

Susanne Claudia Foerster

20 September 1998

Friedrich-List-Strasse 6
71522 Backnang
Germany

26

University of Cape Town

Environmental Law

Supervisor: J. Glazewski

**CIVIL LIABILITY FOR ENVIRONMENTAL DAMAGE
IN GERMAN AND SOUTH AFRICAN LAW
- A COMPARATIVE STUDY**

Master of Law Research Dissertation

“Research dissertation presented for the approval of Senate in fulfilment of part of the requirements for the degree of Master of Laws in approved courses and a minor dissertation. The other part of the requirement for this degree was the completion of a programme of courses.”

The copyright of this thesis vests in the author. No quotation from it or information derived from it is to be published without full acknowledgement of the source. The thesis is to be used for private study or non-commercial research purposes only.

Published by the University of Cape Town (UCT) in terms of the non-exclusive license granted to UCT by the author.

Civil Liability for Environmental Damage in German and South African Law - a Comparative Study

I.) Introduction

II.) German Law on Compensation for Environmental Damage

1.) General Civil Law

a.) The Law of Delict

aa.) The Law of Delict: § 823 I BGB

(1) Conduct or Omission

(2) Infringement of an Individual Right

(a) Health

(b) Property Rights

(aa) Extent of Protection

(bb) The Unowned Environment

(cc) Economic Loss

(dd) Right to a Healthy Environment as Other Right

(3) Causality

(4) Unlawfulness

(5) Fault

(6) Verkehrssicherungspflichten

bb.) The Law of Delict: § 823 II BGB

cc.) Extent of Liability

dd.) Multiple Wrongdoers

b.) Nuisance Law

c.) Conclusion

2.) Special Law

a.) Water Pollution

b.) Other Acts Regulating Facility Liability

c.) Environmental Liability Act (Umwelthaftungsgesetz: UmweltHG)

aa.) Nature of Liability

(1) Establishments

(2) Environmental Impact on Individual Rights

(3) Strict Liability

(a) Normal Conduct

(b) State of Art

(c) Compliance with Conditions of Governmental Authorisations

- bb.) Proof of Causality
 - (1) Presumption of Causality
 - (2) Legal Operation
- cc.) Extent of Liability
- dd.) Limitations
- ee.) Multiple Wrongdoers
- ff.) Liability Insurance
- gg.) Conclusion

III.) South African Law on Compensation for Environmental Damage

1.) Common Law

a.) Liability for Environmental Damage Founded on Delict

- aa.) Actio Legis Aquiliae
 - (1) Conduct
 - (2) Wrongfulness
 - (3) Fault
 - (4) Causation
 - (5) Damage
- bb.) Actio Iniuriarum
- cc.) Conclusion

b.) Nuisance Law

2.) Special Law

a.) Environmental Conservation Act (ECA)

b.) New Water Bill

- aa.) Section 19 New Water Bill
- bb.) Section 20 New Water Bill

c.) Nuclear Energy

d.) Marine Pollution

3.) Conclusion

a.) Evaluation of the Existing Norms

b.) Necessity for Legislative Intervention with View to the South African Constitution and Environmental Policy

c.) Conclusion

IV.) Perspectives for South Africa

1.) Strict Liability

- a.) Scope
- b.) Limitations and Defences
- c.) Persons to be Held Liable

2.) Causation

3.) Compensable Damage

- a.) Compensation for Ecological Damage
 - aa.) Definition of Environmental Damage
 - bb.) *Locus Standi*
- b.) Pure Economic Loss

4.) Extent of Liability

5.) Multiple Wrongdoers

6.) Joint Compensation Mechanisms

7.) Compulsory Insurance

8.) Conclusion

V.) Conclusion

Civil Liability for Environmental Damage in German and South African Law - a Comparative Study

I.) Introduction

Under the heading 'Civil Liability for Environmental Damage', provisions which compensate all those who suffer environmental damage are discussed. Traditionally environmental legislation could be found mainly in administrative law dealing with resource management and conservation. Only a small proportion of those provisions dealt directly with compensation for those who had suffered pollution damage. Victims of environmental damage could usually claim damages under the general body of civil law, on the same basis as other wrongs.

Continuing environmental degradation and pollution disasters during the last years¹ have shown the deficiencies of delictual provisions, combined with special rules for different areas of liability, in granting remedy for environmental damage. Those failures of the established system led to a re-assessment of the traditional approach. While on the national and international plane, the 'polluter pays principle', the 'precautionary principle' and the principle of sustainable development have been accepted as the cornerstones of environmental legislation,² new mechanisms outside the public law sphere have been invented and introduced in many countries in order to implement these principles effectively.³ It is in this context that comprehensive civil liability schemes have been

¹ e.g. Bophal in India, Sandoz in Switzerland, the Chernobyl incident in Russia and oil pollution disasters ranging from the Torrey Canyon disaster off the British coast in 1967, Exxon Valdez in Alaska in 1989 to incidences off the South African coast like the Castillo de Bellver casualty in 1983.

² see Principles 12, 15 and 16 Rio Declaration on Environment and Development (Distr. General A/Conf.151/5/ Rev. 1 13 of June 13 1992); P W Birnie and A E Boyle *International Law and the Environment* 1992; for South Africa: White Paper on Environmental Management Policy for South Africa *Government Gazette* No. 18164 July 28 1997, p 16, 23, 24; Draft National Environmental Management Bill *Government Gazette* no. 19031 July 1 1998, section 2 (2) (a); for Germany: R Breuer 'Umweltschutzrecht' in E Schmidt-Assmann *Besonderes Verwaltungsrecht* 10ed (1995) p 440, 442

³ Under discussion are e.g. fiscal incentives such as green taxes, emission trading or environmental contracts

discussed as effective means to redress harm caused by environmental degradation and to achieve better environmental protection.⁴

Protection of the environment by way of civil liability can be achieved in several ways:

Firstly, a comprehensive system of civil liability can help recover the costs of existing environmental damage from those parties responsible for the damage and thereby internalise external effects. In applying this function, civil liability for environmental damage promotes the 'polluter pays principle' which allocates the costs for remedial action to the polluter. This exempts the state and ultimately the taxpayer from the burden of financing the restoration of natural resources.

Secondly, the establishment of a civil liability mechanism for environmental damage may create a strong incentive for industry to prevent pollution. Since it may be less expensive to change to non-polluting technology instead of paying for restoration costs, the risk of being held liable may eventually lead to a change in behaviour. It may put pressure on enterprises to comply with existing standards and encourage greater risk management. Civil liability in this sense would prevent pollution and ensure the application of the 'precautionary principle'.

Based on these assumptions many debate has taken place in various countries during the last years in order to introduce more comprehensive liability schemes which assure the achievement of the above mentioned goals. As a result, the international community as well as many states have drafted or introduced new legislation to deal specifically with liability for

⁴ Acknowledging the importance of liability for pollution damage the Rio Declaration (supra note 2) in Principle 13 obliges all signatories to develop national law regarding liability and compensation for the victims of pollution and other environmental damage.

environmental damage.⁵ Germany, for example, has enacted an Environmental Liability Act⁶, whereas in South Africa a comprehensive liability scheme does not exist yet.

This paper is concerned with the various problems civil law encounters when dealing with compensation for environmental damage. It will discuss the solutions that have been developed thereto in German and South African law respectively. This comparative study will serve as a starting point to make recommendations for South African law.

In the first part the possibilities relating to the recovering of environmental damage in German law will be examined and evaluated. Law of delict is discussed first. Then the various special rules which have been introduced in response to the shortcomings of delictual rules will be presented. Those special law provisions did improve the situation, but it will be shown that they still leave gaps with regard to comprehensive compensation for environmental damage.

The second part compares South African law on civil liability for environmental damage to German law. It will be demonstrated that even though several specific norms were introduced in the public law sphere during the last years to improve the situation for victims, South Africa still encounters problems in securing a comprehensive remedy for environmental damage. These problems are similar to the difficulties Germany had to deal with before the UmweltHG was introduced. It will be shown that the value the New South African Constitution⁷ puts on environmental protection, the principles of environmental

⁵ e.g. Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C.A. 9601-9675 in USA, Environmental Liability Law of 1986 in Italy, Environmental Damage Act in Sweden of 1986 (Miljoeskodelag 1986:225), Finnish Environmental Compensation Act (EDCA) of 1995, Danish Act on Compensation for Environmental Damage of 1994, International Convention on Civil Liability for Oil Pollution Damage of 1969, European Convention on Civil Liability for Damages Resulting from Activities Dangerous to the Environment, Lugano, 1993, ETS 150, (Lugano Convention); 1993 European Commission Green Paper on Remedying Environmental Damage, Com (93) 47, (Green Paper)

⁶ Umwelthaftungsgesetz (UmweltHG) Act of December 10 1990, BGBl I p 2634

⁷ Act 108 of 1996

policy and international obligations indicate a pressing need for South Africa to improve this situation by means of specific legislation on civil liability for environmental damage.

Based on the foregoing findings the final part will include an examination into how such legislation for South Africa should be implemented in order fulfil the Constitutional values, accommodate the needs of the country and come in line with international standards. This will be done not only with a view to the preceding comparison but also with a view to the efforts made by other countries during the last years to develop comprehensive civil liability schemes which provide for the compensation of environmental damage.

II.) German Law on Compensation for Environmental Damage

The German legal system so far does not contain one rule that explicitly and comprehensively regulates compensation for environmental damage.⁸ Therefore existing statutory liability norms have to be examined in order to find out in how far they allow compensation for environmental damage.

The relevant provisions of the German Civil Code⁹ will be explained first with regard to the problems civil law has in general with compensation for environmental damage.

The special environmental liability norms which have been introduced because of those deficiencies will then be discussed, especially the new German Environmental Liability Code.

⁸ W Hoppe M Beckmann *Umweltrecht* 1988 at § 15 Rn 4

⁹ Bürgerliches Gesetzbuch: BGB Act of August 18 1896 (RGBl p 195) (BGBl III 400-2)

1.) General Civil Law

Claims for environmental damage can arise out of the law of delict or nuisance law.

a.) The Law of Delict

aa.) The Law of Delict: § 823 I BGB

The main delictual norm in the German Civil Code is § 823 I BGB. It provides that a person who wilfully or negligently injures the life, body, health, freedom, property or other right¹⁰ of another contrary to law is bound to compensate him for any damage arising therefrom.¹¹

Compensation for environmental degradation is only granted indirectly if the impairment of an individual position coincides with environmental damage.

(1) Conduct or Omission

In order to establish liability under § 823 I BGB, a person's conduct - or if there was a duty to fulfil certain obligations an omission - must have led to the violation of one of the enumerated rights or interests.

