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THE IMPACT OF OFFSHORE OIL AND GAS EXPLOITATION ON THE MARINE ENVIRONMENT AND ITS REGULATIONS UNDER SELECTED NATIONAL REGIMES

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By

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DEDICATION

I dedicated this thesis to my late father and grandmother for the love and care they gave me during their stay in this world. I also dedicate this thesis to my Uncle John Fombang, for the unconditional love that he has given to me all these years. Finally, I want to thank God immensely for my educational career, more especially for all the travel Mercies he has given me to travel to and from South Africa in the course of completing my LLM. Glory be to his name.

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ABSTRACT

Despite the numerous advantages accrued from the exploitation of oil and gas worldwide, the repercussion of its activities on the marine environment has put the entire world under panic about the future of our beloved planet. Political leaders from both developed and developing countries through Conventions, Conferences, national policies and legislation, have been seeking various ways to regulate the exploitation of oil and gas on the continental shelf and Exclusive Economic Zone in order to protect the marine environment that is at the brink of losing its socio-economic values. With the present trend of events threatening the planet such as climate change and the call for sustainable development, the regulation of oil and gas exploitation on the marine environment remains a dilemma. It is now crystal clear that the principle of 'Common but Differentiated Responsibilities' as advocated by both the Rio and Johannesburg world summits on sustainable development, with regard to the regulations of oil and gas exploitation, which have already been put in place, must be strengthened.

ABBREVIATIONS

AAUs	Assigned Amount Units
BAP	Bali Action Plan
CBD	Convention on Biological Diversity
CDM	Clean development mechanism
CED	Centre for Environment and Development
CERs	Certified Emission Reduction
CH4	methane
CLC	Civil Liability Convention
CO2	Carbon Dioxide
COP	Conference of Parties
COTCO	Cameroon Oil Transport Company
E&P	Exploration and Production
EAS	Environmental Assessment Studies
EC	European Community
ECA	Environmental Conservation Act
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EIR	Environmental Information Regulations
EM	Environmental Management

EPC	Engineering, Procurement and Construction
ERUs	Emission Reduction Units
EU	European Union
GB	Great Britain
GDP	Gross Domestic Product
GHG	Green House Gas
GM	General Manager
ICMA	Integrated Coastal Management Act
IMO	International Maritime Organisation
IPCC	Intergovernmental Panel on Climate Change
JI	Joint implementation
MARPOL	Marine Pollution
MCA	Maritime Coastguard Agency
MEPC	Marine Environmental Protection Committee
MINEF	Ministry of Environment and Forest
MNCs	Multinational companies
MPAs	Marine Protected Areas
MPRDA	Mineral and Petroleum Resources Development Act
MPRDR	Mineral and Petroleum Resources Development Regulations
MSR	Merchant Shipping Regulations
NEMA	National Environmental Management Act

NEMP	National Environmental Management Plan
NGOs	Non-Governmental Organisations
NOSCP	National Spill Oil Contingency Plan
OECD	Organization for Economic Cooperation and Development
OF	Ocean Fertilization
OIR	Offshore Installations Regulations
OPAR	Offshore Petroleum Activities Regulations
OPRC	Oil Preparedness, Response and Co-operation
OSPAR	Convention for the Protection of the Marine Environment of the North East Atlantic
OSPR	Oil Spill Preparedness and Response
PSMC	Pipeline Steering and Monitoring Committee
PSSA	Particular Sensitive Sea Area
ROPME	Regional Organisation for the Protection of the Marine Environment
SA	South Africa
SAMSA	South African Safety Authority
SDR's	Special Drawing Rights
SNH	National Hydrocarbons Corporation
SS	Secretary of State
TOTCO	Chad Oil Transport Company

UK	United Kingdom
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNCLOS	United Nations Convention on the Law of the Sea
UNEP	United Nations Environment Program
UNFCCC	United Nations Framework Convention on Climate Change
UNIDO	United Nations Industrial Development Organisation
USA	United States of America
VOC	Volatile Organic Compounds
WSSD	World Summit on Sustainable Development
WTO	World Trade Organization

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INTRODUCTION

In the early beginnings, the evolution of the law pertaining to the exploitation of oil and gas reserves in the oceans had been neither swift nor unambiguous.[1] The possible reason for this dalliance was due to the rights and jurisdiction over offshore mineral resources.[2] However, the situation soon changed in 1945 when the then president of the United States of America (USA), Harry S. Truman, proclaimed the Truman Proclamation.[3] Other states followed with similar claims. Consequently, the Geneva Convention of 1958[4] gave a comprehensive definition of the continental shelf, by designating a depth of 200 metres to where the depth of the super-adjacent waters admits of the exploitation of the natural resources of the continental shelf. This definition was still considered lacking and was replaced by the 1982 United Nations Convention on the Law of the Sea (UNCLOS).[5] Article 76(1) of UNCLOS now contains a definition of the continental shelf.[6]

By the mid-1990s, offshore oil and gas production had risen tremendously and accounted for around one-third of total world production, and some even estimated that around 70 per cent of the world's hidden reserves lie offshore.[7] The pace at which petroleum industries have developed worldwide may be attributed to the advancement of technology in our recent times. Another significant development during this period of

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[1] Peter N Swan, *Ocean Oil and Gas Drilling $ the Law*, Oceana Publications, INC /Dobbs Ferry, New York Sijhoff $ Noordhoff/Alphen Aan Den Rijn (1979) at 193.

[2] Ibid.

[3] On September 28, 1945 President Truman issued Proclamation 2667 with respect to Natural Resources of the subsoil and seabed of the continental shelf beneath the high seas, but contiguous to the coast of the USA, as appertaining to the USA subject to its jurisdiction and control.

[4] This treaty was one of the three major treaties that emerged from the first Law of the Sea Conference held in Geneva in 1958.

[5] UNCLOS opened for signatory December 10 1982, 21ILM 1261, reprinted in the Law of the Sea: Official text of the UNCLOS with annexes and index "New York: United Nations, 1983", 1-157. Convention came into effect on November 16, 1994. More than 12 years after its adoption.

[6] Art 76(1) UNCLOS.

[7] RR Churchill and AV Lowe, *The Law of the Sea*, 3rd ed, Manchester University Press (1999) at 141.

oil and gas boom may be the environmental change and movement that was first noticed in North America and Western Europe in the late 1960s and early 1970s, which gradually reached other parts of the world in the 1980s, and has culminated into today's global push for sustainable development.[8]

The adverse effects of offshore oil and gas exploitation on the marine environment have pulled overwhelming support among states for the adoption of measures designed to protect the marine environment from the excessive exploitation of oil and gas on the continental shelf.[9] Consequently, a number of international instruments have been put in place to regulate pollution arising from offshore oil and gas activities. These instruments among others include; UNCLOS, United Nations Environment Program (UNEP), Civil Liability Convention (CLC), and the United Nations Framework Convention on Climate Change (UNFCCC). Soft law also recommends that plans for oil and gas exploitation and plans to protect the marine environment should be developed within the concept of national sustainability strategies as was recommended at both the Rio (1992) and Johannesburg (2002) World Summits on sustainable development.[10] Are these instruments worth reckoning with? Article 208 of UNCLOS empowers the coastal state to adopt laws to control marine pollution.[11]

This thesis is geared towards the assessment of the exploitation of oil and gas and its regulations under selected national regimes, against the background of international regimes to which these selected national regimes (Cameroon, South Africa and The United Kingdom) are parties. This research, therefore seeks to evaluate the extent at which both national and international regimes have pledged to regulate the exploitation of oil and gas on the Continental Shelf and the Exclusive Economic Zone (EEZ), with the hopes of protecting the marine environment.

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[8] Zhiguo Gao, *Environmental Regulation of Oil and Gas*, Kluwer Law International Ltd London-The Hague-Boston (1998) at 3.

[9] ALC deMestral, The Prevention of pollution of the marine environment arising from offshore mining and drilling (1979) 20 *Harvard International Law Journal* at 471.

[10] Sandra Kloff and Clive Wicks, Environmental management of Offshore Oil Development and Maritime Oil Transport, October (2004) at 7. Available at http://cmsdata.iucn.org/downloads/offshor_oil_eng [Accessed 09 November 2009].

[11] Art 208 (1-5) of UNCLOS.

This thesis has been broken down into five chapters. Chapter one shall analyse the international legal framework applicable to the exploitation of oil and gas, a background of oil and gas exploitation worldwide, bringing out the socio-economic importance of oil and gas to the society as a whole and to the coastal state in particular. This chapter shall also bring out the adverse effects of these activities on the marine environment. Chapter two shall examine the various international instruments used in regulating the exploitation of oil and gas on the continental shelf and EEZ. Chapter three, would be a case study on oil and gas regulation in Cameroon and South Africa, which shall be assess against the background of international regimes. Chapter four shall be a comparative case study. An in-depth analysis of UK's oil and gas regulation shall be examined; this shall be done in comparison to Cameroon and South Africa. The final chapter shall propose some recommendations and conclusion.

CHAPTER ONE: OIL AND GAS EXPLOITATION

1.1 International Legal Framework Applicable to Offshore Oil and Gas Exploitation

Customary international law states that, the sovereignty that states possess over their land territory, internal waters and territorial sea gives them the right to the resources found therein. Article 2 of UNCLOS is to that effect.[12] The Truman Proclamation of 1945 has further recognised this position.[13] This proclamation opened the doors for similar claims by coastal states, which varied in nature.[14] Some states claimed jurisdiction and control over the resources of the continental shelf, others claimed jurisdiction over the shelf as a whole.[15] Furthermore, claims made by Latin American States, extended beyond the shelf to the super-adjacent waters, and in some cases to air space above those waters.[16] Owing to these upheavals, Lord Asquith in 1951 stated in, *Petroleum Development Ltd v Sheikh of Abu Dhabi* that the doctrine of the continental shelf could not claim to have 'assumed hitherto the hard lineaments or the definitive status of an established rule of international law.'[17]

In a bid to ameliorate the legal status of the shelf, the 1958 Convention gave a vague definition to the shelf[18], which has resulted in several controversial questions.[19] Despite some of its shortcomings, the 1958 Convention paid some particular attention to the marine environment. Article 4 of the Convention provides that the coastal state may not impede the running of pipelines on the shelf, which is of obvious importance in

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[12] Art 2 of UNCLOS.

[13] Truman Proclamation (note 3).

[14] RR Churchill and AV Lowe (note 7) at 144.

[15] Ibid.

[16] Ibid.

[17] Ibid.

[18] Art 1 of the 1958 Convention.

[19] Peter N Swan (note 1) at 197.

areas like the North Sea where refinery locations, population density and geographical features like the Norwegian Trench may dictate landing production in a country other than having jurisdiction over the production itself.[20] The Convention equally pays attention to states that share the continental shelf, or states that are opposite each other or adjacent to each other.[21] It states that in the absence of an agreement between the states, the shelf shall be divided using a median line and the equidistance principle, for the purpose of the exploitation of its natural resources.[22]

The 1982 UNCLOS, in its article 76(1) gives a comprehensive definition of the continental shelf. This Convention has equally introduced the overlapping concept of the Exclusive Economic Zone (EEZ), which shall be discussed later. All states are entitled to a maximum continental shelf of 200 nautical miles, irrespective of the physical character of the seabed. In the *North Sea Continental Shelf Cases,* the International Court of Justice held that the natural prolongation of the coastal state's land mass was based on the principle of customary international law.[23] In broad terms, a coastal state is entitled to a continental shelf consisting of seabed reaching 200 miles from the baselines,[24] and is therefore entitled to exploit the resources in it.

1.2 Geographical definition of the Continental Shelf

The phrase 'continental shelf'; in geographical terms means the bed of the sea that slopes gradually from the shore to the depth of about 130 metres. This follows with a steeper decline down to about 1,200-3,500 metres known as the 'continental slope'; this is further followed by a gentler incline to a depth of about 5,500 metres called the 'continental rise'.[25] This is called the continental margin, which constitutes

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[20] Peter N Swan (note 1) at 197.

[21] Ibid at 198.

[22] Ibid.

[23] RR Churchill and AV Lowe (note 7) at 147.

[24] Ibid at 149.

[25] Peter N Swan (note 1) at 141.

approximately one-fifth of the sea floor.[26] However, international law applies the term or description 'continental shelf' to this area, where oil and gas drilling takes place.

1.3 The Exclusive Economic Zone (EEZ)

The EEZ is a zone extending up to 200 miles from the baseline, within which the coastal state has extensive rights to exploit and exercise jurisdiction over the natural resources in it.[27] Article 57 of UNCLOS states that 'EEZ shall not extend beyond 200 nautical miles from the baseline from which the breadth of the territorial sea is measured'. It should however be noted here that unlike the Continental shelf, the EEZ does not arise automatically. It may only come into existence if claimed by the coastal state. The coastal state has the right to build structures within its EEZ for exploitation of oil and gas, or could exercise such rights by granting licensees, lessees, or contracts to any third party interested in the exploitation of its oil and gas in the EEZ.[28] A boundary between an adjacent EEZ is to be effected by agreement in accordance with equitable principles when taking into consideration relevant circumstances.[29]

1.4 Rights and Obligations of the Coastal State in the Continental Shelf and the EEZ

As earlier mentioned, the coastal state has exclusive rights on the continental shelf for the purpose of exploiting its natural resources which include oil and gas.[30] However, the coastal state has the right to authorise a third party interested in the exploitation of its natural resources.[31] This is often done in the form of grants, lessees, licensees or contracts.[32] It should however be noted here that the coastal state does not have complete sovereignty over the shelf, but has exclusive sovereign rights over its

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[26] Peter N Swan (note 1) at 141.

[27] RR Churchill and AV Lowe (note 7) at 160.

[28] Peter N Swan (note 1) at 204.

[29] Ibid, See also UNCLOS art74.

[30] Art 77(1) of UNCLOS.

[31] Art 77 (2) of UNCLOS.

[32] Peter N. Swan (note 1) at 203-204.

natural resources including oil and gas.[33] The rights of the coastal state are limited to natural resources; therefore, non-natural resources are not included in these rights, even if they are found within the limit of the continental shelf or the EEZ.[34] The coastal state may therefore not have rights over wrecks lying on its continental shelf.[35] However, for the purpose of navigation and the protection of the marine environment, the coastal state may have rights over archaeological and historical objects such as wrecks.[36]

The coastal state has the right to control the construction and use of artificial islands, installations and all structures on the continental shelf.[37] Some critics claim that this provision is not suitable for mobile offshore drilling units, and therefore does not cover it. Nevertheless, the provision of article 81 of UNCLOS states that the coastal state also has the right to authorise and regulate drilling for any purpose whatsoever on the shelf. This provision therefore extends the right of the coastal state to mobile drilling units, most especially when it comes to the protection of the marine environment.

The coastal state also has the right to allow all states to lay submarine cables and pipelines on its continental shelf,[38] so long as the pipeline or submarine does not jeopardise the marine environment. The coastal state is also required to constantly monitor and control the laying of these pipelines and submarines.

It should be noted that certain rights the coastal state has on the shelf are not different from the rights it has in the EEZ, since they both measure a distance of 200 nautical miles from the baseline and fall under the jurisdiction of the coastal state, more especially when it comes to the regulation of offshore oil and gas drilling and the protection of the marine environment.

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[33] Art 77 (1), (3) of UNCLOS.

[34] RR Churchill and AV Lowe (note 7) at152

[35] Ibid.

[36] Art 303 of UNCLOS.

[37] Art 80 of UNCLOS.

[38] Art 79 of UNCLOS.

1.5 The Importance of Offshore Oil and Gas

Oil and gas are much needed to run our industries; they create industrial and domestic chemicals and provide the raw materials for clothing.[39] Oil is a very highly demanded commodity, which is used at a rate of 100 million barrels a day at present, and it is even estimated that this amount will double by 2025.[40] In the USA, oil is considered as one of the components that is responsible for the growth of its economy, and it is believed that it provides over 40 per cent of the nation's power supply, far more than any other source.[41] Oil provides 97 per cent of fuel used by US trains, planes, ships, vehicles, etc.[42] This therefore means that the petroleum industry is of great importance to the USA, and the exploitation of oil and gas in the country must be effectively managed, in order to avoid pollution of the marine environment. It is also estimated that oil provides over 9.2 million jobs in the US.[43] In neighbouring Canada, the development of oil sands is expected to lead to 343,000 new US jobs and add $34 billion to its Gross Domestic Product (GDP).[44]

In Africa, it has been predicted that between 2003 and 2012, the production of oil would exceed 20 billion barrels, worth at least $500 billion, and possibly $1,000 billion if current $50/barrel prices continue.[45] Eighty per cent of oil will come from Nigeria and Angola.[46] In Cameroon, the exploitation of oil and gas only started in the mid-1970s, and has made significant contributions to the economic growth of the

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[39] Sandra Kloff and Clive Wicks (note 10) at 7.

