the answer[267], yet most modern scientific research, as mentioned above, has a complex mixture of motives.[268] In general, however, research activities conducted specifically for the purpose of monitoring, conservation or management of fish stocks should not be regarded as MSR.[269] Instead, they come within the scope of a coastal state's sovereign rights with respect to

261 Remark of Couper A in 'Discussion and Questions' in Brown and Churchill ed n27 411.
262 Soons n1 125. See also n260.
263 See n262.
264 Sullivan Jr WL 'Freedom of Fisheries Research in the US in the Best Interest of the United States' SDLR 22 1985 795.
265 Beverton n62 364.
266 See n264.
267 Sullivan Jr n264 796.
268 See n176-8 and accompanying text supra.
269 Soons AHA 'The Developing Regime of Marine Scientific Research: Recent European Experience and State Practice' in Alexander, Allen and Hanson ed n48 302-3.

the exploration and exploitation of living resources, which probably include technical experiments with fishing gear[270] and the collection of information on the directions and the size of a school of fish.[271] Similarly, the Convention also provides for separate regimes for hydrographic surveying and marine archaeological research.[272] As far as the former is concerned, it may be defined as the measurement of the bathymetry of the ocean and the study of waves, currents and tidal phenomena, surveying of underwater rocks, shoals and other hidden dangers for the purpose of the preparation of nautical publications such as charts, sailing directions, tide tables and current charts.[273] In normal circumstances, this activity is conducted exclusively for the purpose of enhancing the safety of navigation or in connection with the laying of submarine cables or pipelines, which is still governed by freedom of navigation beyond the territorial sea.[274] If it is connected with the exploration and exploitation of natural resources, however, it must fall under complete coastal state jurisdiction.[275]

In essence, the 1982 instrument creates a full consent regime for the EEZ and the continental shelf: it is partially absolute, partially qualified.[276] The original concept was that a coastal state was permitted to withhold its consent for applied research in its economic zone and/or on its continental shelf, but consent could not be withheld with regard to pure research.[277] Although this is still

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270 Ibid 303.
271 See n261.
272 Soons n269 302.
273 See n260.
274 Soons n1 157. See also remark of Soons A in 'Discussion' in Alexander, Allen and Hanson ed n48 321.
275 Soons n274.
276 Ibid 164.
277 Caflisch L and Piccard J 'The Legal Regime of Marine Scientific Research and the Third United Nations Conference on the Law of the Sea' ZaöRV 38 1978 849. See also Kindt n16 16.

based upon the same dichotomy as the 1958 regime[278], the Convention however elaborates further on it.[279] In the latter case, it is stipulated that:

> 'Coastal States shall, in normal circumstances, grant their consent for marine scientific research projects by other States or competent international organizations in their exclusive economic zone or on their continental shelf to be carried out in accordance with this Convention exclusively for peaceful purposes and in order to increase scientific knowledge of the marine environment for the benefit of all mankind...'.[280]

In the provision, the 'marine environment' is commonly understood as covering the water column, the seabed and the subsoil and the atmosphere immediately above the sea.[281] Since an early Irish proposal to include MSR from the air did not gain enough support to get incorporated in the negotiating texts[282], it is therefore clear that the Convention is mainly concerned with the conduct of research in the marine environment itself[283] excluding aerial scanning[284] and satellite remote sensing.[285] It has also been clarified that 'normal circumstances may exist in spite of the absence of diplomatic relations between the coastal State and the researching State'.[286] Apart from this, however, the term remains ambiguous[287] and the text contains no other criteria for deciding it.[288] In this respect, it

278 Churchill and Lowe n255. See also Yankov n96 167, Wolfrum n250 138.
279 Kwiatkowska n32 150. See also Churchill and Lowe n15 294.
280 LOSC art 246(3).
281 See n251.
282 Symmons and Gardiner n37 301.
283 See n251.
284 See n282.
285 Ibid. See also Churchill and Lowe n15 297, Laughton n165 390 and Flemming NC 'The Law of the Sea and the Exchange of Scientific Information and Data' in Brown and Churchill n27 403.
286 LOSC art 246(4).
287 Wolfrum n26 323.
288 Scholz n8 101.

has been suggested, as mentioned earlier, that the expression should convey the same meaning which was attached to the word 'normally' in the 1958 Convention. This presupposes the existence of objective conditions which allow a foreign vessel to remain for a lengthy period in a coastal state's EEZ.[289] Under this premise, the 'abnormal' circumstances which can justify a denial of consent seem firstly to include the situation where relations between coastal and researching states[290] are too strained[291] to expect the former to grant permission.[292] A state of war[293], the imminent danger of armed conflict[294] and lesser degrees of hostility and tension[295] are cases in point. Moreover, 'abnormal circumstances' may further include the domestic policies of the coastal state[296]; the general political situation within the region of which the coastal state is part [297]; the quality of the research; the qualifications of the researcher; the estimated time period for the completion of the field research[298]; and overlapping claims to maritime areas.[299] At this juncture, it has also been pointed out that there should be no duty to grant consent to research which is not to be carried out in accordance with the Convention[300], particularly when the methods and means are unnecessarily and unreasonably damaging to the marine environment or to other uses of the

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289 See n190 and accompanying text supra.
290 Kwiatkowska n32 140.
291 Scholz n8 108.
292 Soons n48 370.
293 Staniland n141 238.
294 Soons n1 168. See also Soons n48 370-1.
295 Ibid 371. See also n290, Churchill and Lowe n279, Oxman BH 'The Third United Nations Conference on the Law of the Sea: The Eighth Session (1979)' AJIL 74 1980 26 and Horness n64 76.
296 Yusuf n33 418. See also n293.
297 Soons n48 371. See also n290.
298 See n296.
299 Soons n269 306.
300 Soons n1 165.

sea and are expressly forbidden by the Convention.[301] In short, what specifically constitutes normal circumstances remains largely undefined and is thereby left essentially to the discretion of the coastal state.[302] Equally problematic is the phrase 'exclusively for peaceful purposes' which has not been elaborated upon either and thus constitutes another source of potential dispute.[303] It could be subject to different interpretations.[304] On the one hand, it has been suggested that MSR may be conducted for military purposes, provided those purposes are not incompatible with the UN Charter.[305] In accordance with this opinion, only the testing of offensive weapons is prohibited.[306] On the other hand, however, it has been argued that the research project must be of a non-military nature[307] and have no military application.[308] This latter line of argument rejects any sort of MSR for military purposes, even if merely for self-defence[309]: eg the collection of information for military use[310], classified military research[311], the use of military installations, structures or fortifications, the testing of any type of weapon and the ignition of nuclear devices.[312] In either case, moreover, a decision may prove difficult[313]

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301 Ibid 136. In this connection, LOSC art 240(b) indeed unambiguously stipulates that 'marine scientific research shall be conducted with appropriate scientific methods and means compatible with the Convention' (emphasis added).
302 Yusuf n296. See also Horness n295.
303 Song YH 'Marine Scientific Research and Marine Pollution in China' ODIL 20(6) 1989 604.
304 Ibid.
305 Soons n1 135. See also Kwiatkowska n32 137.
306 Soons n305.
307 See n293. See also Symmons and Gardiner n37 300, Yusuf n33 419 and Van Meurs n95 111.
308 Churchill and Lowe n15 296. See also Winner n33 304, Symmons and Gardiner n307.
309 Ibid.
310 Yusuf n307.
311 Winner n33 305.
312 Yankov n96 163.
313 Yusuf n33 418-9.

since all research may in practice have military implications.[314]

As far as 'applied research' and the absolute consent regime are concerned, the Convention provides at length that:

> 'Coastal States may... in their discretion withhold their consent to the conduct of a marine scientific research project of another State or competent international organization in the exclusive economic zone or on the continental shelf of the coastal State if that project:
>
> (a) is of direct significance for the exploration and exploitation of natural resources, whether living or non-living;
>
> (b) involves drilling into the continental shelf, the use of explosives or the introduction of harmful substances into the marine environment;
>
> (c) involves the construction, operation or use of artificial islands, installations and structures referred to in articles 60 and 80;
>
> (d) contains information communicated pursuant to article 248 regarding the nature and objectives of the project which is inaccurate or if the researching State or competent international organization has outstanding obligations to the coastal State from a prior research project'.[315]

Being an attempt to be more specific, the enumeration may have however created more problems than it solved.[316] In the first subparagraph, the formulation 'of direct significance for the exploration and exploitation of natural resources', which seems to be the crucial elements in the system[317], is not very precise[318], particularly taking into account the fact that almost all marine research could bear on resources.[319] For example, seismic survey for the purpose of increasing knowledge about the geomorphology of

314 Wolf n167. See also Treves n128.
315 LOSC art 246(5).
316 Winner n33 312-3.
317 Soons n1 170.
318 Ibid. See also Ross n48 and Kwiatkowska n32 146.
319 Ibid.

the earth may identify general areas with favourable structures for the formation and collection of oil and gas, which may represent the first in an unbroken sequence of events leading to exploration and eventual exploitation.[320] This may pose a serious threat to continued access to the EEZ and continental shelf[321] and thus constitute a main source of dispute.[322] In this connection, it has therefore been suggested that, in addition to the significance of the research having some importance[323], the results of the research must have intrinsic value from the point of view of exploration and exploitation[324], viz the immediacy of purpose or relevance.[325] Thus, for a research project to fall under this category, it could reasonably be expected to produce results permitting the location of resources, access to them, monitoring their status and availability for commercial exploitation. In a negative sense, it could indicate those areas where it is (probably) not worth looking for resources.[326] It is not enough that the research results are of little immediate use[327] and have only remote significance, eg research results which can become useful when they are combined with other data to be collected.[328] Nor is research which is of direct significance for 'other activities for the economic exploitation and exploration of the [exclusive economic] zone, such as the production of energy from the water, currents and winds'.[329] In the second subparagraph, the only thing which is clear is that the indicated techniques which may cause damage to the marine environment are all

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320 Scholz n8 102.
321 Ibid.
322 Soons n48 368.
323 Soons n1 171.
324 Ibid.
325 O'Connell n145 1028.
326 Soons n48 369. See also n323.
327 Winner n33 302.
328 Soons n326. See also n323.
329 Soons n1 172.

involved in research falling under the first category.[330] It is not known which, if any, of the many bottom and sediment sample collection techniques used by marine geologists is 'drilling' and which, if any, of the many means of seismic profiling can be called the 'use of explosives'.[331] As to the reference to the introduction of harmful substances, it has however been suggested that those (otherwise harmful) substances which do not come in direct contact with the marine environment but are contained in the scientific equipment in such a way that in normal circumstances they cannot be released therefrom, should not be included in it.[332] The third subparagraph appears to refer to stationary (fixed and anchored floating) installations and structures, which include those penetrating the surface of the sea as well as those remaining entirely below the surface.[333] Free floating installations and structures are excluded here.[334] The fourth subparagraph actually deals with two different cases.[335] The condition that '... information... is inaccurate...' refers to mala fide inaccuracy, ie the researching state is attempting to mislead the coastal state by supplying information giving an incorrect impression that the research is not of direct significance for the exploration and exploitation of resources.[336] As a result, when the situation concerns bona fide inaccuracy, eg the information is insufficient or inadequate for the coastal state to evaluate and verify the nature and objectives of the research project, the coastal state may only request supplementary information. This could lead to postponement of the research but not to refusal of consent.[337] In

330 Ibid. See also Kwiatkowska n32 141.
331 Winner n33 313.
332 Soons n1 173.
333 Ibid.
334 Ibid.
335 Ibid 174.
336 Ibid.
337 Ibid 174-5.

practice, however, mala fides will be very difficult to prove.[338] The caveat of 'outstanding obligations' covers only those obligations owed to the coastal state to which the application for consent is made.[339] It entitles the coastal state to withhold consent to all research organizations - public or private - within a country as long as there is one institution in that state which has not complied with all relevant conditions.[340] This is however susceptible to abuse: the limits of these obligations are not clearly defined, nor is there any requirement that the coastal state should report periodically on the fulfillment of obligations.[341] Moreover, such treatment would certainly be inequitable to organizations other than the defaulting ones.[342] In addition to all these peripheral ambiguities, even the fundamental exclusiveness of the enumeration as a whole comes into question.[343] On the one hand, it is arguable that the careful elaboration of circumstances in which a coastal state may at its discretion refuse consent logically proceeds on the assumption that in other cases the coastal state will grant consent.[344] On the other hand, it is however asserted that the list is not exhaustive and consent may be refused for reasons other than those adumbrated.[345] In short, the Convention has accorded a greater discretion in the case of applied research to coastal states.[346] These are entitled to lay down conditions such as amendments to the research programme,

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338 Ibid 174.
339 Ibid 175.
340 Ibid. See also Winner n33 318.
341 See n320.
342 Winner n340.
343 It has been pointed out that this is doubtless left intentionally ambiguous to encourage the opposing sides to sign the treaty. See n331.
344 Oxman n295 25. See also Symmons and Gardiner n212 and Kwiatkowska n279.
345 Yusuf n33 420. See also Staniland n141 239.
346 See n345.

payment of fees, training of coastal state scientists.[347] They need not give further explanation for their actions.[348]

In the very next paragraph, the Convention deals specifically with MSR on the continental shelf extending beyond the outer limit of the EEZ.[349] The consent regime for the EEZ/continental shelf remains applicable, except that the coastal state may not exercise its discretion to withhold consent for research of direct significance for the exploration and exploitation of natural resources on that part of the shelf, as long as the foreign project is outside the areas which the coastal state has publicly designated as areas where its own 'detailed exploratory operations' are taking place or are about to start.[350] 'Detailed exploratory operations' are understood to refer to detailed surveys of limited areas and, inter alia, exploratory drilling operations, but excluding reconnaissance surveys and broad prospecting.[351] Although literally this might seem to be a restriction of the absolute consent regime[352], which would make this wider margin more easily accessible to foreign research vessels than the shelf within the 200nm zone[353], yet it does not represent much of the picture in practice[354] as the coastal state may at any time designate the specific areas and is not obliged to give any details about its operations therein.[355] As a result, the research concerning the continental shelf extending beyond 200nm is subject to coastal state jurisdiction almost to the same extent as research conducted on the continental shelf within

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347 Soons n1 191-2. See also Churchill and Lowe n279.
348 Staniland n345. See also n317.
349 Soons n254.
350 LOSC art 246(6).
351 Soons n1 218.
352 Kwiatkowska n330.
353 Sanger n2 132.
354 Kwiatkowska n 330.
355 Mangone n102 209.

that limit.[356] Being necessary to address the exceptional circumstances[357], this separate mention of the continental shelf however re-introduces the fundamentally unresolved problem in CSC, ie what really constitutes shelf research.[358] This also concerns the situation in which the coastal state has a continental shelf but has not yet established the EEZ.[359] Consequently, one is here confronted again with the question whether this separate mention, which clearly excludes only research having the water column as its object of study, requires physical contact with the seabed.[360]

In addition to these main refinements, the Convention also resolves the uncertainty which prevailed under the CSC concerning the validity and extent of the requirement of advance notice.[361] It now embodies a procedure to provide information as the application for consent.[362] The article stipulates that:

> 'States and competent international organizations which intend to undertake marine scientific research in the exclusive economic zone or on the continental shelf of a coastal State shall, not less than six months in advance of the expected starting date of the marine scientific research project, provide that State with a full description of:
>
> (a) the nature and objectives of the project;
>
> (b) the method and means to be used, including name, tonnage, type and class of vessels and a description of scientific equipment;
>
> (c) the precise geographical areas in which the project is to be conducted;

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356 Soons n269 293-4.
357 Soons n1 213.
358 Symmons and Gardiner n37 297. See also Scholz n254.
359 Soons n1 214-5.
360 See n156-9 and accompanying text supra.
361 Staniland n141 236. See also Churchill and Lowe n279.
362 Soons n1 184.

(d) the expected date of first appearance and final departure of the research vessels, or deployment of the equipment and its removal, as appropriate;

(e) the name of the sponsoring institution, its director, and the person in charge of the project; and

(f) the extent to which it is considered that the coastal State should be able to participate or to be represented in the project'.[363]

In this provision, the enumeration is an exhaustive one.[364] It has been pointed out that other information may not be required by the coastal state, unless it can be considered supplementary information relevant to the information already provided.[365] This latter addendum is of some significance, particularly taking into account the fact that in marine science it is frequently difficult for technical reasons to address certain questions directly.[366] As to the phrase 'expected starting date of the marine scientific research', it has been suggested that this refers to the first day of the actual research operations, for this is the date which is most relevant to the coastal state and can be identified most easily and objectively.[367] While imposing an obligation on the researching state[368], the provision however does not oblige the coastal state to acknowledge receipt of requests.[369]

In the very next provision, the Convention specifically lays down the conditions to which pure research may be subject.[370] With a view to according greater respect to the interests of the coastal state[371], they include:

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363 LOSC art 248.
364 See n362.
365 Ibid.
366 Stevens n164 521.
367 See n362. See also n322.
368 Soons n1 182.
369 Franckx n115 377. See also Winner n37 317.
370 Churchill and Lowe n279.
371 Winner n33 307.