(2) Infringement of an Individual Right

(a) Health

Environmental pollution can cause health problems and give a right to claim damages under § 823 I BGB. Bodily injury caused by pollution that can be attributed to one specific polluter will however be the exception.¹²

¹⁰ sonstiges Recht

¹¹ B S Markesinis *A Comparative Introduction to the The German Law of Tort* 3ed (1994) at p 35

¹² E S Steffen 'Verschuldenshaftung und Gefaehrdungshaftung fuer Umweltschaeden' *NJW* 1990 1817; W Hoppe M Beckmann supra note 8 at §15 Rn 8 p 260

(b) Property Rights

Most actions that lead to environmental damage will represent a violation of property rights.¹³ In many cases impairment of the ecological system will meet with impairment of individual property rights since most natural goods are located in places which are deemed to be private property.

(aa) Extent of Protection

In order to delineate in how far ecological damage impairs property or only common interests, one must distinguish under German law between parts of nature which are solidly connected to land and other things which lack such solid connection. Only the solidly connected parts of nature are deemed to be part of property.¹⁴ This means that, for example, the destruction of plants can lead to a valid claim for damages under § 823 I BGB whereas wild animals are not considered part of property and are therefore not protected by § 823 I BGB.¹⁵ Damages can nevertheless be claimed for the loss of things which are not solidly connected to land if rights of appropriation - that exist under German civil law for some special animals or natural resources - have been infringed.¹⁶

(bb) The Unowned Environment

Redress for environmental impairment cannot be obtained in all cases of environmental damage under § 823 I BGB.¹⁷ When damage occurs to parts of the environment which are not part of anyone's property because they either cannot be owned¹⁸ or are not owned, no-one seems to be able to claim damage under the BGB.

¹³ S Erichsen *Der Oekologische Schaden im Internationalen Umweltrecht: Voelkerrecht und Rechtsvergleichung*, 1993 p. 163

¹⁴ § 94 I BGB; according to § 905 BGB the air above property can also be attributed to the owner

¹⁵ If e.g. water pollution leads to the extinction of a certain species living in the waters of someone's property, no-one seems to be able to claim damages under § 823 I BGB.

¹⁶ H Schulte 'Zivilrechtsdogmatische Probleme im Hinblinck auf den Ersatz "oekologischer Schaeden"' *JZ* 1988 278 at 282

¹⁷ see however § 22 WHG

¹⁸ e.g. climate, air or the groundwater

(cc) Economic Loss

A further limitation follows from the fact that the protection of wealth as such is also not included in the list of enumerated interests of § 823 I BGB. Pure economic loss which is not consequential upon physical damage can not be claimed under § 823 I BGB.¹⁹ Due to this fact, clean-up or restoration costs which are not linked to property damage and only lead to a diminution of wealth are not recoverable.²⁰

(dd) Right to a Healthy Environment as Other Right

The limited scope of § 823 I BGB may exclude some parties affected adversely by environmental damage from compensation under civil law. This result has often been considered to be unfair and inconsistent with a modern understanding of environmental protection. Therefore, it has been proposed to subsume the 'right to a healthy environment' under the term 'other rights' which are protected under § 823 I BGB.²¹

Such a wide interpretation of the term 'other rights' which would give all affected parties a right to compensation is open to objections.²² The enumeration of absolute rights protected in § 823 I BGB implies that the term 'other rights' must also refer to absolute rights only.²³

The German Constitution does, however, not grant an absolute right to a healthy environment.²⁴ The proposed wide interpretation of the term 'other rights' would also blur the distinction between common and individual interests that can be claimed. For these reasons § 823 I BGB can not be interpreted in the proposed way. A general right to claim environmental damage for everyone under § 823 I BGB does not exist.

¹⁹ H Thomas in *Palandt - Bürgerliches Gesetzbuch* 54ed (1995) § 823 Rn 13; Markesinis supra note 11 at p 35

²⁰ When hotelowners, shopkeepers, fishermen e.t.c. are hit by economic losses as a result of pollution affecting the area adjacent to their property, no right to compensation exists under § 823 I BGB.

²¹ J Koendgen 'Ueberlegungen zur Fortbildung des Umwelthaftungsrechts' *UPR* 1983 p 345

²² D Medicus 'Umweltschutz als Aufgabe des Zivilrechts - aus zivilrechtlicher Sicht' *NuR* 1990 145 at 147; W Hoppe M Beckmann supra note 8 at § 15 Rn 10; H-J Mertens in *Muenchner Kommentar zum Bürgerlichen Gesetzbuch Schuldrecht Besonderer Teil* Band 3; 2ed (1986) § 823 Rn 106 ff

²³ B S Markesinis supra note 11 at p 59

²⁴ Article 20a German Constitution (Grundgesetz: GG)

(3) Causality

If a pollution disaster infringes on an individual right protected under § 823 I BGB, then there must also be a causal link between the conduct and the injury in order to establish liability. The burden of proof for this causal link usually lies with the claimant. The establishment of this proof can be extremely difficult for the claimant in the case of ecological damage, especially when many polluters are involved or when the pollution takes place over a lengthy period of time. Under those circumstances it can be almost impossible to identify the polluters who can finally be held responsible for the violation of a person's rights. Lack of scientific knowledge about the long-term effects of polluting substances and their interaction intensifies these problems.

An alleviation of the burden of proof for the plaintiff has been brought about by the German High Court (BGH) the *Smelting Oven Case*.²⁵ Here, the German High Court held that the transgression of fixed emission standards by the polluter can alleviate the burden of proof for the claimant; in single cases one could even consider a reversal of the burden of proof.

A causal link must also be established between the individual position that has been infringed and the damage claimed. The infringement of the individual right must have led to the damage. In cases where damage is immediately consequential to physical impairment, no difficulties arise. If physical damage results in consequential economic loss, it is more difficult to decide to which limit this damage should be allocated to the defendant's conduct. These problems are typical of environmental damage since the damage finally claimed will often be the result of a chain of incidents. German courts usually employ the vague criteria of 'remoteness' in order to decide for which consequential damages the plaintiff should be held responsible. Different groups of cases have been developed to accommodate different

²⁵ *Smelting Oven Case* (Kupolofenfall) BGHZ 92, 143, 146 f (1985) = JZ 1984, 1106

forms of damage.²⁶ A uniform solution for different forms of environmental damage has not yet been found.

(4) Unlawfulness

According to the wording of § 823 I BGB, the violation of the right also has to be unlawful. Courts support the view that the element of unlawfulness would automatically be satisfied whenever one of the interests or rights enumerated in § 823 I BGB had been violated by active conduct.²⁷ The only thing that could remove unlawfulness would be the presence of a legally recognised defence.²⁸

(5) Fault

Liability under § 823 I BGB also presupposes that the damage was caused negligently or intentionally (§ 276 I BGB). Since intentional causation of environmental damage will be exceptional, negligence will be the most common form of fault with regard to environmental damage. Negligence exists when the due diligence standard imposed by § 276 I BGB has not been complied with objectively, despite the predictability of the harmful result and the subjective ability of the defendant to come up to this standard.²⁹

The burden of proof usually rests on the claimant with respect to each element of a claim based on the law of delict. Therefore, the plaintiff is also under the obligation to prove fault

²⁶ *Cable Case (Kabelfall)* BGHZ 41, 123 = BGH NJW 1964, 720

²⁷ 'Lehre vom Erfolgsunrecht' B S Markesinis supra note 11 at p 68

²⁸ Several writers have developed a different concept to accommodate better for those cases where the mere violation of one of the enumerated interests of § 823 BGB is done unintentionally or is the result of an omission. It is held, that in these cases something more than the pure causation of damage is necessary to satisfy the element of unlawfulness. Acts which would indirectly infringe one of the protected rights would not be automatically unlawful. It would furthermore be necessary to shown that the defendant had failed to satisfy the standard of care demanded by society ('Lehre vom Handlungsunrecht') in order to establish unlawfulness. This duty concept which was introduced into the notion of unlawfulness is dealt with by courts within the element of fault. Sometimes this concept is also referred to under the headings of 'Remoteness' or 'Conduct'. Since all approaches generally come to the same results, this paper will not discuss the different views. Instead it will refer to the duty concept separately under the heading 'Verkehrssicherungspflichten' (under II.) 1.) a.) aa.) (6))

²⁹ A Heinrichs in *Palandt - Bürgerliches Gesetzbuch* 54ed (1995) § 276 Rn 12

on the side of the polluter. This task may be very difficult. It involves insight in the internal structure of the respective pollutant to show that the defendant did not come up to the due diligence standard. The plaintiff does usually not have this insight. In cases where environmental damage was caused a long time ago when knowledge about environmental risks was not as extensive as it is today, it is often impossible for the claimant to establish fault on the side of the polluter. The claimant would have to prove that the defendant acted unreasonably in the circumstances, given the state of knowledge and technology at the time of the relevant act.

These difficulties were partly addressed in the already mentioned *Smelting Oven Case*.³⁰ There, the German High Court also developed an alleviation of the burden of proof with regard to the element of fault. It held that if the defence was raised that the emissions were within the legal limits, then instead of the plaintiff the defendant had to prove that the emissions were within the limits of local custom and that he had applied all appropriate precautionary measures to prevent the damage. The burden of proof for the element of fault was in those cases practically shifted to the defendant.

(6) Verkehrssicherungspflichten

Where damage is caused indirectly - unintentionally or as a result of an omission -, a strict application of the *conditio sine qua non* formula would lead to almost infinite liability. In order to limit the range of persons who could be held liable for a particular harmful result in those cases, special duties of care (Verkehrssicherungspflichten) have been developed by courts in addition to the already existing statutory duties of care. According to this concept all those who create a source of potential danger which is likely to affect the interests and rights of others, have a special duty of care to ensure protection against the created risk.³¹ Failure to meet this standard would result in liability for all damage caused indirectly.

³⁰ supra note 25

³¹ B S Markesinis supra note 11 at p 75

bb.) The Law of Delict: § 823 II BGB

Liability can also arise under § 823 II BGB if the polluter has infringed a norm which is considered to be a protective norm. This norm has only minor importance for claims relating to environmental damage.³² Only provisions that intend the protection of rights of the specific claimant next to common interests, qualify as protective norms.³³ If an act benefits the public at large, this points to the absence of any legislative intention to create a private right of action. Most environmental law does not envisage the protection of specific individuals but was enacted to serve public purposes.³⁴ Therefore, the disregard of environmental legislation by polluters does usually not give a private right of action under § 823 II BGB.

cc.) Extent of Liability

The extent of liability for the delictual norm § 823 BGB is regulated in §§ 249 ff BGB. In the first place, German Civil Law protects the integrity interest of the claimant rather than the mere pecuniary interest. According to § 249 BGB, the defendant has to put the claimant into the position he was in, before the damaging action took place (restitution in kind). Restitution in kind can even be claimed when the damaged thing did only have economically insignificant value.³⁵ In the case of ecological damage this means that the defendant has not only to clean-up but also to remove the ecological damage.³⁶

This assumption finds its limits in § 251 II BGB. This norm provides that the owner of damaged property can demand restoration only if the cost of restoration is not out of proportion to the value of the damaged property. Since it will very often be the case that the value of the polluted land is insignificant compared to the vast sums of money it would cost

³² S *Erichsen* supra note 13 at p. 164

³³ H Thomas in Palandt supra note 19 at § 823 Rn 141

³⁴ W Hoppe M Beckmann supra note 8 at § 15 Rn 11

³⁵ H Heinrichs in Palandt supra note 29 at vor §249 Rn 7

³⁶ S *Erichsen* supra note 13 at p. 165

to restore the natural resource, it has been suggested that ecological interests have to be taken into consideration when proportionality is evaluated.³⁷

If restoration proves to be out of proportion, there is a possibility for the plaintiff to claim monetary compensation.³⁸ The same is true if compensation in kind is not possible or not sufficient to repair the damage.³⁹ The possibility to obtain monetary compensation is further restricted by § 253 BGB. According to this provision, restitution in money can only be claimed if the owner of property has suffered pecuniary loss. If he suffered immaterial damage, compensation can only be attained in those few cases which are specifically described by the law.⁴⁰

Especially, when whole ecosystems have been damaged, it will very often be the case that it is not possible, sufficient or out of proportion to claim restitution in kind .