[40] Ibid.

[41] The Importance of Oil. An article analyzing the importance of oil to the USA published on March 2 2006. Available at *http://www.hybridcars.com/importance-of-oil.html* [Accessed on November 27 2009].

[42] Ibid.

[43] The importance of oil and gas in the American society has been analysed in this article. The article further analyses the growth of the industry and brigs out the various ways through which the industry can continue booming. Available at *http://www.api.org/aboutoilgas/upload/JOBS_AMERICA* [Accessed November 27 2009].

[44] Ibid.

[45] Sandra Kloff and Clive Wicks (note 10) at 8.

[46] Ibid.

country.[47] In January 2005, Cameroon had proven oil reserves of 400 million barrels most of it located offshore in the Rio del Rey basin, and the share of oil exports at a percentage of total exports stood at about 30 per cent in the same year.[48] Still in 2005, the United Nations Industrial Development Organisation (UNIDO), estimated that petroleum refineries employed 647 people (mostly nationals and specifically local indigenes),[49] though this might be relatively too small with regard to the proportion of the population of Cameroon at that time.

It is clear that the production of oil and gas worldwide is of fundamental importance. It has provided and continues to provide many basic needs in our society such as fuel and electricity and the economies of many nations depend greatly on oil and gas. Because of the importance of oil and gas in the world, there has been over-exploitation of these resources, thereby leading to many disasters that affect the marine environment such as collisions and gas flaring. These activities have led to increased attention towards the wider environment. Thus, there have been several calls from international community to seek various ways of protecting the marine environment through the regulation of oil and gas exploitation.

1.6 The Adverse effects of offshore oil and gas drilling on the marine environment

Oil and gas exploitation on the shelf and EEZ, has exposed the marine environment in particular, and the entire ecosystem in general, to a number of adverse effects. There are three major forms of environmental problems created by petroleum exploitation, namely; air pollution, acid rain and global warming.[50] In addition, sub-sea well deeps and oil spills from tankers deplete the marine environment. These adverse effects may occur during exploitation, drilling or extraction, during transportation, and during refining.

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[47] Dieudonne Alemagi, The oil industry along the coast of Cameroon: Assessing impacts and possible solutions, *Resources Policy* 32 (2007) at 135.

[48] Ibid at 136.

[49] Ibid at 137.

[50] Zhiguo Gao(note 8) at 4.

1.6.1 Atmospheric Pollution Due to Oil and Gas Exploitation

Atmospheric pollution of the marine environment arises from a number of activities taking place at sea, such as oil and gas exploitation. There are generally two ways through which the marine environment is polluted, either through accidental or deliberate (operational) discharge.[51] This discharge in turn pollutes the atmosphere, thereby bringing about climate change and the destruction of biodiversity.

Installations for the exploitation of oil and gas, have often led to deliberate pollution of the marine environment, for instance the disposal into the sea of domestic refuge, industrial debris and chemical waste from drilling, would have a negative effect on the marine environment.[52] All of these may be considered as dumping of waste at sea, which in turn may bring about atmospheric pollution.

The 1972 London Dumping Convention[53] defines dumping as the deliberate discharge of waste into the sea. The introduction of alien species into the marine environment through oil and gas drilling has a far-reaching effect on the atmosphere. Two greenhouse gases namely; carbon dioxide (CO_2) and methane (CH_4), once emitted into the atmosphere, cause global warming on the planet.[54] It is estimated that methane contributes to about 15 per cent of global warming.[55]

The emissions of pollutants into the atmosphere go hand in hand with petroleum products.[56] Gas flaring is considered to be the most widespread source of such emissions, and accounts for about 30 per cent of hydrocarbons, which are burned in

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[51] RR Churchill and AV Lowe (note 7) at 371.

[52] Ibid at 330.

[53] The London Dumping Convention of 1972 was followed by the 1996 Protocol to the Convention on the Prevention of Marine Pollution by dumping of waste and other matter into the sea. Both the 1972 London Dumping Convention and the 1996 Protocol, was amended in 2006. The incineration of these waste brings about air pollution.

[54] Alfred-Wegener für Polar.und Meerefonchung (AWI) Methane in the marine environment. Available at *www.awi.de/index.php?id=30648type=08filename=awi* [Accessed 01 December 2009].

[55] Ibid.

[56] Environmental risks when extracting and exporting oil and gas. Available at *http://www.bellona.no/filearchive/fil_Chapter_3_Environmental_risks_when_extracting_and_exporting_oil_and_gas* [Accessed 01December 2009].

flames and are released into the atmosphere and then fall back on the surface of the sea, forming relatively unstable thin films around drilling platforms.[57] All these bring about climate change through the emission of high quantities of greenhouse gases into the atmosphere.[58]

1.6.2 Harming the Marine Environment

Mining of sand, gravel and minerals on the seabed, dredge mining may have a very negative effect on the environment.[59] Dredges will dig up the ocean floor, thereby destroying habitats and killing species of fish.[60] It has also been estimated that the seismic testing used in oil and gas exploration is dangerous to cetaceans and other marine animals, like whales and dolphins.[61] Dolphins and whales are well known for using their refined sense of hearing for navigation, finding food and communicating with each other.[62] It is believed that the noise made by oil and gas drilling damages the senses of these cetaceans.[63]

Pipelines may also be a potential threat to marine living resources. Gas and oil pipelines have stopped the flow of many creeks and rivers, swamping pastures and cropland, which are usually caused by leakages in these pipelines.[64] This implies that any major leakage from a pipeline may be of great consequence to the marine environment. It might either lead to contamination of marine living resources, which could as well be dangerous for human consumption, or the killing of these resources.

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[57] Environmental risks when extracting and exporting oil and gas, (note 56).

[58] Ibid.

[59] Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA), Physical Alterations and Destruction of Habitats (PADH). Available at *http://padh.gpa.org/page.cfm?region=1&theme=2&topic=11* [Accessed 01 December 2009].

[60] Ibid.

[61] Protect Our Seas, *Threats Facing Cetaceans.* Available at *http://www.protectourseas.netfirms.com* [Accessed 1 December 2009].

[62] Ibid.

[63] Ibid.

[64] W Corbett Dabbs, Oil Pollution and Environmental Damage, (1996). Available at *http://www1.american.edu/TED/projects/tedcross/xoilpr15.htm* [Accessed 1 December 2009].

For a coastal population that relies on fishing both for consumption and commercial purposes, the consequences would be enormous.

Similarly, a major oil threat from a tanker would be of great consequence to the marine environment. When the famous Erika incident of 2002 happened, thousands of marine living resources were killed and the clean up cost a fortune.[65] This is why the International Maritime Organisation (IMO), has been seriously involved in the maintenance of the standards of ships transporting oil and gas. According to the IMO, the amount of oil spilled during tanker accidents in 1989 and 1990, were 114,000 and 45,000 tonnes respectively.[66] Accidents involving underwater storage tanks are considered the most dangerous to fisheries rendering them unfit for marketing and consumption.[67]

1.6.3 Navigational Hazards

This is one of the potentially serious effects offshore oil and gas exploitation has on the environment. The abandonment of offshore installations on the continental shelf and EEZ may result to fatal accidents leading to loss of lives and destruction of the marine environment. To ensure navigational safety, the international community recommends that all installations or structures built for the purpose of offshore oil and gas drilling on the continental shelf or EEZ, should be removed if such structures are no longer in use,[68] in order to protect the marine environment. To ensure navigational safety, fishermen in the United Kingdom (UK) and Europe have been provided with detailed co-ordinates of each suspended well via the bi-annual 'King Fisher Yellow Card' with updates published every two weeks.[69] To enhance navigational safety, the

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[65] European Commission Directorate General for Energy and Transport, Intervention Response to Oil Pollution from Ships, at 1, Available at *www.observariodellitoral.es/subido/_documentos/seguridad_maritima/documentacion/europe* [Accessed 27 August 2009].

[66] Environmental emergencies affecting fisheries. Available at *http://www.fao.org/fishery/topic/12364/en* [Accessed 2 December 2009].

[67] Ibid.

[68] Arts 60 (3) and 194 (2) of UNCLOS.

[69] UK Offshore Oil & Gas, Relations & Interactions with Fishermen. Available at *http://www.oilandgas.org.uk/issues/operations/production_flyer* [Accessed 2 December 2009].

UK Oil and Gas industry has contributed funding towards a seabed information service that provides electronic mapping of oil and gas seabed and surface infrastructure in the UK waters.[70] All of these are aimed at ensuring navigational safety. Lack of this information may lead to serious environmental damage.

It is clear that the socio-economic importance of oil and gas in the world cannot be over emphasised. The UK for instance, is fast becoming a global centre for the oil and gas industry.[71] Many foreign exploration and production companies now have their base in the UK, for European, African or worldwide operations, providing jobs to many people.[72] A recent economic survey of global ocean markets done in the UK shows that oil and gas is now the world's biggest maritime industry, where oil production alone can have a value of more than $300 billion per annum.[73] It is true that the socio-economic importance of oil and gas is worth reckoning with, but what has the international community done to protect the marine environment from the adverse effect of the exploitation of these resources? In the ensuing chapter, an examination of international relevant instruments aimed at regulating oil and gas exploitation, with the hope of protecting the marine environment from pollution shall be examined.

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[70] UK Offshore Oil & Gas, (note 69).

[71] International Association of Oil and Gas Producers, Facts, figures and expectations for the Green Paper on a European Maritime Policy, (November 2005) at 4. Available at *http://ec.europa.eu/maritimeaffaires/pdf/046* [Accessed 9 November 2009].

[72] Ibid at 4-5.

[73] Evaluating The Impact on the Law of the Sea Treaty on Future Offshore Drilling, a presentation by Paul L. Kelly, Senior Vice President Rowan Companies, Inc, on the Global Offshore Drilling Conference of 2005, held in Houston, Texas, April 19, 2005. Available at *http://www.oceanlaw.org/downloads/unclos/GloboffDrlg05* [Accessed 25 November 2009].

CHAPTER TWO: OIL AND GAS REGULATIONS

2.1 Relevant International Regulations on Offshore Oil and Gas Exploitation

As already mentioned in chapter one, oil and gas exploitation within the continental shelf and EEZ, has assumed enormous proportions through out the world, notably as a source of hydrocarbons.[74] This industrial activity has led to an enormous risk of pollution of the marine environment.[75] It is also estimated that there are more than 6,500 offshore installations worldwide, located on the continental shelf of about 53 countries, and that the location of these installations are among the most biological productive parts of the ocean, harbouring fisheries and fragile ecosystems.[76] Among the three types of pollution that may occur on the marine environment, owing to oil and gas exploitation (namely; intentional pollution, accidental pollution and operational pollution), more attention has been given to operational and accidental pollution, because of the increasing threats of global uncertainties such as climate change caused by these activities.[77]

There has been an overwhelming support among states for the adoption of stricter measures to protect and preserve the marine environment.[78] Many attempts have been made at a global level to subject oil and gas drilling to international control.[79] These attempts include; UNCLOS, MARPOL, CLC, UNEP and UNFCCC. These instruments, aimed at regulating oil and gas drilling, have been considered as hard law because they are legally binding to the parties. However, there has equally been a third

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[74] ALC deMestral (note 9) at 469.

[75] Ibid.

[76] Zhiguo Gao (note 8) at 94.

[77] Ibid at 94-95.

[78] ALC deMestral (note 9) at 471.

[79] Zhiguo Gao (note 8) at 95.

level of the international law called 'soft law' principles or instruments,[80] aimed at regulating the exploitation of oil and gas.

2.2 Hard law Instruments.

2.2.1 United Nations Convention on the Law of the Sea (1982)

The United Nations Convention on the Law of the Sea (UNCLOS) could be considered as the comprehensive legal regime for the world's oceans and seas.[81] It gives states the sovereign right to exploit all natural resources on its continental shell and EEZ pursuant to their environmental policies, in accordance with the obligation to protect the marine environment.[82] Part XII of the Convention deals with the protection of the marine environment, although no specific mention is made to offshore activities.[83] States are however called upon to take all necessary measures to prevent, reduce and control marine pollution from any source.[84] In the same vein, particular attention is paid to pollution from seabed activities. States have the obligation to prevent pollution arising from seabed activities or offshore installations within their jurisdiction.[85]

The Convention further states that states have the obligation to take the necessary steps or measures to minimise marine pollution from offshore installations, by implementing national laws and standards regulating seabed activities.[86] States should also co-operate globally and regionally in formulating international rules and standards for the protection of the marine environment, and establish adequate compensation caused by pollution of the marine environment.[87]

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[80] Zhiguo Gao (note 8) at 23.

[81] Ibid at 99.

[82] Ibid.

[83] Ibid.

[84] Ibid, also see art194 (1) of UNCLOS.

[85] Art 194(3) (c) of UNCLOS.

[86] Mikhail Kashubsky, Marine Pollution from the offshore Oil and Gas Industry: Review of Mayor Conventions and Russian Law-Part I (2006) at 3. Available at *www.customscenter.canberra.edu.au/library-manager/libs/17/marine_pollution_part1* [Accessed 09 November 2009].

[87] Ibid.

2.2.1.1 United Nations Convention on the Law of the Sea and Pipelines

States have the right to lay submarine cables and pipelines on the continental shelf of another state.[88] However, all reasonable measures to prevent marine pollution owing to the exploitation of these resources must be taken into consideration. The coastal state must not infringe these rights; it may only do so for the sake of preventing pollution on the marine environment.[89] Recent pipeline leakages in Guanabara Bay, off the Brazilian coast in 2000, and the Nigerian pipeline leakage of 1998,[90] caused serious environmental consequences (destruction of habitants and biodiversity).[91] The coastal state may therefore impede the laying of pipeline on its continental shelf if proper measures are not put in place for its maintenance, in order to avoid marine pollution, article 194(1) UNCLOS is to that effect.

2.2.1.2 United Nations Convention on the Law of the Sea and Decommissioning

Decommissioning is the removal of offshore installations on the continental shelf or EEZ that are no longer in use in order to prevent marine pollution. UNCLOS acknowledges the possibility of partial removal, so long as it does not lead to any pollution.[92] With regard to the offshore petroleum industry, there is a general obligation to protect the marine environment of other states and the high seas, which must be taken into consideration when performing partial removal of the installation.[93] In 1993, Phillips Petroleum of the UK began the planning of the decommissioning of their Maureen platform, which they eventually removed in 2001,[94] all this in a bid to conserve and protect the marine environment. The IMO has adopted guidelines and standards

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[88] Art 76 of UNCLOS.

[89] Art 76 of UNCLOS.

[90] Accidental discharge of oil, a global marine oil pollution information Gateway. Available at http://oils.gpa.unep.org/facts/oilspills.htm [Accessed 07 December 2009].

[91] Ibid.

[92] Art 60(3) of UNCLOS.

[93] Art 194(2) of UNCLOS.

[94] Graeme Gibson, The Decommissioning of Offshore Oil and Gas Installations: A review of Current Legislation, Financial Regimes and the Opportunities for Shetland (2002) at 7. Available at http://www.kimointernational.org/portals/0/Files/decommissioningreport1 [Accessed 07 December 2009].

setting out the global framework for the removal of offshore installations under the auspices and recommendation of UNCLOS.[95]

2.2.2 The Civil Liability Convention (CLC) 1969 and 1992

2.2.2.1 The 1969 CLC

The 1969 Civil Liability Convention (CLC), as amended by the 1992 protocol, entered into force in 1996.[96] This Convention covers all those who suffer oil pollution damage resulting from maritime casualties,[97] with no exception to offshore activities such as the transportation of oil and gas by tanker. The framework of the civil liability regime was originally the 1969 CLC and the 1971 International Convention on the Establishment of an International Fund for Oil Pollution Damage.[98] The 1969 Convention was made to create a uniform regime of civil liability applicable to all risk, which, by nature, may be qualified as an international risk.[99] In this regard, the strict liability concept of the 1969 Brussels Convention regarding tanker owners could well be adapted to offshore oil and gas activities.[100] The 1969 CLC does not only include direct damage of the marine environment, by whatever means of contamination but also includes the cost of all preventive measures.[101] However, the damage concept must be interpreted restrictively in the sense that it would not include fire, explosion, consequential and ecological impairment.[102]

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[95] Graeme Gibson, (note 94) at 11.

[96] Accidental discharge (note 90).

[97] Ibid.

[98] Jose Maura Barandiaran, The International Regime on Liability and Compensation for Oil Pollution Damage: Recent Developments (2003) at 1. Available at www.ec.europa.eu/environment/civil/marinreports_publications/pretige_workshop_catania_documents/session6/presentation [Accessed 16 November 2009].

[99] BA Dubais, The 1976 London Convention on Civil Liability for Oil Pollution Damage from Offshore Operations (1977) 9 *Journal of Maritime Law and Commerce* at 63.