'(a) ensure the right of the coastal State, if it so desires, to participate or be represented in the marine scientific research project, especially on board research vessels and other craft or scientific research installations, when practicable, without payment of any remuneration to the scientists of the coastal State and without obligation to contribute towards the costs of the project;

(b) provide the coastal State, at its request, with preliminary reports, as soon as practicable, and with the final results and conclusions after the completion of the research;

(c) undertake to provide access for the coastal State, at its request, to all data and samples derived from the marine scientific research project and likewise to furnish it with data which may be copied and samples which may be divided without detriment to their scientific value;

(d) if requested, provide the coastal State with an assessment of such data, samples and research results or provide assistance in their assessment or interpretations;

(e) ensure, subject to paragraph 2, that the research results are made internationally available through appropriate national or international channels, as soon as practicable;

(f) inform the coastal State immediately of any major change in the research programme;

(g) unless otherwise agreed, remove the scientific research installations or equipment once the research is completed'.[372]

Whether the enumeration is exhaustive[373] or not[374], these obligations impose substantial burdens on the researching state.[375] This is particularly true for participation or

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372 LOSC art 249(1).

373 Soons nl 188.

374 For example, Wooster argues that the coastal state can establish additional conditions. See Wooster WS 'Research in Troubled Waters: US Research Vessel Clearance Experience, 1972-1978' ODIL 9(3/4) 1981 233.

representation of the coastal state in the research.[376] Presumably 'participation' means that one or more scientists from the coastal state actually work together on the project with the scientists from the researching state.[377] It is even possible that the coastal state participates in the project with its own research vessels.[378] 'Representation' would refer to the situation that one or more observers appointed by the coastal state are present on board the research vessel during the research, without actually taking part in the scientific work.[379] To be fully effective, it has been suggested that such participation (or representation) start at the preliminary planning stage, ie as soon as a tentative decision to carry out the project has been made and continue through the work at sea to the subsequent analysis of the results[380], even though participation in earlier stages is in the discretionary power of the researching state.[381] Normally this rights only starts on the date on which the coastal state has granted its consent and the coastal state may not fix conditions concerning the content of the research programme.[382] In a sense, this should not be unwelcome to the researching state for the reasons that: local scientists will have knowledge of local natural conditions and prior research in the area that may be helpful in planning a research project; local laboratories could be convenient to interpret data quickly; local scientists will know both the social needs and the political realities of their states; and cooperation would facilitate

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376 See n164.
377 See n373.
378 Ibid.
379 Ibid.
380 Ibid. See also Kwiatkowska n32 139-40.
381 Soons n1 189.
382 Ibid.

coastal state consent.[383] Nevertheless, there are also practical difficulties in observing the requirement: the excessive displacement of technical support engineers, by the coastal state scientists, which could have disastrous effects on science because it is expensive and complex, is an obvious one[384]; not to mention the incurring of extra training costs.[385] Under the premise that there is a general desire by the Principal Scientist to maximize his technical staff[386], moreover, it is not known what representation should normally be sufficient at all.[387] Should this vary according to the space available and the ship's schedule[388] which are not unreasonable considerations?[389] Nor is it known what should be the nature of such representation.[390] Is it legitimate, for example, for the coastal state to assign, in addition to the trained scientists as some suggest[391], armed military personnel as 'representatives' in the research when vessels themselves are normally unarmed?[392] Other complexities include: it is unclear how detailed the preliminary reports and the final results should be[393] and how soon they should be submitted[394], particularly taking into consideration the fact that evaluation of data may need to await data from other projects[395] and that with the large quantity of data normally requiring analysis, it may not be practical for a

383 Ross DA and Smith LJ 'Training and Technical Assistance in Marine Science - A Viable Transfer Product' ODIL 2 1974 219. See also Winner n33 308.
384 Adams CMG 'Marine Science Research: Operating the Consent Regime' in Brown and Churchill ed n27 385.
385 Horness n295. See also Ross n48 319.
386 Adams n384 384.
387 See n164.
388 Ibid.
389 'Workshop V: Marine Scientific Research' in Soons ed n8 698.
390 See n164.
391 See n389.
392 See n164.
393 Winner n383. See also n164.
394 Ibid.
395 Scholz n8 105.

scientist to commit anything to paper in that short term but simple facts[396]; the advent of satellite communications whereby direct data transfer takes place from a ship's computer direct to its home base may add problems to the coastal state's access to such data[397]; it is not clear who should pay for the costs arising out of coastal state's access to, inter alia, the samples[398]; the extent of the obligation to provide the coastal state with an assessment of data or assistance in assessment is not demarcated[399], although it probably does not encompass demands that a scientist spend substantial time at a coastal state laboratory training local scientists or demands for substantial technical assistance[400]; and the extensive use of unmanned data collection buoys may render the retrieval of scientific installations and equipment problematic as a legal obligation, especially when they are lost on the bottom.[401] As to the 'major changes' in the research programme, it has been suggested that they refer to those as a result of which the research project comes within the scope of the absolute consent regime.[402] Perhaps shifting the research to an entirely different geographic area or date may also be regarded as such.[403] After being informed of the situation, the coastal state is entitled to require immediate cessation of the research.[404] Finally, the issue relating to the publication of research results is addressed in a separate paragraph.[405] This is an important question since a scientist may decide against undertaking a research project if he does not feel confident that he can publish

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396 Adams n384 386.
397 See n384.
398 Winner n383.
399 See n164.
400 Scholz n8 107.
401 Winner n33 309.
402 Soons n1 190.
403 Ibid.
404 LOSC art 253(2).
405 LOSC art 249(2).

the results.[406] The matter is resolved in rather convoluted language, which boils down to the coastal state and the research group making an agreement about the publication of 'results of a project of direct significance for the exploration and exploitation of natural resources' at the time of seeking and granting consent and not leaving it until after the research has been done.[407] This approach however may not be acceptable in that it fails to admit that the same requirement may be desirable in other cases where the coastal state would be free to withhold consent.[408] As a result, the coastal state may be inclined to withhold consent for the project.[409] In the case of pure scientific research, it is clear that there are no restrictions the coastal state may place thereupon.[410]

In order to safeguard against bureaucratic or other unreasonable delays by the coastal state in responding to the request[411], the Convention further provides that:

> 'States or competent international organizations may proceed with a marine scientific research project six months after the date upon which the information required pursuant to article 248 was provided to the coastal State unless within four months of the receipt of the communication containing such information the coastal State has informed the State or organization conducting the research that:
>
> (a) it has withheld its consent under the provisions of article 246; or
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> (b) the information given by that State or competent international organization regarding the nature or objectives of the project does not conform to the manifestly evident facts; or

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406 Winner n33 316.
407 Sangar n2 132.
408 See n395.
409 Ibid.
410 Sanger n2 132-3.
411 Ibid 122 and 131.

(c) it requires supplementary information relevant to conditions and the information provided for under articles 248 and 249; or

(d) outstanding obligations exist with respect to a previous marine scientific research project carried out by that State or organization, with regard to conditions established in article 249'.[412]

This implied consent regime, which is applicable to all categories of MSR[413], prevents coastal states from neither granting nor refusing consent.[414] When the coastal state is deemed to have consented impliedly, it is not entitled afterwards to still refuse consent.[415] In the provision, the 'manifestly evident facts' refer to information known to the coastal state from other sources than the communications from the researching state.[416] As to the requirement of supplementary information, which is a potential source of abuse[417], it has been suggested that the coastal state must clearly specify which additional information it requires.[418] In this case, the coastal state may postpone a decision whether or not to grant consent[419], but the period may not be longer than four months.[420] If the coastal state does not react within four months after the receipt of the supplementary information, implied consent may be presumed.[421] Where a coastal state informs a researching state of outstanding obligations which exist with respect to a previous research project it may be presumed that it has decided not to withhold consent, but only to delay execution of the project until the researching state has fulfilled all

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412 LOSC art 252.
413 Soons n1 198.
414 Staniland n345.
415 See n413.
416 Soons n1 200.
417 Winner n340.
418 See n292. See also n416.
419 Soons n326.
420 See n418.
421 See n416.

obligations with respect to the previous project.[422] In short, the tacit consent system balances to some extent the above emphasis on coastal state interests.[423] At this juncture, it is however to be noted that, while it is stipulated that changes occurring during the project must be promptly communicated to the coastal state[424], no part of the Convention deals with modifications to the project made after notice has been given to the coastal state but before the project commences.[425] This problem is essential in that research programmes are inherently uncertain depending upon many constantly changing factors.[426] Strictly speaking, the six-month notification requirement might prevent a researcher from making late project modifications even if the coastal state would not oppose them.[427] Nevertheless, it would not be unreasonable to suggest that the coastal state be informed immediately of such changes as well.[428] In the case of `major' changes, the researching state may not start the research operations within six months from the date on which the coastal state was notified of the changes unless the coastal state has explicitly consented thereto and if it has not reacted within four months of the receipt of the information, the research may be started upon the expiry of the six month period.[429] Minor changes should not however be allowed to affect the initial application procedure.[430]

In order to secure compliance[431], the coastal state is empowered to suspend or terminate all MSR activities to

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422 Soons n1 200-1.
423 Ibid 257.
424 See n402-4 and accompanying text supra.
425 Yusuf n33 422. See also Staniland n141 237.
426 Laughton n285.
427 See n371.
428 Soons n1 186.
429 Ibid 191.
430 See n427.
431 Soons n1 201.

which it has consented, either expressly or impliedly.[432] The right to suspend research activities applies in two situations.[433] One is concerned with operational aspects of MSR[434], when such activities are not conducted in accordance with the communicated information upon which the consent of the coastal state was based.[435] The other is where the party conducting the research activities fails to comply with the rights of the coastal state concerning the MSR project.[436] Termination of MSR activities is also permitted in two sets of circumstances.[437] The first is where non-compliance by the researching state amounts to a 'major change' in the research project or the research activities.[438] The second is where a situation justifying suspension is not rectified within a 'reasonable' period of time.[439] In the case of both suspension and termination, the researching state or competent international organization shall, after being informed of the decision by the coastal state, terminate the research activities.[440] Suspension shall however be lifted by the coastal state and the MSR activities allowed to continue once the researching state or competent international organization has complied with the conditions.[441] In addition to these, however, no other enforcement measures are allowed, eg arrest of research vessels.[442] (Of course if the research vessel is a public vessel, it will have total immunity from enforcement measures.[443]) It has been suggested that this should only be permitted if the research vessels, after having been

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432 Ibid 203.
433 Kwiatkowska n32 143.
434 Scholz n8 103.
435 LOSC art 253(1)(a).
436 LOSC art 253(1)(b).
437 Kwiatkowska n32 144.
438 LOSC art 253(2).
439 LOSC art 253(3).
440 LOSC art 253(4).
441 LOSC art 253(5).
442 See n432.
443 Soons n1 247.

ordered to suspend or cease the research, fails to terminate the activities.[444] Moreover, a research vessel which was ordered to suspend or cease research activities does not have to leave the EEZ of the coastal state as long as it does not engage in any MSR activities.[445]

As to communication concerning research[446], the Convention requires it to be made through 'appropriate official channels unless otherwise agreed'.[447] In addition, research organizations would have had to direct communications through their foreign offices to coastal states' foreign offices. Moreover, if agreed upon by the states concerned, research organizations operating private vessels may communicate directly with coastal states[448], or a governmental research institution in the researching state may notify a similar institution in the coastal state without using diplomatic channels.[449] In the latter two cases, however, it is not known what procedures must be followed.[450]

Up to this point, it is clear that the Convention has largely attributed to states, either coastal or those conducting MSR, the power to enforce their individual interests.[451] While it is true that much marine research is carried out on a purely national basis, the 1982 regime however does not ignore the fact that international cooperation also takes place.[452] Indeed, internationalization of marine science is desirable for a number of reasons. It may improve facilities, research

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444 Ibid 203.
445 Ibid.
446 Winner n369.
447 LOSC art 250.
448 Winner n369.
449 See n322.
450 Winner n369.
451 Wolfrum n26 322.
452 Churchill and Lowe n15 299.

experience and achieve economies. It can allay somewhat concern about preventing military or economic exploitation. It can inhibit the arbitrary exercise of discretion. Dissemination of research results can be facilitated. Marine knowledge could become less the exclusive preserve of a coterie of technologically advanced states. As the benefits of internationalization become more apparent so the sanction of non-participation becomes more effective.[453] To further the interests of the international community, the Convention gives preferential treatment particularly to the research projects of international organizations[454]:

> 'A coastal State which is a member of or has a bilateral agreement with an international organization, and in whose exclusive economic zone or on whose continental shelf that organization wants to carry out a marine scientific research project, directly or under its auspices, shall be deemed to have authorized the project to be carried out in conformity with the agreed specifications if that State approved the detailed project when the decision was made by the organization for the undertaking of the project, or is willing to participate in it, and has not expressed any objection within four months of notification of the project by the organization to the coastal State'.[455]

According to this, the normal rules on obtaining coastal state consent do not apply to a MSR project, to be undertaken by or under the auspices of an international organization, which has been approved by the coastal state as a member of the organization (or in an agreement with the organization). Such research may be carried out in the EEZ upon notification to the coastal state by the organization, unless the coastal state, within four months of the notification has expressly objected to the project on the grounds that it would have come within the scope of the coastal state's discretion to withhold consent or there

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453 Staniland n141 240.
454 See n287.
455 LOSC art 247.

exist abnormal circumstances, or the system is not applicable thereto.[456] This situation constitutes neither an exemption from the consent regime nor from the implied consent rule.[457] It is nevertheless anticipated that the coordination under an international body will, through encouragement of adherence to commitments by peer opinion and interchange[458], enhance predictability and simplify bureaucratic problems.[459] In addition to reducing the possibility of refusal[460], this system may also have an important psychological effect. The coastal state would not be confronted by an application for consent by a particular state (with which political relations might not be good), but would be dealing exclusively with a competent international organization.[461] The provision, however, does not identify which 'competent international organization' should perform the specific role.[462] Amongst some 250 recognized international organizations, concerned to a greater or lesser degree with marine matters[463], it is not known whether this refers only to global ones forming parts of the UN system.[464] It has been suggested that the provision be limited to intergovernmental organizations, whether subregional, regional or global.[465] These number about 100.[466] It is clear that non-governmental organizations in any event fall outside the ambit of

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456 Soons n1 179, 181-2.
457 Kwiatkowska n32 142.
458 Horness n84.
459 Oxman BH 'The Third United Nations Conference on the Law of the Sea: The 1977 New York Session' AJIL 72 1978 77-8. See also Soons n1 180.
460 Von Welck SF 'Commentary [on Marine Scientific Research: How is Marine Scientific Research to be Conducted After UNCLOS III?]' in Park ed n26 329.
461 Soons n459.
462 See n366. See also n460.
463 See n4.
464 See n366.
465 Von Welck n460 334.
466 See n4.

international law.[467] Moreover, those intergovernmental organizations, which may or may not have theoretical knowledge and practical experience[468], must be legally (not scientifically) competent[469], ie they must have jurisdiction over MSR by virtue of their statutes.[470] Organizations with knowledge and experience but without jurisdiction over MSR are excluded.[471] Under this definition, it is generally agreed that the single organization meeting the competency criterion for most purpose is the IOC.[472] Indeed, the IOC is the only intergovernmental organization covering all aspects of MSR.[473] The four major areas of its scientific activity relate to: ocean science with respect to living resources; ocean science with respect to mineral resources; ocean dynamics and climate; and marine pollution research and monitoring.[474] Other competent international organizations in marine science could be the Food and Agricultural Organization (FAO)[475], WMO, UN Environment Programme (UNEP)[476], International Atomic Energy Agency (IAEA), International Maritime Organization (IMO)[477], the Division of Marine Sciences of UNESCO[478] and the UN Office of Ocean Affairs and Law of the Sea.[479] In addition to these specialized agencies of the UN at the global level[480], the International Council for the Exploration of the Sea (ICES), which has maintained an interest in physical

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467 Churchill and Lowe n15 300.
468 Von Welck n460 332-3.
469 Wooster W 'Introductory Remark [on Marine Scientific Research]' in Soons ed n8 508.
470 Von Welck n460 328, 332.
471 Ibid 333.
472 Stevens n164 522. See also Soons n1 196 and Kwiatkowska n305.
473 Kwiatkowska n32 138.
474 Ibid 153.
475 See n467. See also Soons n472 and Charnock n4 127.
476 Ibid. See also n467.
477 Charnock n475.
478 Ibid 127 and 130. See also Stevens n472.
479 Ibid.
480 See n467.