This problem can be illustrated by the *Sandoz* incident. This accident caused - among other pollution - damage to the Rhine ecosystem. Restitution in kind seemed not to be possible considering the complexity of a river ecosystem.⁴¹ It was therefore asked whether damage to an ecosystem could be classified as pecuniary loss.⁴² There is no easy answer to this question since a river as such does not have any market value. The problem of measuring ecological damage is vividly discussed but has not been solved yet.⁴³

dd.) Multiple Wrongdoers

In most cases of environmental damage, not just one but several polluters have caused the damage in question. The German Civil Code does not provide an easy answer to the

³⁷ H Schulte supra note 16 at p 372

³⁸ § 251 II BGB

³⁹ § 251 I BGB

⁴⁰ e.g. compensation for pain and suffering in the case of § 847 BGB

⁴¹ K Ladeur 'Schadensersatzansprueche des Bundes fuer die durch den Sandoz-Unfall entstandenen "Oekologischen Schaeden"? *NJW* 1987 1236 at p 1239

⁴² K Ladeur supra note 41 at p 1239

⁴³ K Ladeur supra note 41 at p 1239, 1240

respective liability of several polluters. Different cases must be distinguished for the establishment of liability.

If damage has been caused in such a manner that the damage would not have occurred if one installation would not have emitted dangerous substances,⁴⁴ all polluters are liable jointly and severally. This follows already from the *conditio sine qua non* principle.

In other cases different plants could each have caused the entire damage alone but it cannot be cleared up which installation is fully responsible.⁴⁵ Then § 830 I 2 BGB applies. The possible polluters are also held jointly and severally liable.⁴⁶

The most common cases of pollution damage are, however, those cases where several polluters all contributed to the damage in an additive manner. This is most famously illustrated by the so-called 'Waldschaeden'. In these cases an endless number of polluters over the years contributed to the causation of damage to forests. Here, it is not easy to arrive at an adequate solution. If the polluters can be identified, it is almost impossible to apportion the damage correctly. In those cases in which the apportionment of damage proves to be difficult, § 830 I 2 BGB could be applied in analogy under the condition that there is the possibility that each polluter could have caused the entire damage. For all other cases no law exists. As a result of this, German civil law does so far usually not impose liability if pollution damage is caused in an additive manner.

b.) Nuisance Law

The main provisions governing compensation for pollution damage between neighbours are § 906 II, 2 BGB and § 14 Federal Immission Control Act.⁴⁷ Those provisions establish strict liability with regard to real property.

⁴⁴ cumulative causation

⁴⁵ alternative causality

⁴⁶ § 830 I 2 ; § 840 BGB

⁴⁷ Bundesimmissionsschutzgesetz (BImSchG)

According to § 906 BGB, a landowner can prohibit emissions of 'unweighable materials' such as airborne substances, vibration, noise or similar emissions by the neighbour, provided those nuisances amount to 'fundamental impairment of the protected use of his property'.

According to § 906 II BGB, the owner is deprived of this right if the emissions do not exceed levels customary for that area, and in which precautionary measures would be economically unreasonable.⁴⁸

This brief overview of nuisance law shows that claims for ecological damage are mainly dependent on what is considered to be 'fundamental impairment of the protected use of property' under § 906 BGB.⁴⁹ Increasingly, courts have followed a broad interpretation which allows for compensation in cases where property has been impaired by some ecological changes.⁵⁰

If the landowner must tolerate substantial interference with acknowledged possibilities to make use of his property under § 906 II BGB, he is not left without a remedy. He can claim adequate pecuniary compensation irrespective of any fault on the side of the polluter for the continuous pollution damage to his property.⁵¹ The protection under neighbour law has been extended by courts to not only comprise normal conduct but also accidents.⁵² Therefore, a form of strict liability already exists under § 906 BGB for damage to land caused by environmental pollution.

Even though the scope of strict liability under § 906 BGB with regard to air and soil damage is considerable, nuisance law only affords protection with regard to damage related to immovable property. It does not extend to other kinds of injuries that pollution can cause.

⁴⁸ Similar as under § 14,1 BImSchG the owner of property cannot request cessation of a licensed installation which has detrimental impacts but can just demand precautionary measures as are necessary to prevent such detrimental effects

⁴⁹ P Bassenge in *Palandt - Buergerliches Gesetzbuch* 54ed (1995) at § 906 Rn 17, E S Steffen supra note 12 at p 1819

⁵⁰ R H Ganten/ M Lemke 'Haftungsprobleme im Umweltbereich' *UPR* 1989 1 at p 4

⁵¹ In the same way § 14, 2 BImSchG states that in those cases where precautionary measures are technically not feasible compensation may be claimed irrespective of any fault.

⁵² BGHZ 90, 255 (262) = BGH *NJW* 1984, 2207; BGHZ 85, 375 (385) = BGH *NJW* 1983, 872; OLG Hamm *NJW* 1988, 1031

Personal injury or damage to personal property cannot give rise to a claim under § 906 BGB.⁵³

c.) Conclusion

Even though courts increasingly alleviate the burden of proof for the plaintiff with regard to the fault and causation requirements, it has been shown that the holder of individual rights still faces difficulties to attain compensation for ecological damage. Especially when several polluters are involved and pollution damage is caused over a lengthy period of time, the German Civil Code does not provide effective rules to grant compensation. Those difficulties are intensified by the fact that ecological damage often does not result in measurable pecuniary loss.

Furthermore, inconsistencies in remedies for environmental damage exist in civil law due to the fact that traditionally the law of delict is concerned with the protection of individual rights only. If environmental damage cannot be linked to an individual, the polluter cannot be held responsible under civil law. Since the owner is free in his disposition over his property and not bound by the interest public has in nature preservation, the same is true where the owner is not interested in restoring environmental damage.⁵⁴

The traditional actions under the law of delict are therefore often incapable of providing legal redress for environmental damage. Contrary to the 'polluter pays principle', many areas remain unprotected and allow the polluter to escape liability for pollution damage.

It can be concluded that even though civil law does offer possibilities to compensate for environmental damage in specific cases, the nature of natural resource damage makes it often impossible for the individual to claim environmental damage under civil law.

⁵³ *Smelting Oven Case* (Kupolofenfall) supra note 25; in this case an industrial landowner could not be held liable under § 906 for damage which airborne ashes, emitted by his facility had caused to the paint of cars parked on neighbouring industrial property.

⁵⁴ D Medicus supra note 22 at p 149, S Erichsen supra note 13 at p 166

Moreover, since a right to claim environmental damage depends on existing individual rights and interests of the respective proprietors, protection of the environment is not comprehensive under German civil law.

2.) Special Law

In response to these deficiencies of civil law to compensate for environmental damage, specific norms have been introduced to deal with ecological damage. They all have in common that they provide for strict liability in order to alleviate the burden of proof with regard to fault.

a.) Water Pollution

The Water Act⁵⁵ subjects water pollution to strict liability in § 22 WHG. While § 22 I WHG provides for non-facility liability, § 22 II WHG refers to facility liability. Many polluters can be jointly and severally liable.⁵⁶

Strict liability is imposed for bodily injury, property damage and for pure economic loss resulting from any change in the physical chemical, or biological composition of a water source.⁵⁷ Facility liability does not arise if the damage is caused by an Act of God.⁵⁸

Entitled to compensation is everybody who is 'personally affected'. It follows, that those who only suffer damage indirectly do not have a right to compensation under this

⁵⁵ (Wasserhaushaltsgesetz: WHG) Act of October 16th 1976 (BGBl. I S. 3017); newly promulgated January 1st 1987

⁵⁶ § 22 I 2, II 1 2. HS WHG

⁵⁷ S *Erichsen* supra note 13 at p 167

⁵⁸ § 22 II 2 WHG

provision.⁵⁹ Mainly user of waters, holders of fishing rights or water rights will be 'personally affected' in case of water pollution.⁶⁰ The scope of applicability of § 22 WHG is wider than in §§ 906 or 823 BGB. Fishermen, for example, who suffer economic loss due to water pollution can claim damages under § 22 WHG.

The proof of causation has been alleviated by the German High Court.⁶¹ The High Court has interpreted the WHG as to give rise to a presumption of causation which shifts the burden of proof.⁶² In those cases where a polluting substance is inherently suited to cause the damage that occurred, causation may be presumed. This presumption does, however, only apply if several polluters could have caused the damage. If just one polluter is involved the burden of proof lies fully with the claimant.

It is uncertain whether restoration can be claimed under § 22 WHG or whether the plaintiff can only obtain monetary compensation.⁶³ Since § 22 WHG is a civil liability norm, it is held that at least the owner of the waters should be able to claim restitution in kind under § 249 BGB for damage to the water bed.⁶⁴ Holders of other rights may be restricted to monetary compensation. Any costs arising out of measures that go beyond ecological restoration cannot be recovered under the provision at all.

It can be concluded that even though § 22 WHG has improved the previous situation with regard to water pollution for those 'personally affected' by such pollution, the law is still still not sufficient since it does not address many difficulties in compensating for ecological damage.

⁵⁹ S *Erichsen supra note 13* p. 167 e.g. economic loss someone suffers because of a decline in the selling of water sport articles does not entitle to compensation.

⁶⁰ S *Erichsen supra note 13* at p 167

⁶¹ BGH

⁶² BGHZ 57 (1971) 257 (264)

⁶³ S *Erichsen supra note 13* at p. 167

⁶⁴ S *Erichsen supra note 13* at p. 167

b.) Other Acts Regulating Facility Liability

Since the enactment of the WHG other laws have introduced strict liability. Strict liability is usually connected to certain types of facilities, deemed to be inherently dangerous.

Examples can be found in the Atomic Energy Act⁶⁵ for nuclear reactors, the Mining Act⁶⁶ for mining facilities, the Public Liability Act⁶⁷ for energy production facilities and the Federal Immission Act⁶⁸ for facilities that release emissions harmful to the environment.

c.) Environmental Liability Act⁶⁹

Environmental disasters like Sandoz or Chernobyl led to intensive debate on how to ameliorate existing liability norms. In order to establish a more comprehensive environmental liability law and remedy the above described inconsistencies, the UmweltHG was promulgated and came into force January 1, 1991.