[100] Ibid.

[101] Ibid at 64.

[102] Ibid.

Under the 1969 Convention, ship owners (tankers) may be denied the right of the limitation of liability provided the claimant proves that the incident occurred because of the personal fault of the ship owner.[103] To implement this principle of strict liability, the ship owner's liability was limited to forty million dollars Special Drawing Rights (SDRs).[104] State parties were given the priority to claim unlimited or higher liabilities in cases were pollution damage was caused on its continental shelf or EEZ, by the oil tanker.[105] The ship owner's liability becomes unlimited in situation where the pollution damage occurred because of an act or omission by the ship management with the intention to cause the intended act (pollution).[106]

2.2.2.2 The 1992 Convention

As earlier mentioned, the 1969 Convention was amended by the 1992 Convention on civil liability on oil pollution. Two Conventions came up in 1992; the 1992 Civil liability Convention and the 1992 Fund Convention. The 1992 Conventions strengthen the principle of strict liability for ship owners, and further created a system of compulsory insurance.[107] It should however be noted that the 1992 Convention apply only to ships that carry oil in bulk, and does not apply to spills of bunker oil from ships other than tankers.[108] The owner of the tanker has strict liability for pollution damage caused by oil spill from the tanker because of an incident that is beyond his control, such as act of hostilities, acts of God or disasters,[109] but should it turn out the other way, then he shall be deprived of the right to limit his liability. The compensation payable by the ship owner, or insurer under the 1992 Fund in respect of an incident is limited to an

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[103] Explanatory note prepared by the 1992 Fund Secretariat, on the international oil compensation fund of 1992. Done in June 2003. Available at www.gov.mu/portal/sites/ncb/eurd/oil/infos/gen-note [Accessed 16 November 2009].

[104] RR Churchill and AV Lowe (note 7) at 377.

[105] Ibid.

[106] Ibid.

[107] Explanatory note prepared by the 1992 Fund Secretariat (note 103).

[108] Jose Maura Barandiaran, (note 99) at 1.

[109] Ibid at 2.

aggregate amount of 203 million SDR (US$292 million), including the sum actually paid by the ship owner under the 1992 CLC.[110]

To better manage pollution damage, the 1992 Fund Convention is being financed by contributions levied on any person who has received in one calendar year more than 150,000 tonnes of crude oil.[111] Though the 1992 Fund is there to compensate victims of oil pollution damage, the admissibility for claims of such compensations must have backing. A claimant is therefore required to prove his claim by producing explanatory note, receipts and all necessary documents to support the claim.[112] One may not be wrong to think that with the introduction of the Fund convention in 1992, many states have seen reason to be parties to the Convention. This would help in the struggle of marine environmental protection through oil and gas regulations.

2.2.3 The MARPOL Convention 1973/78

One of the main objectives of the MARPOL Convention 73/78 is to prevent and control vessel-source marine pollution.[113] This implies that MARPOL 73/78 would not apply to offshore operations stricto sensu.[114] However, when applying the term 'operational pollution', one has to take into consideration any pollution arising from or related to the normal operations of offshore activities.[115] Hence, certain provisions of MARPOL would apply to operational pollution, which will involve offshore installations.[116] Furthermore, article 2(4) of MARPOL has included in its definition of a ship, the notion of fixed and floating platforms.

Drainage of oil, disposal of sewage or garbage, during operational discharge of oil from platforms and drilling rigs, should comply with the rules applicable to ships of

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[110] Jose Maura Barandiaran, (note 99) at 2.

[111] Ibid at 3.

[112] Ibid.

[113] Annex 1 of MARPOL.

[114] Zhiguo Gao(note 8) at 104.

[115] Ibid.

[116] Ibid.

400 tons other than oil tankers.[117] MARPOL prohibits the discharge of sewage into the sea, and the discharge of oil in mixtures greater than fifteen parts per million in certain areas.[118]

2.2.3.1 MARPOL and Disposal of Garbage

Annex V of MARPOL 73/78 sets out regulations for the prevention of pollution by garbage from ships,[119] which according to the definition of ships in article 2(4) of MARPOL, includes fixed and floating platforms. The disposal of plastic waste at sea is totally prohibited.[120] However, the disposal of other types of garbage may be done only when the ship or platform is at a reasonable distance off the coast of the coastal state.[121] All ships or fixed and floating platforms of gross tons and above must have an approved management plan and a 'Garbage Record Book'.[122] Pollution prevention regime established under Annex V of MARPOL, with regard to offshore installations may be even stricter than the sea-going vessel.[123] Annex V allows the disposal of certain types of garbage into the sea by vessels under certain conditions, notably the proximity of the garbage not getting to the coast.[124] Paradoxically, this is not the case with platforms; the latter is forbidden to dispose of any material into the sea whatsoever.[125]

The Great Barrier Reef of Australia has been designated by MARPOL as a Particular Sensitive Sea Area (PSSA), but it allows for the disposal of garbage by ships within twelve nautical miles out side the Area.[126] Perhaps it would have been better to

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[117] Reg 39 of the revised Annex I of MARPOL.

[118] Mikhail Kashubsky (note 86) at 4.

[119] This is an article by the Australian Maritime Safety Authority entitle; Disposal of dry bulk cargo residues in Australian Waters. Available at *http://www.amsa.gov.au/Publications/PDFs/Drybulk* [Accessed 09 December 2009].

[120] Ibid.

[121] Ibid

[122] Ibid.

[123] Zhiguo Gao(note 8) at 107.

[124] Ibid.

[125] Ibid.

[126] Ibid.

totally forbid the disposal of garbage be it from vessels or platforms for the purpose of the protection of this sensitive area. Certain garbage though disposed within twelve miles out of this area, may still be of potential danger to the environment.

2.2.3.2 MARPOL and Operational Discharge of Oil

Annex I of MARPOL sets out the regulations for prevention of pollution by oil. Annex I, chapter II, Regulation 21 describes some special requirements for platforms, [127] and should be applicable to ships of 400 tons gross tonnage and above other than oil tankers.[128] Annex I further includes a list of materials that must not be discharged into the sea, which includes oil in all forms.[129] Tankers must be fitted with segregated ballast water.[130] There has been some point of controversy over Annex I regulating operational pollution from offshore installations.[131] Following a report of the Secretary General of the United Nations (UN), it has been asserted that MARPOL does not apply to discharges arising from offshore activities, but only to garbage disposal under Annex V, without further specifying what types of discharges are referred to.[132] Perhaps, it is time the IMO start thinking of explicitly addressing the issue of offshore oil and gas activities within the scope of MARPOL.[133] To others, the unified interpretation of MARPOL 73/78 prepared by IMO has clarified this ambiguity as stipulated in Regulation 21 of Annex I.[134]

There are several types of discharges associated with offshore activities, which are subject to regulations under MARPOL, namely: platform drainage; offshore

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[127] J F C Restrepo, Environmental Legislation Concerned with Offshore Platform Discharges. Available at *http://www.oilandgasforum.net/management/PaperLegisl* [Accessed 09 December 2009].

[128] Ibid.

[129] Ibid.

[130] RR Churchill and AV Lowe (note 7) at 340.

[131] Zhiguo Gao (note 8) at 105.

[132] Ibid.

[133] Alan Spackman, Offshore drilling pollution standards evolving, at 10. Available at *http://www.iadc.org/dcpi/dc-marapr03/M3-Spakeman%202* [Accessed 09 December 2009].

[134] Zhiguo Gao (note 8) at 105.

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[128] Ibid.

[129] Ibid.

[130] RR Churchill and AV Lowe (note 7) at 340.

[131] Zhiguo Gao (note 8) at 105.

[132] Ibid.

[133] Alan Spackman, Offshore drilling pollution standards evolving, at 10. Available at *http://www.iadc.org/dcpi/dc-marapr03/M3-Spakeman%202* [Accessed 09 December 2009].

[134] Zhiguo Gao (note 8) at 105.

processing drainage; production water discharge and displacement discharge.[135] According to the unified interpretation of MARPOL, only platform drainage is subject to MARPOL, and the other categories are beyond its scope.[136] Annex I requires offshore platforms to be equipped as far as practicable, with an oil discharge monitoring and control system, in order to achieve maximum standard.[137]

2.2.3.3 MARPOL and Air Pollution owing to Offshore Activities

Since its inception, MARPOL 73/78 only dealt with issues of air pollution from ships.[138] In 1991, the IMO Marine Environmental Protection Committee (MEPC) adopted an action plan aimed at developing a new Annex to MARPOL, which came to cover Volatile Organic Compounds (VOCs), sulphur and nitrogen content of fuel oil, etc.[139] The new Annex VI to MARPOL, now applies to fixed or floating platforms, and does not apply to Exploration and Production (E&P) operational emissions.[140]

Annex VI further states that an international air pollution certificate shall be issued following the survey of the installation equipments and systems.[141] This Regulation can also be applicable to E&P operations so long as a platform or rig is engage in a voyage to waters under the jurisdiction of other parties to the 1997 protocol.[142] Tankers carrying crude oil shall have on board and implement a VOC management plan which shall be specific to each ship and shall at least provide; written procedures for minimizing VOC emissions during the loading, sea passage and discharge of cargo or give consideration to the extra VOC generated by crude oil

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[135] Zhiguo Gao (note 8) at 106.

[136] Ibid.

[137] Ibid.

[138] Ibid at 108.

[139] Ibid.

[140] Ibid.

[141] Reg 6 of Annex VI MARPOL 73/78.

[142] Zhiguo Gao (note 8) at 109.

washing.[143] This also implies that all platforms involve in oil and gas activities must comply as well.

2.2.4 United Nations Framework Convention on Climate Change (UNFCCC)

The introduction of alien species into the marine environment can also bring about climate change. Fossil fuel combustion may emanate from offshore oil and gas drilling which produces carbon dioxide (CO_2), one of the main anthropogenic greenhouse gases, which, if released into the atmosphere, would lead to global warming, owing to a rise in sea level and changes in rainfall.[144] It is therefore necessary to place a limit on the atmospheric concentration of CO_2 and other greenhouse gases in the atmosphere,[145] and emissions of CO_2 will need to be reduced in order to stabilize the atmospheric concentration of CO_2.[146]

In 1992, the UNFCCC was adopted and entered into force on 21 March 1994.[147] Following hectic negotiations that took place in Kyoto (Japan) in 1997, delegates agreed to a protocol that would commit developed countries as well as emerging countries to achieve excellent targets for decreasing their emissions of greenhouse gases.[148] Parties to the UNFCCC committed themselves to reduce their overall emissions of six greenhouse gases by at least 5 per cent below 1990 over the period between 2008 and 2012.[149] Anthropogenic greenhouse emissions can emanate from many sources; such as land base activities, E&P activities etc. However, our focus is on emissions of greenhouse gases emanating from platforms and oilrigs. For the purpose of

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[143]The Prevention of Air Pollution from Ships, Revised MARPOL, Annex VI and NOx Technical Code (2008), Regulation 15 on VOCs, which enters into force on 01 July 2010. Available at *http://www.gl-group.com/pdf/RevisedMARPOL_AnnexVI* [Accessed 09 December 2009].

[144] International Energy Agency (IEA), Legal Aspects of Storing CO_2, at 13. Available at *http://www.iea.org/textbase/nppdf/free/2005/CO2_legal.pdf* [Accessed 10 December 2009].

[145] Ibid.

[146] Ibid.

[147] A publication about Greenhouse Gas. This publication brings out the origins, objectives and framework of the UNFCCC. Available at *http://svc237.bne113v.server-web.com/crc/ecarbon/history.htm* [Accessed 10 December 2009].

[148] Ibid.

[149] Ibid.

comprehension, complexity and uniformity, we shall be dealing with emissions of greenhouse gases into the atmosphere as a whole.

Created under the auspices of the UNFCCC, the Kyoto protocol, London protocol and the OSPAR Convention are now legally binding to its members.

2.2.4.1 The Kyoto Protocol

The Kyoto protocol entered into force on 16 February 2005, and as of November 2009, 187 countries have signed and ratified the protocol, with the exception of the United States of America (USA), who alone was responsible for 36.1 per cent of the 1990 emission levels.[150] Nonetheless, she is a signatory to the UNFCCC.[151] The Kyoto protocol is made up of 37 industrialised countries, which are included in Annex I of that protocol.

All parties to the Kyoto protocol in Annex I have agreed to reduce their collective greenhouse gas emissions to 5.2 per cent from the 1990 level,[152] in a bid to save the environment. The protocol also obliged the USA to a cumulative reduction in its greenhouse gas emissions of 7 per cent below 1990 levels from three major greenhouse gases, including CO_2.[153] From its inception, the Kyoto protocol did not pay attention to developing countries, and the USA found it meaningless participating at the Protocol and demanded that developing countries should also participate.[154] It was only then that Argentina, a developing country indicated that it would make a commitment to take on a binding emissions reduction target from 2008 to 2012.[155] Many developing

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[150] The Kyoto protocol, from Wikipedia, the free encyclopedia. Available at *http://en.wikipedia.org/wiki/kyoto_protocol* [Accessed 10 December 2009].

[151] Ibid.

[152] Ibid, also see Annex I of the Kyoto protocol.

[153] Peter Saundry, Kyoto Protocol and the United States, (updated 08 February 2007). Available at *http://www.eoearth.org/article/Kyoto_Protocol_and_the_United_States* [Accessed 10 December 2009].

[154] Ibid.

[155] Ibid.

countries like Brazil and China have still not signed the protocol,[156] perhaps this explains why much was expected of the Copenhagen Convention in December 2009.

2.2.4.1.1 The Kyoto Mechanisms

The Kyoto protocol of 1997, adopted three mechanisms aimed at controlling the emission of greenhouse gases into the atmosphere emanating from oil and gas activities. These mechanisms are:

- Emissions trading
- Clean development mechanism (CDM)
- Joint implementation (JI).[157]

i. Emissions Trading

Parties to the Kyoto Protocol have agreed to reduce or limit the emission of greenhouse gases from 2008 to 2012 commitment period, with allowed emissions divided into Assigned Amount Units (AAUs).[158] Article 17 of the Kyoto Protocol, allows parties that have emissions units to spare-emissions permitting them not to use, but to sell this excess capacity to countries that are over their targets.[159]

A new commodity was therefore created in the form of emissions reductions or removals, whereby carbon is tracked and traded like any other commodity (Carbon Trading).[160] Each party to the Kyoto Protocol is required to maintain a reserve of an emission reduction unit (ERUs), a certified emission reduction (CERs) and assigned amount units in its national registry.[161] This reserve, known as the 'commitment period

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[156] Peter Saundry (note 153).

[157] UNFCCC and the Kyoto Protocol, an analysis of various measures taken at the protocol aimed at reducing the emission of green house gases into the atmosphere, having as main objective to stabilize climate. Available at *http://unfccc.int/kyoto_protocol/items/2830.php* [Accessed 18 January 2010].

[158] Greenhouse gas emissions, a new commodity, an article developed under the auspices of UNFCCC and the Kyoto protocol 1997. Available at *http://unfccc.int/kyoto_protocol/mechanisms_trading/items/2731.php* [Accessed 18 January 2010].

[159] Ibid.

[160] Ibid.

[161] Ibid.

reserve,' shall not drop below 90 per cent of the party's assigned amount.[162] Finally, emission trading schemes may be established as a climate policy instrument at the national level as well as at regional levels, whereby governments must set emissions obligations to be observed by the participating entities such as the 'European Union emission trading scheme'.[163]

ii. Clean Development Mechanism (CDM)

This mechanism is defined in article 12 of the Kyoto Protocol.[164] It allows a country with an emission reduction under the Kyoto Protocol (Annex B Party), to implement an emission- reduction project in developing countries, which can earn CER credits that can be sold, each equivalent to one tonne of CO_2, which can be reckoned with in meeting the Kyoto targets.[165] The CDM has been considered as the first global environmental investment and credit scheme that has pulled considerable attention, which has provided a standardised emissions offset instrument, (CERs).[166] CDM has designated national authorities with the objective of controlling the emissions-reduction set up at the Kyoto Protocol, under the auspices of UNFCCC.[167] This would help to monitor the evolution of global warming and draw out strategies to reduce global warming owing to climate change brought about by oil and gas activities.

iii. Joint Implementation (JI)

Joint implementation allows a country with an emission reduction or limitation commitment under the Kyoto Protocol (Annex B Party) to earn emission reduction units from an emission-reduction or emission removal project in another Annex B Party, each equivalent to one tonne of CO_2, which is aimed at meeting up with the Kyoto

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[162] Green house gas emissions (note 158).

[163] Ibid.

[164] Art 12 of the Kyoto Protocol.

[165] UNFCCC's Clean Development Mechanism (CDM). Available at *http://unfccc.int/kyoto_protocol/mechanisms/clean_development_mechanism/items/2718.php* [Accessed 20 January 2010].