oceanography and mainly but not exclusively in the region of the North East Atlantic, may also be included.[481] There are also other issues which are not directly addressed in the article.[482] For example, is a general endorsement sufficient for a project to qualify as being 'under the auspices' of an international organization, as has commonly been done by IOC and other marine science organizations?[483] Nor is it known what is the nature of the 'notification' to be provided by the organization to the coastal state.[484] Is it necessary for the organization to provide the same level of detail as required by article 248?[485] Finally, the restriction on the presumed consent of the coastal state which allows the coastal state to object to the project within four months does not help in simplifying administrative problems in organizing large-scale projects. It could however diminish the risk of politicization and bureaucratization in the organization.[486] In short, this arrangement is designed to facilitate the conduct of marine research.[487] Experience to date suggests that it is a workable system.[488] Although the IOC still sometimes encounters refusals relative to projects officially announced by it[489], one must not lose sight of the fact that international organizations, under present international law, almost completely lack power to manage the conduct of research[490] which remains largely a national

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481 Charnock n4 126.
482 See n164.
483 Stevens n164 519-20.
484 Ibid 520.
485 bid.
486 See n433.
487 'Workshop V: Marine Scientific Research' n389 700.
488 Helsley and Kroenke n7 590.
489 Kwiatkowska n32 151. For example, the TOGA has reported the difficulty of monitoring the temperature structure in the EEZ of countries bordering on the Indian Ocean. See Horness n64 78 and 84.
490 Wolfrum n26 325.

responsibility.[491] Their present need is for authoritative scientific and technical advice.[492]

In order also to facilitate and promote MSR activities serving the community of states as a whole[493], the Convention also grants special rights to land-locked and geographically disadvantaged states (LLGDS).[494] States and competent international organizations are obliged to notify the LLGDS neighbouring a given coastal state of the proposed MSR project.[495] After the coastal state has given its consent to the project, the researching parties are required to provide the LLGDS, at their request and 'when appropriate', with relevant information concerning the project (as specified in article 248) and any major change.[496] Moreover, the neighbouring LLGDS are to be given, at their request, the opportunity to participate 'whenever feasible' in the proposed project. Such participation is to take place through qualified experts appointed by LLGDS, to whom the coastal state does not object and in accordance with the conditions agreed for the project between the coastal state and the third parties conducting MSR.[497] Third parties are also obliged to provide LLGDS, at their request, with information on data, samples and research results and to provide assistance in their assessment or interpretation.[498] However, all these rights relate only to fundamental MSR.[499] Research projects which are of direct significance for the exploration and

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491 '1991 Report' n64 40 para 137.
492 See n58.
493 Hafner G 'The Regulation of Marine Scientific Research Activities of Landlocked and Geographically Disadvantaged States in the Draft Convention on the Law of the Sea' in Park ed 26 342-3.
494 Soons n1 205.
495 LOSC art 254(1).
496 LOSC art 254(2).
497 LOSC art 254(3).
498 LOSC art 254(4).
499 See n437. See also Hafner n493 348.

exploitation of natural resources are excluded.[500] In addition, the scope of these rights is restricted to research undertaken by third parties.[501] Neighbouring LLGDS cannot exercise their rights vis-a-vis the coastal state when the latter conducts MSR in its own EEZ.[502] This has been criticized as putting an additional administrative burden on the researchers, without the possibility of the LLGDS obtaining too many benefits, since the greater part of research is usually done by the coastal state itself.[503] While covering all the various stages of the administration of a research project, moreover, the obligation incumbent upon the researching state, in order to become effective, require a prior request from the LLGDS.[504] Thus, the obligation is not autonomous.[505] In fact, the rules even presupposes a monopoly on MSR by the coastal state authorities: they are entitled not only to object to the appointment of experts by the LLGDS, unless the personnel are invited by the research staff, but also to prohibit the transfer of research results to LLGDS.[506] This clearly discriminates against the LLGDS as it does not prevent the researching state from taking any foreign expert or other personnel on board and does not provide an obligation to inform the coastal state about such persons.[507] Finally, the implementation of the LLGDS rights may prove very difficult, if not impossible[508], in view of the lack of definition of LLGDS and the ambiguity in the term 'neighbouring states'.[509] It has been suggested that the word 'neigbouring' refers to direct neighbour states of the

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500 Soons n1 209. See also Soons n269 294.
501 See n499.
502 Soons n1 209. See also Hafner n493 347.
503 See n437. See also Soons n215 366.
504 Hafner n493 348-9.
505 Ibid 349.
506 Ibid 350.
507 Ibid.
508 Ross n385. See also n437.
509 Soons n215 365. See also Kwiatkowska n32 144-5.

coastal state for two reasons.[510] Firstly, this interpretation provides the greatest clarity by using an objective criterion which can be easily applied.[511] And secondly it is the least burdensome for those undertaking research (and therefore most conductive to MSR) since it restricts to some extent the number of neighbouring states involved.[512] In short, this arrangement, attaching greater importance to the participation right[513], is somewhat limited[514], in that the LLGDS have weaker rights to participate directly in a research project than do coastal states.[515] Moreover the absence of reference to research by LLGDS in the EEZ of a neighbouring coastal state[516] implies that such research is subject to the normal rules for obtaining consent.[517]

With regard to the legal status of research installations and equipment which are more often than not deployed along with vessels in the oceanic investigation[518], the Convention requires that they be subject to the same conditions in the conduct of MSR.[519] This means that when they are situated in areas beyond national jurisdiction (in the waters of the high seas or on the Area) they are subject to the exclusive jurisdiction of the state of registry in the same way as ships on the high seas are subject to the exclusive jurisdiction of the flag state.[520] When they are situated in areas under coastal state sovereignty (territorial sea, archipelagic waters or internal waters) the coastal state is

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510 Soons n1 207-8.
511 Ibid 208.
512 Ibid.
513 Hafner n502.
514 See n494.
515 Winner n340. See also Soons n1 210.
516 See n502.
517 Soons n502.
518 Soons n1 229. See also Churchill and Lowe n285.
519 LOSC art 258.
520 Soons n1 234.

entitled to exercise complete jurisdiction over them,[521] with the exception of public ships.[522] It further follows that in the EEZ and on the continental shelf the consent of the coastal state will again be required.[523] Since the definition for applied research in the EEZ and on the continental shelf include research which involves the construction and operation of 'artificial islands, installations and structures'[524] it would seem that the deployment and use of research installations and equipment which take the form of 'artificial islands', 'installations' and 'structures' will be subject to the discretionary consent a coastal state enjoys in respect of applied research, regardless of the kind of research which is to be carried out from such research installations and equipment.[525] In this case, the coastal state will have exclusive jurisdiction over such research installations and equipment.[526] Where the research installations and equipment do not take the form of 'artificial islands', 'installations' or 'structures' - floating buoys and other floating objects might well come into this category - but such objects are used for applied research, the coastal state will still have a discretion to refuse or permit deployment of such objects.[527] However, research installation and equipment of this nature are, in the main, subject to the jurisdiction of the state of registry in the same way as research vessels in the exclusive economic zone are subject to the jurisdiction of the flag state.[528] In this case, the coastal state has only a limited jurisdiction to the extent provided for in Part XIII and other parts of

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521 Ibid. See also Churchill and Lowe n15 298.
522 See n443 and accompanying text supra.
523 Churchill and Lowe n521.
524 See n315 and accompanying text supra.
525 Churchill and Lowe n521.
526 Ibid. See also n520.
527 Churchill and Lowe n521.
528 See n520.

LOSC.[529] On the other hand, where floating research objects are used for pure research, the coastal state should not normally withhold its consent to the deployment and use of such objects.[530] However, there would appear to be no provision giving the coastal state jurisdiction over such objects once consent has been given, provided nothing is done which entitles the coastal state to exercise its rights to suspend or order the cessation of research.[531] Nor is there any provision giving the emplacing state, while it would presumably have legislative jurisdiction over the object on a quasi-territorial basis analogous to flag state legislative jurisdiction over ships, enforcement jurisdiction in the coastal state's EEZ and on its continental shelf.[532] As a result, no state would appear to have enforcement jurisdiction over the object.[533] In this specific regard, it has been suggested that equipment of this sort be subject to the jurisdiction of the state of registry, in the same way as research vessels in the EEZ are subject to the jurisdiction of the flag state and also subject to coastal state jurisdiction to the limited extent provided by the regime on MSR and other parts of the Convention.[534] Being a non-controversial issue at UNCLOS III, the requirement to obtain prior coastal state consent for deployment and use of installations and equipment in areas under national jurisdiction however creates particular problems for the deployment of free-floating buoys[535] since they follow currents without regard to political boundaries. Thus they may randomly enter controlled waters where consent is not forthcoming, or they may take a path which was not anticipated prior to notification for obtaining consent.[536]

529 Ibid.
530 Churchill and Lowe n521.
531 Ibid.
532 Ibid.
533 See n452.
534 See n520.
535 Soons n1 230 and 232.
536 Horness n64 83. See also Soons n1 232.

If this occurs, it has been suggested, it is to be considered force majeure.[537] When the buoy is drifting within the EEZ of the coastal state, the researching state is entitled to recover it without interference from the coastal state, since such recovery operations do not constitute MSR.[538] When the buoy has drifted into the territorial sea, archipelagic waters or internal waters, however, the researching state may only recover it with permission from the coastal state.[539] In other respects, the location of scientific installations is subject to rules similar to those applying to structures for the exploitation of the continental shelf.[540] They do not have the status of islands, possess their own territorial sea or affect the delimitation of the territorial sea.[541] They have a 500 meter safety zone.[542] They must not constitute an obstacle to established shipping routes.[543] Since only 'installations' are referred to in this context, it has been suggested that they be the larger types of the devices (not being ships) used for conducting MSR and capable of being manned, so as to be differentiated from 'equipment'. The latter is said to cover all other smaller research devices used separately from ships, eg instrument packages.[544] It has also been particularly pointed out that the safety zones, while their establishment is not obligatory, may only be created around stationary (fixed or floating anchored) installations which, in principle, must permanently penetrate the sea surface.[545] If a safety zone is necessary around (or rather 'above') a subsurface installation, adequate measures must be taken, by means of the placing of

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537 Ibid.
538 Ibid.
539 Ibid.
540 O'Connell n145 1029. See also Treves n35 209.
541 LOSC art 259.
542 LOSC art 260.
543 LOSC art 261.
544 Soons n1 235.
545 Ibid.

anchored buoys of sufficient size, to enable mariners to determine the exact position of the installation and its safety zone.[546] Moreover, safety zone around installations in the EEZ or on the continental shelf may only be established by the coastal state. By way of contrast, the state competent to establish safety zones beyond national jurisdiction is the state of registry, which may take appropriate measures to ensure the safety both of navigation and of the installation.[547]

In the Convention, there are also several provisions dealing with mattes of enforcement and liability for damage concerning MSR.[548] States and competent international organizations are responsible for ensuring the compliance with the Convention of marine scientific research undertaken by them or on their behalf.[549] This includes not only research conducted by public research institutions, state owned (or operated) vessels, government departments and institutions belonging to an international organization, but also research conducted by private institutions in the researching state. The application for consent for a private research institution to conduct research in the EEZ or on the continental shelf of a coastal state must be made, in principle, by the government of the state having jurisdiction over the private research institution on its behalf.[550] In the event of pollution arising out of such activity, the state shall be liable for the ensuing damage.[551] Moreover, coastal states

> 'shall be responsible... for the measures they take in contravention of this Convention in respect of marine scientific research conducted by other States, their

546 Ibid.
547 Ibid.
548 Winner n33 324.
549 LOSC art 263(1).
550 Soons n1 247-8.
551 LOSC art 263(3).

natural or juridical persons or by competent international organizations'.[552]

In the case of damage resulting from such measures, they shall similarly be liable for reparation.[553] The latter is however limited to compensation[554], ie money damages[555], and there is not duty to provide other relief such as restitution or satisfaction.[556] In the context of promoting international cooperation, the Convention further provides for a special regime for a particular category of MSR.[557] It reads '... a State ... shall provide, as appropriate, other States with a reasonable opportunity to obtain from it, or with its co-operation, information necessary to prevent and control damage to the health and safety of persons and to the marine environment'.[558] This is said to cover data necessary for studies of great social importance, such as predicting earthquakes, tsunamis or dangerous atmospheric conditions (such as hurricanes and monsoons), or for identifying and controlling cases of serious pollution, in order to prevent or minimize the harmful effects of such natural disasters or man-made conditions.[559] Under the rule, the coastal state is obliged to provide the data ('as appropriate') although it remains entitled to refuse consent to the requesting state for collecting the data itself, when the research (in this case, the data collecting activity) comes within the scope of the coastal state's discretionary power to withhold consent.[560] Thus, even if the coastal state does not allow the requesting state to collect data (under 'reasonable' conditions), it will still have to

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552 LOSC art 263(2).
553 Ibid.
554 Ibid.
555 See n548.
556 Soons n1 248.
557 Ibid 241.
558 LOSC art 242(2).
559 Soons n1 241.
560 Ibid 241-2.

collect it itself and subsequently provide it to the requesting state.[561]

Finally, the Convention provides detailed procedures for the settlement of disputes.[562] This envisages inevitable problems of interpretation and application when it is in force.[563] In principle, disputes concerning MSR are subject to the compulsory procedures entailing binding decisions.[564] However, there are a number of exceptions[565] where the coastal state is not obliged to submit to the dispute settlement mechanism.[566] These include: disputes with regard to the exercise by the coastal state of its rights in accordance with article 246[567] to disallow inter alia fundamental MSR where it is obliged in normal circumstances to grant its consent and to disallow applied MSR for which it may withhold its consent at its discretion[568]; disputes with regard to decisions to suspend or terminate research projects[569]; and law enforcement disputes concerning rights and jurisdiction related to MSR.[570] Instead of being referred to a tribunal[571], these must be submitted, at the

561 Ibid 242.
562 See n453.
563 Winner n33 325.
564 LOC art 264. The said procedures are laid down at length in Part XV, Section 2 of the same Convention.
565 Winner n33 326.
566 LOSC art 297(2)(a).
567 LOSC art 297(2)(a)(i).
568 Kwiatkowska n32 145.
569 LOSC art 297(2)(a)(ii).
570 LOSC art 298(1)(b).
571 According to art 287(1) of LOSC, a state becoming a party to the Convention, or at any time thereafter will be free to choose, by means of a written declaration, one or more following means for the settlement of disputes relating to the interpretation or application of the Convention: (a) the International Tribunal for the Law of the Sea, constituted in accordance with Annex VI to the Convention; (b) the International Court of Justice; (c) an arbitral tribunal, constituted in accordance with Annex VII to the Convention; (d) a special arbitral tribunal, constituted in accordance with Annex VIII to the Convention for one or more of

request of either party, to conciliation provided that this shall not call in question the exercise by the coastal state of its discretion to designate specific areas of its continental shelf beyond the limit of 200nm, or of its discretion to withhold consent to the conduct of applied research projects.[572] As a result, the conciliation commission may deal with, and make recommendations concerning, disputed questions relating to suspension or cessation of MSR activities in progress in its EEZ or on the continental shelf and decisions not to grant consent for research to be conducted in the EEZ or on the continental shelf by invoking the existence of 'non-normal' circumstances.[573] Moreover, the commission, although it may not express any opinion on the exercise of discretionary power to withhold consent to certain research projects, is entitled to deal with the basic question whether or not projects are indeed covered by the absolute consent regime.[574] In other words, the conciliation commission may still express an opinion on, for example, whether or not a certain project is of direct significance for the exploration and exploitation of natural resources, but if its recommendation involves an affirmative answer to this question it may not express any opinion on the motivation (or lack of motivation) of the coastal state to withhold consent.[575] Similarly, the conciliation commission may, in respect of a decision of a coastal state to designate a specific area on the wider continental margin, express an opinion on whether the requirements for the designation of such areas have indeed been met; but if these requirements have been met, the coastal state decision itself is beyond

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the categories of disputes specified therein. One of those categories consists of disputes relating to MSR.