Declared purposes of the act were to provide for the compensation of victims of environmental damage and create incentives for industry to change high-risk production patterns in order to prevent damage from occurring.⁷⁰

aa.) Nature of Liability

The Act introduces a regime of strict liability in respect of environmental damage which has been caused by one of the facilities listed in annexure I of the act and leads to the violation of one of the listed individual rights.⁷¹

⁶⁵ (Atomgesetz: AtG) Act of October 10 1976, BGBl I p 3053

⁶⁶ (Berggesetz BergG) Act of June 24 1865

⁶⁷ (Haftpflichtgesetz: HaftpflG) Act of January 4 1978, BGBl I p 145

⁶⁸ (Bundesimmissionsschutzgesetz: BImSchG) Act of March 15 1974, BGBl I p 721 last amended May 14 1990

⁶⁹ UmwelthaftungsG (UmweltG) supra note 6

⁷⁰ BT-Dr. 11/7104 p. 14

(1) Establishments

Strict liability is connected to certain establishments. The Act does not deal with liability for acts done or liability caused by certain substances.⁷² Equal to the BImSchG, the output, and size of the establishment is decisive. This approach was taken in order to achieve clarity and for systematic reasons. Mainly industrial large-scale plants fall under the act. This ensures that the burden of a strict liability system only hits those establishments which create a high environmental risk and can cope with the financial implications a strict liability system may have. The Act does, however, not include all establishments which have a potential to damage the environment. Since it is not decisive whether a certain installation actually emits dangerous substances, it is possible that a facility emits dangerous substances and still does not fall under any of the categories listed.

Because of the possible inconsistencies the UmweltHG has often been criticised.⁷³

(2) Environmental Impact on Individual Rights

Under the UmweltHG, liability will arise only for effects on the environment caused by the establishment that lead to injury of individual rights.⁷⁴ This involves the scenario where damage is caused through materials, vibrations, noise, pressure, rays, steam, heat, or other phenomena that spread out on the ground, air, or water and thereby affect individual rights.⁷⁵ Damage that is a direct result of the activity of the installation lacks this characteristic.

Furthermore only damage caused by an environmental impact to life, body or property can be claimed. This connection of liability with injury to an individual right leads to the

⁷¹ Annexure I of the Act includes virtually all those high-risk installations requiring a permit under the Federal Pollution Control Act and installations governed by the Waste Disposal Act. The concerned facilities include facilities for heat and energy production, mining operations, chemical production, refining and processing of minerals oils, as well as refuse incinerators, landfills and facilities for storing and disposal of hazardous materials.

⁷² In this way it is different from the AtG and the WHG where liability for activities and substances has been introduced (Handlungs - und Stoffhaftung)

⁷³ G Hager E Rehbinder in Landmann/Rohmer *Umweltrecht* Bd II (1994) § 1 Rn 3

⁷⁴ § 1 UmweltHG

⁷⁵ § 3 I UmweltHG

assumption that - other than § 22 WHG - pure economic loss that is unrelated to the infringement of an individual right, can not be recovered under the Act.⁷⁶ Impairment of nature is again only covered indirectly where injury to an individual right presents damage to the environment at the same time.

The reason given for this limitation of the UmweltHG is first of all that the traditional civil law approach should be preserved. Traditionally civil law is concerned with proprietary or other concrete individual rights and not with public, collective rights. Even though it was conceded that compensation for ecological damage as a common right would certainly be reasonable in some instances, protection of common goods should remain within the scope of public law.⁷⁷ Since environmental damage resembles a new category of damage which has not been delimited properly yet, it was also held that it would be difficult to limit liability in a scientifically founded manner.⁷⁸

(3) Strict Liability

Following the trend on the national and international plane, the Act establishes strict liability for operators of the listed high-risk establishments. Strict liability means that liability can arise independently of any fault on the side of the polluter. Liability is not excluded only because all necessary precautions have been taken. Furthermore, the Act does not allow the state of art as a defence.⁷⁹ Instead, polluters are even held liable for the risk inherent in emitted substances which was not discoverable to the state of the art at the time of the emissions.⁸⁰ Compliance with all statutes and administrative orders does also not exclude

⁷⁶ e.g. if as a result of an environmental accident tourism in an area declines dramatically, those who suffer only financially from this decline have no claim to compensation.

⁷⁷ G Hager E Rehbinder in Landmann/Rohmer supra note 75 at § 16 Rn 2

⁷⁸ E Deutsch 'Umwelthaftungsgesetz - Theorie und Grundsätze' JZ 1991 1097

⁷⁹ BT-Dr. 11/7104, p. 15

⁸⁰ G Hager 'Umwelthaftungsgesetz: The New German Environmental Liability Law' *Environmental Liability* (1993) p 41

liability. Only damage that occurs through some higher power is excepted.⁸¹ It is also important to note that liability attaches not only to accidental pollution. The German UmweltHG refers also to the problem of gradual pollution caused by the licensed and normal operation of an establishment which results in damage.⁸²

While strict liability in the case of the disruption of operation is mainly considered to be adequate in the light of the economical benefits the creator of the ecological risk draws from the dangerous activity, the introduction of strict liability for normal conduct and the exclusion of state of art as a defence have often been criticised.⁸³

(a) Normal Conduct

Much debate has revolved about the point whether strict liability should be introduced for licensed and undisturbed conduct. The specific feature of this cause of damage lies in the fact that the damage here is caused by an installation which is approved by state authority. The extent of liability in those cases is hardly foreseeable. Furthermore it seems to be hard to insure against the risk of long-term pollution. Therefore it has been held that strict liability for those cases would put too much burden on industry.

The problem of insurability is however alleviated by the fact that public authorities granting permits apply high standards of pollution prevention in the public interest or in the interest of protecting the environment. This helps to minimise the risk of future damage to a high extent. Furthermore there are good reasons for the inclusion of pollution damage that has been caused by normal and undisturbed conduct into a strict liability scheme. It is generally accepted that a public licence does not include the right to damage private interests.⁸⁴ Strict liability for normal conduct can also be justified by the *ratio legis* of strict liability rules.

⁸¹ § 4 UmweltHG ; those "Acts of God" may comprise natural events like hurricanes, intensive blasts of wind and unnatural causes like unavoidable acts of sabotage.

⁸² BT-Dr. 11/7104 p 15

⁸³ G Hager 'Das neue Umwelthaftungsgesetz' *NJW* 1991 p 136; E Deutsch supra note 78 at p 1098

⁸⁴ R H Ganten 'Law on Liability for Environmental Damage - A Model for Europe?' *EPL* 1988 83 at p 84

Polluters who create a high risk for environmental damage under their control from which they benefit shall bear the consequences if the risk materialises.⁸⁵ Otherwise such high-risk activities would not be socially acceptable.⁸⁶ A differentiation between legal and illegal operations is not part of the risk-oriented strict liability concept.⁸⁷ If the emission of substances under normal licensed conduct of an establishment already bears the risk of damaging the environment, it seems justified to hold the operator liable.⁸⁸ Another important aspect in favour of strict liability for normal and undisturbed conduct is that the limitation of strict liability to accidental pollution would fail to cover many important pollution cases.

(b) State of the Art

It is also a moot point whether liability should be exempted if the risk inherent in the substances emitted into the environment was not detectable according to the state of the art at the time of the emission.

The justification for an exclusion of this defence could be doubted from a preventative point of view. A more practical argument against strict liability in those cases that has been put forward is here as well that it may be extremely difficult to cover regular operations and undiscoverable dangers by insurance.⁸⁹

On the other hand, the risk of being more dangerous than expected, is a risk that is inherent in all polluting substances. The creation of this risk justifies laws which impose strict liability. Since it is very likely that the fear of being held liable results in a more cautious use of polluting substances, strict liability for high-risk activities could also have a preventative effect. The solution to exclude the state of art defence moreover exempts the courts to answer the difficult question from which point in time the dangers of the substance were detectable.

⁸⁵ G Hager supra note 80 at p 41

⁸⁶ H Koetz, *Deliktsrecht* 4 ed (1988) p 340, G Hager supra note 80 at p 41

⁸⁷ G Hager supra note 83 at p 136

⁸⁸ E Deutsch supra note 78 at p 1098

⁸⁹ G Hager supra note 80 at p 41

(c) Compliance with Conditions of Governmental Authorisations

Under the German Environmental Liability Act,⁹⁰ compliance with the relevant law and authorisations does not exclude liability. Instead legal operation grants the operator several privileges. Compliance with the operational duties does make it easier for the polluter to prevent liability. The duty to compensate for damages is then excluded if damage to property is insignificant or where the damage is incurred in an usual or acceptable manner according to local circumstances.⁹¹ This provision does not apply for personal damages; bodily and health injuries must be fully compensated, even if they occur during the normal and legal operation of the plant.⁹²

Legal operation also affects the proof of causality. The presumption of cause which will be explained below will not apply where an operator of an installation acts in accordance with permits and conditions.

The admissibility of 'compliance' as a defence provides a strong incentive for the polluters to obey conditions and limits set by the authority.⁹³ The drafters of the UmweltHG had this incentive effect in mind when they introduced some privileges for polluters who complied with the existing law. They also took into consideration that the decision to impose strict liability on polluters who have acted in a lawful manner may sometimes be harsh on the polluter.

On the other hand, it has to be seen that administrative provisions do not always represent the best available standards but are often introduced for political considerations. The incentive to control the polluting activity and reduce pollution by means of the best technology available, is reduced by granting privileges which are too lenient.

⁹⁰ § 6 II and III UmweltHG

⁹¹ § 5 UmweltHG

⁹² § 5 UmweltHG

⁹³ Under Italian law, (e.g. Article 18 of Italian Law no. 348), liability for environmental damage is restricted to acts which constitute a violation of legal or administrative measures.

bb.) Proof of Causality

The biggest problem inherent in any system of civil liability for environmental damage is the problem of proving causation. If the standard of proof which the plaintiff must satisfy is too high, many compensation claims will fail for this reason alone. As explained above, the German High Court alleviated the burden of proof for the plaintiff when liability was claimed under the law of delict in certain cases.⁹⁴ The German UmweltHG extends this existing legal practice and makes the proof of causality between the plaintiff's damage and the defendant's activity easier for the plaintiff. At the same time it gives the polluter the opportunity to disprove or exclude the presumption.

(1) Presumption of Causality

According to §6 I UmweltHG, the element of causation will be presumed upon a *prima facie* proof that the facility is 'inherently suited' to cause the damage. The introduction of a right to information for the victim against the person in control of the establishment and against special agencies alleviates the production of evidence for the plaintiff.⁹⁵

Firstly, the presumption requires the plaintiff to prove that polluting substances emanate from a certain installation and that he was exposed to those substances. Secondly, there must also be a recognised relationship between the damage and the polluting substance.⁹⁶ Finally, the plaintiff has to prove that the polluting substances are able to cause the damage in question. This presumption alleviates the burden of proof for the plaintiff and shifts the task of showing an absence of causation to the defendant.