[166] Ibid.

[167] Ibid.

Protocol.[168] Joint implementation offers parties a flexible and cost-efficient means of fulfilling a part of their Kyoto commitments, whereas the host party benefits from foreign investment and technology transfer.[169] All this is aimed at controlling and mitigating global warming and climate change owing to the activities of oil and gas taking place on the continental shell or EEZ.

2.2.4.2 The Bali Action Plan and UNFCCC

The Bali Action Plan (BAP) was adopted at a United Nations Climate Change Conference in Bali (Indonesia) in December 2007.[170] Governments from around the world both developed and developing countries agreed to join efforts in combating climate change and global warming through long-term cooperative action, now, up to and beyond 2012.[171]

Parties to the Bali Action Plan generally agreed that the reduction of the emission of greenhouse gases into the atmosphere was of prime importance. Both national and international efforts were therefore necessary to achieve this goal before 2012 and beyond. Based on four main building blocks; mitigation, adaptation, technology and financing, the BAP has as main objective to reduce the emissions of greenhouse gasses into the atmosphere emanating from oil and gas exploitation and other sources, and to that end, developed nations were called upon at national levels to commit themselves to mitigate emissions of greenhouse gasses into the atmosphere, and developing nations were also called to support and enable financial and capacity-building, in a measurable, reportable and verifiable manner.[172]

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[168] UNFCCC- the Kyoto Protocol, Joint Implementation Mechanism. Available at *http://unfccc.int/kyoto_protocol/mechanisms/joint_implementation/items/1674.php* [Accessed 20 January 2010].

[169] Ibid.

[170] Chad Carpenter, The Bali Action Plan: Key Issues in the Climate Negotiations, An Environmental $ Energy Group Publication, September 2008, at 3. Available at *http://www.undp.org/climatechange/docs/UNDP_BAP_Summary.pdf* [Accessed 25 January 2010].

[171] Ibid.

[172] Ibid.

One of the key issues of the BAP was the mitigation measures to address greenhouse gas emissions, and to that end, the key elements and issue of BAP relating to mitigation was:

The Need for "deep cuts in global emissions"

Some developed countries, notably European Union (EU) members argued that specific goals should be articulated in terms of atmospheric concentrations of GHG that should not be exceeded.[173] This view was opposed by others including the US.[174] However, despite the opposition, the BAP yielded some fruits. An Ad-hoc Working Group under the BAP was put in place to oversee the actions of developed nations towards emissions reduction of GHG by 2012 and beyond, a shared vision of cooperative action was agreed on; a long-term global goal for emissions reductions emanating from oil and gas activities and other sources, aimed at achieving the ultimate objective of the convention and finally, a mitigation action was agreed by all parties both developed and developing countries.[175]

It should be noted that the reduction of GHG under the UNFCCC is related to all those activities that bring about climate change in general and offshore activities in particular.

2.2.4 3 United Nations Framework Convention on Climate Change (UNFCCC)-Copenhagen 2009

The international community adopted the UNFCCC at the historical Earth Summit in 1992 in Rio de Janeiro, and in December 1997 an agreement was reached to add the Kyoto Protocol to the Convention.[176] This protocol includes binding emission

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[173] Susan R Fletcher $ Larry Parker, Climate Change: The Kyoto Protocol, Bali "Action Plan," and International Actions, updated May 30, 2008. Available at *http://ncseonline.org/NLE/CRSreports/08Jun/RL33826.pdf* [Accessed 25 January 2010].

[174] Ibid.

[175] Ibid.

[176] UNFCCC, Fact sheets: Stepping up International Action on Climate Change, The Road to Copenhagen, at 1. Available at *http://www.conservation.org/Documents/Factsheet_The_Road_to_Copenhagen.pdf* [Accessed 26 January 2010].

reduction targets for developed countries for the period between 2008 and 2012.[177] This was followed by the Intergovernmental Panel of Climate Change (IPCC) in the same year.[178] A couple of other protocols and climate change talks followed suit, such as; the Bonne Climate Change Talks of the 2nd to 12th of June 2008, the Accra talks of the 21st to 27th of June 2008 and in Poznan 1st to 12th December of the same year.[179] The summit on climate change that took place in Copenhagen in December 2009 was full of high expectations. Governments from both developed and developing states were called upon to decide the future of our planet which has for many years witness climate change owing to anthropogenic activities resulting from the exploitation of oil and gas and other sources on the continental shelf and EEZ.

The original intention of Conference of Parties (COP) 15 in Copenhagen was to complete negotiations on a new international agreement on climate change to come into effect before 2012.[180] Paradoxically, what emerged was a slim three page Copenhagen (2009) Accord.[181] The reason for this was that a handful of countries refused to sign, there was an abject failure of EU diplomacy throughout the conference and the final Accord that was hammered out by the US, China, Brazil and South Africa was rather undemocratic.[182]

2.2.4.3.1 The Copenhagen Accord

Government representatives from both developed and developing states who were present at Copenhagen, had different views in finding a lasting solution to the problem of global warming and climate change. Consequently, what was meant to be a united effort to mediate and deliberate upon the future of our planet, rather became a

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[177] UNFCCC, Fact sheets: (note 176) at 1.

[178] Ibid.

[179] Ibid at 3.

[180] Joseph Curtin, Copenhagen-a new framework for climate chaos? An article published under the auspices of The Institute of International and European Affaires, January 5 2010. Available at *http://iiea.com/blogosphere/copenhagen-a-new-framework-for-climate-chaos?gclid=CJ2w9PqsxJ8CFQdl* [Accessed January 27 2010].

[181] Ibid.

[182] Ibid.

nightmare. However, a three page Accord was reached at in Copenhagen, which regrettably is not legally binding, but can however be reckoned with.

i. Emissions Reduction Deadline for Developed Countries

January 31, 2010 was given as deadline to developed countries like the US to commit to 2020 emissions reduction target.[183] President Obama of the US came up with a commitment that the US was ready to commit itself to a 17 per cent reduction by 2020, which was incorporated into the Accord.[184] Furthermore, Annex 1 parties that are party to the Kyoto Protocol have been called upon to further strengthen the emissions reductions initiated by the Kyoto Protocol.[185]

In a related development, the Wind Industry[186] has called for rigorous, legally binding emissions targets for industrialized countries, which they hope would create investor confidence and assure the continued growth of the wind industry for the post 2012 carbon markets.[187]

ii. Mitigation Actions deadline for Developing Countries

January 31, 2010 was also given as the deadline for developing nations to implement mitigation actions. These mitigation actions shall include; national inventory reports which shall be subject to their domestic measures, reporting and verifications on the result of which will be reported through their national communications every two years,[188] paying particular attention to oil and gas exploitation.

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[183]The Green Detectives. Posts Tagged 'Copenhagen Accord,' Last Call For Stronger Emissions Target. Pretty Please?, December 23rd 2009. Available at *http://www.greendetectives.net/?tag=copenhagen-accord* [Accessed January 27 2010].

[184] Ibid.

[185] Article 4 of the Copenhagen Accord. Available electronically at *http://unfccc.int/resource/docs/2009/cop15/eng/107.pdf* [Accessed January 27 2010].

[186] The Wind Industry is a Denish industry that is involved in the transformation of energy systems based on renewable sources needed for the reduction of man-induced GHG emissions.

[187] Wind Power Works activities at COP 15. Available at *http://www.wind-energie.de/fileadmin/dokumente/veranstaltungen/kopenhagen_climate_2009/WindPowerWorksactivities* [Accessed January 27 2010].

[188] Art 5 of Copenhagen Accord.

iii. Stabilization of Green House Gas

To achieve the ultimate objective of the UNFCCC to stabilize greenhouse gas concentration in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system, the parties have agreed that the global temperature should be below 2 degrees Celsius on the bases of equity and sustainable development.[189]

2.3 Regional Instruments Use in Regulating Offshore Activities

The impact of offshore oil and gas activities on the marine environment are enormous. A good number of global measures have been put in place to regulate the exploitation of oil and gas, which have been examined above. Because of the wide range of their application, these measures may lack compliance and monitoring. Perhaps the measures taken at regional level to regulate offshore activities could be more effective. These regional initiatives amongst others include:

2.3.1 The Helsinki Convention (1974)

The 1974 Helsinki Convention on the protection of the Marine Environment of the Baltic Sea Area contained a general requirement that all appropriate measures should be taken by the contracting parties to prevent pollution of the Baltic Sea from offshore activities.[190] In order to protect the Baltic Sea Area from deliberate, accidental or negligent release from the activities of oil and gas exploitation, and also by the discharge of sewage and garbage from ships, contracting parties shall take appropriate measures as set out in Annex IV of the Convention.[191]

The Helsinki Convention of 1974 was replaced in 1992, and it contains a similar provision in article 12, but in addition, it requires the parties to implement measures and procedures set out in its Annex VI on prevention of pollution from offshore activities. Environmental Impact Assessment (EIA) is also compulsory before an offshore activity

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[189] Art 1 Copenhagen Accord (CA).

[190] Art 10 of the Helsinki Convention 1974.

[191] Art 7 (1) Helsinki Convention (HC), see also Annex IV Regulation 4 of the present Convention.

is permitted to start and the consequent effects monitored.[192] Oil-based drilling mud and the discharge of cuttings are restricted, while the discharge of chemicals under normal circumstances is prohibited.[193] Finally, disused offshore units must be entirely removed, and old drilling wells plugged.[194]

2.3.2 The OSPAR Convention

The 1974 Paris Convention on the Prevention of Marine Pollution from Land based Sources applied not only to discharges and emissions from land but also from those from man-made structures within the convention area of the northeast Atlantic and Arctic oceans, which applies to discharges from offshore platforms.[195] The 1992 OSPAR Convention replaced the 1974 Convention, and it is more specific than its predecessor is. Under the Convention, the parties are required to take all possible steps to prevent and eliminate pollution from offshore sources.[196] Dumping of waste or other matter from offshore installations was also prohibited.[197] Furthermore, discharges and emissions of substances that may affect the maritime area must be subject to strict authorisation, regulation, monitoring and inspection by national authorities, which must implement the decisions, recommendations and agreements of the OSPAR Convention.[198]

2.3.3 United Nations Environmental Program (UNEP) Regional Seas Conventions

The Regional Seas Conventions contain a general requirement to prevent marine pollution from seabed activities. They include:

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[192] Reg 3 of Annex VI of the 1992 HC.

[193] Reg 4 and 5 of Annex VI of the 1992 HC.

[194] Reg 8, Annex VI 1992 HC.

[195] Zhiguo Gao (note 8) at 123.

[196] Art V of the OSPAR Convention 1992.

[197] Art 3 of Annex III.

[198] Art 4 of Annex III.

2.3.3.1 Persian/ Arabian Gulf Convention

The Kuwait regional convention of 1978 for corporation on the protection of the marine environment from pollution from offshore activities came into force in 1979 and provides a general duty for all parties to combat pollution from development of the territorial seabed and continental shelf in the Persian/Arabian gulf.[199] The protocol concerning marine pollution resulting from exploration and exploitation of the continental shelf was adopted in 1989 and entered into force in 1990.

The protocol contains licensing and EIAs. It also provides guidelines that are being issued by the Regional Organisation for the Protection of the Marine Environment (ROPME) in Kuwait.[200] Interference with international navigation and fishing were reduced, while the certification and equipment of installations requires operations to have approved contingency plans.[201]

Standards for discharges of drainage water and oily waste, which are based on annex I of the MARPOL Convention, were introduced.[202] The regulation of the disposal of sewage and garbage in terms equivalent to annexes IV and V of MARPOL was also taken note of.[203] Finally, "chemical use plans" by operators, must be approved, and the parties have the right to prohibit or regulate the use of chemicals.[204]

2.3.3.2 Mediterranean (Madrid Offshore Protocol 1994)

The Barcelona Convention for the protection of the Mediterranean Sea against pollution contains a general duty to prevent, abate and combat pollution from the continental shelf and seabed exploitation.[205] In 1995, the Barcelona Convention was revised, and the coastal region of the Mediterranean was included into it. The

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[199] Art VII of the Kuwait Regional Convention 1978.

[200] Arts III – IV of the Kuwait Convention 1978.

[201] Arts V, VI, VII and VIII of the Kuwait offshore protocol 1989.

[202] Art IX of the Kuwait Offshore Protocol 1989.

[203] Art X of the Kuwait Offshore Protocol 1989.

[204] Art XI of the Kuwait Offshore Protocol 1989.

[205] Art 7 of the Madrid Offshore Protocol 1994.

Convention has added a duty to eliminate such pollution as far as possible.[206] However, not yet in force, the Madrid Protocol is a longer and more detailed document than the Helsinki and OSPAR Conventions. It requires the use of the best available techniques, prior authorisations and environmental impact assessment for all offshore operations.[207]

Contingency Plans, reporting, monitoring and safety measures, have also been dealt with. All disused installations in accordance with international guidelines and standards, like those of the IMO (1989), must be removed.[208]

2.3.3.3 The Arctic Oil and Gas Guidelines

The Arctic Council was established in 1996 and succeeded the Artic Environmental Protection Strategy.[209] Members of the Arctic Council are Canada, Denmark, Finland, Iceland, Norway, the Russian Federation, Sweden and the USA.[210]

Protection of the Marine Environment is the main goal of the Arctic Council. In order, therefore to achieve this goal the council has adopted some general principles with the hope of protecting the marine environment.

2.3.3.3.1 The Precautionary Approach

In a bid to protect the marine environment, the precautionary approach as reflected in Principle 15 of the Rio Declaration shall be widely applied by states to oil and gas activities according to their capabilities.[211] There should be no reason to postpone cost-effective measures to prevent environmental degradation. Any operator of offshore installation or pipeline must be responsible for any damage caused to the

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[206] Art 7 of the revised Barcelona Convention of 1995.

[207] Art 3-5 of the Madrid Protocol of (1994).

[208] Art 20 of the Madrid Protocol (1994).

[209] The Arctic Council, Arctic Offshore Oil and Gas Guidelines 2009. Available at *http://artic-council.org/filearchive/arctic%20Offshore%20Oil%20and%20Gas%20Guidelines%202009.pdf* [Accessed January 29 2010].

[210] Ibid.

[211] Ibid.

environment.[212] Therefore, there have been calls to take precautionary measures when exploring and exploiting oil and gas in the Arctic.

2.3.3.3.2 The Concept of Sustainable Development

Any operator involved in offshore oil and gas activities within the Arctic, should be mindful of the commitment of sustainable development.[213] This among others shall include;

- Protection of biological diversity;
- The duty not to transfer, directly or indirectly, damage or hazards from one area of the marine environment to another or transform one type of pollution to another;
- The duty to cooperate on a regional basis for protection and preservation of the marine environment, taking into account characteristic regional features and global climate change effects; and
- The integration of environmental and social concerns into all development processes.[214]

2.3.3.3.3 The Polluter Pays Principle

All parties to the Arctic Council are called to Promote the internationalization of the application of the 'polluter pays' principle, which is also reflected in Principle 16 of the Rio Declaration.[215] This principle states that the polluter should bear the cost of pollution, paying particular attention to the public interest and not interfering with international trade and investment.[216]

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[212] Ibid.

[213] The Arctic Council (note 209) at 7.

[214] Ibid.

[215] Ibid at 6.

[216] Ibid.

2.3.4 Oil Preparedness, Response and Co-operation (OPRC)

The International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC) became international law on May 13 1995.[217] OPRC seeks to promote international cooperation in the event of a major oil pollution threat, be it from offshore units, seaports, ships and oil handling facilities.[218] The Convention commits parties to take all appropriate measures in accordance with its provisions to prepare for and respond to an oil incident.[219] These measures amongst others include Oil pollution emergency plans from offshore units, oil pollution reporting procedures and national and regional systems for preparedness and response.[220]

2.3.4.1 National Contingency Planning Development Assistance

One of the basic obligations under OPRC is the establishment of a national system for responding promptly and effectively to oil pollution incidents from offshore units as well from other sources.[221] IMO has assigned a high priority in its technical assistance program to providing technical advice to countries that are developing national and local contingency plans, whereby much emphasis is place on suitability and sustainability of national contingency plans.[222] The national contingency plan requires that all offshore installations to have an oil pollution emergency plan, which has to be approved by a competent national authority.[223] Furthermore, operators of offshore units must report any oil spill to the nearest coastal state, who must then assess the report and notify other affected states, and may be the IMO.[224]

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[217] Ibid.

[218] Philippe Sands QC, *Principles of International Environmental Law*, 2nd Ed, Cambridge University Press (2003) at 451.

[219] Ibid.

[220] Ibid.

[221] David T Edwards, IMO London SE1 7SR United Kingdom (UK), IMO'S Strategy for the Implementation of the OPRC Convention1. Available at *http://www.iosc.org/papers/00973.pdf* [Accessed January 29 2010].