572 LOSC art 297(2)(b). The procedure is further specified in Annex V, Section 2 of the same Convention.

573 Soons n1 253.

574 Ibid.

575 Ibid 253-4.

discussion.[576] Within 12 months of its constitution, the commission shall make a non-binding report recording any agreements reached and, failing agreement, its conclusions on all questions of fact or law relevant to the matter in dispute and such recommendations as the commission may deem appropriate for an amicable settlement.[577] Arguably, this arrangement provides a restraint upon the activities of the coastal state.[578] However, it is generally agreed that the absence of compulsory procedures entailing binding decisions for the settlement of the most important disputes relating to MSR activities constitutes a serious deficiency of the regime in question.[579] In this situation the limited applicability of third-party dispute settlement may result in a significant restriction of MSR within the 200nm EEZ and on the continental shelf.[580] In short, compulsory or obligatory conciliation for the present purpose is not adequate.[581]

Generally speaking, the controls over MSR in the EEZ and on the continental shelf under LOSC appeal more to the developing coastal states than to the developed research states.[582] Although it is somewhat more clearly formulated than that of CSC[583], the 1982 regime leaves ample opportunities to prevent research by foreign scientists[584]: concessions by coastal states, including implied consent and preferential treatment of research projects under the auspices of or undertaken by international organizations,

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576 Ibid 254.
577 Annex V, art 7 of LOSC.
578 Remark of Clingan T in 'Discussion and Questions' in Park ed n26 371-2.
579 Soons n48 372. See also Scholz n8 106 and Kwiatkowska n318.
580 Ibid.
581 Soons n579. See also Soons n1 259. Staniland n141 240-1 and Krispis n167.
582 Soons n1 256. See also Winner n33 327.
583 Churchill and Lowe n285.
584 Ibid. See also Wooster n374 234.

are quite minimal. They open up ways and means of circumventing or preventing MSR that might be incompatible with national policies or international relations. The discretionary powers of the coastal states remain very broad and are not subject to third-party conciliation or arbitration.[585] The absolute consent regime, which is said to be wholly unnecessary[586], may induce coastal states to justify withholding consent on one or another of the above grounds.[587] As a result, the coastal states are allowed great discretion[588] without significant inhibition.[589] They have a de facto veto power over research projects.[590] It has been pointed out that this does not ensure access, on purely scientific priorities, to much of the world's oceans.[591] Moreover, the treatment of scientific research on the continental shelf under the same set of rules as scientific research in the EEZ may have the effect of blurring further any distinction between exploration and scientific research.[592] In practice, the consent provisions of the Convention are applied in many instances[593] and the full consent regime, which is less extensive than the implied consent rule, can already be regarded as declaratory of the established norms of general international law.[594] Under that, the researching state has to ask for (express) consent whenever it wishes to conduct research in waters under the

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585 Mangone n102 216-7.
586 Soons n582.
587 Wooster n374 233.
588 Staniland n361.
589 Wooster n374 220. See also Mangone n102 208, Scholz n8 101 and 124 and Burke n25 540.
590 Scholz n8 106.
591 Horness n64.
592 O'Connell n145 1033.
593 Soon n215 362.
594 Kwiatkowska n32 149-50. See also n207, Treves n35 208, Churchill and Lowe n15 295, Horness n295, O'Connell n540, Jacobson n47 190, Winner n33 328, remark of Alverson D in 'Discussion and Questions' in Miles and Allen ed n5 607-8 and remark of Treves T in 'Discussion and Questions' in Park ed n26 366.

jurisdiction of a foreign state.[595] On the other hand, the coastal state is free to refuse its consent to research which is strictly connected with activities over which it enjoys jurisdiction or has sovereign rights[596] ie research on fisheries[597], particularly when this involves the taking of fish[598], and other resources being protected.[599] This indicates that other elements in the Convention[600], such as those favouring LLGDS[601] and researching states, are not yet binding on all states.[602] Moreover, the differentiation between applied and pure MSR does not prevail in present international law.[603] As a result, it remains to be seen whether non-parties to LOSC denying consent in the exercising of their discretionary power will be limited to those circumstances set out in the Convention alone.[604] Basically, the scope of coastal state jurisdiction over MSR on the continental shelf as well as in the EEZ under customary international law does not seem to have changed much since UNCLOS III.[605]

To conclude, LOSC extends total coastal state control of MSR over the broad expanse of coastal ocean.[606] In this the consent regime is the centerpiece.[607] While establishing a relatively complete set of general legal guidelines[608], as a uniform 'ceiling'[609], this complex new instrument[610] remains

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595 Ibid. See also Kwiatkowska n32 154 and Soons n1 264.
596 Treves n594 367.
597 Ibid. See also n325, n327 and n358.
598 Kwiatkowska n32. See also n203 and Soons n595.
599 See n327.
600 Treves n35 208. See also Treves n594 366-7.
601 Soons n48 331. See also Soons n269 304.
602 See n596.
603 Wolfrum n250 139.
604 Symmons and Gardiner n212. See also n596.
605 Soons n595.
606 Wooster n468 508.
607 Yusuf n33 421. See also Yankov n96 167, Horness n95 and Soegiarto n61 527.
608 See n216. See also Sanger n96.
609 Winner n582.

however ambiguous[611], confining[612] and sometimes controversial.[613] In view of the wide range of caveats and reservations[614] which result in a lack of enforceable measures against unreasonable coastal state actions[615], severe constraints are placed on the conduct of distant-water oceanography.[616] In addition to the possible delays, disruptions and added costs[617], its establishment of distinct regimes for scientific activities in various parts of ocean space would inevitably affect the integrity of ocean studies in an environment which could not be compartmentalized in accordance with political considerations or legal criteria.[618] It has been pointed out that the Convention does not envisage military research[619], conducted inter alia by navies.[620] It has been suggested that the general principles applicable in the EEZ and on the continental shelf should mutatis mutandis be applied here. Consent will therefore be necessary, but it will have to be granted whenever research is directly linked with activities that may be freely undertaken by all states in the EEZ or on the continental shelf.[621] This last issue is however fundamentally compromised by the provision in the same instrument that, even in the case of high seas, research should be carried out exclusively for peaceful purposes and for the benefit of mankind as a whole.[622]

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610 Fye PM 'Commentary [on Marine Scientific Research: How is Marine Scientific Research to be Conducted After UNCLOS III]' in Park ed n26 317. See Kwiatkowska n279.
611 Soons n1 257. See also Soons n122, Stevens n164 518 and Yusuf n33 429.
612 Wooster n584. See also Fye n610.
613 See n288. See also Sanger n96.
614 Hafner n493 353.
615 Stevens n164 524. See also n395.
616 Von Welck n460 327.
617 Horness n64 86.
618 Yankov n96 158-9.
619 Treves n600.
620 Indeed, they are the most important user of the oceans. See Charnock n4 121.
621 Treves n600. See also Soons n274 321.
622 See n592.

12.4 Solving the issue: recommendations

There can be little doubt that the new regime for MSR, whether under a Convention on the Law of the Sea or under customary international law as currently emerging, will result in a substantial increase in the possibilities for coastal states to exercise control over MSR.[623] With coastal state regulation being increasingly restrictive[624], more refusals of access will occur.[625] Apart from the often controversial nature of the questions relating to MSR[626], this may be attributed to the fundamental fact that most developing countries have little or no scientific capabilities[627], due to inadequate resources in qualified personnel[628], facilities and infrastructure[629], to verify the bona fides of activities.[630] Moreover, they may sometimes be uninterested in MSR[631], simply because they lack understanding as to the complexity of the marine environment and its resources and, as a result, they pay inadequate attention to scientific and related technological aspects of marine development.[632] Against this background, international cooperation has become inescapable.[633] This would aim at sharing technical facilities[634] and developing

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623 Soons n1 267.
624 Scholz n8 123. See also Winner n594 and Wooster n374 219.
625 Soons n1 268. See also n617.
626 See n487.
627 Wooster n48 48. See also Soons n1 37-8.
628 Anand RP 'Commentary [on Marine Scientific Research]' in Soons ed n8 546. See also Winner n33, n488, remark of Djalal H in 'Discussion and Questions' in Miles and Allen ed n5 and '1987 Report' n41 23 para 89.
629 Ibid.
630 Soons n627. See also n389 and Anand n628.
631 Soons n1 38.
632 '1987 Report' n628.
633 Remark of Miles E in 'Discussion and Questions' in Miles and Allen ed n5 605. See also Burke n40 603; Djalal n628 and Kwiatkowska n32 155.
634 '1989 Report' n61 19 para 78.

techniques, modalities and mechanisms[635], to facilitate the conduct of MSR.[636] In an era of increasing need for MSR[637], this has not been a controversial issue.[638] As a matter of fact, LOSC also acknowledges its importance[639] and requires that states and competent international organizations, 'in accordance with the principle of respect for sovereignty and jurisdiction and on the basis of mutual benefit, promote international cooperation in marine scientific research for peaceful purposes'.[640] Here it has been pointed out that regional agreement could work particularly well.[641] By way of contrast, bilateral arrangements are not an adequate method to use because of the excessive transaction costs involved.[642] Solutions at the regional level, being indispensable to the global scenario[643], have a greater chance of success[644] as participating countries will be more likely to place greater emphasis on regional unity.[645] This is even truer in the case of enclosed or semi-enclosed seas. Research projects of any significance in such areas will nearly always require the consent of several coastal states. The various coastal states will often need scientific information obtained in each others areas. Coordination and joint programmes in this field can ensure that the (often scarce) resources for MSR available within a region will be used most efficiently.[646] Such agreements can create a

635 Burke n589.
636 Ibid. See also '1989 Report' n634 and Knauss J 'Introduction [to Scientific Issues: Law of the Sea Conference and Access; Technology and Data Management]' in Alexander, Allen and Hanson ed n48 291.
637 See n623.
638 Soons n1 239.
639 Yankov n96 164.
640 LOSC art 242(1).
641 Soons n1 269. See also n593 '1987 Report' n628 and Kullenberg n60 543.
642 Burke n40 602.
643 '1989 Report' n61 21 para 88. See also Kullenberg n60.
644 Remark of Kearney R in 'Discussion and Questions' in Miles and Allen ed n5 609.
645 Jacobson n47 195.
646 Soons n1 245-6.

favourable position for scientific research[647] by establishing special, simplified procedures for obtaining consent.[648] In addition, such agreements may adopt special rules for the availability of research results, participation, assistance, training, transfer of technology and so on.[649]

In the region of the South China Sea, the littoral states' pressure on foreign MSR has already become a reality.[650] In shaping their response, Malaysia[651] and PRC[652] have followed very closely the Convention's provisions for the most part. Without going into detail, the regulations of others such as Indonesia[653], Kampuchea[654] and Vietnam[655] require the consent of the coastal state although Indonesia explicitly recognizes the implied consent rule.[656] To avoid further confusion which may result from the situation, it is submitted that states in this area should firstly follow the IOC's proposal to draft a standard application form.[657] It

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647 Yankov n96 174.
648 Soons n641.
649 Ibid.
650 Olson and Morgan n32.
651 Exclusive Economic Zone Act 1984 ss16-20. For a brief account in this regard see Kwiatkowska n32 148-9.
652 Dai R 'Management of Oceanographic Data and International Cooperation in China' in Alexander, Allen and Hanson ed n48 344.
653 Article 7 of Act 5 of 1983 on the Indonesian Exclusive Economic Zone, text of which in Simmonds KR ed New Directions in the Law of the Sea F3 May 1987 4.
654 Olson and Morgan n32 357.
655 Hanoi Domestic News Service (in Vietnamese), 1100 GMT July 21, 1980, declared that: 'All activities concerning geological investigation, research and exploration conducted... without the permission of the SRV constitute a gross violation of Vietnam's sovereignty and territorial integrity'. See Olson and Morgan n32 360.
656 In the 'Elucidation' concerning its EEZ legislation. See UN Law of the Sea Bulletin No 7 April 1986 37. See also Soons n269 304 and Kwiatkowska n32 148.
657 '1991 Report' n64 40 para 139. See also Stevens n164 519.

has been emphasized that this is the most basic step to be taken[658] and, in effect, has already been adopted in the Baltic Sea.[659] Next, they should jointly develop general guidelines, as urged by LOSC[660], to elucidate clearly their obligations in this regard.[661] In view however of the fact that the widespread application of the 1982 regime is only a question of time[662], these guidelines should be based upon that instrument.[663] Rather than attempting to produce a different set of criteria[664], the idea should be to put the provisions of the Convention text into simple, uniform language adjusting them for practical use[665], if necessary with the assistance of the UN Office of Ocean Affairs and Law of the Sea. These guidelines would have no binding effect.[666] In addition therefore to the creation of a central repository for such standards[667], the states in the region should also envisage an agreement to consolidate them legally.[668] The necessity for this kind of regional cooperation will not diminish when the Convention enters into force.[669] Such cooperation will ensure eg the investigation of upwelling off the Vietnamese coast.[670] In

658 Ibid.
659 Remark of Rotkirch H in 'Discussion and Questions' in Brown and Churchill ed n27 410.
660 LOSC art 251 asks States 'to promote through competent international organizations the establishment of general criteria and guidelines to assist States in ascertaining the nature and implications of marine scientific research'.
661 Stevens n164 525.
662 Kwiatkowska n673.
663 Ibid. See also Mangone n102 218.
664 Kwiatkowska n595. See also Stevens n472.
665 'Workshop V; Marine Scientific Research' n389 699-700.
666 Winner n331. See also n288.
667 See n366.
668 See n487. As a matter of fact, this had already been considered by the Helsinki Commission on the Protection of the Marine environment of the Baltic Sea Area and the ICES. See n657 and remark of Beverton RJH in 'Discussion and Questions' in Brown and Churchill ed n27 410-411 respectively.
669 Kwiatkowska n633.
670 Wooster n48 41.

all but a few cases this is not directly related to the exploration and exploitation of coastal resources.[671] Finally, it is worth noting that the IOC also proposed the establishment of marine reserves for protection and study of natural marine communities. Within these human activities would be restricted to observation and research[672] so as to avoid potential conflicts with other uses of ocean space.[673] It is suggested that this could be a desirable supplement to the aforementioned solution for Southeast Asian waters.

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671 Ibid 46. See also n264.

672 IOC Comprehensive Outline of the Scope of the Long-term and Expanded Programme of Oceanic Exploration and Research IOC Technical Series No 7 UNESCO 1970 15. See also Soons n1 29.

673 Ibid 28.

CHAPTER 13

PROTECTION OF THE RIGHTS OF LAND-LOCKED LAOS UNDER THE INTERNATIONAL LAW

13.1 The legal-political predicament of land-locked states in general

The problem of land-locked states, which has played a role in the UNCLOS III negotiations and in the resulting 1982 Convention, is by no means a 20th century phenomenon only.[1] As a matter of fact, it has deep roots in the world's political and economic history.[2] Being defined as those which possess no sea coast[3], land-locked territories from ancient times have frequently had to face obstructions, restrictions, tolls or heavy transit dues on goods and persons passing between them and the sea through more advantageously placed territories.[4] As trade grew in importance[5], the essential legal issue has therefore become: whether land-locked countries have a right of access to and from the sea, or whether such access is merely a privilege, ie contingent upon terms and conditions unilaterally imposed by countries of transit.[6] Historically, the land-locked states based their claims on, in the main, four approaches.[7] The first, based on 'natural right'[8] or on 'freedom of the seas'[9], argues that '[i]f the ocean is free to all mankind [res communis], it is reasonable to suppose that every people should have access to the shores of the ocean and the

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1 Menefee SP '"The Oar of Odysseus": Landlocked and "Geographically Disadvantaged" States in Historical Perspective' Calif WILJ 23(1) 1992-3 65.
2 Ibid.
3 Glassner MI Access to the Sea for Developing Land-Locked States 1970 2. See also Menefee n1 3.
4 Glassner n3 17.
5 Ibid.
6 Sinjela AM Landlocked States and the UNCLOS III Regime 1983 40.
7 Glassner n3 16. See also Van Zyl U: 'Access to the Sea for Land-locked States' Sea Changes 6 1987 116.
8 Menefee n1 6. See also n6 and Van Zyl n7 117.
9 Ibid. See also n6, Menefee n8 and Glassner n7.

right to navigate all navigable rivers discharging into it, since they are "only a natural prolongation of the free high seas"'.[10] A second idea held that rights of access arose from 'freedom of transit'[11] or from the related shared goal of 'expansion of international trade and economic development'.[12] In the third place, the established principle of innocent passage through the territorial sea of coastal states was cited in support of an analogous right of transit for land-locked states.[13] Finally, there was a minority position that transit under such circumstances constituted a 'public law servitude'.[14] According to this theory, it has been particularly pointed out, the state claiming the right must be able to justify it under considerations of necessity (which is a more flexible notion than necessity in the sense of immediate or overwhelming urgency) or convenience (conceived as the existence of a bona fide and legitimate interest); and the exercise of the right must cause no harm or be prejudicial to the transit state.[15] Moreover, while the route sought need not be the only route available[16], an international servitude is a real right, whereby the territory of one state is subjected to permanent use by another state for some specified purpose and, once granted, attains in international law an existence independent of the agreement which created it with the result that it is not abolished with the cancelling of the agreement.[17] Although these arguments were not unconvincing[18], nagging problems remained.[19] The major

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10 Pounds NJG 'A Free and Secure Access to the Sea' Annals of the Association of American Geographers 49 1959 357.
11 Glassner n7. See also Menefee n8 and Van Zyl n8.
12 Glassner n3 16-7.
13 Sinjela n6 41. See also Van Zyl n7.
14 Glassner n7. See also Menefee n8 and Van Zyl n8.
15 Lauterpacht E 'Freedom of Transit in International Law' Transactions of the Grotius Society 44 1958-9 320.
16 Ibid.
17 Reid HD International Servitudes in Law and Practice 1932 20 and 25.
18 Sinjela n6 42.

obstacle to development of a guaranteed right of access to the sea for land-locked countries has been the claim of territorial sovereignty by coastal states, the position of which is that rights of access for land-locked countries are not properly resolved through a single international rule, but are instead a matter for bilateral or regional agreements.[20]

At present, the land-locked countries constitute about one fifth of the world's nations, representing eight and one half percent of its land area and four percent of its population.[21] They all depend upon one or more states for their access to the sea and transport facilities.[22] As a result, as the number of land-locked states has increased, the potential for friction is enhanced.[23]

13.2 The access of land-locked states to and from the sea: international law prior to UNCLOS III

As early as the eleventh and twelfth centuries, territories in Europe, particularly Italy, began giving treaty rights to land-locked territories and began the internationalization of rivers. This was the original means of assuring access to the sea for land-locked states.[24] It was not however until 1919 that freedom of transit was first given multilateral support.[25] The Covenant of the League of

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19 Glassner n3 18.
20 See n18.
21 Menefee n1 4.
22 Ibid 4 and 6. As a matter of fact, states that are land-locked are not only dependent upon transit states for access, but they know that they are so dependent. This psychological disadvantage, it has been pointed out, can - and often does - further impair progress in such states. See Van Zyl n7 115. See also Mirvahabi F 'The Rights of the Landlocked and Geographically Disadvantaged States in Exploitation of Marine Fisheries' NILR 26 1979 131.
23 See n1.
24 See n19. See also Menefee n1 18.
25 Ibid 37. See also Mirvahabi n22 134.