Despite an improvement of the existing situation for the claimant, it has to be stressed that the UmweltHG only provides an alleviation of the burden of proof. An alleviation of the

⁹⁴ see *Smelting Oven Case (Kupolofenfall)* supra note 25

⁹⁵ §§ 8,9 UmweltHG

⁹⁶ G Hager supra note 80 at p 42

burden of proof can, however, not eliminate the difficulties in proving causation completely. The plaintiff still has to prove the relationship between the activity and the damage. This proof can sometimes be extremely difficult, for example, when damage has not been caused immediately but built up to a general degradation of the environment.⁹⁷ This kind of pollution can often not be attributed to one or more individual installations. As a result, it is impossible for the plaintiff in such a case to link the damage to a specific polluter.

It is uncertain whether § 6 I UmweltHG applies when several sources of pollution are involved.⁹⁸ The wording of the provision is not clear in this respect. A narrow interpretation of the provision which would confine § 6 I UmweltHG to a situation where there is only one establishment which may have caused the damage, would leave the most important cases of environmental pollution out of the scope of the act. This solution is not favourable.⁹⁹ For teleological reasons it should therefore be considered sufficient in the case of several polluters for the plaintiff to show that the establishment that was sued could have caused the damage - even if it only did so in a contributory manner.¹⁰⁰

(2) Legal Operation

The alleviation of the burden of proof laid down in § 6 I UmweltHG does not apply if the establishment has been operating legally.¹⁰¹ 'Operating legally' means that the defendant must show that the facility fulfilled all special operational duties. Operational duties are all those duties imposed by administrative permits, requirements and enforceable administrative orders and regulatory laws, insofar as their purpose is to prevent such environmental impacts that could be considered to be the cause of the damage.¹⁰²

⁹⁷ e.g. 'Waldschaeden'

⁹⁸ This approach is approved by G Hager supra note 80 at p. 42; supra note 83 at p 138

⁹⁹ G Hager supra note 83 at p 138

¹⁰⁰ G Hager supra note 83 at p 138

¹⁰¹ § 6 II UmweltHG

¹⁰² § 6 III UmweltHG - different from Product Liability Law

It is uncertain whether legal operation should be privileged with regard to the proof of causation.¹⁰³ Even though this prospective may create an incentive to act in accordance with existing norms, legal activity still damages the environment in the same way as illegal action.¹⁰⁴ As shown above, it is not the illegality of an activity that gives reason for liability, but the creation of a certain risk which is seen as a justification for the introduction of many strict liability schemes for ultra-hazardous activities on a municipal and international level. As already pointed out, privileges for legal operation also fail to take into consideration that environmental standards are often a reflection of economic and political compromise. They do not necessarily reflect the latest developments of research.

(3) Other Circumstances

The operator can also disprove the presumption of § 6 I UmweltHG if he can prove that other circumstances were inclined to cause the damage.¹⁰⁵ Other circumstances in the sense of the provision do not include other establishments covered by the UmweltHG. The possibility of other natural causes for damage or emissions from indeterminable resources may be considered as 'other factors'.¹⁰⁶

cc.) Extent of Liability

The extent of liability in respect of death and personal injuries is regulated comprehensively in §§ 12 ff UmweltHG.

The UmweltHG contains one provision that deals explicitly with ecological damage in § 16 UmweltHG. This norm determines the extent to which restoration in kind can be demanded if property damage also results in an impairment of the environment.¹⁰⁷

¹⁰³ G Hager supra note 83 at p 138

¹⁰⁴ G Hager supra note 83 at p 138

¹⁰⁵ § 7 UmweltHG

¹⁰⁶ G Hager supra note 80 at p 42

¹⁰⁷ G Hager E Rehbinder in Landmann/Rohmer supra note 73 at § 16 Rn 1

As already mentioned above under the general rule in § 249 BGB, the owner of damaged property can demand restoration only if the cost of restoration is not out of proportion to the value of the damaged property.¹⁰⁸ Since this is very often the case with ecological damage, §16 UmweltHG was introduced. It provides that if damage to property also impairs nature or scenery, then § 251 II BGB shall still apply, but the cost of restoration should not be considered out of proportion merely because it exceeds the value of the damaged natural resource. The disproportionality principle is thus not abolished but modified. The balancing exercise of weighing the cost of restoration against the ecological gains achieved by restoration, will still be necessary. In order to provide an incentive for the property owner to restore the damaged environment, §16 UmweltHG only applies on the condition that the costs recovered are actually used for restoration .

With the introduction of § 16 UmweltHG the legislator has improved the previously existing situation only slightly but just modified the existing structure of the law of delict. Restitution in kind for damage to ecological systems can easier be claimed than before the adoption of § 16 UmweltHG. The norm does, however, not deal with all problems which are encountered when restitution in kind is claimed for ecological damage. No solution has been found, for example, for the problem which had to be dealt with after the *Sandoz* incident where restoration was not possible.

dd.) Limitations

Liability for environmental damage is limited. If it is caused to anything other than persons, it is recoverable only up to DM 160 million; environmental damage to persons can be compensated for an additional DM 160 million.¹⁰⁹

The UmweltHG refers for time limitations to the limitation periods specified in the Civil Code with regard to the law of delict.¹¹⁰

¹⁰⁸ § 251 II BGB

¹⁰⁹ § 15 UmweltHG

ee.) Multiple Wrongdoers

Apart from an indication in § 7 UmweltHG the Act does not contain any rule regulating pollution damage by several polluters. Therefore the general rules are applicable. As has been shown they do not provide satisfying solutions to the problems caused by the existence of several polluters.

ff.) Liability Insurance

Despite strong opposition from industrial enterprises who fear the burden of high insurance premiums, the UmweltHG introduces compulsory insurance. Some owners of facilities listed in annexure II are obliged to ensure that they will be able to comply with any obligations to compensate arising out of the Act. Such security may either be provided by insurance, indemnification guarantees or a warranty.¹¹¹

gg.) Conclusion

The foregoing survey has shown that the UmweltHG contains deficiencies as well as achievements with regard to compensation for environmental damage.

The new Act has improved the situation for victims of environmental damage in several ways. It has introduced a broad-ranging strict liability regime excluding any state of art. Strict liability is even attached to risks associated with legally operated establishments. Further major achievements are that the Act alleviates the burden of proof of causation, provides for important information rights and extends the right to claim restoration costs in respect of damaged natural resources.

¹¹⁰ § 17 UmweltHG. According to § 852 BGB the time limit to bring action is 3 years from the point in time from which on the claimant could have known of the damage and of the responsible person. Even if the injured party may reasonably not have had the knowledge about the damage there is a 30 year limitation period, commencing at the time when the event which has caused the damage took place.

¹¹¹ § 19 UmweltHG

Considering the previously existing situation, the UmweltHG contains only little extension of existing liability norms and legal norms.¹¹²

Legal practice in Germany has already alleviated the burden of proof for the plaintiff if damage is caused by high-risk activities. Strict liability can also be found in several special statutes.¹¹³ The rather tentative approach taken by the UmweltHG which tried to preserve the existing solution as far as possible, leaves many problem areas unaddressed which exist when dealing with compensation for environmental damage.

Major shortcomings in compensating effectively for environmental damage remain. The Act is for example limited to future pollution and only concerned with major pollutants listed under annexure I. Strict liability only applies against the operator of the plant. Lenders or parental corporations can not be sued on the basis of the UmweltHG.

Many affected parties can still not obtain redress for damage caused by pollution under civil law because compensation for environmental damage still requires a connection between property damage and natural resource damage.¹¹⁴ The UmweltHG does not grant environmental organisations or public authorities any right to compensate for measures to prevent or restore environmental harm. Restoration under civil law remains dependent on the will of the proprietor of the damaged land. There is no comprehensive solution provided for those cases where common public rights have been impaired or where restoration costs arise independently from the violation of an individual position.¹¹⁵ Furthermore, no claim to compensation exists where a victim cannot link his damage to the activities of a particular establishment.

¹¹² S *Erichsen* supra note 13 at p. 169; E S Steffen supra note 12 at p 1822

¹¹³ Under § 22 WHG damage caused by water pollution leads already to strict liability that even comprises pure economic loss and exists independently of an installation. If air pollution leads to contamination of soil, resulting damage to land can be claimed under the neighbour law provisions § 906 BGB and § 14 BImSchG which do not contain a fault requirement. New is strict liability for bodily injury and property damage resulting from impacts on soil and air which has so far been compensated for under the law of delict.

¹¹⁴ e.g. clean-up measures not undertaken by the owner of property do usually not give a right to compensation under the UmweltHG.

¹¹⁵ S *Erichsen* supra note 13 at p 169

It can be concluded that despite many improvements for the victims of environmental damage, a great share of those expenditures which are made to restore environmental damage, still remain externalised - contrary to the 'polluter pays principle'.

III.) South African Law on Compensation for Environmental Damage

South African law does not provide any specific rule or an Act dealing with liability for environmental damage. Therefore remedies available under the common law are of primary importance. There are also some statutory provisions relevant to the problem of compensation for environmental damage which will be explained.

The South African Constitution¹¹⁶ may also be important in this context since it may have an influence on the interpretation of those common law or statutory remedies.¹¹⁷

The most important clause in the Constitution for environmental law is s 24.¹¹⁸ The environmental clause forms part of the Bill of Rights which lays down the most fundamental rights. Fundamental rights of the Constitution usually have vertical application between the individual and the state.¹¹⁹

It is, however, acknowledged that the Bill of Rights can have indirect horizontal effects and may affect private law relations.¹²⁰ Accordingly, the environmental clause obliges the courts to take environmental concerns into account when making decisions.¹²¹ Legal rules which are formulated

¹¹⁶ Act 108 of 1996

¹¹⁷ F Du Bois *Towards Corrective Environmental Justice: The Need for Statutory Environmental Liability Rules* conference paper prepared for the Environmental Law Conference on 'Environmental Justice and the Legal Process' April 1998 in Cape Town

¹¹⁸ every person shall have the right

(a) to an environment which is not harmful to his or her health or well-being; and

(b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that

(i) prevent pollution and ecological degradation

(ii) promote conservation; and

(iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

¹¹⁹ J Glazewski 'The New South African Constitution' Chapter 9 in *Human Right Approaches to Environmental Protection* Boyle and Anderson eds, 1996 at p 188

¹²⁰ P Havenga 'Liability for Environmental Damage' 7 (1995) *SAMerchLJ* 187 at p 189

These conclusions can be derived from s 39 of the Constituion which provides that 'in the interpretation of any legislation and when developing common law or customary law, every court, tribunal or forum must promote the spirit, purport and objects of the Bill of Rights'.

¹²¹ J Glazewski supra note 119 at p 187

to incorporate policy consideration in their application, so-called open-ended standards or principles, will therefore have to be interpreted and applied to reflect the basic values of the Bill of Rights. The following discussion of remedies for environmental damage in South African law will be based on common law and statutory provisions but also takes possible influences of the South African Constitution into account.