[222] Ibid.

[223] Art 3 OPRC (1990).

[224] Art 4 OPRC (1990).

2.3.4.2 Regional Cooperation Mechanisms

Before the adoption of OPRC, IMO in cooperation with the United Nations Environmental Program (UNEP) and other interested international and regional organizations was promoting and supporting regional agreements aimed at enhancing the capacity of countries to deal with major marine emergencies.[225] Regional oil spill response agreements are given effect through the establishment of regional centres or operational contingency plans.[226] It is in this light that the IMO has played a catalytic role in the development of the Oil Spill Preparedness and Response (OSPR) whereby Japan has provided equipments and other support services to approximately the tune of US$10 million, for implementing the association of South-East Asian Nations oil spill response action.[227] This move is in line with OPRC measures to combat pollution arising from offshore activities and other sources. Parties to OPRC must cooperate and support each other on request, according to their capabilities and severity of an incident, [228] as was demonstrated by Japan in the above situation.

2.3.4.3 Research and Development

OPRC specifically called on government and the IMO to play an active role in the promotion of research and development relating to the enhancing of the state of the act of oil pollution preparedness and response and the exchange of information, relating to all offshore activities and related issues.[229] OPRC does this using databases and technology development.[230] OPRC is however not intended to replace separate regional agreements, which are encouraged by article 10 of the convention.

The fight against environmental pollution from offshore activities and related issues is still to be conquered. However, one cannot disregard the progress that has been made so far in this regard. To achieve a more comprehensive and concrete results for the

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[225] David T. Edwards (note 221).

[226] Ibid.

[227] Ibid.

[228] Art 7 OPRC (1990).

[229] David T. Edwards (note 221).

[230] Ibid, see also Article 8 of the OPRC (1990).

protection of the marine environment, national efforts seem to be the best method, for instance if states use the prerogative powers empowered to them by UNCLOS, MARPOL, etc. In the following chapter, a case study shall be carried on Cameroon and South Africa to see the extent at which their environmental regulations vis-à-vis the exploitation of oil and gas on the shelf and EEZ have contributed in protecting the marine environment.

CHAPTER THREE: CASE STUDY: CAMEROON AND SOUTH AFRICA

3.1 The Environmental Management of Offshore Oil and Gas Exploitation in Cameroon and South Africa

Cameroon, a country situated at the heart of Africa, is one of the oil producing countries on the continent. The oil and gas industry has provided Cameroon with a formidable income and limited employment since the mid-1970s and has made a significant contribution to national government revenue and foreign exchange earnings.[231] The Cameroon government has the exclusive power of ownership and control of oil and gas exploitation in Cameroon, by virtue of Law No. 99/013 of December 1999.[232]

After its independence in 1960 and 1961 respectively,[233] the anxiety to protect the environment from all sources of pollution was made official by the government as early as 1966.[234] Efforts by the government to protect its environment from all sorts of pollution were accentuated after Cameroon participated at the Earth Summit in Rio de Janeiro (Brazil) in 1992.[235] Consequently, a new ministry was created; the Ministry of Environment and Forest, and a National Environmental Management Plan (NEMP) was drawn up.[236] Paradoxically, with regard to offshore activities, it was only in October

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[231] Dieudonne Alemagi (note 47) at 135.

[232] Ibid.

[233] After the defeat of the Germans in WWII, Cameroon was given as a mandatory territory to France and Britain, and in 1960, Eastern Cameroon; the French speaking part gained its independence from France. This was followed by the English speaking part, then called 'West Cameroon' in 1961 through a plebiscite that was organized by the United Nations whereby west Cameroon either had to chose becoming independent by joining the Federal independent Republic of Nigeria or by joining the independent Republic of East Cameroon. Consequently, west Cameroon voted to become independent by reuniting with East Cameroon in 1961.

[234] Dieudonne Alemagi, Towards a Comprehensive Strategy for the Effective and Efficient Management of Industrial Pollution along the Atlantic Coast of Cameroon, 2006 at 53.

[235] Ibid.

[236] Ibid.

2009 that the President of the Republic signed a National Oil Spill Contingency Plan, (Decree No.2009/338 of 29 October 2009).

In the same vein, South Africa, which is also a developing country, situated on the southernmost tip of Africa, has a well-established record of legislations relating to offshore activities. In South Africa, four Acts have particular relevance to marine pollution from seabed activities: The Marine Pollution (Prevention of Pollution from Ships) Act of 1986, Civil Liability and Control Act of 1981, the Dumping at Sea Control Act 1980 and the Mineral and Petroleum Resources Development Act (MPRDA) 2002. SA has commercial offshore gas deposits, though it has no significant proven oil reserves and relies largely on imports;[237] its domestic legislations on oil and gas exploitation are however, well developed.

In this chapter, we shall examine Cameroon legislation with regard to the protection of the marine environment owing to offshore activities, as well as South African legislation relating to seabed activities, in line with international instruments such as; MARPOL, UNCLOS, CLC and UNFCCC which both countries are parties to.

3.2 The Environmental Management of Offshore Activities in Cameroon

As mentioned above, the Ministry of Environment and Forest in Cameroon is in-charge of environmental management in Cameroon. As far as pollution of the marine environment is concerned especially with regard to offshore activities, Cameroon has not really suffered from any major oil pollution incident resulting from offshore activities. However, with construction of the Chad/Cameroon Pipeline Project[238], it became imperative for Cameroon to establish national plans and legislation to combat pollution resulting from the pipeline project.

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[237] Jan Glazewski, *Environmental Law in South Africa*, 2ed (2005) at 491.LexisNexis Butterworths , Durban.

[238] In 1996, Chad and Cameroon signed a bilateral treaty that provided for the construction and operation of the pipeline and other transportation facilities. The construction of this pipeline was terminated in 2003 and the second phase of the project, which is the transportation of oil from Chad to a marine terminal in Kribi, Cameroon for exportation, is now operational.

3.2.1 Cameroon's National Environmental Management Plan

Cameroon's national environmental plan relating to offshore oil and gas exploitation has been skeletal for the past few decades. The reason behind this could possibly be that Cameroon has not actually faced any major oil incident since oil was discovered on its continental shelf in the 1960s. With little, weak or no particular legislations concerning environmental regulations of offshore activities, Cameroon who is a party to the various international Conventions relating to the management of the marine environment owing to pollution from offshore activities, has been under the banners of these institutions.

3.2.2 Cameroon and the Pre- 2009 Era

The environmental management policy in Cameroon in its early days did not have well-defined objectives and strategies, and the environmental protection concerns were merely incidental with activities carried out within general development policies.[239] Consequently, these laws were focused on the exploitation of natural resources rather than on the environment itself. For instance, the decree of September 1976, which regulated establishments, classified as dangerous and unhygienic, did regulate the oil industry simply by virtue of the fact that the oil industry was classified as being dangerous.[240]

However, the government has come up with various national environmental management plans and strategies, which are in line with international Conventions to which Cameroon is a party to, in order to redress the marine environment. These efforts, which are discussed subsequently, must therefore not be undermined.

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[239] An article written on Cameroon after her participation at the Earth Summit in Rio de Janeiro in 1992.This a article is entitle; Cameroon Rio+10 Assessment, at 25. Available at *http://www.unido.org/fileadmin/import/userfiles/hartmany/cameroon-e.pdf* [Accessed 03 February 2010].

[240] Dieudonne Alemagi (note 47) at 142.

3.2.3 The 1996 Law and Offshore Activities

The 1996 law on environmental management did not pay particular attention to pollution arising from offshore activities. However, any offshore operator or any related activity, who pollutes or is about to pollute the marine environment, is immediately called upon to stop all such activities, and such an operator shall be responsible for restoring the environment to its initial stage in the case of actual pollution.[241] The 1996 law further gives provisions for the application of precautionary, participatory and 'polluter pays' principle within the oil industry.[242] In case of pollution arising from any offshore unit or platform, an environmental impact assessment must be put in place, alongside with monitoring tools for environmental stewardship within the unit or platform.[243]

This effort is in line with UNCLOS, which enjoins coastal states to adopt laws, regulations and other measures that are at least as effective as international rules.[244]

The 1996 law further prohibits uncontrolled offshore activities. All offshore activities should be controlled and monitored in order to avoid air pollution; and platforms should be built in a proper manner to avoid atmospheric pollution.[245]

Laudably, the 1996 legislation has a considerable number of provisions geared towards controlling pollution arising from offshore activities. The 'polluter pays' principle, which applies to industrial pollution and all forms of environmental pollution, also applies to pollution from offshore activities.[246] The law provides for the drawing up

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[241] Art 32, 1996 law on environmental management.

[242] Dieudonne Alemagi (note 47) at 142.

[243] Ibid.

[244] Art 208 of UNCLOS.

[245] Art 22 of the 1996 law on environmental management.

[246] Dieudonne Alemagi, et al, Mitigating Industrial Pollution along the Atlantic Coast of Cameroon: An Overview of Government Efforts, at 45. Available at *http://www.springerlink.com/content/217/46r5u620618q/fulltext.pdf* [Accessed 04 February 2010].

of a national environmental management plan to define policies, objectives and strategies for a more sustainable development.[247]

Consequently, in October 1996, a decree reorganising the Ministry of Environment and Forest (MINEF), established a permanent Secretary of the Environment with a department of sustainable development charged, among other things, to ensure the effectiveness of Environmental Impact Assessment (EIA) nationwide, which would also include offshore activities.[248]

3.2.4 The 1999 Law and Offshore Activities

This is the first law that introduced a petroleum code in Cameroon, and with regard to environmental protection, the law provides for EIA and monitoring as a tool for regulating the exploitation of oil and gas on the marine environment.[249] Again, this law pays more attention to exploration and exploitation of oil and gas on the continental shelf of Cameroon and pays very little attention to environmental regulations. However, with the help of private bodies such as Non Governmental Organisations (NGOs), World Bank and foreign governments, the EIA which the law of 1999 advocates has come to light.

Following the construction of the Chad/Cameroon Pipeline project, which ended in 2003 and the current state of activities of the project that involves transportation of the oil to a marine terminal in Cameroon, the EIA is of fundamental importance in protecting the marine environment from pollution.

Firstly, the approval of the Chad/Cameroon Pipeline project by the World Bank meant that the environmental concern of the terminal at Kribi was to be considered with

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[247] Dieudonne Alemagi, et al, (note 246) at 45.

[248] Dieudonne Bitondo, Environmental Assessment in Cameroon: State of the art, at 35. Available at *http://www.docserver.ingentaconnect.com/deliver/connect/beech/14615517/v18n1/s5.pdf?expires=12653605138* [Accessed 05 February 2010].

[249] Dieudonne Alemagi (note 46) at 142.

absolute importance. The Cameroon Oil Transport Company (COTCO)[250] will be in charge of reviewing the environmental plans and processes of the Engineering, Procurement and Construction (EPC) Contractors during the construction phase of the project, more specifically the construction of the marine terminal in Kribi. After 2003, when the first phase of the project ended, COTCO was expected to carry out environmental monitoring activities at the terminal in Kribi.[251] This would help to prevent pollution of the marine environment. However, in order to achieve this goal, the government of Cameroon also had to put in place all necessary environmental safeguards to help COTCO monitor the pipeline activities at the oil terminal.[252]

Secondly, COTCO undertook oil spill response training sessions throughout the construction phase of the project.[253] Periodic training exercises will continue during the production phase to make sure that spill response teams know how to effectively use the available equipment.[254] The diagram below illustrates one of the training sessions organised by COTCO in a bid to contain marine pollution from the pipeline project.

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[250] COTCO is an oil company involve in the transportation of oil from land-locked Chad to a marine terminal in Cameroon, for exportation abroad.

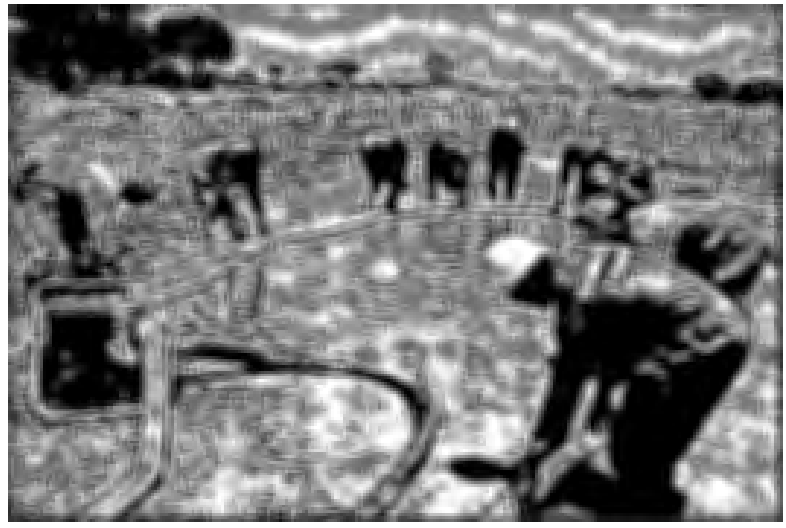
[251] Korinna Horta, The Chad-Cameroon Oil and Pipeline Project, Plans for Environmental Monitoring: Multilayered Conflicts of Interest, February 2005. Available at *http://www.edf.org/documents/2400_NCIUCNSymposium.pdf* [Accessed 03 February 2010].

[252] Ibid.

[253] EMP Monitoring and Management Program on oil spill response planning, at 37. Available at *http://www.esso.com/chad-English/PA?Files?8_ch7.pdf* [Accessed 05 February 2010].

[254] Ibid.

Figure 1: Training session by COTCO



Source: EMP Monitoring and Management Program on oil spill response planning, Available at http://www.esso.com/chad-English/PA?Files?8_ch7.pdf

Thirdly, rapid response systems were installed at the marine terminal in Kribi, where constant communication between the floating storage and off loading vessel and the pipeline control systems were monitored.[255] With regard to collision avoidance, patrol boats were available to monitor the floating, storage and offloading vessel during crude oil offloading operations.[256]

Finally, a corrosion protective measure was adopted by COTCO. Corrosion-proof finger glass pipe used for flow link piping; anti-corrosion coating applied to all metal pipe; cathode protection system installed on trunk lines; periodic internal inspection program to detect problem areas within the terminal were installed.[257]

All of these measures taken by COTCO were all aimed at protecting the marine environment, which goes a long way with the government initiative to elaborate on EIA programs, as stipulated in the 1996 law on environmental protection.

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[255] EMP Monitoring and Management Program (note 253) at 37.

[256] Ibid.

[257] Ibid at 41.

3.2.5 The decree of October 29, 2009 and offshore activities

This decree signed by the head of State on October 29, 2009 was the first decree that paid particular attention to offshore activities. The issue of marine pollution was handled. A national oil spill contingency plan was adopted relating to pollution arising from offshore activities. Issues such as compensation for the victims who suffer from pollution and the restoration of the environment were put forward.

3.2.5.1 Statutory and planning framework of National Spill Oil Contingency Plan (NOSCP)

The NOSCP outlines the legal and regulatory framework and environmental management in Cameroon, including the international conventions signed by the Republic of Cameroon relating to environmental protection.[258] It also tackles sub-regional corporation issues relating to oil spill response management, as well as those of liability in accordance with the principle of "who pollutes pays" as was stated in the 1996 law on environmental management in Cameroon.[259]

3.2.5.2 Analysis of Oil Spill

The oil spill that occurs on the offshore of Cameroon is mostly situated at the Chad/Cameroon pipeline terminal, the drilling production and storage platforms installed offshore the Cameroonian coast, as well as along the international or national navigation corridor of tankers.[260]

3.2.5.3 Organizational Structures

The Pipeline Steering and Monitoring Committee (PSMC), an inter-ministerial structure placed under the leadership of the National Hydrocarbons Corporation (SNH) is the organ responsible for the coordination of the implementation of NOSCP.[261] It acts as a permanent link between the government departments and oil operators. The PSMC

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[258] Regional Workshop and GIWACAF Conference 2009 on oil spill response contingency, November 2009 Yaounde Cameroon at 11.

[259] Ibid.

[260] Ibid at 12.

[261] Ibid at 13.

is made up of a monitoring committee, who are representatives from government departments in charge of environmental protection.[262] The PSMC is also comprised of experts from other institutions, private and Para-public organizations involved in oil spill contingency management. It monitors interventions and ensures the liaison between the permanent secretariat of PMSC and central services of government department or organizations represented.