Nations was the earliest international document that recognized 'the freedom of communications and of transit and equitable treatment for the commerce of all Members of the League'.[26] In order to fulfil this provision, the Council of the League resolved on May 19, 1920 to invite members to attend a General Conference[27] which produced the Convention and Statute on Freedom of Transit, better known as the Barcelona Convention of 1921.[28] In the attempt to formalize the rules relating to transit trade[29], the subject matter was defined as:

> 'Persons, baggage and goods, and also vessels, coaching and goods stock, and other means of transport, shall be deemed to be in transit across territory under the sovereignty or authority of one of the Contracting States, when the passage across such territory, with or without trans-shipment, warehousing, breaking bulk, or change in the mode of transport, is only a portion of a complete journey, beginning and terminating beyond the frontier of the State across whose territory the transit takes place'.[30]

Under the Statute, all contracting states were required to 'facilitate free transit by rail or waterway on routes in use convenient for international transit'[31], provided that passengers and goods were not prohibited from entering on grounds of public health or security or as a precaution against diseases of animals or plants.[32] Temporary restrictions were permitted only in case of an emergency 'affecting the safety of the State or the vital interests of the country'.[33] Moreover, any dispute which might arise as to the interpretation or application of the statute which

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26 Article 23(e) of the Covenant.
27 Menefee n25.
28 Text in Glassner n3 247-53.
29 Franck TM, El Baradei M and Aron G 'The New Poor: Land-Locked, Shelf-locked and Other Geographically Disadvantaged States' NYUJILP 7 1974 51.
30 Article 1 of the Statute.
31 Article 2 of the Statute.
32 Article 5 of the Statute.
33 Article 7 of the Statute.

was not settled directly between the parties themselves should be brought before the Permanent Court of International Justice, unless, under a special agreement or a general arbitration provision, steps were taken for the settlement of the dispute by arbitration or some other means.[34] Finally, a proposal by Switzerland to have the Statute binding during time of war was rejected by the conference.[35] As a compromise, it was stipulated, instead, that '[t]his Statute does not prescribe the rights and duties of belligerents and neutrals in time of war. The Statute shall, however, continue in force in time of war so far as such rights and duties permit'.[36]

In essence, the Convention and Statute instituted a general freedom of transit, irrespective of whether or not the operation concerned land-locked states and their access to and from the sea[37], codifying the existing practices of bilateral treaties in a multilateral context.[38] Although the instrument provided a promising start for securing an internationally recognized right of transit, several deficiencies - from the land-locked states' point of view - were however evident in its scope and coverage.[39] In the first place, it would have served these countries well had

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34 Article 13 of the Statute. In the following paragraph, it further read that: 'In order to settle such disputes, however, in a friendly way as far as possible, the Contracting States undertake, before resorting to any judicial proceedings and without prejudice to the powers and right of action of the Council and of the Assembly, to submit such disputes for an opinion to any body established by the League of Nations...'.

35 Toulmin GE 'The Barcelona Conference on Communications and Transit and the Danube Statute' BYIL 3 1922-3 167 and 174.

36 Article 8 of the Statute.

37 Caflisch LC 'Land-Locked States and Their Access to and from the Sea' BYIL 49 1978 82.

38 Povolny J 'Landlocked States and the Law of the Sea' Marine Policy Reports 2 March 1980 3.

39 Sinjela n6 43-4.

the right of transit been declared of universal application[40] rather than confined to state parties to the Convention.[41] Secondly, the Convention does not provide for traffic by road and pipelines, a reflection of the state of transportation in 1921 and the Convention's European orientation.[42] A third limitation was that the right of free transit was not absolute.[43] It did not override the rights and duties of belligerents and neutrals in time of war.[44] Nor did it apply to passengers or goods excluded for reasons of health or public security.[45] Moreover, it did not affect provisions of conventions 'relating to the transit, export or import of particular kinds of articles... or in pursuance of general Conventions intended to prevent any infringement of industrial, literacy or artistic property, or relating to false marks, false indications of origin, or other methods of unfair competition'.[46] Finally, the criticism was directed at the great prominence it accorded to the transit problems of land-locked countries in

40 Ibid 44. See also Van Zyl n7 120. Indeed, art 6 of the Statute, which read that '[t]his Statute does not of itself impose on any of the Contracting States a fresh obligation to grant freedom of transit to the nationals and their baggage, or to the flag of a non-Contracting State, nor to the goods, nor to coaching and goods stock or other means of transport coming or entering from, or leaving by, or destined for non-Contracting State...', clearly failed to recognize the right of transit as a general principle of international law. See Franck, El Baradei and Aron n29 52. See also Mirvahabi n22 135.

41 Sinjela n6 44. See also Van Zyl n40 and Menefee n1 38. A proposal that the Convention expressly state its universal application was rejected on the grounds that, in allowing states which were not parties to enjoy its benefits, fewer states would then elect to become parties. See Makil R 'Transit Rights of Land-Locked Countries: An Appraisal of International Conventions' JWTL 4 1970 40.

42 Franck, El Baradei and Aron n40. See also Van Zyl n40 and Sinjela n41.

43 See n38. See also Menefee n41.

44 See n35-6 and accompanying text supra.

45 See n32 and accompanying text supra.

46 Article 5 of the Statute.

Europe, thereby failing to take sufficient account of the distinct position of states in the new world.[47] As a result, the Barcelona Convention was actually not detailed enough to deal adequately with the problem.[48] At best, it could only be regarded as a minimum standard to be used in negotiations for bilateral and multilateral agreements on transit, including those involving access to sea.[49]

After World War II, the General Agreement on Tariffs and Trade (GATT) was adopted to reduce tariffs and other barriers to international trade.[50] In it, the principles of the Barcelona Convention on freedom of transit are reaffirmed[51] : 'There shall be freedom of transit through the territory of each contracting party, via the routes most convenient for international transit, for traffic in transit to or from the territory of other contracting parties...'.[52] While following, in principle, the 1921 line[53], however, the operation of the provision is further subject to the application of the 'most-favoured-notion' clause[54] under which the neighbouring land-locked states cannot be accorded special concessions.[55] Moreover, for this freedom to be exercised by a party to GATT, its goods (the agreement does

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47 Makil n41. See also Sinjela n41 and Van Zyl n40.
48 Glassner n3 34 and 213.
49 Ibid 21.
50 Sinjela n41.
51 Ibid. See also Franck, El Baradei and Aron n40, Van Zyl n40 and Menefee n1 44.
52 Article 5(3) of GATT. UNTS 35 1950 210.
53 Churchill RR and Lowe AV The Law of the Sea 2nd ed 1988 324.
54 Franck, El Barade and Aron n40. See also Mirvahabi n22 136. This refers to art 5(6) of GATT which stipulates that 'Each contracting party shall accord to products which have been in transit through the territory of any other contracting party treatment no less favourable than that which would have been accorded to such products had they been transported from their place of origin to their destination without going through the territory of such other contracting party...'.
55 Franck, El Barade and Aron n29 53.

not make provision for free transit of persons as the Barcelona does[56]) must not only pass through the territory of a party to GATT, but both the state of origin and the state of destination must also be parties to GATT.[57] This triple requirement (which also applies in the case of the 1921 Convention) may in practice prove a considerable limitation on the freedom granted by the aforementioned article.[58] In failing to deal with the special claims of land-locked states as a separate issue[59], the Agreement does not in the result offer more than what the Barcelona Convention already had.[60]

The next post-war developments[61] were the Havana Conference of 1947, whose purpose was the establishment of an International Trade Organization[62], and the United Nations Economic Commission for Asia and the Far East (ECAFE) in 1956.[63] On the former occasion, a Charter was adopted and art 33 was very similar to art V of GATT, except for one major difference.[64] A new paragraph 6 read:

> 'The Organization may undertake studies, make recommendations and promote international agreement relating to the simplification of custom regulations concerning traffic in transit, the equitable use of facilities required for such transit and other measures designed to promote the objectives of this Article.

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56 Ibid.
57 See n53.
58 Ibid.
59 Prandler A 'Promotion of the Interests of Land-Locked States in the New Law of the Sea' in Haraszti G ed Questions of International Law II 1981 158.
60 Mirvahabi n54.
61 Menefee n1 45.
62 See UNCTAD Texts of International Instruments and Certain Recommendations Relating to Transit Trade (E/CONF 46/AC 2/2) September 25 1964 70.
63 See United Nations, Economic Commission for Asia and the Far East (ECAFE) Problems of Trade of Land-Locked Countries in Asia and the Far East (ECAFE/I&T/Sub 4/2) Tokyo August 29 1956.
64 Menefee n1.

> Members shall cooperate with each other directly and through the Organization to this end'.[65]

Commentary on this paragraph related specifically to land-locked states:

> 'If, as a result of negotiations in accordance with paragraph 6, a Member grants to a country which has no direct access to the sea more ample facilities than those already provided for in other paragraphs of article 33, such special facilities may be limited to the land-locked country concerned unless the Organization finds, on the complaint of any other Member, that the withholding of the special facilities from the complaining Member contravenes the most favoured nation Provisions of this Charter'.[66]

Although the Charter never went into effect[67], this however raised for the first time the Most Favoured Nation controversy which was to prove one factor in the debates at UNCLOS I.[68] In the latter case, ECAFE approved a resolution in which it recommended 'that the needs of land-locked member States and members having no easy access to the sea in the matter of transit trade be given full recognition by all member States and that adequate facilities thereof be accorded in terms of international law and practice in this regard'.[69] This was the first time that a major international body gave special consideration to the 'needs' of land-locked states as such.[70] The word 'needs' was prominent here and not 'rights', but there was no indication of a necessity for new rules or procedures for the benefit of land-locked states.[71] Significantly, reliance was still

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65 See n62.
66 United Nations Conference on Trade and Development, Interpretative Note, Annex P To the Charter, UN Doc E/CONF 2/78 1948 26.
67 In the event, the Charter was only ratified by Australia with reservations. See Glassner n3 23.
68 See n61.
69 E/CN 11/425, cited in E/CN 14/INR 144 11. See also Glassner n3 25.
70 Ibid.
71 Ibid.

placed on existing 'international law and practice'[72], by which '[t]he countries who have so far not acceded to the Barcelona Statute of [*sic*] Freedom of Transit may be urged to do so at an early date... It may also be hoped that all the countries of the region would eventually join the General Agreement on Tariffs and Trade...'.[73] In short, therefore, the Havana Charter and the resolution of ECAFE did not achieve much except to remind the world community of the problems of land-locked states.[74]

The 1958 Geneva Conference on the Law of the Sea offered a new forum for land-locked states.[75] At the conference land-locked states vigorously asserted their claims to free communications with seaports and to enjoyment of equal rights with coastal states in matters of navigation.[76] The result of the debate was the formulation of art 3 of the Geneva Convention on the High Seas (HSC), part of which reads that:

> '1. In order to enjoy the freedom of the seas on equal terms with coastal states, states having no seacoast should have free access to the sea. To this end states situated between the sea and a state having no seacoast shall by common agreement with the latter and in conformity with existing international conventions accord:
>
> (a) To the state having no seacoast, on a basis of reciprocity free transit through their territory and
>
> (b) to ships flying the flag of that state treatment equal to that accorded to their own ships, or to the ships of any other states, as regards access to seaports and the use of such ports'.[77]

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72 Ibid.
73 ECAFE/I&T/Sub 4/2 22. See also Glassner n3 26.
74 Mirvahabi n54.
75 Ibid.
76 See n59.
77 Text may conveniently be found in Harris DJ ed Cases and Materials on International Law 4th ed 1991 395-6.

The approach of UNCLOS I to the problem of land-locked states is inherently conservative.[78] As observed by some writers, this is indicated firstly by the fact that the draftsmen of art 3 did not actually establish a new claim for land-locked states but, by including the phrase 'in conformity with existing international conventions', they sought to strengthen the position of the land-locked states under previous bilateral and multi-lateral treaties, 'especially the Barcelona Convention of 1921'.[79] Moreover, the right of access is left unmentioned by the Convention[80], which could mean that there is no obligation on transit countries to open their territories for the thoroughfare of land-locked states.[81] A third restriction is that the Convention, in addition to the maintenance of most-favoured-nation clauses[82], further bases freedom of transit upon reciprocity.[83] 'Reciprocity' may be understood as that 'in exchange for transit rights obtained by it for purposes of access to and from the sea, the land-locked country is bound to open its territory to the trade of the transit state, so as to enable that state to have access to and from the sea adjacent to the territory of another coastal state'.[84] With respect to this new requirement, certain land-locked states, including Laos, have voiced their discontent, pointing out

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78 Glassner n3 31. See also Menefee n1 50.

79 McDougal MS and Burke WT The Public Order of the Oceans, A Contemporary International Law of the Sea 1962 113. See also Glassner n78 and Mirvahabi n22 137.

80 Prandler n59 159.

81 Sinjela n6 47.

82 As a matter of fact, the exclusion of special transit and ports rights of land-locked states from the operation of most-favoured-nation clauses were once suggested in the conference. However, the omission of any such exclusion from art 3 of the Geneva Convention must show that this proposal was rejected. See Caflisch n37 94.

83 Ibid. See also n80. It is however to be noted that this does not apply to the use of maritime transit ports by vessels of land-locked states. See n37.

84 Caflisch n37 89. Emphasis original.

particularly that it is based on the 'wrong supposition that both the land-locked and the transit states have comparable position and identical needs for transit... [which] is not the case'.[85] Finally, free transit and equal treatment in ports are to be regulated by mutual agreement between transit states and land-locked states.[86] Since there was no unanimous agreement at the conference[87], the 1958 Convention does not go beyond the provisions of the conventions elaborated after World War II[88] and fail to enhance the status of land-locked states.[89]

After 1958 Mongolia and 12 African land-locked states joined the United Nations and entered the world trading community as independent entities.[90] Interference with and threat to free transit continued.[91] Thus, the plight of land-locked states, once again received attention at the United Nations Conference on Trade and Development (UNCTAD).[92] The 1965 United Nations Conference on Transit Trade of Land-Locked Countries[93] produced the New York Convention on Transit Trade of Land-Locked States.[94] This provided the first opportunity for considering land-locked states not just as a side issue, but as an entirely separate set of problems.[95]

85 A/CONF 62/C 2/L 29 10. See also Delupis I 'Land-Locked States and the Law of the Sea' Scand SL 19 1975 113. In this regard, Prandler also points out that since a land-locked state cannot grant the transit state the right of access to the sea, the application of the principle of reciprocity makes no sense. See Prandler n59 161.