1.) Common Law

a.) Liability for Environmental Damage Founded on Delict

Compensation for environmental damage can be effected by an action in delict. A delict is defined as the act of a person who in a wrongful and culpable way causes harm to another.¹²² Accordingly, a claim based on delict requires an act or omission, wrongfulness, fault, damage and a causal link between the act or omission, and the harm. One has to distinguish between delicts that cause patrimonial damage and those that cause injury to personality.¹²³ Different actions are instituted in each single case. In terms of the *actio legis Aquiliae*, damages for the wrongful and culpable causation of patrimonial loss can be claimed; satisfaction for the wrongful and intentional injury to personality can be claimed under the *actio iniuriarum*. Remaining is the action for pain and suffering which can be instituted to claim compensation for injury to personality as a result of the wrongful and culpable impairment of bodily or physical-mental integrity.¹²⁴

All those actions may be instituted for an act causing environmental damage. Most important is the *actio legis Aquiliae*. Therefore the following discussion will concentrate on this action.

¹²² J Neethling, J M Potgieter and P J Visser *Law of Delict* 2ed (1994) at p 4

¹²³ J Neethling, J M Potgieter and P J Visser *supra* note 122 at p 5; P Q R Boberg *The Law of Delict Aquilian Liability* Vol I (1989) 18

¹²⁴ J Neethling, J M Potgieter and P J Visser *supra* note 122 at p 5

aa.) *Actio Legis Aquiliae*

(1) Conduct

An injurious act, conduct or omission which causes damage is a general prerequisite of delictual liability.¹²⁵ As under German civil law, in case of an omission, liability is based on a breach of duty.

In deciding whether a legal duty exists, courts refer to the same criteria as in Germany, notably, whether the defendant's prior conduct creates a new source of danger or whether the defendant has control over a dangerous object or situation.

While no particular problems arise if there is just one polluter involved, the situation gets more complicated when the pollution emanates from more than one source. If the polluters can be identified, s 2(1) of the Apportionment of Damages Act¹²⁶ can be invoked which provides that joint wrongdoers may be sued in the same action.

(2) Wrongfulness

Liability will only arise if the harm was caused in a wrongful manner. In general, the mere fact that physical harm to persons or property has been caused, provides a *prima facie* indication that the act concerned was in fact unlawful.¹²⁷

In borderline cases, especially when it is difficult to limit liability, one has to look at whether society condemns a particular conduct as unreasonable.¹²⁸ The conduct in question is deemed to be wrongful in such borderline cases when the defendant infringed the interests of the plaintiff in an unreasonable manner according to the legal conviction of the community, and in the light of all circumstance of the case.¹²⁹ This requires a balancing of interests between different values in society. Where the nature of such damage is pure economic loss,

¹²⁵ J Neethling, J M Potgieter and P J Visser supra note 122 at p 21; A J Van der Walt *Delict: Principles and Cases* in par 35

¹²⁶ Act 34 of 1956

¹²⁷ J Neethling, J M Potgieter and P J Visser supra note 122 at p 39

¹²⁸ see *Minister van Polisie v Ewels* 1975 (3) SA 590; *Coronation Brick (Pty) Ltd v Strachan Construction Co (Pty) Ltd* 1982 4 SA 371 (D) 380

¹²⁹ P Q R Boberg supra note 123 at p 33; A J Van der Walt supra note 125 in para. 21

the causation of environmental damage is often such a borderline case since most economic activities affect the environment in some way.¹³⁰

According to the foregoing definition, only those activities that can be considered unreasonable according to the legal convictions of the community can give rise to liability.

The legal convictions of the community are expressed in the Constitution. The right to a clean environment must therefore be considered in this balancing test.¹³¹ In the light of the environmental clause, it is likely that courts will increasingly consider actions to be wrongful which render the environment harmful to human health or well-being. It has even been argued that actions which harm the environment and are detrimental to a person's health or well-being should be considered *prima facie* wrongful in the light of the constitution.¹³² Support for this view can be found in *Minister of Health and Welfare v Woodcarb (Pty) Ltd & another*.¹³³ In this case the court held that the generation of smoke by the burning of sawdust and wood chips could be an infringement of the rights of the neighbours of a saw-milling plant to 'an environment which is not harmful to their health or well-being' and would therefore be unlawful.

(3) Fault

Delictual liability requires that fault is present when an unlawful act is committed.¹³⁴ Fault is constituted either by intention or by negligence.¹³⁵ Since negligence is the sufficient form of fault, the question in practice is whether the wrongdoer acted negligently. Negligence is present where a person's conduct does not comply with the objective standard of the conduct of the reasonable person. In the same manner, as under German civil law, the conduct or omission in question that led to damage is considered to be negligent when the reasonable person would have foreseen the

¹³⁰ P Havenga supra note 120 at p 193

¹³¹ P Havenga supra note 120 at p 193

¹³² P Havenga 'A Few Steps Closer Towards Establishing the 'Polluter Pays' Principle' 9 (1997) *SAMerchLJ* 89 at p 92; P Havenga supra note 119 at p 193 - differing opinions in footnote 46

¹³³ 1996 (3) SA 155 (N)

¹³⁴ J Neethling, J M Potgieter and P J Visser supra note 122 at p 113; P Q R Boberg supra note 123 at p 268; A J Van der Walt supra note 125 at para. 36

¹³⁵ J Neethling, J M Potgieter and P J Visser supra note 122 at p 122

harm and could have taken steps to prevent the harm from occurring but the defendant failed to take those steps.¹³⁶

Accordingly, whether a certain conduct is negligent depends on the foreseeability of the harm and the precautions the reasonable person would have taken.¹³⁷ The question of whether the defendant took reasonable steps to avoid the harm from occurring, depends on the nature and extent of risk created by the polluter. Another important aspect is the seriousness of the possible damage in case the risk materialises. Furthermore, the utility of the polluter's conduct and the costs and difficulties of taking precautionary measures must be looked at.¹³⁸ What would have been reasonable steps in a certain cases depends to a large extent on policy considerations which are shaped by the Constitution - in this context the environmental clause.¹³⁹ Failure to use expensive technology which might have prevented the environmental disaster may therefore under certain circumstances be considered unreasonable and may be regarded as constituting negligence.

Whether conduct contrary to statutory provisions which aim at the protection of the environment¹⁴⁰ is *per se* an indicator for negligent behaviour is controversial.¹⁴¹ In Germany, action contrary to statutory provisions leads only to liability under § 823 II BGB if the statutory provision is considered to be a protective norm and if negligence exists.¹⁴² The breach itself can only be taken as one factor among others pointing to negligent behaviour. The same stance is taken by South Africa, which also takes such conduct into account as only one component when evaluating possible negligence.¹⁴³

¹³⁶ P Havenga supra note 120 at p 194

¹³⁷ e.g. if a disposal site was inadequate for the disposal of waste and it was therefore foreseeable that harm would arise and precautions were not taken, the person disposing of waste may attract liability.

¹³⁸ *Pretoria City Council v De Jager* 1997 (2) SA 46 (A); J Neethling, JM Potgieter and P J Visser supra note 122 at p 134, 135

¹³⁹ P Havenga supra note 120 at p 194

¹⁴⁰ e.g. Road Tanker Regulations, Occupational and Safety Act (Act 85 of 1993)

¹⁴¹ J Neethling, J M Potgieter and P J Visser supra note 122 at p 139

¹⁴² Thomas in Palandt supra note 19 at § 823 Rn 143

¹⁴³ *Simon's Town Municipality v Dews* 1993 1 SA 191 (A) at 196-197

Similarly as under German law of delict, the onus is on the plaintiff to prove negligence.¹⁴⁴ It has been shown that this proof can be very difficult to establish.¹⁴⁵ On the one hand, it requires proof about the state of art and scientific knowledge which existed during the time in question. On the other hand, the proof that the precautionary measures taken were unreasonable also requires insight in the internal structure of the establishment in question. Possible claimants will usually lack the capacity to gather enough information to prove that measures that were taken by the pollutant cannot be considered sufficient in comparison to what the reasonable person would have done to prevent the damage. If environmental damage has only manifested itself after years, it will be impossible most of the time for claimants to meet the requirements of proving negligence.¹⁴⁶

In response to these difficulties, many countries have departed from the requirement of fault, especially when pollution is caused by high-risk activities. As already mentioned above, strict liability is imposed by the UmweltHG for certain high-risk establishments. The rule of *Rylands v Fletcher*¹⁴⁷ does, however, not form part of South African law.¹⁴⁸ For this reason most actions brought for environmental damage will fail because of the difficulties to prove fault.¹⁴⁹ Strict liability can, however arise under the law of nuisance and certain statutes. These legal devices will be elaborated on below.¹⁵⁰

¹⁴⁴ J Neethling, J M Potgieter and P J Visser supra note 121 at p 141

¹⁴⁵ This can be illustrated for example by the English case *Cambridge Water Co. v Eastern Leather Plc* H.L. (E.) (1994) 2 W.L.R. 53

¹⁴⁶ L A Feris *Asbestos Mining and Asbestos Related Diseases - Whose Responsibility?* conference paper prepared for the Environmental Law Conference on 'Environmental Justice and the Legal Process' April 1998 in Cape Town p 339

¹⁴⁷ (1868) LR 3 HL 330; under this rule liability falls on the one who created increased danger, against which ordinary man cannot reasonably be expected to take his own precautions, irrespective of any fault criteria

¹⁴⁸ *Union Government (Minister of Railways) v Sykes* 1913 AD 156 at 161; *Parker v Reed* (1904) 21 SC 496 at 503; *Botes v Potchefstroom Municipality & Another* 1941 TPD 149 at 152;

¹⁴⁹ L A Feris supra note 146 at p 339

¹⁵⁰ see IV.) 1.) b.); IV.) 2.)

(4) Causation

Delictual liability will only arise if there is a causal nexus between conduct and damage.¹⁵¹ It comprises two elements: factual and legal causation.¹⁵² While the former is proved by the *conditio sine qua non* test, the latter is established where a particular factual consequence can reasonably be imputed to the wrongdoer in view of policy considerations based on reasonableness, fairness and justice.

The main problem here is to establish factual causation. Similarly to German law of delict, traditionally the proof of the causal relationship between the emission of a certain installation and the particular damage rests also upon the plaintiff. It will often be difficult to link the emission of one single polluter with the environmental effects, especially when the polluting substance emanates from more than one source, or when due to the nature of the polluting substance, damage can only be detected a long time after the polluting act took place.¹⁵³ These problems are increased by the uncertainty of the effects of pollutants in the long term or in combination with other substances. These effects are usually not even sufficiently determined. The UmweltHG replaces the scientific proof of causation by proof that the substance emitted by the polluter was 'inherently suited' to cause the damage. If this is the case, causality is presumed. Such a presumption of causality regarding damage caused by an ultra-hazardous activity does not exist in South Africa.