3.2.5.4 Response Strategy

In a situation where the oil spill is directly linked to an offshore operator or a vessel carrying crude oil passing along the coast of Cameroon, the operator or whosoever is responsible for the oil spill, must send a report to the relevant government departments who then dispatches a team of observers and auditors to the site.[263] Where the oil spill is likely to reach the shore or any sensitive receptors for instance sensitive coastlines and estuary, the operator must communicate to the government department, alert closest operators and request for an intervention team and enforce intervention measures.[264]

The response strategies have as main objectives to ensure the security of persons and the protection of sensitive areas, to stop the hydrocarbon flow where possible, to confine the hazards of freed hydrocarbons, to apply technical treatment recommended (as the case may be) and to eliminate wastes.[265]

3.2.6 Cameroon and Climate Change

This is one of the adverse effects of offshore activities. The challenge of climate change requires the efforts of all the international community. Cameroon, conscious of the stakes of this phenomenon, is fully committed to supporting sustainable development, which was on the agenda at the Climate Change Summit that took place in Copenhagen in December 2009.

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[262] Regional Workshop and GIWACAF Conference 2009 (note 258) at 13.

[263] Ibid at 14.

[264] Ibid.

[265] Ibid at 15.

In a bid to reduce, the emissions of greenhouse gases into the atmosphere, Cameroon is of the opinion that GHG must be reduced in order to deal with the problem of climate change. Cameroon therefore adheres to the principle of 'Common but Differentiated' responsibility in the reduction of the emissions of GHG.[266] To this end, Cameroon maintains that the developed countries should undertake to have a 40% reduction of GHG by 2020.[267] On the other hand, Cameroon is of the opinion that developing country and more particularly the emerging countries in offshore activities, should make voluntary commitments for GHG emissions reduction.[268]

3.2.7 To what Extent Does the Cameroon Government Seek to Redress Leakage at the Marine Terminal in Kribi and Other Offshore Activities?

The Chad/Cameroon Pipeline Project is one that has huge socio-economic impact on the coast of Cameroon as well as to the inhabitants of that area. COTCO, which built the Cameroon leg of the project alongside the World Bank who financed the project, and the government of Cameroon, have been rather reluctant or unwilling to protect the marine environment through the regulations of oil and gas.

Multinational companies (MNCs) often present regulatory problems to ensure socially responsible conduct, particularly when they operate in developing countries, where regulatory mechanisms to protect the environment are relatively weak or non-existent.[269] This phenomenon is more frequent with companies operating in offshore activities such as oil and gas exploitation.

The World Bank, which is the architect and financial body to the success of this project, had come up with an Environmental Assessment Studies (EAS) aimed at

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[266] The Ministry of Environment and Protection of Nature, Cameroon's position on international discussions relating to climate change, December 2009 at 8.

[267] Ibid.

[268] Ibid.

[269] Edwin Mujih 'The Regulation of Multinational Companies Operating in Developing Countries: A Case Study of the Chad-Cameroon Pipeline Project.' at 83. Available at *http://wwweuppublishing.com/doi/pdfplus/10.3366/E0954889008000078* [Accessed 03 February 2010].

mitigating the social and environmental risk of the project.[270] Consequently, two EIAs were organized under the auspices of the World Bank. The first EIA, which was meant to understand the nature and extent of any social or environmental impact and the acceptability of proposed mitigation measures, particularly to the affected groups, did not achieve its goal.[271] There was therefore need for a second EIA. The second EIA that was published in 1999 at the same time as the Environmental Management plan, which described measures and actions, that must be implemented by COTCO to reduce or eliminate the impacts identified in the EIAs.[272] Again, the second EIA did not achieve its objectives. The World Bank claimed that the EIAs were inadequate and violated environmental policies.[273] Why were the EIAs not successful? In the following paragraphs, we shall examine why the EIAs were not successful.

3.2.7.1 The legal framework for the Project

It is by common sense that a well established legal framework would lead to the execution of a good project. The legal framework that governs the Cameroon portion of the project is *'The COTCO Convention'*,[274] which is supplemented by applicable Cameroonian legislations and international Conventions to which Cameroon is a party.[275]

Regrettably, there exists a stark imbalance of rights and obligations between Cameroon and COTCO in the 'Convention'. The Convention relieves COTCO of almost all liability for environmental or social damage resulting from the project.[276] COTCO has intelligently contracted indirectly by setting up a new joint venture with Cameroon.

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[270] Edwin Mujih, (note 269) at 87.

[271] Ibid.

[272] Ibid at 89.

[273] Ibid.

[274] The COTCO Convention is a bi-lateral agreement between Cameroon and COTCO. It defines the rights and obligations of each party in the operation and maintenance of the Marine Oil Terminal in Kribi. It is worth mentioning here that Cameroon, who is a party to the contract, is also a member of COTCO.

[275] Edwin Mujih, (note 269) at 90.

[276] Ibid at 92.

This implies that she is not a direct party to the contract and may escape direct liability for any environmental damage.[277]

The second alibi is that COTCO, because of its strong bargaining power in the project, has excluded certain relevant national legislations of Cameroon as well as international legislations applicable in the country.[278] So, all national laws that conflict with those of the COTCO Convention are automatically excluded.

3.2.7.2 Lack of the Application of International laws to MNCs

Some international legal instruments and international organizations, exempt MNCs from social responsibility, for instance, the Organization for Economic Cooperation and Development (OECD) guideline for MNC enterprises, which are regarded as a code of conduct for international business, are considered as guidelines and are not legally binding on the MNC.[279] Furthermore, the UN attempt to control MNCs by the code of conduct was regrettably abandoned in 1994 with the abolition of the United Nations Commission on Transnational Corporation.[280] Perhaps this is why COTCO has the liberty to twist the Convention to its favour.

Today, the repercussion of COTCO's lack of zeal and willingness to implement the decisions of EIAs that were carried out in Cameroon during and after the construction of the Chad/Cameroon Pipeline has already been witnessed in 2007. In 2007, there was an oil leakage at the marine terminal in Kribi, causing some environmental damage to the environment.[281] Though COTCO claimed that it quickly brought the situation under control and that no impact on the coast or on the sensitive marine environment was anticipated, a Cameroonian based NGO, Centre for

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[277] Edwin Mujih, (note 269) at 92.

[278] Ibid.

[279] Ibid at 94.

[280] Ibid.

[281] IRIN News, Cameroon: Oil leak shows weakness in World Bank pipeline, NGOs warn. Available at *http://www.corpwatch.org/article.php?id=14357* [Accessed 07 February 2010].

Environment and Development (CED) alleged that there was a delay in detecting the leak and that COTCO waited five days to inform the public at large.[282]

The regulation of offshore activities in Cameroon (Kribi Marine Terminal) is deemed to be managed by both COTCO and the Cameroon government, but in reality, Cameroon has more to achieve in the agreement which from the very beginning was on one side; the protection of her coast. It might just be of more benefit for Cameroon to renew the COTCO Convention, in order to lay down better legislations aimed at protecting not only its coast, but also its inhabitants who depend on fishing for both economic and social needs.

3.3 Environmental Management of Offshore Activities in South Africa

The regulation of offshore activities in South Africa has been characterized by both national and international legislations. The offshore environment of South Africa is an area of considerable economic, social and scientific importance.[283] It is a diverse and complex seascape that has rich biological communities and includes resources of enormous potential benefit,[284] and it is therefore imperative for South Africa (SA) to make sure that it does not loss this rich inheritance. Its legal framework and EIAs with regard to environmental management of offshore activities have been outstanding. Four Acts have particular relevance to marine pollution from seabed activities: The Marine Pollution Act of 1986, the Marine Pollution Act 1981 (Control and Civil Liability), the Dumping at sea Act 1980 and the Mineral and Petroleum Resources Development Act 2002.

However, because SA has a rich biological diversity and ecosystem within the limit of 200 nautical miles from the baseline, which according to article 194(5)[285] of

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[282] IRIN News, Cameroon: (note 281).

[283] Kerry Sink & Colin Attwood 'Guidelines for Offshore Marine Protected Areas in South Africa, Sanbi Biodiversity Series 9 (2008) at 2. Available at *http://www.sandi.org/information/biodiversity9.pdf* [Accessed 08 February 2010].

[284] Ibid.

[285] Art 194(5) UNCLOS states that, states should take appropriate measures to protect and preserve rare or fragile ecosystems and habitants from depletion within the marine environment.

UNCLOS, it has the right to designate this area as Special Areas in order to preserve the fragile ecosystems and habitants from depletion, some Acts related to marine protected areas in SA which we shall also examine in the lights of offshore activities, have been given particular attention as well.

3.3.1 Marine Pollution (Prevention of Pollution from Ships) Act 2 of 1986 (Amended in 1996)

This Act implements the provisions of MARPOL Convention 73/78. Though in principle, this Convention applies only to ships, it also applies to fixed and floating platforms.[286] The disposal of garbage from floating or fixed platforms is forbidden,[287] and the Minister of transport according to section 3 of that Act, is empowered to make regulations. Therefore, any offshore installation within the territorial waters or EEZ of SA must comply with these safety measures. As part of Port State Control on operational requirements, an offshore terminal of another party is subject to inspection by officers duly authorized by such party concerning operational requirements of the platform under Annex I, where it is evident that the operator is not aware of the procedures relating to prevention of pollution by oil.[288]

A fine not exceeding R500, 000 or imprisonment for a period not exceeding five years is levied on any operator guilty of such offence.[289] It should however be noted that enforcement of these sanctions is the responsibility of the South African Safety Authority (SAMSA).

3.3.2 Marine Pollution (Control and Civil Liability) Act 1981

This Act deals with both criminal and civil liability and applies to offshore installations, which are defined to include oil exploitation or production platforms and transfer facilities from one tanker to another.[290] Both the owner and master or whoever

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[286] Annex I of MARPOL.

[287] Annex V of MARPOL.

[288] Reg 8A of the Amended ACT 1996.

[289] Section 3A.

[290] Section 1.

is in charge of any offshore installation shall be criminally liable if oil is discharged from such offshore installation, but he is relieved of his responsibility if the discharge was necessary or reasonable to prevent damage from the installation or to safe life.[291]

A comprehensive report of any discharge of any harmful substance arising from the offshore installation must be disclosed to SAMSA.[292] Furthermore, the owner or operator of an offshore installation is strictly liable for any loss or damage. This would include all clean-up costs arising from pollution within offshore units.[293] For the purpose of transfer of oil or other prescribed harmful substance between an offshore oil installation and a tanker, SAMSA requires all operators to obtain permission.[294] Finally, a pollution safety certificate must be obtained from SAMSA.[295]

3.3.3 Dumping at Sea Control Act 1980

This Act implements the 1972 London Dumping Convention,[296] and governs the disposal by deposit or incineration of substances from platforms, abandonment of platforms. It is not applicable to the disposal of wastes arising from, the exploration, exploitation, or associated offshore processing of seabed mineral resources.[297] Following the implementation of the 1996 Protocol to the London Dumping Convention, which eventually entered into force in 2006, all states have the obligation to protect the marine environment from all sources of pollution, which include the incineration of waste from offshore units.[298] In order to enforce and comply with the provisions of the Convention in relation to offshore activities, parties are to ensure that

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[291] Section 2 and Annex I of MARPOL.

[292] Section 3 and s 29 of 1997 amended Act.

[293] Section 9 as amended by s35 1997.

[294] Section 21 as amended by s 38 1997.

[295] Section 24.

[296] This Convention is one of the first global conventions to protect the marine environment from human activities and has been in force since 1975. About 86 states are parties to this Convention amongst which is South Africa.

[297] Section 1 of the Act.

[298] Art 2 of the 1996 Protocol.

all platforms engage in dumping or incineration in areas over their jurisdiction (EEZ) must be punished.[299]

The Integrated Coastal Management Act 24 of 2008, has now repealed the Dumping at Sea Control Act 1980, and replaces it with the new provisions in Chapter 8 of the 1996 Protocol to the 1972 Convention.[300] Platforms and fabricated structures shall be controlled within the coastal waters and EEZ.[301]

3.3.4 Mineral and Petroleum Resources Development Act 2002

This Act regulates the licensing of offshore oil and gas development in SA. The Minister of Minerals and Energy is responsible for granting exploration and production rights to offshore operators following applications tendered to the Petroleum Agency SA.[302] However, before obtaining these rights, the operator has to make available an approved 'environmental management program' to the authority stating the mechanism and strategies of environmental management during exploration and exploitation.[303] Any operator having a reconnaissance permit, exploration rights or production rights, must implement the general objectives of integrated environmental management, which makes him responsible for rehabilitating the environment and remedying the negative effects of his operations on the environment.[304] Preparations and considerations of environmental management programs and plans alongside financial provision for rehabilitation of the environment must be made available before the environmental management program is approved.[305]

In 2004, a new Mineral and Petroleum Resources Development Regulations (MPRDR) was issued under the 2002 Act.[306] MPRDR contains environmental

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[299] Art 10 of the 1972 Convention.

[300] Government Gazette 29476, December 2006.

[301] See Clause 70 of Chapter 8 of the 1996 Protocol to the Convention.

[302] Chapter 6 of the 2002 Act.

[303] Sections 80 and 84 of 2002 Act.

[304] National Environmental Management Act 107 of 1998 (NEMA), section 2.

[305] Sections 39 and 41 of 2002 Act.

[306] GN R 527, Government Gazette 26275, 23 April 2004, at 3.

regulations, which also applies to terrestrial mineral development and petroleum exploration and production.[307]

Finally, in 2007 a Mineral and Petroleum Resources Development Amendment Bill was introduced in the National Assembly, which included provisions to harmonize environmental impact assessment requirements with the norms and standards under the National Environmental Management Act.[308]

3.3.5 The Constitution

The Constitution of SA has made it possible for litigants of locus standi to proceed in an environmental suit.[309] It suffices for an individual to show a sufficient and direct legal interest in a matter to allow him/her to bring a case before a competent court.[310] Sections 24 and 38 of the Constitution, which talk of environmental rights and enforcement rights respectively, has broadened standing in environmental rights litigations,[311] as was the case in *Wildlife Society of South Africa v Minister of Environmental Affairs and Tourism* 1996 (3) SA 1095 (T).[312] Therefore MNCs, like oil producing companies on the coast of SA could be faced with litigations from individuals or groups of persons having common interest in an environmental suit.

3.4 Offshore Marine Protected Areas

As earlier mentioned SA has a rich biological community, including resources of enormous potential benefit that have to be protected from offshore activities. SA's commitment to protect the marine biodiversity, ecological integrity and the sustainable

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[307] See part 3 of MPRDR.

[308] Government Gazette no. 29822, 19 April 2007.

[309] Environmental Law, The Obligations of Companies Towards the Environment, March 2009, available at, http://www.ens.co.za/newsletter/briefs/environment%20law%20ENSight%20Mar%202009.pdf. [Accessed 09 February 2010].

[310] Ibid.

[311] Ibid.

[312] Ibid.

use of resources, has been endorsed under several international Conventions and agreements and have been embedded into its national legislations and policies.[313]

3.4.1 Convention on Biological Diversity (CBD) 1992

The provisions of the CBD requires parties to establish a system of protected areas where special measures are required to conserve and protect biological diversity as well as establishing environmental management plans of those areas.[314] A specific Protected Area target of 10 per cent of the world's ecoregions effectively covered within Marine Protected Areas (MPAs) by 2012 was set at the CBD Secretariat in 2004.[315] South Africa is a signatory to this Convention and thus, is leaving no stone unturned to enforce these resolutions more so, because of its rich biological diversity that is been threatened by offshore activities.

3.4.2 World Summit on Sustainable Development (WSSD) 2002

SA, who hosted this summit, publicly committed itself to the Johannesburg plan of Implementation to combat pollution arising from offshore activities in particular, and the oceans in general.[316] Consequently, 2012 was given as dateline for the implementation of an ecosystem approach in managing fisheries and the establishment of representative marine area networks.[317] Offshore MPAs in SA do not only have as target 'Protected Areas', but are also recognized as a critical component of ecosystem-based management.[318] The figure below show's SA current spatial protection of marine biodiversity.

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[313] Kerry Sink & Colin Attwood (note 283) at 3.

[314] Ibid.

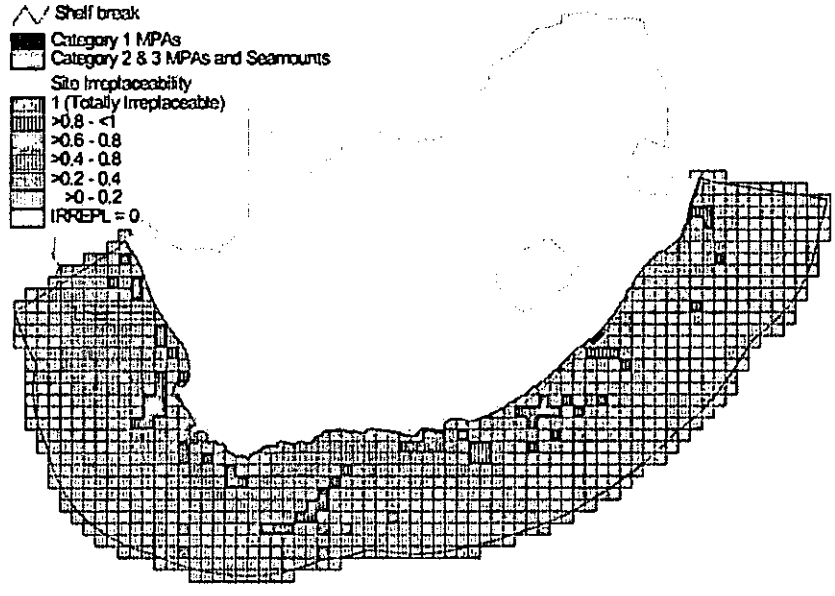
[315] Ibid.