86 See n80. See also n53, Glassner n78 and Delupis n85 110.

87 Makil n41 44. See also Menefee n78.

88 See n59.

89 Ferguson S 'UNCLOS III: Last Chance for Landlocked States?' SDLR 14 1977 642.

90 Glassner n3 32.

91 Ibid.

92 Ibid 32-3.

93 This conference was attended by delegates of 58 states and observers of 10 states. See ibid 35-6.

94 Text in ibid 254-63.

95 See n80.

The Convention in which some other provisions are familiar[96], goes beyond previous instruments firstly affirming in its preamble that[97] - '[t]he recognition of the right of each land-locked State of free access to the sea is an essential principle for the expansion of international trade and economic development'.[98] Following this art 2 provides for free transit of goods 'on routes in use mutually acceptable for transit to the Contracting States concerned' and without discrimination 'based on the place of origin, departure, entry, exit or destination, or on any circumstances relating to the ownership of the goods or the ownership, place of registration or flag of vessels, land vehicles or other means of transport used'. Article 3 stipulates that the transited state shall not impose any customs duties or taxes except those levied solely and to the extent necessary to defray actual expenses of supervision and administration entailed by transit. Article 5 requires contacting states to apply administrative and customs measures to permit the 'carrying out of free, uninterrupted and continuous traffic in transit'. Article 6 provides for agreement to settle conditions of storage of goods in transit. Article 8 provides for granting free zones or facilities at the port of the transited state by agreement between these states and the land-locked states; and art 10 exempts the rights and facilities accorded to land-locked states under the Convention from the application of the most-favoured-nation clause on the ground that such rights and facilities are provided to the land-locked states because of their special geographical situation. These latter provisions represent considerable progress over their more general predecessors.[99]

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96 Franck, El Baradei and Aron n29 54.
97 Sinjela n6 49.
98 Principle I in the preamble of the New York Convention.
99 See n96.

A particularly significant new provision is art 16[100], which establishes arbitration procedure for the settlement of disputes not settled within nine months by negotiation or other peaceful methods. A dispute can be referred to the arbitration commission established by that article at the request of either party. It is also worth noting that the Convention is the first international instrument on transit trade which takes into account the special problems of land-locked states, in particular developing land-locked states.[101] It is thus an advance over the Barcelona Convention and GATT, among other things[102], because it covers traffic in transit by roads, pipelines and gas lines[103], which are of fundamental importance to land-locked states which are least developed.[104]

Finally, the Convention tries to balance benefits for the land-locked with protection of the transited state.[105] It provides, for example, that the routes for traffic in transit must be mutually acceptable[106]; that 'the rules governing the use of means of transport... shall be established by common agreement'[107]; that access to and passage across the territory of the state of transit 'of persons whose movement is necessary for traffic in transit' shall be in accordance with the laws, rules and regulations

100 Franck, El Baradei and Aron n29 55.
101 Ibid.
102 Ibid.
103 According to art 1(d) of New York Convention, the term 'means of transport' includes: (1) any railway stock, seagoing and river vessels and road vehicles; (ii) where the local situation so requires porters and pack animals; (iii) if agreed upon by the Contracting States concerned, other means of transport and pipelines and gas lines when they are used for traffic in transit...'.
104 See n100.
105 Ibid. See also Wani IJ 'An Evaluation of the Convention on the Law of the Sea from the Perspective of the Landlocked States' Vir JIL 22(4) 1982 635.
106 New York Convention art 2(1).
107 New York Convention art 2(2).

of the transited state.[108] Above all, the Convention permits the transited state to impose restrictions on traffic in transit on grounds of: (1) public health, essential security interests and protection of intellectual property[109]; (2) an emergency endangering its political existence or its safety[110]; and (3) wartime situation.[111] These however constitute rather broad derogations from the general rights of land-locked states and from protection for coastal states.[112]

Generally speaking, the New York Convention, though more limited in scope, is still based on the Barcelona models[113] and reaffirms the principles of the Barcelona Convention, GATT and HSC[114] without radical innovations.[115] As a result, a number of limitations in the previous instruments are present in this regime.[116] For example, in addition to rights of transit being subject to bilateral arrangements with the coastal state[117], there is the principle of reciprocity.[118] Moreover, while the Convention relies on principles of economic necessity and the right of land-locked states to enjoy freedom of the seas on equal terms with coastal states[119], it falls short of explicitly proclaiming these principles as principles of international

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108 New York Convention art 2(3).
109 New York Convention art 11.
110 New York Convention art 12.
111 New York Convention art 13.
112 See n100.
113 Makil n4 48. See also Menefee n1 62.
114 Mirvahabi n22 138.
115 Glassner n3 37. See also Menefee n113. As a matter of fact, the New York Convention, in some respects, is more insistent on conditions, provisos and escape clauses when compared with the Barcelona Statute and GATT. See Fried JHE 'The 1965 Convention on Transit Trade of Land-Locked States' IJIL 6 1966 28.
116 Sinjela n6 49-50.
117 Ferguson n89 644. See also Wani n105 634.
118 Sinjela n6 50. See also n80 and Wani n117.
119 See n114.

law.[120] However, the greatest drawback with this Convention is probably the low number of ratifications[121]: only thirty-one states were parties, of which sixteen were land-locked.[122] Among these sixteen land-locked states, moreover, only seven (Byelorussia, Chad, Czechoslovakia, Hungary, Mali, Mongolia and Niger) adjoin transit states which were also parties to the 1965 Convention.[123] Being far from satisfied with this situation[124], land-locked countries continued to seek solutions at the Third UN Conference on the Law of the Sea.[125]

13.3 LOSC and customary international law

As mentioned above, because of the problems and uncertainties in current international law, land-locked states again pushed for clarification of this important issue at UNCLOS III.[126] Unlike their vain efforts on previous occasions[127], Part X of LOSC does grant them clear access rights to the sea.[128] The rights are now more forcefully phrased and are independent of the requirement of 'mutual consent'[129]

> '1. Land-locked States shall have the right of access to and from the sea for the purpose of exercising the rights provided for in this Convention including those relating to the freedom of the high seas and the common heritage of mankind. To this end, land-locked States shall enjoy freedom of transit through the territory of transit States by all means of transport.

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120 Sinjela n118. See also Van Zyl n7 122 and Prandler n59 160.
121 Menefee n1 63. See also Churchill and Lowe n53 325.
122 Ibid.
123 Ibid.
124 Glassner n3 38. See also Menefee n113.
125 Sinjela n6 51.
126 Wani n105 640.
127 Churchill and Lowe n121.
128 Subedi SP 'The Marine Fishery Rights of Land-Locked States with Particular Reference to the EEZ' IJECL 2(4) 1987 230.
129 Ibid.

2. The terms and modalities for exercising freedom of transit shall be agreed between the land-locked States and transit States concerned through bilateral, subregional or regional agreements.

3. Transit States, in the exercise of their full sovereignty over their territory, shall have the right to take all measures necessary to ensure that the rights and facilities provided for in this Part for land-locked States shall in no way infringe their legitimate interests'.[130]

Being the cornerstone of and the latest international legislation on access of land-locked countries to and from the sea[131], this article is no doubt an improvement on the earlier provisions in both HSC and the New York Convention[132] in that it recognizes the unequivocal existence of a right of access to the sea and, as mentioned above, does not make the right of transit dependent upon special agreement.[133] Moreover, reciprocity is no longer required as a condition for transit.[134]

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130 LOSC art 125. Other less fundamental stipulations include: traffic in transit is free of all customs duties, taxes and other charges, except those levied for specific services (LOSC art 127); transit states should take all appropriate measures to avoid delays or other difficulties of a technical nature for traffic in transit (LOSC art 130); where there is no means of transport in transit states or when the existing facilities are inadequate, the transit and land-locked states may cooperate in constructing or improving them (LOSC art 129). As to the last provision, it has been particularly pointed out that its importance lies in the fact that where transit states are poor themselves, they cannot offer adequate transit facilities. See Wani n105 664.

131 Caflisch n37 95.

132 Wani n105 640-1.

133 Caflisch n37 96. See also prandler n59 162 and Wani n105 641.

134 See n133.

While the Convention considerably improves the position of the land-locked states[135], there are however still some shortcomings that call for attention.[136] The first drawback is that the key concepts in art 125 are couched in ambiguous and inconsistent language: while the land-locked countries are recognized to have a 'right' of access to the sea, transit is called a 'freedom'. [137] It has been pointed out that a right implies a corresponding duty on the part of another, whereas a liberty or freedom implies no such duty.[138] As a result, 'transit' in the latter context could eventually have no legal protection at all.[139] The second drawback relates to the paragraph which allows transit states, 'in the exercise of their full sovereignty', to take 'all necessary measures to ensure that the rights ... provided for in this Part for land-locked States shall in no way infringe their legitimate interests'.[140] Despite the limitation inherent in the reference to 'necessary measures', this sweeping formula might be viewed as even enabling transit states to take measures that would practically nullify the freedom of transit already granted by the Convention.[141] The third drawback lies in the formulation which states that the 'terms and modalities for exercising freedom of transit' should form the object of special bilateral, subregional or regional agreements concluded with the transit state or states.[142] The expression 'terms and modalities' is intended to reflect the idea that local conditions and the interest of the transit state should be considered in the exercise of rights of

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135 Symonides J 'Geographically Disadvantaged States under the 1982 Convention on the Law of the Sea' Hague Recueil 208(1) 1988 377.
136 Wani n133.
137 Ibid. See also n135.
138 Wani n105 642.
139 Ibid.
140 Caflisch n133. See also Wani n133.
141 Caflisch n133.
142 Ibid. See also Wani n133.

transit.[143] It could also be taken to suggest that the transit state may make the conclusion of a special agreement dependent on other factors as well.[144] Such an interpretation, once again, could considerably limit 'freedom of transit'.[145] The fourth problem arises out of art 130(1) which speaks about the obligations of transit states to take all measures to avoid or eliminate delays and other difficulties 'of a technical nature' to traffic in transit.[146] As pointed out, this leaves a wide margin for decisions by the transit state on action to be taken in cases of delay since these are very seldom of an exclusively technical nature.[147] Another comment relates to the paragraph granting freedom of transit to land-locked states with a view to securing their access to and from the sea for 'all means of transport'.[148] In a previous article, this expression is defined as:

> '(d) "means of transport" means:
>
> (i) railway rolling stock, sea, lake and river craft and road vehicles;
>
> (ii) where local conditions so require, porters and pack animals.

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143 Caflisch n133. Indeed, it is obvious that the day-to-day administration necessarily must take account of local circumstances. See Van Zyl n7 127.

144 Caflisch n133.

145 Caflisch n37 96-7.

146 See n135.

147 Ibid. Paragraph 2 of art 130 also confirms this and reads 'Should such delays or difficulties occur, the competent authorities of the transit States and land-locked States concerned shall co-operate towards their expeditious eliminations'. Does this mean that if a road or a bridge is damaged as a result of heavy rain, for example, the land-locked states should contribute to the cost of reconstruction of the road or the bridge? In this sense, therefore, it has been argued that art 130 may actually create more problems for a land-locked state than resolve its present problems. See Mirvahabi n22 149.

148 Caflisch n37 97.

2. Land-locked State and transit States may, by agreement between them, include as means of transport pipelines and gas lines and means of transport other than those included in paragraph 1'.[149]

These provisions are actually identical in substance with those of the 1965 New York Convention.[150] Behind the 1982 scene, it is however to be noted that claims for self-executing and enforceable air transit rights put forward by some land-locked countries were expressly disregarded in the conference.[151] Instead, it was decided that air transit should be arranged by mutual agreement.[152] Finally, an observation must be made in connection with art 131[153] , which provides for 'equal treatment in maritime ports' in the following terms: 'Ships fying the flag of land-locked States shall enjoy treatment equal to that accorded to other foreign ships in maritime ports'. At first glance, this provision seems to improve the regime instituted by art 3 of HSC. Access to and use of, maritime ports no longer depends on the conclusion of a special agreement with the port state.[154] However, the coastal state, under the new dispensation, could limit the vessels of neighbouring land-locked states to the treatment given to ships of the least favoured nation.[155] Moreover, this could in turn render the

149 LOSC art 124.
150 See n148.
151 Ibid.
152 Ibid. Strictly speaking. however, this stipulation is unnecessary, because agreements of this nature could be concluded between the interested states even in the absence of any explicit permission given by LOSC. See ibid.
153 Ibid.
154 Ibid.
155 Ibid 98. As coastal states are empowered, in the absence of any agreement to the contrary, to deny the vessels of any country access to their internal waters and particularly to their maritime ports, art 131 in fact means that if a coastal state closes its ports to the ships of even one single country, it may also close them to vessels flying the flags of its land-locked neighbours. See ibid.

article which excludes the application of most-favoured-nation clauses[156] immaterial, since the status of vessels of land-locked countries would be that of the least favoured nation.[157] It has been particularly pointed out that the exclusion of the most-favoured-nation clause by the article could become relevant only if the vessels in question were assured of a treatment superior to that granted to ships of the least-favoured nation.[158] As a result, art 131 does not adequately protect the interests of land-locked states.[159] In short, LOSC continues to offer little more to land-locked states than the Barcelona Conference of 1921.[160]

Generally speaking, there was a general consensus in the conference, on certain fundamental principles on access to the sea for land-locked states.[161] In the first place, to enable their participation in the common heritage of mankind, a right of access to the sea must be recognized for land-locked states as a matter of necessity.[162] In the second place, implicit to meaningful recognition is the proposition that general principles governing the exercise of this right must be provided for in a single internationally binding legal instrument.[163] While on the level of customary international law the rights of land-locked states in matters of transit and access to maritime

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156 LOSC art 126 states that 'The provisions of this Convention, as well as special agreements relating to the exercise of the right of access to and from the sea, establishing rights and facilities on account of the special geographical position of land-locked States, are excluded from the application of the most-favoured-nation clause'.
157 Caflisch n37 99.
158 Ibid.
159 Ibid 98.
160 Mirvahabi n22 157.
161 Van Zyl n7 126.
162 Ibid.
163 Ibid.

transit ports are still uncertain[164], the 1982 Convention is surely a positive step towards these goals.[165] As a result, its provisions conferring a general right of transit, although they are not as detailed as those in the 1965 New York Convention[166], are of great importance.[167]

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164 Churchill and Lowe n53 323. See also Delupis n86 and Caflisch n37 79. Indeed, the contemporary state practice in these matters is characterized by frequent denials of transit rights, by severe restrictions placed on traffic in transit and by the fact that states find it necessary to conclude special transit agreements. See ibid and Delupis n85 111. Moreover, under customary international law there is no general right of access to ports (except for ships in distress). See Churchill and Lowe n53 318. Although some have argued that the provisions of the Barcelona Convention are either declaratory of customary international law or by their endurance have acquired the status of custom, however, most commentators oppose this idea. In supporting the latter view, it is argued that, in addition to the constant denial of the right in state practice which raises doubts concerning the argument that the Convention has established a norm of customary international law, the Barcelona Convention should be read in context as providing for a general freedom of transit for both land-locked and coastal states and that its basis was strict reciprocity. Moreover, they argue that the fact should be taken into account that the Barcelona Convention was strictly European in nature and that it had enduring value only in the subregion. As a result, it is generally agreed that customary international law does not recognize the right of transit. For further discussion, see Wani n105 638-9. The question has been separately asked whether under customary international law there exists a right of transit in relation to one specific mode of transit - navigation on international rivers. Opinion is divided, but the view of the majority of writers appears to be that under customary international law there is no right for vessels of one state - at least of a non-riparian state - to navigate a river passing through another state. See Churchill and Lowe n53 323. See also, for example, Vitanyi B The International Regime of River Navigation 1979 139-43 and Starke JG Introduction to International Law 10th ed 1989 191-4.

165 Van Zyl n143.

166 Mirvahabi n147.

167 Churchill and Lowe n53 327. Wani concludes that the greatest advantage in the Convention is that it addresses the concerns of land-locked states in

In addition to the issue of physical access to the sea, UNCLOS III also addressed another main concern of land-locked states as regards the right to extract resources from the sea.[168] This was largely due to the extension of coastal state jurisdiction over the EEZ. This results in a considerable diminution of the high seas and international seabed and thus in the marine resources available to land-locked (and geographically disadvantaged) states.[169] By way of compensation these states proposed at the conference that they should be given access to both the living and non-living resources both of the EEZ and of the continental shelf of neighbouring states.[170] As far as non-living resources were concerned, the aspirations of land-locked states were firmly rejected by coastal states[171], since the exclusive sovereign right to explore and exploit the continental shelf belongs to the latter. A claim to a share in the non-living resources was therefore tantamount to a revision of the legal status of the continental shelf.[172] Instead, land-locked states have been given limited access to the living resources of neighbouring EEZs.[173] After all,

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ambiguous terms without denying their legitimacy. Thus, the provisions of the Convention can be taken as the basis for further alternative negotiations at the bilateral or regional levels. See Wani n105 662-3.

168 Ferguson n89 645.

169 Churchill and Lowe n53 320.

170 Ibid.

171 Ibid. See Subedi n128 231 and Mirvahabi n147. Generally see Vasciannie S 'Landlocked and Geographically Disadvantaged States and the Question of the Outer Limit of the Continental Shelf' BYIL 58 1987 271-302. LOSC art 82 only establishes a revenue-sharing regime in which payments and contributions are made by the coastal states whose continental shelves extend beyond 200 miles.