The environmental right spelled out in section 24 of the Constitution could however have an influence on the establishment of factual as well as legal causality between the action of a polluter and the damage. It is held, that since the Constitution gives everyone a 'right to a healthy environment', it would be sufficient for the plaintiff in order to establish factual causation to prove that the defendant's actions rendered the environment harmful. The plaintiff would not have to

¹⁵¹ P Q R Boberg supra note 123 at p 380; J Neethling, J M Potgieter and P J Visser supra note 122 at p 159; A J Van der Walt supra note 125 at para. 46

¹⁵² For the distinction between factual and legal causation see *Tuck v Commissioner for Inland Revenue* 1988 3 SA 819 (A) at 832-833; also *Mnisteer of Police v Skosana* 1977 1 SA 31 (A) at 34; *S v Mokgethi* 11990 1 SA 32 (A) at 39 ff.

¹⁵³ e.g. Asbestos-related diseases manifest themselves only after a long latency period. After this time lapse those responsible may have sold or abandoned the asbestos mine which makes it almost impossible to establish a causal link.

establish anymore that the actual harm suffered was caused by the defendant.¹⁵⁴ The polluter could then escape liability only if he was able to prove that the actual damage was not caused by his activities. The Constitution may also influence the decision whether a conduct can legally be imputed to the wrongdoer. This decision depends on policy considerations which have to take the high value the Constitution attaches to environmental preservation into account.¹⁵⁵

(5) Damage

Damage under the *actio Aquiliae* is defined as the calculable pecuniary loss or diminution in the estate of the plaintiff.¹⁵⁶ The plaintiff's loss is assessed by comparing his position after the delict has occurred to the position he would have been in had there be no wrongful act.¹⁵⁷

The aim is to put the plaintiff in the position to recover his actual loss in the form of the reduction of value of his property as well as his loss of earnings. In general, courts will assess damage to property by looking at the reduction of the market value of the property.¹⁵⁸ The basis for an estimation of this reduction are the reasonable repair costs. While clean-up costs can in many cases be recovered, difficulties arise in those cases where the cost of cleaning up is much higher than the reduction in the value of the land due to pollution. The recovery of clean-up costs is then considered to be out of proportion. The German UmweltHG tried to solve this problem with the introduction of § 16 UmweltHG where some degree of disproportionality is accepted when the clean-up costs exceed the value of the damaged natural resource. The same stance could be taken in South Africa with regard to the high value the Constitution puts on a clean environment. By referring to the market value of damaged property South African law meets the same difficulties as German law. It is usually difficult to attach a market value to the loss of natural resources.

¹⁵⁴ F Du Bois supra note 117

¹⁵⁵ P Havenga supra note 120 at p 195; A van Aswegen 'The Implications of the Bill of Rights for the Law of Contract and Delict' 11 (1995) *South African Journal on Human Rights* 50 at p 60; F Du Bois supra note 117

¹⁵⁶ P Q R Boberg supra note 123 at p 475; J Neethling, M J Potgieter and P J Visser supra note 122 at p 198

¹⁵⁷ *Union Government (Minister of Railways and Harbours) v Warneke* 1911 AD 657 at 665, *Mutual and Federal Insurance Company Ltd. v Swanepoel* 11988 2 SA 1 (A) at 10-11.

¹⁵⁸ P J Visser, J M Potgieter, *The Law of Damages*, 1993 at p 329

The situation is different when the plaintiff suffers real monetary loss without there being physical damage to his property. This scenario could for example occur when the person who undertakes the clean-up is not the owner of the property. Pure economic loss can also flow from damage to things which are objects of common rights.¹⁵⁹

While German law finds it difficult to compensate the plaintiff who suffers monetary loss without there being actual damage to his property, despite decisions to the contrary, under South African law pure economic loss is in general recoverable.¹⁶⁰ If fishermen, for example, lose profit as a result of water pollution, or when persons different from the owner undertake the clean-up of a polluted site, the costs incurred can in general be compensated for.

South African courts are, however, cautious to accept liability for pure economic loss as it can lead to indeterminate and uncontrollable liability. To keep liability for pure economic loss within socially acceptable limits the requirement of wrongfulness or the requirement that the damage be foreseeable and not too remote can be employed. In applying those standards, the value the Constitution attaches to environmental integrity can again influence the decision whether financial loss suffered in connection with environmental damage can be recovered.¹⁶¹

It follows, that if environmental damage affects another person's property, and somebody different from the owner of that property carries out the clean-up, costs are most likely not recoverable. Otherwise liability would be infinite.

The question whether compensation can be recovered by public authorities for pure economic loss flowing from damage to things which are objects of common rights underlies different considerations. In those cases there are good policy reasons for permitting the recovery of costs; the authority may even be bound to clean-up pollution damage in order to prevent risks to the health of people living in the community or to escape liability.

¹⁵⁹ e.g. if fishermen can no longer fish in the sea as a result of water pollution caused by an industrial plant and suffer economic loss.

¹⁶⁰ *Adminstrateur, Natal v Trustbank van Afrika Bpk* 1979 3 SA 824 (A); *Coronia Brick (Pty) Ltd v Strachan Construction Co (Pty) Ltd* 1982 4 SA 371 (D) at 377; J Neethling, J M Potgieter and P J Visser supra note 122 at p 208, 209

¹⁶¹ P Havenga supra note 120 at p 196

In other cases of economic loss the criteria of remoteness can be employed. Another way to deal with the problem is to refer to the criteria of commercial usefulness of the natural resource for the claimant. The German WHG is for example interpreted in such a way that reimbursement for economic loss is granted in all cases where those who claim economic loss make commercial use of the natural resource.

bb.) *Actio Iniuriarum*

Compensation for the infringement of interests of personality is only provided by the *actio iniuriarum*. Infringement of aesthetic feelings cannot in general be claimed under this action. The right to well-being spelled out in the Constitution may however eventually open up the possibility for courts to implement the *actio iniuriarum* on these grounds. This action requires intention.¹⁶² Since most environmental damage is caused negligently and not intentionally, the practical significance of this action for environmental liability cases is only minor.

cc.) Conclusion

In South Africa, the same problems which were examined in Germany before the enactment of the UmweltHG, are encountered when compensation for environmental damage is claimed. Where damage to the environment infringes on individual rights, and is consequently recoverable under the law of delict, the plaintiff faces practical problems. The proof of causation which has been alleviated by the UmweltHG often places almost insurmountable obstacles on the claimant in South Africa, especially in the case of several polluters. Since no general strict liability rule for high-risk activities exists, the proof of fault may also be very difficult to establish. Besides s 2 (1) of the Apportionment of Damage Act, collective responsibility cannot easily be dealt with. Furthermore, law of delict assesses recoverable loss as monetary loss on the side of the plaintiff.

¹⁶² *Union Government (Minister of Railways and Harbours) v Warneke* 1911 AD 657 at 670

As already pointed out environmental loss can often not be described in monetary terms. Therefore plaintiffs can often not recover environmental damage under the law of delict.

The law of delict protects individual rights only. When damage to the environment does not affect individual rights of the plaintiff, full rehabilitation is difficult to achieve under the provision of the law of delict. Damage to natural resources which cannot be owned or to which no monetary value can be attributed do not fall within the ambit of the law of delict.¹⁶³

Since wild animals or other organisms are often no property or even if they are owned no monetary value can be attached to them for the purpose of compensation, their loss is in most cases not covered by the law of delict.

The South African Law of Delict does therefore not have the potential to compensate for damage to the environment comprehensively. It faces problems similar to those already shown in the German law of delict.

b.) Nuisance Law

Damage to the environment can also be recovered under the law of nuisance. Under the law of nuisance a landowner can prevent and claim damage for unlawful interference by emissions, such as odours, smoke, gas, fumes or noise. Since every landowner has to put up with some disturbance of his property, not every interference is unlawful. South African law recognises as one of the inherent rights of a landowner or lawful occupants of land, their right to the reasonable enjoyment of such land.¹⁶⁴ From this follows, that only unreasonable use of land by one neighbour

¹⁶³ This issue is dealt with in the US case of *Commonwealth of Puerto Rico v The SS Zoo Colotroni* 628 F.2d 652 (1st Cir. 1980)

¹⁶⁴ *East London Western District Farmers' Association and Others v Minister of Education and Development Aid and Others* 1989 (2) SA 63 (A) at 66 I

at the expense of another makes the use unlawful. The determination of unreasonableness and thus of unlawfulness depends on various factors, including the location of the property.¹⁶⁵

Where such an unlawful nuisance has caused patrimonial loss, an action for damages is available. While it is accepted that liability for nuisance in Germany is strict and consequently not dependant on fault, this point is disputed in South Africa.¹⁶⁶

It is contended that actions for damage caused by nuisance are based on the fault principle but that there may be a presumption of fault in certain cases.¹⁶⁷ On the other hand, there exist decisions as well as common law authority which indicate strict liability for nuisance.¹⁶⁸ This ambivalence can be solved by taking the fault principle as a starting point and allow for a fault-presumption with regard to ultra-hazardous activities.¹⁶⁹

Persons liable under the law of nuisance are mostly adjacent landowners. Since liability is based on control of land, not only landowners and occupiers can be held responsible, but also tenants and purchasers. As already seen in relation to the German law of nuisance, this connection to the land gives nuisance law only a limited scope of applicability for environmental damage. A further limitation is posed by the fact that under South African civil law a damage claim has to be brought in delict if damage has been caused to property and the nuisance is not the primary issue but the damage that has been caused. This limitation does not exist in Germany. Another feature of nuisance that may limit its effectiveness for environmental protection, is that it depends on standards which vary from province to province; this means that no uniform protection of the environment can be achieved.

¹⁶⁵ According to *Diepsloot Residents' and Landowners Association and Others v Administrator Transvaal and Others* 1993 (1) SA 577 T & 1993 (3) SA 853 C the alleged drop in market values may afford a barometer of the alleged diminution in use and enjoyment of property and therefore indicate when nuisance becomes unreasonable.

¹⁶⁶ J Neethling, J M Potgieter and P J Visser supra note 122 at p 350

¹⁶⁷ *Bloemfontein Town Council v Richter* 1938 AD 195

¹⁶⁸ *Flax v Murphy* 1991 4 SA 58 (W); *Van der Merwe v Carnevon Municipality* 1948 3 SA 613 (C); *Cosmos (Pvt) Ltd v Phillipson* 1968 3 SA 121 (R)

Cape Town Council v Benning 1917 AD 315; *Van Schalkwyk v Van der Wath* 1963 3 SA 636 (A)

¹⁶⁹ J Neethling, J M Potgieter and J M Visser supra note 122 at p 350

So far it does not constitute an actionable nuisance to provide merely unsightly and visually not aesthetic conditions or to interfere with leisure activities and recreation. It has been held that the inclusion of the term 'well-being' in the environmental clause would allow courts to take more regard of the aesthetic and spiritual side of the environment and to re-assess the former approach.¹⁷⁰ The new environmental clause would, for example, make it possible for courts to perceive the causation of unsightly and not aesthetic conditions as unreasonable use of property. One may even go as far as to say that the maintenance of wild nature influences a person's well-being and must be given consideration in nuisance law.