[316] Ibid.

[317] Ibid.

[318] Ibid.

Figure 2: SA current spatial protection of marine biodiversity in SA



'An example of an output from a biodiversity planning analysis. This example is from the National Spatial Biodiversity Assessment (Lombard *et al.* 2004). Proposed priority areas for spatial protection are shown in dark brown (high irreplaceability) and existing MPAs and seamounts (proposed for protection) are shown in blue. This analysis used targets of 20 % for most habitat types but 30 % for muds, 50 % for canyons and 100 % for seamounts. The 20 minute commercial fishing grid was used as a planning framework.'

Source: Kerry Sink & Colin Attwood 'Guidelines for Offshore Marine Protected Areas in South Africa, Sanbi Biodiversity Series 9 (2008) at 2 Available at; *http://www.sandi.org/information/biodiversity9.pdf.*

3.5 Obstacles to Achieving Effective Offshore Environmental Management in SA

The legal framework and EIAs in SA relating to offshore environmental management has no doubt gone under scrutiny. However, the complexity of the marine

environment in particular and environment in general, has left several questions unanswered such as; who has the authority over the management of EIAs? Which Act should be put in place and the lack of data for EIAs? Perhaps, these unanswered questions shall help to foster a more effective move towards sustainable development plans vis-à-vis offshore activities in SA, whereby every citizen shall take part in rebuilding the environment.

3.5.1 Conflict of Laws (Decision Making)

This frequent phenomenon happens in most administrative structures. In order for an environmental management program to be effective, the environmental management should be integrated with all levels or spheres of decision-making, ranging from strategic or policy levels to operational levels of organizations.[319]

3.5.2 Loopholes in the Environmental Conservation Act, No. 73 of 1989 (ECA)

The act governing the assessment of environmental impact and conditions of the environmental authorizations in general and marine environment in particular, prior to the enactment of National Environmental Management Act (NEMA), was the Environmental Conservation Act (ECA).[320] Activities such as oil and gas exploitation that could have a substantial detrimental effect on the environment were identified in Section 21(2) of ECA and described in Government Notice No. R.1182 of September 1997 required written authorization from the Minister of Environmental Affairs and Tourism.[321] The paradox is that, the principle and procedures for the assessment of the potential impact of these activities were detailed in the Act, whereas, in contrast with NEMA, ECA made no specific provision for matters relating to integrated coastal

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[319] Fuggle & Rabie, *Environmental Management in South Africa*, 2nd ed, JUTA Law, H A Strydom & N D King (eds), 7 Mercury Crescent, Hillstar, Wetton, 7780, Cape Town (2009), at 17.

[320] Breetzke, et al, From White Paper to National Coastal Management Programme and Beyond, at 3. Available at http://www.iaia.co.za/Conference_2009/_Downloads/Papers/Breetze_Tandi_Celliers_Louis_and_Moore_Luke [Accessed 10 February 2010].

[321] Ibid.

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[320] Breetzke, et al, From White Paper to National Coastal Management Programme and Beyond, at 3. Available at *http://www.iaia.co.za/Conference_2009/_Downloads/Papers/Breetze_Tandi_Celliers_Louis_and_Moore_Luke* [Accessed 10 February 2010].

[321] Ibid.

management.[322] Therefore, environmental management of oil and gas activities was not mentioned in ECA.

3.5.3 Lack of Integration and Co-operation in Marine Environmental Management

The 1996 Constitution of SA, NEMA and the Intergovernmental Relations Framework Act 13 of 2005[323] must combine their resources in order to bring good governance to the marine environmental management. Sections 40(1) and (2) of the Constitution states that SA government is made up of distinctive national, provincial and local spheres, which are inter-dependent and inter-related when it comes to environmental management as a whole, which they must adhere to the constitutional provisions on co-operative management. Paradoxically, the current attitude of governmental bodies responsible for environmental sustainable service delivery is unspeakable. Rather, they are precluded from acting individually. [324]

3.5.4 Laxity within the National White Paper for Sustainable Coastal Development *(2000)*

The White Paper, advocated for a shift towards integrated coastal management in SA, which functions as an interconnected system that includes human activity and calls for coordinated, integrated and systemic environmental management and the promotion of sustainable management.[325] To the detriment of the transparent and inclusive process that concluded in the publication of the White Paper in 2000, an enacted legal instrument was extensively delayed owing to legal and logistic obstacles.[326] Consequently, there was a gap of almost nine years between the publication of the White Paper and the enactment of the Integrated Coastal Management Act (ICMA) in

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[322] Breetzke, et al, (note 320) at 3.

[323] Ibid.

[324] Ibid.

[325] Ibid.

[326] Ibid.

February 2009.[327] This laxity in the environmental management of offshore activities is not good since oil and gas exploitation comes along with potential environmental hazards, which have to be timely dealt with.

The efforts made by Cameroon and SA to regulate the impact of oil and gas exploitation on their coasts are to be reckoned with. Global warming, as a result of climate change is not only the concern of the coastal state, but also that of the entire world. Perhaps a stricter and well-elaborated offshore environmental management plan coupled with excellent legislations that are not repugnant to natural justice should be put in place to enable these states to protect their coasts from oil and gas exploitation and pollution.

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[327] Breetzke, et al, (note 320) at 3.

CHAPTER FOUR: COMPARATIVE CASE STUDY: THE UNITED KINGDOM (UK)

4.1 Environmental Management of Offshore Oil and Gas Activities in the United Kingdom (UK)

We have so far examined the impact of oil and gas exploitation on the marine environment, the various international and national (Cameroon and South African) measures that have been put in place to regulate pollution arising from offshore development. It might give a better comparative perspective for us to conclude this thesis by taking a closer look to some other part of the world that is also putting in much effort to protect the environment and promote sustainable development. In this one, but not the last chapter of our work, we shall be taking a closer look at the efforts taken by the UK in protecting the marine environment and promoting sustainable development for present and future generations. This shall be done in comparison to Cameroon and South Africa earlier discussed in the previous chapter, owing to the fact that the former exercised weaker environmental control from oil and gas activities, as opposed to the latter that has well defined strategies and measures for the protection of the marine environment. The efforts adhered by the former are also to be reckoned with.

4.1.1 Background Information

The UK is made up of four countries: Wales, Great Britain (GB), Northern Ireland and Scotland. The UK forms part of the European Community (EC) and therefore, adheres to the environmental regulations of EC. Far from applying EC environmental regulations, the UK has a wide range of well-defined legislative measures aimed at protecting the environment in general and the marine environment in particular. She is also an active member of many International Conventions and Treaties aimed at protecting the environment. The Torrey Canyon disaster in 1967, involving the

contamination of large areas of coastline by oil,[328] showed the importance of establishing comprehensive measures to protect the marine environment. The period since 1967, has therefore been one of hectic EC legislative activity on the marine environment.[329] In addition the part played by EIAs plans in the UK towards environmental protection is gaining momentum and has become more widely recognized.[330]

4.1.2 Legislative or Statutory Regulations

The UK has a well-defined legislative structure for offshore environmental regulations. Prominent amongst these legislations are The Merchant Shipping (Oil Pollution Preparedness, Response and Co-operation Convention) Regulations 1998, The Offshore Installations (Emergency Pollution Control) Regulations 2002 and The Offshore Petroleum Activities (Oil Pollution Prevention and Control) Regulations 2005.

4.1.2.1 The Merchant Shipping (Oil Pollution Preparedness, Response and Co-operation Convention) Regulations (MSR) 1998

Subject to paragraphs (4) and (7), an offshore operator has within 15 months of coming into force of these regulations to submit an oil pollution emergency plan relating to its offshore installations or oil handling facility to the Maritime Coastguard Agency (MCA) for approval.[331] This lapse of time would permit the offshore operator to establish a good emergency plan in order to prevent oil pollution. This would further strengthen the fight for a good marine environmental regulation for a more sustainable development.

UK citizens have also been called upon to take part in the marine environmental management of their waters. To this end, they have the responsibility to report any oil spill from offshore installations to the nearest competent officer who can take rapid

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[328] Patricia Birnie and AE Boyle *International Law and the Environment*, 2ed (2002) at 347.

[329] Zhiguo Gao (note 8) at 259

[330] Paul Tomlison 'The Application of Environmental Impact Assessment to UK Mineral Planning'. Available at http://www.sprnkerlink.com/content/n5581kwx78381500/ [Accessed 11 February 2010].

[331] Reg 4 (3) (a) MSR (1998).

action.[332] Finally, any competent authority must duly examine all offshore installations, pipelines and oil handling facilities.[333] This implies that, should any leakage for instance, be discovered from a pipeline, the operator shall be called upon to repair the pipeline so as to stop or mitigate the pollution.

4.1.2.2 The Offshore Installations (Emergency Pollution Control) Regulations (OIR) 2002

Under this regulation, any accident, or oil pollution threat that may occur within an offshore installation in the UK, ie within its continental shelf or EEZ, the Secretary of State has the power to intervene for the purpose of reducing or preventing the incident.[334]

However, when exercising power, the Secretary of State (SS) or any competent authority that has been given the responsibility, must make sure that the measures taken to prevent or reduce pollution are reasonable enough to avoid unreasonable loss or damage to the marine environment.[335] In addition, the operator of the offshore installation shall be entitled to compensation should he suffer any loss owing to the unreasonable act of the SS.[336] A cross examination of this regulation shows that the SS must act with due diligence and competence for the benefit of the environment as well as the operator.

Any offshore operator, who fails to comply with the orders given by SS or obstructs any person given the power to act in that capacity, would be guilty of an offence and shall therefore be punished accordingly with a summary conviction to a fine

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[332] Reg 5.

[333] Reg 8.

[334] Reg 3 OIR (2002).

[335] Reg 4.

[336] Ibid.

not exceeding 50,000 pounds.[337] This also calls for some prudence on the part of the offshore operator as well.

4.1.2.3 The Offshore Petroleum Activities (Oil Pollution Prevention and Control) Regulations (OPAR) 2005

This is perhaps the most voluminous regulations, as it appears to pay particular attention to the environment. It forbids the discharge of oil into the marine environment, except the operator owns a permit that permits him to discharge oil.[338] Before a permit for oil and gas exploitation is granted, the SS should make sure that the concentration, frequency, quantity location or any discharge is subject to appropriate restrictions; that appropriate measures are taken to minimize pollution; that necessary measures are taken to prevent accidents affecting the environment, or where they occur to limit the environmental damage.[339]

Even after the permit has been awarded, the SS has the right to review the terms and conditions attached to it so long as it is intended to protect the marine environment.[340] To culminate it all, a recent law of 02 February 2010 has given the Environmental Agency and Natural England, a regulatory agency, a civil power that will give them greater flexibility to enforce environmental law in the UK.[341]

In comparison to Cameroon and South Africa, the legislative framework of the UK with regard to the environmental protection seems more complex, coherent and precise, a compliment worth reckoning with for sustainable development.

Environmental protection, up until 1992 in Cameroon was regulated by a series of scanty and ill-adapted texts,[342] least to mention, the environmental regulation of

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[337] Reg 5.

[338] Reg 3 OPAR (2005).

[339] Reg 4 (2) (a) (b) and (c).

[340] Reg 7.

[341] Defra, UK-News-News releases 2010-environmental agency and natural England given new enforcement powers. Available at http://www.defra.gov.uk/news/2010/100202a.htm [Accessed 11 February 2010].

[342] Dieudonne Alemagi, (note 234) at 25.

offshore activities. The Cameroon government has the exclusive ownership and control of oil and gas in Cameroon.[343] The National Hydrocarbons Corporation of Cameroon (SNH) has the exclusive right to sign and control all agreements with petroleum companies.[344] The Executive General Manager (GM) is only answerable to the Head of State, not even the Minister of Environment and Forest has the right to question him when it comes to the management of offshore activities. This exclusive right given to the GM of SNH on the management of oil and gas in Cameroon is very detrimental to the environmental management of the adverse effects of these activities. Even if the ministry in charge of environmental management lay down good plans for the environmental management, the GM of SNH, because of the exclusive powers he has can easily go against these plans without being punished.

In SA, there exists a problem of conflict within the legislations governing offshore activities. Offshore activities that were considered as having negative effects to the environment were identified under section 21 (2) of ECA, and were incorporated into NEMA, but paradoxically no specific provisions for matter relating to oil and gas were mentioned in ECA.[345] Perhaps it would have been better to pay particular attention to pollution from oil and gas owing to the enormous repercussion it has on the marine environment rather than generalizing it to all offshore activities.

On the other hand, the UK legislation with regard to oil and gas activities is specific and well elaborated. For example, the OIR regulations of 2002 states that the Secretary of State or any other competent authority has the right to issue and withdraw permits for exploration and exploitation.[346] Here, power is not concentrated only on one person as the case is in Cameroon. Secondly, the SS must act with prudence in taking any action aimed at stopping, reducing or mitigating pollution arising from oil and gas activities. In an event where the SS makes a wrongful decision, he shall be liable to the

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[343] Dieudonne Alemagi (note 47) at 136.

[344] Supra (note 251) at 1

[345] Kerry Sink (note 279) at 3

[346] Reg 4 OIR (2002).

offshore operator.[347] This again shows that nothing is taken for-granted under this regulation contrary to the situation in Cameroon where the GM of SNH is only answerable to the president of the Republic.

All the three regulations we have mentioned above are specific, not conflicting as the case is with the SA's ECA, and NEMA Acts discussed in chapter three.

4.2 Environmental Regulations

For a better understanding of the environmental regulations used by the UK to regulate the impact of offshore oil and gas activities on the marine environment, it would be necessary for us to distinguish between the legislative regulations and the environmental regulations. The legislative regulations consist of all those Acts used by the UK to issue permits, withdrawal of permits due to one reason or the other, regulations and construction of oil offshore terminals. On the other hand, environmental regulations are related to all those Acts that have specific regulations to the environment. These Acts regulate the operator's offshore activities vis-à-vis the environmental protection once he starts oil and gas activities on the coast.

4.2.1 EC Directive 2003/4/EC on public access to information

EC Directive 2003/4/EC transpose the first pillar of the Aarhus Convention.[348] It advocates for access to information, into EU legislation requiring all public authorities to provide the public, be it a moral or legal person seeking information with access to and to disseminate all information they hold including marine environmental data.[349]

Member states, without prejudice to any specific reporting obligations shall take all measures necessary to ensure that the national, or where appropriate, regional or local reports on the state of the environment (marine) are published in regular intervals not exceeding four years. Such reports shall include information on the quality of, and

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[347] Reg 4 OIR (2002).

[348] UNEP/GRID-Arendal, Signatories to Aarhus Convention (2001), UNEP/GRID-Arendal Maps and Graphics Library. Available at *http://maps.grida.no/go/graphic/signatories_to_aarhus_convention_2001* [Accessed 12 February 2010].

[349] Ibid.

pressure on the environment (marine).[350] This would enhance a comprehensive environmental control of oil and gas activities on the coasts, and will bring both the authority and offshore operator to public criticisms for lack of environmental protection. Hence, better plans for environmental management would be implemented.

4.2.2 The Environmental Information (Scotland) Regulations (EIR) 2004

This regulation serves to implement the EC Directive in Scotland. In order to foster an active dissemination of environmental (marine) information to the public, all public authorities are required to take reasonable steps to organize and keep up to date environmental information such as policies, plans and programmes relating to the environment, reports on the state of the environment, with a view to the active and systematic dissemination of that information to the public and shall make sure that information is progressively available to the public.[351]

The Scottish public authority has the obligation to disclose all information concerning the environment to the public upon request from them. Failure to do so for no just cause would be tantamount to an offence,[352] and shall therefore be punishable accordingly.

Neither Cameroon nor South Africa has such provisions in their environmental regulatory frameworks. The dissemination of environmental information to the public is a good regulation for environmental regulation especially regulations on oil and gas activities. Firstly, it would expose both the operator and public officer to public criticisms, and secondly, it would push the public to draw new plans for environmental management, especially for oil and gas, activities since its impact on the environment are very devastating.

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[350] Art7, EC Directive 2003/4/EC.

[351] Reg 4 (b) and (d) EIR 2004.

[352] Reg. 19 EIR 2004.