172 Symonides n135 339.

173 See n169. Related to the question of the access of land-locked states to the EEZs of neighbouring coastal states is the subject of marine scientific research. For the latter subject, see n492-517 and accompanying text in Chapter 12 supra.

the legislation of the concept of economic zones depended upon existing 'users' of fisheries agreeing to its limitation.[174]

In the Convention, therefore, it is further stipulated that land-locked states have:

> 'the right to participate, on an equitable basis, in the exploitation of an appropriate part of the surplus of the living resources of the exclusive economic zones of coastal States of the same subregion or region, taking into account the relevant economic and geographical circumstances of all the States concerned...'.[175]

The terms and modalities of such participation are to be established by the states concerned through bilateral, subregional or regional agreements, taking into account, inter alia: (a) the need to avoid effects detrimental to fishing communities or industries of the coastal state; (b) the existing bilateral, subregional or regional agreements on the exploitation of living resources of the EEZs; (c) the need to avoid a particular burden for any single coastal state or a part of it; (d) the nutritional needs of the populations of the respective state.[176] Where the harvesting capacity of a coastal state reaches the point which would enable it to harvest the whole of the total allowable catch in its EEZ, the coastal state and other states concerned 'shall co-operate in the establishment of equitable arrangements on a bilateral, subregional or regional basis to allow for participation' by developing land-locked states of the same subregion or region in the exploitation of the living resources of the EEZs of coastal states of the subregion or region, 'as may be appropriate in the circumstances and on terms satisfactory to all parties'

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174 See n172.
175 LOSC art 69(1).
176 LOSc art 69(2).

and taking into account the specified factors mentioned above.[177] The rights to equitable participation in the surplus applies in the case of developed land-locked states only to the EEZs of other developed states; and here regard also has to be had to the extent to which the coastal state, in giving access to other states to the living resources of its EEZ, has taken into account the need to minimize detrimental effects on fishing communities and economic dislocation in states whose nationals have habitually fished in its zone.[178]

The rights given to land-locked states may not be transferred to third states or their nationals unless all the states concerned agree.[179] It is always open to coastal states to grant to land-locked states rights greater than those laid down in the above provisions.[180] On the other hand, a coastal state 'whose economy is overwhelmingly dependent on the exploitation of the living resources of its exclusive economic zone' is under no obligation to allow access by other states to these resources.[181]

The clear effect of these provisions is that land-locked states have access to surplus living resources.[182] Moreover, they have priority or preference over third states.[183] This is particularly evident in the case of the developing land-locked states in which the provision seeks to ensure that their rights are protected in advance by the

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177 LOSC art 69(3).
178 LOSC art 69(4).
179 LOSC art 72(1).
180 LOSC art 69(5).
181 LOSC art 71.
182 Dahmani M 'Access of Landlocked and Geographically Disadvantaged States to the Fisheries Resources of the Economic Exclusive Zone (EEZ) under the New Convention on the Law of the Sea' Marit Pol Mgmt 10(4) 1983 268.
183 Ibid. See also Punal AM 'The Rights of Land-Locked and Geographically Disadvantaged States in Exclusive Economic Zone' JMLC 23(3) July 1992 446, 454 and 458.

establishment of the relevant equitable arrangements before the coastal state develops a harvesting capacity close to 'a point which would enable it to harvest the entire allowable catch of the living resources in its EEZ'.[184] In this instance, rights of participation are actually to be based on the allowable catch, ie the sum of the harvesting capacity plus any surplus.[185] Other preferential features include provisions on access of land-locked states to surplus. These contain a wealth of detail that is totally absent in the provisions on the access of other states to surplus.[186] The possibility of establishing subregional or regional agreements places the participation rights of land-locked states on a different footing from those of third-party states, to whom access shall be given 'through agreements or other arrangements'.[187] Finally, land-locked states enjoy rights of participation, whereas third-party states are to participate on the basis of concessions.[188]

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184 Ibid 442. In the Explanatory Memorandum on the Proposals (Doc NG 4/10 of 3rd May 1978), Ambassador Satya Nandan of Fiji explains '... if the harvesting of the entire allowable catch by the coastal state is the consequence of joint ventures or other similar arrangements with third parties, I think the land-locked and geographically disadvantaged states have a point when they say that their exclusion then would not be equitable' (emphasis added). See ibid 443.

185 Ibid. In a sense, thus, 'surplus limitation' does not seem to apply to developing land-locked states. See Caflisch L 'The fishing Rights of Land-Locked and Geographically Disadvantaged States in the EEZs' in Conforti B ed La Zone Economica Exclusive 1983 39. See also Punal n186 446.

186 Ibid 447.

187 Ibid 451. As far as the rights of participation of third-party states are concerned, LOSC art 62(2) stipulates that: '... where the coastal state does not have the capacity to harvest the entire allowable catch, it shall, through agreements or other arrangements..., give other States access to the surplus of the allowable catch...' (emphasis added).

188 Ibid 452.

While the Convention has provided land-locked states with a mechanism entitling them to equitable shares in the exploitation of living resources in the EEZ[189], it is not however entirely free from problems.[190] The first is that although land-locked states participate in the exploitation of the living resources of the EEZ as a matter of right, the 'terms and modalities' of this right are fixed through special agreements to be concluded with the coastal state.[191] This, it has been pointed out, enables the latter to deprive the participation right of its substance simply by refusing to enter into such agreements or by making their conclusion dependent on conditions other than those mentioned in art 69(2).[192] The next shortcoming stems from the possible meaning of the phrase 'where the coastal State does not have the capacity to harvest the entire allowable catch, it shall ... give other States access to the surplus of the allowable catch'.[193] Does the capacity referred to mean 'in order to satisfy domestic needs for consumption?'[194] Or, does it mean a state's capacity to exploit the allowable catch of the living resources for commercial purposes - including exporting the resources to

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189 Ferguson n89 655.
190 Symonides n135 380.
191 Caflisch n185 40. See also Symonides n135 332. At this juncture, it is however to be noted that the retention of the word 'right' in the Convention seems to suggest that although access is through agreements (bilateral, subregional or regional) between the coastal state and land-locked states, such agreements cannot be a prerequisite for access, but may only regulate the form of enjoyment of the right to participate in the exploitation of an appropriate part of the surplus of the allowable catch. See Dahmani n185 269.
192 Caflisch n191.
193 LOSC art 62(2).
194 Sinjela AM 'Land-Locked States Rights in the Exclusive Economic Zone from the Perspective of the UN Convention on the Law of the Sea: An Historical Evaluation' ODIL 20(1) 1989 74.

earn foreign exchange?'[195] In determining this, which is a prerogative of the coastal state[196], the latter can nullify participation simply by manipulating harvesting capacity, as well as the allowable catch, so as to avoid any surplus.[197] The third problem is that developing coastal states will have to share the living resources of the EEZs with their developing land-locked neighbours, whereas the developed coastal states of Europe, thanks to the surplus rule, will share nothing with anyone.[198] There is an unjustified discrimination here between developed and developing land-locked countries to the detriment of the former. This also entails a reverse discrimination between developing and developed coastal nations.[199] The fourth problem arises from the fact that geographically disadvantaged states enjoy a similar advantage.[200] Do the land-locked or the geographically disadvantaged states enjoy priority?[201] The fifth difficulty related to the allocation, amongst various coastal states, of the burden accruing to them as a result of the fishing activities of land-locked states in their region or subregion.[202] This, it has been pointed out,

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195 Ibid. In either case, however, it is clear that the harvesting capacity considered is that of the coastal state, not that of the coastal state plus third-party parties. See Punal n183 454.

196 Caflisch n191.

197 Caflisch n185 40-1. See also Mirvahabi n22 151 and n190. As a result, although the words 'shall ... give access' enshrines, in the first place, a definite obligation upon the coastal state to allow other states access to the surplus (the raison d'etre of which is the need to utilize all available sources of protein for the good of the world), this leeway actually renders it meaningless. See Punal n183 453.

198 Caflisch n185 42.

199 Ibid.

200 LOSC art 70.

201 Caflisch n185 43. There seem to be good reasons however for giving precedence to the former, for most geographically disadvantaged countries will be endowed with at least a small economic zone while the land-locked states will have none. See ibid.

202 Ibid.

remains largely unresolved.[203] The sixth is that land-locked countries are excluded from the exploitation of the living resources of the EEZ if the economy of the coastal state concerned is 'overwhelmingly dependent' on such exploitation.[204] Although this clause was inserted in the Convention for the very specific purpose of protecting the fisheries of Iceland[205], its abstract formulation might however induce countries other than Iceland to plead 'overwhelming dependence' and thus contribute to the erosion of the participatory rights of land-locked states.[206] The seventh drawback is the restriction on land-locked states from transferring their rights to others.[207] Prohibition also of joint ventures, it has been pointed out, impedes the interests of land-locked states, not only in obtaining animal protein for their population but also in employment opportunities and in developing their own fishing industries.[208] The eight drawback is that misapplication or misinterpretation of the provisions is not subject to binding peaceful settlement.[209] Instead, it falls under the formula of compulsory conciliation: the proceedings may be instituted at the request of any party to the dispute. They are terminated by the acceptance of a non-binding report which is transmitted to the appropriate international organizations.[210] This creates only a minimum of security.[211] In view of the arrangement, it is therefore particularly desirable that agreements concluded pursuant to

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203 Ibid.
204 Ibid 44. See also Dahmani n182 270 and Symonides n191.
205 Caflisch n185 44. See also Jayakumar S 'The Issue of the Rights of Landlocked and Geographically Disadvantaged States in the Living Resources of the Economic Zone' Vir JIL 18(1) 1977 91.
206 Caflisch n205.
207 Dahmani n204. See also Subedi n128 236.
208 Ibid 236-7.
209 Sinjela n194 75.
210 Symonides n135 334-5. The conciliation procedure is laid down in detail in Annex V of LOSC.
211 Symonides n135 334.

art 69 should include a clause on measures which the parties shall take in order to minimize the possibility of disagreement concerning the interpretation or application of the agreement and on how they shall proceed if a disagreement should nevertheless occur.[212] Finally, the expression 'of the same subregion or region' is not clear[213] in two respects.[214] The first is that the Convention does not define what is a 'subregion' or 'region'.[215] Although it has been reported that it is generally understood that the term 'region' could be taken to mean the geographical groupings recognized in the UN system[216], this however does not fully take into account the diversity of local geographical and economic situations.[217] It has therefore been suggested that there should be, on the one hand, just a single regional relationship for each land-locked state and on the other hand, just a single regional relationship for each coastal advantaged state.[218] Moreover, the process should be guided by two fundamental principles: that the regions emerging should possess surplus living resources. Without this the additional difficulties created by regional divisions based upon a deficit of living resources would mean the rapid rejection of such a system. Inter-regional balance should be sought as regards the ratio between surplus living resources and nutritional dependence on fishing.[219] Failure to observe the latter principle, it has been particularly emphasized, would be inconsistent with a more equitable worldwide distribution of fishery resources which is the aim of the latest revision of the law of the

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212 Ibid 335-6.
213 Caflisch n205. See also n190, Symonides n191 and Dahmani n204.
214 Ibid.
215 Ibid.
216 Extavour WC The Exclusive Economic Zone 1979 249. See also Dahmani n204.
217 Punal n183 433.
218 Ibid 431.
219 Ibid 431 and 436.

sea.[220] Secondly, the use of the expression 'subregion or region' is also ambiguous.[221] There are two possible interpretations.[222] The first is that where there is a subregion land-locked states' participation applies only to such subregion. In other words, it will apply to a region only when there is no generally recognized subregion.[223] A second, more favourable interpretation to land-locked states is that participation applies to both subregion and region.[224] In short, if the word 'or' means a choice for land-locked states then obviously a region might be a better area than a subregion; whereas for a coastal state in whose EEZ fishing is to take place, it would be advantageous to limit fishing right to the EEZs of states of the subregion rather than the region as a whole.[225]

In the end, therefore, it is pointed out that the Convention has created only 'soft' law[226] and the 'right' is more an 'advantage' than a 'right' in the strict sense.[227] Implementation rests to a great extent on the goodwill of coastal states.[228] Moreover, in the light of the formidable

220 Ibid 436.
221 Dahmani n204.
222 Ibid.
223 Ibid.
224 Dahmani n182 270-1.
225 Ibid 270.
226 Symonides n135 382.
227 Punal n183 448.
228 Ibid. See also Mirvahabi n22 153, Symonides n135, 331, 382 and n212. Allowing the harvesting of surpluses, the coastal state, pursuant to art 62(4), has the right of licensing, determining the species which may be caught, regulating seasons and areas for fishing, requiring information and reports, placing observers or trainees on board foreign fishing vessels, establishing terms and conditions relating to joint ventures, requiring the transfer of fisheries technology, etc. In the discussion on this article at the conference, land-locked (and geographically disadvantaged) states had already noted that such widely expanded rights of the coastal state would enable it to discriminate against vessels flying particular flags, or to restrict access to surplus harvesting. See Symonides n135 319.

difficulties facing land-locked states in starting a marine fishing industry alone[229], which include the cost of transport[230], lack of experienced fishermen, lack of technological knowledge and the problem of processing the fish[231], the rights of land-locked states are largely illusory.[232]

In conclusion, the provisions of the 1982 Convention pertaining to the rights of land-locked states to resources of the EEZ are complex and are likely to lead to disputes relating to determination, allocation and eventual exercise.[233] Since they do not constitute customary norms either[234], it appears that land-locked states are unlikely

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229 Churchill and Lowe n53 322. See also Dahmani n182 271. As a result, no land-locked state is as yet engaged in marine fisheries. See ibid.

230 Ibid. See also Churchill and Lowe n229.

231 Dahmani n182 271-2. In view of these difficulties, therefore, it has been pointed out that it would not be advisable for land-locked states to develop fishing industries to benefit from the exploitation of the surplus of the EEZs' living resources of their neighbouring coastal states. It would be beneficial to these states, especially the developing ones, to invest their limited capital in other more important sectors of their economies and it would have been more beneficial to them if the Convention had opted instead for some form of revenue sharing, or international taxation when part of the revenues, generated by the exploitation of the living resources of the EEZ, be distributed among land-locked states to help develop their economies and to ensure, to some extent, an equitable distribution of ocean wealth. See ibid 272-3. Churchill and Lowe uphold a similar view. See Churchill and Lowe n229.

232 Dahmani n182 273. One commentator even argues that the provisions on the EEZ contained in Part V of LOSC in fact represent a disadvantage to land-locked states compared to the less restrictive provisions of the Geneva Continental Shelf Convention. See n189.

233 Sinjela n194 73.

234 Symonides n135 389. See also Subedi n128 237. In this regard, Devine writes that `The provisions (which favour land-locked states) are legislative, ie new. They do not represent the existing law. Hence it is only by ratifying the Convention that a land-locked

to obtain much justice from coastal states under existing international law.[235]

13.4 Present arrangements for Laos and evaluation.
While recognizing that international law is vital for, inter alia, the establishment of an atmosphere within which free access to the sea for developing land-locked states is encouraged and for the provision of guidelines for working out the details of such access, one cannot but help feeling that it is not adequate.[236] One must agree that 'no international agreement is capable of permitting an interior state to enjoy the freedom of the seas to the extent it would like'.[237] After all, it 'cannot be expected to provide all the details for day-by-day traffic'.[238] The best solution to the question of access to the sea which can be provided through international law is probably a long-term bilateral agreement, based upon good relations between two states[239], detailing procedures for transit which are in conformity with the principles and rules laid down in modern international conventions which deal with the question.[240]

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state could acquire these rights and it would acquire them against a coastal state which also ratified the Convention'. See Devine DJ 'Southern Africa and the Law of the Sea: Problems Common, Uncommon and Unique' Ac Jur 1986 30.

235 Subedi n234.

236 Glassner n3 218.

237 Pearcy GE 'Geographical Aspects of the Law of the Sea' Annals of the Association of American Geographers 49 March 1959 22. See also n236.

238 The opinion of the UN Economic Commission for Africa, E/CN 14/INR/44 8. See also Glassner n3 213.

239 De Blij H Systematic Political Geography 1967 366-7. See also Glassner n3 217.

240 Ibid 214. See also Prandler n85. One obstacle is however that the economies of many land-locked states are competing with, rather than complementing, the economies of their transit neighbours. see Wani n105 663.

Being primarily concerned with access to and from the sea and only marginally with actual participating in the utilization of resources of the sea[241], Laos, too, recognizes the limitations of multilateral conventions.[242] Consequently, it has largely resorted to bilateral agreements for treaty rights of transit.[243] For example, it signed a Twenty-Five Year Friendship Treaty with Vietnam in 1977.[244] Vietnam agreed to permit the use of the port of Da Nang as a duty-free unloading area for goods bound for the land-locked state.[245] In a series of protocols, moreover, the Vietnamese promised to rebuild Route 9 and ancillary roads[246] and construct an oil pipeline, stretching from Laos into Vietnam.[247] It also concluded several agreements of cooperation with Kampuchea.[248] They similarly allowed for

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241 Glassner MI 'The Land-Locked States of South and Southeast Asia and the Exclusive Economic Zones of the Indian Ocean' in Craven JP, Schneider J and Stimson C ed The International Implication of Extended Maritime Jurisdiction in the Pacific 1989 310.

242 Glassner n3 214.

243 Delupis n85 106.

244 'Laos People's Democratic Republic' in Blaustein AP and Flanz GH ed Constitutions of the Countries of the World IX 1985 19. See also Kurian GT ed Encyclopedia of the Third World II 3rd ed 1987 1135 and Brown M and Zasloff JJ 'Laos 1977: The Realities of Independence' Asi Sur 18(2) February 1978 172. The text of the treaty, however, was not made public. See ibid.

245 See also 'Laos: Ah, That First Taste of Freedom' The Economist October 8 1988 67.

246 Bedlington SS 'Laos in 1981: Small Pawn on a Larger Board' Asi Sur 22(1) January 1982 91. See also Joiner CA 'Laos in 1987: New Economic Management Confronts the Bureaucracy' Asi Sur 28(1) January 1988 102.

247 Brown and Zasloff n244.

248 For example, the 1979 agreements on 'cultural, scientific and economic cooperation'. See 'Lao People's Democratic Republic' n244 20. See also Brown M and Zasloff JJ 'Laos 1979: Caught in Vietnam's Wake' Asi Sur 20(1) February 1980 104 and Gunn GC 'Foreign Relations of the Lao People's Democratic Republic: The Ideological Imperative' Asi Sur 20(10) October 1980 1004. There were also coordinated plans for the implementation of those agreements. See Joiner CA 'Laos in 1986: Administrative and International

the operation of private warehouses in the ports by Loatian nationals.[249] It is also worth mentioning that Laos, Kampuchea and Vietnam once signed the Treaty on Navigation of the Mekong, in 1954, which provided for the freedom of navigation for the parties in the waterways giving access to the port of Saigon - now Ho Chi Minh City - and to the sea.[250] This would have been of great importance to Laos, since it has no rail system[251] and is dependent to a large extent upon the rivers as its transportation artery.[252] However, the instrument never became operative.[253] In the southwestward transit traffic arrangement, both Laos[254] and neighbouring coastal Thailand[255] ratified the 1921 Barcelona convention. Although Thailand still intermittently cuts the lifelines of Laos to the sea[256] in, for example, 1980[257],

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Practically Adaptive Communism' Asi Sur 27(1) January 1987 111.

249 See n243.

250 Vitanyi n164 114 and 194.

251 Kurian ed n244 1140. See also Paxton J ed The Statesman's Year-Book 1990-91 1990 797.

252 Ibid 798. see also Glassner n3 8; n21; and Kurian n244 1129 and 1140. It is estimated that the Mekong river carries a fifth, ie 4 000 tonnes, of Laos' annual commercial traffic. See `Laos: Ah, That First Taste of Freedom' n245. See also Hiebert M `The Common Stream FEER February 21 1991 25.

253 Wheeler VM `Co-operation for Development in the Lower Mekong Basin' AJIL 64 1970 605 at n41. This was probably due to the subsequent political changes in the area. See Vitanyi n167 378 at n108.

254 On November 24, 1956. This was a result of the recommendations of ECAFE. See Glassner n73.

255 Sinjela n6 89 at n130.

256 Handley P `River of Promise' FEER September 16 1993 70. This practice, however, could be traced back to 1960. Moreover, it also happened in 1975 and 1977. see `Lao People's Democratic Republic' n244 5, 16-7 and 19. For the 1977 incident, see also Brown and Zasloff n244 168 and 171.

257 In June the Thai authorities partially closed the border with Laos, following a shooting incident on the Mekong in which a Thai naval officer was killed. See `Lao People's Democratic Republic' n244 22. See also Gunn n248 1006.

1981[258], 1983[259], 1986[260] and 1988[261] by restricting transit traffic[262] due to occasional hostilities over the border question[263], bilateral relations have however improved considerably since 1988.[264] In 1989, Thailand announced that it would lift, at Laos' request, the 14 year ban on the shipment, through its territory, to Laos of 29 items remaining on a list of 'strategic goods', including military-related equipment.[265] Generally speaking, Thailand has never intended to isolate Laos from the world at large.[266] In view of all these cooperative measures[267], present arrangements are said to be adequate for Laos' needs.[268]

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258 In February Thailand closed two river crossings near Vientiane in retaliation for a reported shooting by Lao troops into a Thai village. See 'Lao People's Democratic Republic' n257. see also Bedlington n246 88.

259 This was due to a dispute between Laos and Thailand concerning sovereignty over three villages in the region of the Sayaboury province. See 'Lao People's Democratic Republic' n244 25.

260 This, too, was due to the border clashes between Laos and Thailand. See Joiner n248 112.

261 This time the Thai action was promoted by a brief but bloody armed conflict over a disputed border with Laos in early 1988. see Hiebert M 'Look to the North' FEER August 6 1992 15. For a more detailed account of this incident, see 'Across the Heung Nga' The Economist February 6 1988 51.

262 In 1986, for example, Thailand had banned shipment of 273 'strategic' items through its territory to land-locked Laos. See Joiner n260.

263 Viraphol S 'Reflections on Thai-Lao Relations' Asi Sur 25(12) December 1985 1271.

264 Hiebert n261.

265 Gunn GC 'Laos in 1989: Quiet Revolution in the Marketplace' Asi Sur 30(1) January 1990 85-6. In 1987, Bangkok firstly reduced from 273 to 61 the number of 'strategic' goods banned for shipment through Thai territory to Laos. See Joiner n246 103. See also 'The Escape Route Through Laos' The Economist December 13 1986 58.

266 See n263.

267 Glassner n3 243.

268 Glassner n241 306.

Recently (in August 1993), at a conference held in Manila, the six riparian countries of the Mekong river, China, Burma, Thailand, Laos, Kampuchea and Vietnam, discussed ways to improve links between them for the purpose of easing the flow of goods and people.[269] The result was a shopping list of road, rail and other projects. This included selecting a route for upgrading into a major east-west highway from the Vietnamese coast through Laos to northeastern Thailand.[270] A continuing normalization of relations within the region is bound to further benefit Laos.[271]

Finally Laos seems unlikely, for political as well as practical reasons, to be ready to participate in marine fisheries for some time to come. There is however no reason to exclude it in the future from joint exploitation schemes on a regional (or subregional) basis .[272]

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269 Handley n256 68.
270 Ibid 68-9.
271 Ibid 70.
272 Glassner n241 309-10.

PART IV - CONCLUDING PART

CHAPTER 14

CONCLUSION

In the introduction to this work it was pointed out that the region of the South China Sea is fraught with maritime problems. In the first place, there are various types of pollution. While pollutants mostly originate from vessels as well as offshore operations, land-based sources and air pollution, dumping is not unusual either. All these have caused considerable damage, or threat of damage, to the marine environment. In addition, there are a number of disputes, quite sophisticated in nature, over maritime boundaries. These in turn complicate fisheries management in the area. Moreover, in addition to the protection of the rights of coastal states, the marine interests of land-locked Laos are also to be accommodated in the region as a whole. Finally, Southeast Asian states have to take up thorny issues such as navigation through straits and marine scientific research.

To solve all these problems, as mentioned earlier, regional cooperation has to be the way. Although this is full of difficulties, it is not however totally out of question. Firstly, there is the 1982 UN Convention on the Law of the Sea which provides the latest international legal standards in all major aspects of marine affairs. By means of this comprehensive juridical infrastructure, the Southeast Asian countries are in a better position to commence. Secondly, there are quite a number of specific-issue-related international conventions, particularly in the field of marine pollution control. These are readily applicable as a supplement to the LOSC. Thirdly, there are plenty of cooperative arrangements in other regions. These not only can serve as precedents for Southeast Asia, but can also fill in gaps left by the abovementioned international conventions. Fourthly, the specialized agencies of the UN, through their continuous and up-to-date 'recommendations'

and 'guidelines', can facilitate cooperation greatly at the technical level. But more important is the fact that the region is not completely lacking in experience of cooperation. This is evidenced by the fact that the states have cooperated with each other on various issues, either through bilateral arrangements or in a multilateral forum, such as ASEAN.

As to the institutional arrangement, there is no doubt, it is submitted, that ASEAN is the best choice for at least four reasons. First of all, there it does not involve establishing a new organization thus causing problems of coordination.[1] This is particularly true when one takes into account the difficulties currently experienced by the UN in coordinating its various specialized agencies.[2] As a result, one should at the moment contemplate taking full advantage of the ASEAN system rather than imposing new structures upon the old ones. Secondly, ASEAN is legally competent to assume the task under discussion. Founded in 1967 by the Association of Southeast Asian Nations Declaration[3], its fundamental purpose is '[t]o promote active collaboration and mutual assistance on matters of common interest in the economic, social, cultural, technical, scientific and administrative fields'.[4] This could (or should) in practice be interpreted to cover every aspect of maritime affairs. Hence, there is a legal foundation in place for the present purpose. Thirdly, ASEAN adopts the 'rule of law' approach in dealing with regional matters. In this respect, it is clearly stated in the

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1 Beesley JA 'An Action Plan for Competent International Organizations on Marine Pollution' in Koers AW and Oxman BH ed The 1982 Convention on the Law of the Sea 1984 590.

2 Ibid.

3 Text in Peaslee AJ International Governmental Organization, Constitutional Documents I Rev 3rd ed 1974 145-6.

4 Para 3 of the Second art of the 1967 Declaration.

Declaration that all member states to ASEAN are required to 'promote regional peace and stability through abiding respect for justice and the rule of law in the relationship among countries of the region and adherence to the principles of the United Nations Charter'.[5] The abovementioned juridical network could therefore easily fit in with the ASEAN system. Fourthly, ASEAN has adequate operational machinery. This is clear from the third article of the Declaration:

> '(a) Annual Meeting of Foreign Ministers, which shall be by rotation and referred to as ASEAN Ministerial Meeting. Special Meetings of Foreign Ministers may be convened as required.
>
> (b) A Standing Committee, under the chairmanship of the Foreign Minister of the host country or his representative and having as its members the accredited Ambassadors of the other member countries, to carry on the work of the Association in between Meetings of Foreign Ministers.
>
> (c) Ad Hoc Committees and Permanent Committees of specialists and officials on specific subjects.
>
> (d) A National Secretariat in each member country to carry out the work of the Association on behalf of that country and to service the Annual or Special Meetings of Foreign Ministers, the Standing Committee and such other committees as may hereafter be established'.

In a later development, moreover, the Meeting of Heads of Government, which was introduced not only as an additional organ but in fact as the highest ASEAN authority, and a central secretariat, whose function is mainly to coordinate, were further added to the original set-up.[6] As a matter of

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5 Para 2 of the second art of the 1967 Declaration. Emphasis added.

6 Syatauw JJG 'ASEAN - Unexpected Progress in Asian Regional Organization' in Girardot RG, Ridder H, Sarin ML and Schiller T ed New Directions in International Law 1982 523-4. See also Shee PK 'A Decade of ASEAN, 1967-1977' Asi Sur 17(8) August 1977 764.

fact, ASEAN even has its own mechanism for pacific settlement of disputes. This is instituted by the 1976 Treaty of Amity and Cooperation in Southeast Asia.[7] Article 14 stipulates that:

> 'To settle disputes through regional processes, the High Contracting Parties shall constitute, as a continuing body, a High Council comprising a Representative at ministerial level from each of the High Contracting Parties to take cognizance of the existence of disputes or situations likely to disturb regional peace and harmony'.

In the event of failure to reach a solution through direct negotiations, art 15 of the Treaty states that:

> 'the High Council shall take cognizance of the dispute or the situation and shall recommend to the parties in dispute appropriate means of settlement such as good offices, mediation, inquiry or conciliation. The High Council may however offer its good offices, or upon agreement of the parties in dispute, constitute itself into a committee of mediation, inquiry or conciliation. When deemed necessary, the High Council shall recommend appropriate measures for the prevention of a deterioration of the dispute or the situation'.

In view of all these arrangements, ASEAN can be said to possess the necessary organizational muscles. Before it can serve the South China Sea as a whole, of course, ASEAN has first to expand its membership to include all other states in the region. Even in this respect, however, the prospect is favourable. This is because the 1967 Declaration clearly states that 'the Association is open for participation to all States in the South-East Asian Region subscribing to the aforementioned aims, principles and purposes'.[8] Under this 'open-door' policy both Laos and Vietnam signed the ASEAN Treaty of Amity and Cooperation in July 1992 preliminary to eventual full membership.[9]

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7 Text in ILM 27(3) May 1988 610-2.
8 The Fourth Article of the 1967 Declaration
9 The Europa World Year Book 1993 II 1993 1726 and 3189.

ASEAN can also serve the present purpose well at the technical level. For example the ASEAN Council on Petroleum Exploration (ASCOPE) deals with problems of marine pollution.[10] As its main function is to tackle the environmental consequences of exploration for petroleum and natural gas, this agency has long been discussing standardization of environmental and safety regulations for offshore drilling and the local complexities of containing transboundary oil spills.[11] Moreover, there is the Committee on Food, Agriculture and Forestry which directly touches upon fisheries management issues.[12] Indeed, one of its main functions is to carry out a thorough survey of fish potentials in the EEZs to supply more protein to meet domestic and world needs.[13] In this case, however, an independent quota board is probably needed in the future scheme. As to navigation, there is no doubt that this falls within the sphere of the ASEAN Committee on Transportation and Communication.[14] As mentioned in Chapter 2, the

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10 Ruddle K 'Pollution in Marine Coastal Environment of ASEAN Countries' in MacAndrews C and Chia LS ed Southeast Asian Seas, Frontiers for Development 1981 174. See also Soegiarto A 'The Potential Impact of Pollution on Indonesian Coastal Resources with Special Reference to the Major Emerging Shipping Routes' in Valencia MJ, Gold E, Chia LS and Letalik NG ed Shipping, Energy and Environment: Southeast Asian Perspectives for the Eighties 1982 131 and Jaafar AB and Valencia MJ 'Marine Pollution: National Responses and Transnational Issues' in Kent G and Valencia MJ ed Marine Policy in Southeast Asia 1985 297.

11 Ibid. Another similar example is the ASEAN Expert Group on Marine Pollution, which is concerned with vessel-source pollutants, in particular oil and other hazardous substances. This group has organized a Contingency Plan for the Control and Mitigation of Marine Pollution which provides for, inter alia, a system for rendering mutual assistance to cope with an oil spill which a member country alone cannot handle. See ibid 297-8.

12 Samson ED 'Fisheries' in Kent and Valencia ed n10 140.

13 Ibid.

14 Bouayad A 'Co-operation Among Developing Countries in World Shipping' Marit Pol Mgmt 14(4) 1987 269.

function of this organ is to harmonize national maritime transport policies and to provide the framework for cooperative arrangement at the operational level.[15] With respect to scientific research, the ASEAN Committee on Science and Technology has already organized a number of projects.[16] Moreover, its Subcommittee on Marine Science has discussed the possibility of a cooperative approach to extraregional access for marine scientific research and has approached the European Union and the United States for assistance in funding cooperative marine scientific research.[17] In relation to problems of delimitation and title disputes, the procedures (for pacific settlement of disputes) laid down in the 1976 Treaty of Amity and Cooperation no doubt provide a very valuable mechanism. This is particularly true when one takes into account the fact that all states in the region are willing to give negotiation a try, at least as a first step.[18] Finally, it is submitted that the ASEAN Central Secretariat could play a more policy-oriented role with some power and leadership delegated to the Secretary-General. This would surely enhance its capability to handle those extraordinary situations. Furthermore, an ad hoc committee on Laos might be established to deal specifically with the problems of that country. The basic purpose would of course be to consider Laos' needs on a more coherent and holistic basis.

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15 See n155 and accompanying text in Chapter 2. In 1987, for example, it was agreed to promote shipping links among member states and to investigate the feasibility of joint facilities for shipping companies. See The Europa World Year Book I 1994 106.

16 These include: the Protein Project, investigating low-cost alternative sources of protein; research in food technology and the management of food waste materials; compilation of a Climatic Atlas and Regional Compendium of Climatic Statistics; a nature conservation scheme; and non-conventional energy research. See ibid.

17 Valencia MJ 'National Marine Interests in Southeast Asia' in Kent and Valencia ed n10 55-6.

18 Park CH 'Offshore Oil Development in the China Seas: Some Legal and Territorial Issues' Ocean YB 2 1980 312.

In short, therefore, ASEAN is of particular significance. Together with the specialized organs established by it, ASEAN could indeed provide an institutional basis for regional cooperation. Moreover, so long as political rapprochement in the region continues to develop, a common maritime regime for the South China Sea in the near future has quite a fair chance of materializing.

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