4.3 The UK Environmental Impact Assessment Plans (EIAs)

EIAs play a very important role in combating pollution from offshore activities, both in the developed and developing world. The purpose of an EIA is to assess the adverse effects of oil and gas activities during exploration; exploitation and management phase of an oil and gas exploitation project, in order to find appropriate ways of stopping, reducing or mitigating these adverse effects on the marine environment. It therefore means that behind every successful EIA, there is a good plan for environmental management. Ranked as 12th in the world for oil and gas production in 2006,[353] the UK has an impressive record when it comes to EIA plans. The UK has embarked on four strategies aimed at achieving good results on its EIA programmes. These are discussed below.

4.3.1 State of Responsibility

There are two principal actors responsible for ensuring a framework of environmental protection of the marine environment; public authorities and public/private enterprise.[354]

4.3.1.1 Public Authorities

All public authorities who are in possession of environmental information, must make available all such information upon request to whosoever, be it a physical or moral person, so long as such information is not contrary to public justice or security.[355] When carrying out oil and gas activities on the coast, the licensee will normally be expected to carry out an environmental impact study alongside environmental bodies, local authorities, government authorities and seafarers.[356] The public authority are then required to enforce the legislation, make policies and planning decisions on the project

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[353] UK oil and gas industry fact sheet. Available at http://www.imeche.org/NR/rdonlyres/FD086CD8-9236-4688AF9F68A1085A8884/0/offshoreoilgasfactsheet.pdf [Accessed 13 February 2010].

[354] Zhiguo Gao(note 8) at 260.

[355] Reg 3 (1) EC Directive 2003/4/EC

[356] John H Bates, *United Kingdom Marine Pollution Law*, Lloyd's of London Press Ltd, Legal Publishing and Conferences Division, 26-30 Artillery Lane, London E1 7LX (1985) at 107.

and also makes sure that they inform and educate the public about the project.[357] When all these parameters are put in place, a successive EIA plan will be achieved. No wonder the UK marine environmental regulatory system is regarded as one of the best in the world.

4.3.1.2 The Public/Private Enterprise

All offshore operators must make available all information concerning the marine environment to the public and all authorities in charge. To better manage the environment, they have to make known to the public their exploitation sites and all measures they are taking to protect the environment. Environmental work undertaken by some oil companies in the UK were made known to the public by some oil companies. Shell declared that she is spending approximately 1 to 1.5 million pounds per annum on environmental survey near its producing installations, while Total, another oil producing company declared that over 23 million pounds have been spent on environmental related issues.[358] The availability of such information is good for EIA. There would be proper allocation of these funds for a proper environmental management.

On the other hand Cameroon and SA, have no provisions in their respective legislations that allow access of information to the public in oil and gas related issues. In Cameroon, the EIA programme, which was carried out during the construction phase of the Chad/Cameroon pipeline project, was grossly inadequate. The public was given wrongful information concerning the project and there were lots of intimidation as consultations was carried out in the presence of military men, so the public could not freely express their views.[359] Furthermore, the consortium that was in charge of telling the local population about the potential dangers of the pipeline, was rather showing them movies of the positive effects of similar projects in other parts of the world.[360] Lastly,

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[357] Zhiguo Gao (note 8) at 260.

[358] UK Oil and Gas, First Report on Session 2008/09, Volume 1, at 45. Available at *http://www.parliament.the-stationary-office.co.uk/pa/cm200809/cmselect/cmenergy/341/341i.pdf* [Accessed 11 February 2010].

[359] Edwin Mujih (note 269) at 83.

[360] Ibid at 88.

the imbalance of the COTCO Convention made EIA programmes in Cameroon extremely difficult and almost impossible.[361]

4.3.2 Cooperation with the Target Sector

The target sector here is the oil and gas company. In order to achieve good EIA programmes, there has to be cooperation with the oil company.[362] To that end, EC will encourage the oil industry to recognize its responsibility vis-à-vis the marine environment and will promote various measures to encourage good environmental performance.[363] These amongst others would include; improved resource management and community standard for production processes and product.[364] In addition, the industrial competitiveness and environmental protection has endorsed the EC environmental protection market to the tune of US$50 billion and emphasizes the potential benefit to European oil companies of integrating environmental factors into corporate plans.[365]

In Cameroon and SA, this cooperation is lacking. One reason behind this could be that these countries do not have the financial capability to give such incentive to companies. In a ddition, they pay less importance to the marine environment in comparison with the UK which makes extensive use of the marine environment and is therefore obliged to protect it. However, with the present dilemma regarding the environment which we face today e.g. climate change, we are all called to strengthen the fight against marine pollution for a more sustainable development.

4.3.3 Identifying Environmental issues

Identification of environmental related issues such as; climate change, protection of biodiversity, waste management and coastal zones,[366] are key factors to the

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[361] Edwin Mujih (note 269) at 88.

[362] Zhiguo Gao (note 8) at 261.

[363] Ibid.

[364] Ibid.

[365] Ibid.

[366] Ibid at 63.

achievement of an EIA plan. The UK and EC have established special organs to identify these issues and once identified, a good EIA can then follow suit whereby each factor is given the attention it requires, the personel and financial assistance it needs to carry out an EIA.

Conversely, in Cameroon, these factors are not taken into consideration when establishing EIAs. In SA, these factors are taken into consideration though at a limited level as earlier discussed above.

4.3.4 Assessing the Environmental Impacts in the Context of Protection Policies and Requirements

An overview of potential impacts relating to oil and gas activities is necessary to determine the actual cost of mitigating, reducing or stopping pollution arising from oil and gas activities. The impact of oil and gas activities on the marine environment may differ from environment to environment, as well as the magnitudes of the potential impact on the environments.[367] Therefore, with the proper application of management techniques and best environmental practices, most of the potential impacts will be eliminated or mitigated.[368] UK's legislations on marine environmental protection are based on these premises.[369]

In Cameroon, because of the concentration of power in the hands of GM of SNH, it is very difficult to achieve such practices, while in SA the non-incorporation of integrated coastal management in the ECA, makes it difficult as well to carry out potential environmental impact assessment.

Environmental management of oil and gas activities in the UK is no doubt one of the best in the world. The high technology, economic power and cooperation between the countries of the UK, may be a strong factor behind the success of marine

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[367] Joint E&P Forum/UNEP Technical Publication, Environmental Management in Oil and Gas Exploration and Production, at 16. Available at http://www.ogp.org.uk/pubs/254.pdf [Accessed 14 February 2010].

[368] Ibid.

[369] See Regs 5 and 12 of OPAR (2005).

environmental regulation in the UK. Whereas in Africa, the lack of infrastructures, technology, weak economic power and autocracy has contributed very negatively to the management of the marine environment. With the recent trend of things, it is high time Africa start implementing good marine environmental policies in order to curb marine pollution and contribute positively towards the fight against pollution from oil and gas exploitation that would bring sustainable development for both the present and future generations.

CHAPTER FIVE: RECOMMENDATIONS AND CONCLUSION

5.1 Strengthening Environmental Regulations of Oil and Gas Activities on the Marine Environment

It is crystal clear that with the discoveries of new oil and gas fields around the world like the Ugandan oil field,[370] the Logbaba oil field in the coast of Cameroon,[371] societal issues such as climate change, loss of biodiversity and ozone layer depletion brought about by anthropogenic activities will continue to affect our beloved planet.

We therefore need to strengthen the fight against pollution from oil and gas activities. What are some of the measures that can be put into place to ameliorate the increasingly deplorable state of our marine environment?

5.1.1 An Increase in the civil liability of Offshore Operators

The economic benefits of offshore industries are no doubt one of the most profitable businesses in the world. Many coastal states depend on oil and gas to run their economies. In the USA for instance, oil plays a formidable part in its national power supply, where it is estimated that almost 97 per cent of US cars, trains ships and aircrafts use fuel.[372]For a country like the US to depend on almost 97 per cent of oil on energy supply, it means that oil companies in the US must be making substantial profit from the business. It would therefore be better to increase the civil liability vis-à-vis environmental protection. One of the salient features of the 1992 CLC is that

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[370] In 2006, oil was discovered next to Lake Albert in Uganda, and this has changed the life style of many Ugandans ranging from education, health and society. Available at *http://www.digitaljournal.com/article/269940* [Accessed 15 February 2010].

[371] Victoria Oil and Gas Plc have recently discovered oil in logbaba, in the littoral province of Cameroon. Available at *http://www.victoriaoilandgas.com/* [Accessed 15 February 2010]. It is believe that with the discovery of this new oil field, offshore activities in this area would increase to the detriment of the marine environment. It would therefore be imperative for the government of Cameroon to strengthen its environmental regulations.

[372] Supra (note 40).

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environmental damage is limited to loss of profit from impairment of the environmental and reasonably reinstatement measures.[373] Perhaps this limitation should have been extended to the loss of property as well and loss of life at sea in a case where there is an explosion within drilling platforms or a possible leakage from pipelines.

In South Africa, the Marine Pollution (prevention of pollution from ships) Act 2 of 1986 as amended in 1996 has levied a mean amount of R500.000 to any offshore operator guilty of polluting the marine environment.[374] In addition, the global limit of Special Drawing rights (SDR) on the limitation of the operator's liability, which as of 2009 stood at US$1.56, is still too small for a multinational company like Total or Shell. May be state authorities should start thinking of increasing these SDRs.

5.1.2 Amendments of certain International Conventions and Agreements

We have seen many International Conventions and Treaties aimed at protecting the environment. Oil and gas exploitation are mostly carried out by Multinational Companies (MNCs) who have substantial economic power. When these MNC are operating in the developed world, they are restricted to a good number of legislations and environmental regulations that are binding them. However, when operating in developing countries, MNCs are difficult to regulate, probably because of the financial advantage they have over these countries, coupled with the weak environmental regulations these countries have.

International legal instruments and international organizations have revealed that international law does not bind MNCs to operate in a socially responsible manner.[375] The Organization for Economic Cooperation and Development (OECD) guidelines for Multinational Enterprises, which are the only existing code of conduct for international business are not legally binding on MNCs,[376] another criticism of OECD is that the organization seeks to protect business and not the environment, which is clearly stated in

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[373] John Hare, *Shipping Law & Admiralty Jurisdiction in South Africa,* 2nd ed, JUTA & Co Ltd, (2009), at 556.

[374] Reg 3A of the Amended ACT 1996.

[375] Edwin Mujih, (note 269) at 94.

[376] Ibid.

the guidelines.[377] Therefore, oil and gas companies, who are MNCs, when operating under such weak legislations like that of Cameroon, are at liberty to do what they want.

Another international organization that has been ignoring the activities of MNCs is the United Nations Organization (UNO).[378] The UN attempted to control MNCs with codes of conduct, but regrettably, this effort was abandoned in 1994.[379]

Lastly, World Trade Organization (WTO), seeks to protect rather than regulate MNCs.[380] Unfortunately, WTO is devoted to free trade rather than the environmental concern since most of its decisions have been in the favour of MNCs.[381] With all these loopholes, most of these oil and gas companies seem to limit themselves from environmental liabilities, a good example is the Chad/Cameroon Project that is being carried out by COTCO and TOTCO[382] respectively. It would therefore be of enormous importance if these organizations could amend their laws so that MNCs in general, and oil and gas companies in particular, to be responsible for their acts on the marine environment.

5.1.3 More Assistance should be given to EIA Plans

We have so far seen that with an effective EIA plan there is a high chance of obtaining maximum environmental regulation. Offshore EIAs are very expensive and demands a lot of technical and human assistance. Both the private and public sectors must cooperate. Offshore operators should assist in financing EIA along side with the government. On its part, the government should endeavor to create more good laws and should endeavor to assign competent authorities in the environmental management process. The government should also help to sensitize the public on the need to protect the marine environment, and in so doing it would encourage them to participate in the

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[377] Edwin Mujih, (note 269) at 94.

[378] Ibid.

[379] Ibid at 94-95.

[380] Ibid at 95.

[381] Ibid.

[382] TOTCO is the oil company that is responsible for transportation of oil in Chad. She plays the same role COTCO plays in Cameroon.

Environmental Management (EM) either by giving useful information or reporting any threat of marine pollution. The governments of developing countries such as Cameroon should encourage research at universities relating to the techniques of environmental protection. In countries like Canada, Australia, USA and SA, industries-university partnership has been put in place.[383] This partnership will foster EIAs plans. Fishermen, scientists and conservationists for instance, all possess valuable information about the functioning and vulnerability of the marine ecosystem.[384] They therefore have the critical input in defining the areas within which oil and gas exploitation is probably going to affect the environment. This information would no doubt help in establishing a formidable EIA plan, they should therefore be encouraged.

A good example of cooperation between the state and stakeholders geared at strengthening EIA was witnessed in Alaska. Stakeholders in Alaska (USA) are effective engage in a constructive dialogue with government officials and offshore operators on the various ways to combat marine pollution,[385] consequently they come up with good EIAs plans for the marine environment.

5.1.4 Application of Ocean Fertilization as a means to reduce the Emissions of GHG into the Atmosphere

In December 2009, government representatives both from developed and developing countries met in Copenhagen; Denmark, to sign the final accord on the reduction of GHG into the atmosphere that brings about climate change. Unfortunately this meeting ended up in disagreement as some of the developed countries would not accept the reduction emissions of their GHG. Since no understanding was arrived at, perhaps the introduction of alien species into the marine environment in the name of Ocean Fertilization, (OF)[386] could help remedy the situation. In a bite to remedy the

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[383] Dieudonne Alemagi, et al, (note 246) at 49.

[384] Sandra Kloff and Clive Wicks (note 10) at 56.

[385] Ibid.

[386] Ocean Fertilization is the capture and storage or sequestration of carbon dioxide from the atmosphere and pumping it back into the earth either underground or into the oceans, with the hope of reducing anthropogenic emissions into the atmosphere.

problem of climate change that is affecting everybody, an American company name 'Weather Bird II' announced in 2007 that it would begin the process of Ocean Fertilization.[387] Though no international mechanism exist yet to access and verify the efficacy of OF, the executive board of CDM established by the Kyoto protocol, seem satisfied with this development, but only as far as clean development is concern.[388] Is it not worth reckoning with this new discovery rather than relying on Conventions and Conferences that have yield no fruits so far?

5.2 Conclusion

The socio-economic importance of oil and gas worldwide is undoubtedly one of the reasons for today's marine environmental degradation. Oil and gas has contributed and is still contributing greatly in the economies and social lives of many states. For example, it is estimated that oil provides over 9.2 million jobs in the US,[389] and in neighbouring Canada, the development of oil sands is expected to lead to 343,000 new US jobs and add $34 billion to the Gross Domestic Product (GDP).[390] Because of its socio-economic importance, there has been a very high rate of oil and gas exploitation, which regrettably has led to a negative effect on the marine environment. The destruction of the ecosystem, marine biodiversity and climate change, amongst others, are some of the negative effects brought about by oil and gas exploitation.

Touched by this new trend of activities, the international community was put to test; to find long lasting solutions to this problem. To that end, some international Conventions such as; UNCLOS, MARPOL, CLC and UNFCCC came up with established rules and principles aimed at controlling oil and gas activities on the marine environment: 'Save the marine environment' became the order of the day. Efforts were also made both at regional and national levels since it was believed that it would be

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[387] Rosemary Rayfuse, Ocean fertilization and Climate Change: The Need to Regulate High Seas Uses, *The International Journal of Marine and Coastal Law* 23 (2008) at 299

[388] Ibid at 299-300.

[389] The Importance of Oil. An article analyzing the importance of oil to the USA published on March 2 2006 (note 41).

[390] Ibid.

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[390] Ibid.

easier to control oil and gas activities from those angels. The 'Principle of Common but Differentiated Responsibilities', which was the main theme of the United Nations Conference on Environment and Development (UNCED) that was held in Rio de Janeiro, in 1992,[391] saw the quest for all states to cooperate in combating pollution arising from oil and gas activities, in an integral and independent nature, all in a bid to save the planet.

Climate change affects everyone, no matter the continent from which one comes from. We should therefore join our efforts in combating this phenomenon, and the way forward is for us to regulate our offshore activities, and this can be achieved by the implementation of good strategies and managerial skills in relation to offshore activities. A good and efficient legislation adopted by coastal states, would also help to reduce emissions of GHG.

Some of the measures that have been adopted both at international and national levels have seen some success and failures. One of reasons why environmental protection has failed to succeed in the developing countries could be the lack of financial capability and technical expertise, whereas in a region like the UK, its economic power coupled with its technical expertise has favoured its environmental management. What therefore is the way forward? Perhaps, states should seek for more cooperation, financial and technical assistance and understanding in the regulations of oil and gas activities on the marine environment.

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[391] Nico Schrijver and Friedl Weiss, *International Law and Sustainable Development*, Martinus Nijhoff Publishers (2004), at 74.

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