2.) Special Law

The provisions discussed in the following part are contained in special law. They are mainly public law provisions. This means that they do in most cases not give a private right of action. They are nevertheless relevant in this context in order to give a comprehensive picture on the already existing norms in South Africa which hold polluters liable for environmental damage.

a.) Environmental Conservation Act (ECA)¹⁷¹

The ECA can be regarded as the most important environmental statute in South Africa. It deals with liability for environmental damage in section 31A (1) which was inserted into the Act in 1992. The ECA uses two different mechanisms in responding to environmental damage or threat thereof. Authorities may order the polluter first to cease an activity or to rehabilitate, at his own expense, any damage caused to the environment as a result of his activity.¹⁷² If the polluter does not undertake this action, the authority itself may perform the activity or authorise another to do so.¹⁷³ Then it may recover any expenditure involved in undertaking the work from the polluter.¹⁷⁴

¹⁷⁰ F Du Bois supra note 117

¹⁷¹ Act 73 of 1989

¹⁷² section 31A (2) ECA

¹⁷³ section 31A (3) ECA

The section does not require fault on the part of the polluter before the body concerned may order the relevant steps to be taken. It appears as if the polluter may be held strictly liable for causing damage to the environment. In effect, liability without fault is introduced for clean-up costs.¹⁷⁵

The term restoration seems to imply that more than clean-up is required to rehabilitate for any damage caused to the environment. It seems to introduce a concept of damage which cures some of the difficulties met in private law.

The ECA is not clear on the persons to whom liability attaches. Section 31 A refers vaguely to any person who performs any activity or fails to perform an activity. It is uncertain whether liability is imposed on lenders. Usually lenders secure themselves by real property and become owners of the polluting enterprise if the company defaults on the loan. Since the lender can be in the position to actually control the activity, lender liability has some justification.¹⁷⁶ Thus, CERCLA legislation¹⁷⁷ exposes lenders to a considerable degree to liability.

In the light of the environmental clause and section 39¹⁷⁸ of the Constitution, courts may interpret law with regard to foreign case law. Since the wording of 31 A ECA is similar to CERCLA and US courts have accepted environmental liability of banks in many cases under this Act¹⁷⁹, it could be argued that the ECA also establishes lender liability for clean-up costs.

Even though the ECA seems to introduce comprehensive liability for those who damage the environment, the usefulness of this section in practice is doubtful. Since the term environment is defined very broadly,¹⁸⁰ clear guidelines of what constitutes damage to the environment are missing. The wording implies that the provision does not act retroactively.¹⁸¹ Historical pollution

¹⁷⁴ section 31 A (4) ECA

¹⁷⁵ P Havenga supra note 120 at p 198

¹⁷⁶ O McIntyr 'European Community Proposals on Civil Liability for Environmental Damage - Issues and Implications' (1995) *Environmental Liability* 29 at p 36

¹⁷⁷ supra note 5

¹⁷⁸ Section 39 (1) of the Constitution provides that in interpreting the Bill of Rights a Court must, amongst other things, consider international law and may consider foreign case law. Section 39 (2) provides that in interpreting any legislation and where developing common law or customary law, very court must promote the spirit, purport and objects of the Bill of Rights.

¹⁷⁹ *United States v Fleet Factors* 15 Env'tl. L. Reep. (Env. L. Inst.) 20, 992 (E.D. Pa. September 4, 1985)

¹⁸⁰ R F Fuggle and M A Rabie *Environmental Management in South Africa* 1992 at p 118

¹⁸¹ common law presumption against retroactivity *Mahomed v Union Government* 911 AD 8

could therefore not be dealt with successfully under this provision. The section furthermore does not refer to more than one polluter; therefore it may be difficult to apportion restoration costs in the case of multiple wrongdoers.

b.) New Water Bill

The new Water Bill¹⁸² improves matters in respect of both the difficulties of proving fault and causation, and the responsibility for historical pollution in section 19 and 20. Other than § 22 WHG, those sections of the New Water Bill are, however, public law remedies. No rights with regard to water pollution damage for private persons are established.

aa.) Section 19 New Water Bill

Section 19 of the New Water Bill deals with the prevention of pollution. Different from § 22 WHG it doesn't differentiate between facility and non-facility liability. It obliges the owner of land, persons in control of land and persons who have a right to use the land in question to take all reasonable measures to prevent existing, continuing or imminent water pollution.¹⁸³

Failure to fulfil this duty may result in action by the authorities. They can in turn recover all costs from the responsible person, the owner, the person in control of the land or any person who negligently failed to prevent the cause from coming out.¹⁸⁴

Liability arises for all damage resulting from environmental pollution. It is attached *inter alia* to obvious criteria like ownership, control or the right to use the land. This wide definition would allow an interpretation which includes lenders in the circle of persons held responsible.

¹⁸² Bill 34 of 1998

¹⁸³ section 19 (1) Water Bill

¹⁸⁴ section 19 (5) Water Bill

Liability may be apportioned among the persons concerned, according to the degree to which each was at fault.¹⁸⁵ It could be difficult to determine the different degrees of fault of the people involved.

The wording in section 19 of the New Water Bill seems to imply that liability is retroactive.¹⁸⁶

bb.) Section 20 New Water Bill

Section 20 of the New Water Bill provides for liability in cases where a substance pollutes or has the potential to pollute, has or is likely to have a detrimental effect on a water resource as a result of any incident or accident.¹⁸⁷ According to the provision, the responsible person is obliged to clean-up, remedy and take all measures directed by the water management institution. Failure to do so can lead to action by the institution itself which can claim reimbursement of all reasonable costs incurred by it from every responsible person jointly and severally.

The wording is not clear on whether strict liability is imposed on those responsible by the regulation. The word 'cause' - as a clear indication of strict liability - has not been used. Instead, it is only referred to the word 'responsible', which could also mean negligence. The old Water Act¹⁸⁸ referred to persons who negligently caused the incident. The change of wording could imply that negligence should not be the basis of liability for emergency incidences. Furthermore, section 19 (5) of the New Water Bill distinguishes between those who are responsible and those who negligently failed to take preventive action. This implies that negligence is not a necessary precondition for responsibility. One could therefore argue that it was the intention of the legislator to introduce strict liability with section 20 of the New Water Bill for accidental water pollution which does not contain this differentiation between negligence and responsibility.

¹⁸⁵ section 19 (8) Water Bill

¹⁸⁶ section 19 (1) Water Bill "is or was performed"; section 19 (5)(a) "...is or was responsible for, or who directly or indirectly contributed to..."

¹⁸⁷ section 20 (1) Water Bill

¹⁸⁸ Act 54 of 1956

The proof of causation is alleviated by the inclusion of a wide circle of responsible persons and the provision that all responsible persons are held jointly and severally liable.¹⁸⁹ Section 20 includes those who are either directly or indirectly responsible.¹⁹⁰ Responsibility is also attached to the ownership or control of a substance involved in the incident. This wording would allow to interpret the section in a way that liability for water pollution is extended to lenders.¹⁹¹

All environmental damage caused by water pollution can therefore be recovered under section 19 and 20 of the New Water Bill comprehensively. The only limit posed on the costs that can be reimbursed is that they have to result from reasonable measures.¹⁹² The evaluation of this criteria will be dependent on the particular circumstances in each case. Measures that are considered to be reasonable are listed in section 19 (2) of the New Water Bill.

c.) Nuclear Energy

Liability for nuclear damage is regulated by the Nuclear Energy Act¹⁹³. The Act provides that the holder of certain nuclear licenses will be liable for any damage caused at a nuclear site or as a result of the conveyance of any nuclear-hazard material.¹⁹⁴ Fault is not expressly required for liability under the Act. It is therefore presumed that liability for nuclear damage as an ultra-hazardous activity is strict.¹⁹⁵

¹⁸⁹ section 20 (7) Water Bill

¹⁹⁰ section 20 (5) (a) Water Bill

¹⁹¹ section 20 (2) Water Bill

¹⁹² section 20 (7); section 19 (7) Water Bill

¹⁹³ Act 131 of 1993

¹⁹⁴ Section 61 (3)

¹⁹⁵ J Neethling, J M Potgieter and P J Visser supra note 122 at p 361 footnote 163

d.) Marine Pollution

The Prevention and Combating of Pollution of the Sea by Oil Act regulates liability for the pollution of the sea by oil.¹⁹⁶ Under the Act the owner of any ship, tanker or offshore installation will be liable for any loss or damage by pollution resulting from the discharge of oil within the Republic.¹⁹⁷ The scope of liability is comprehensive. The owner will be held liable for all costs which result from measures undertaken by the Minister for the purpose of reducing or preventing the damage caused or to be caused as a result of the discharge.¹⁹⁸ These costs may also comprise costs incurred by operations to rescue, convey, treat, feed, clean and rehabilitate coastal birds polluted by the discharge of the oil.¹⁹⁹

The Act does not explicitly establish non-fault liability for pollution of the sea by oil. Nevertheless it is submitted that fault is in fact clearly not a requirement for this high-risk activity since the Act fulfils the characteristic features of liability without fault.²⁰⁰ Hence, liability for pollution of the sea by oil can be considered a form of strict liability.²⁰¹

3) Conclusion

a.) Evaluation of the Existing Norms

So far South African environmental law has not put emphasis on liability for environmental damage.²⁰² No comprehensive rules on liability for environmental damage exist. Instead various

¹⁹⁶ Act 6 of 1981

¹⁹⁷ section 9 (1) (a)

¹⁹⁸ section 9 (1) (b) -(c)

¹⁹⁹ section 9 (2) (b) (ii)

²⁰⁰ J Neethling, J M Potgieter and P J Visser supra note 122 at p 343; P Q R Van der Walt supra note 125 at p 63

²⁰¹ P Havenga supra note 120 at p 201; the Act fulfils the 4 requirements of strict liability being

-an extraordinary increase in the risk of harm to the community is created

-acts of war and *vis major* are recognised as defences in the Act (section 9 (3) (a))

-amount of liability is limited (section 9 (5))

-apart from liability imposed by the Act, an owner or his or her servant cannot be held liable to any other person for damage caused by polluting the sea (section 10 (1) -(2))

²⁰² P Havenga supra note 120 at p 202

provisions can be found in South African law that have the potential to compensate victims of environmental damage. Those regulations mirror, however, one feature of South African environmental legislation. They are contained in common law and a wide variety of parliamentary acts. The requirements of liability therefore vary from one area to another.²⁰³

Consequently, no uniformity exists in the way victims can be compensated for environmental damage. The different spheres of nature are protected in differing manners.

Legislation provides for strict liability in some cases. Contrary to developments in other countries, strict liability remains, however, to be the exception to the rule. Even with regard to damage caused by high-risk activities there is no consistency as to whether fault is a requirement for damage. Since fault is required in most cases of pollution damage, claims often fail because the element of fault is difficult to establish for someone who does not have the insight in the complex structures of firms.

Another problem which potential plaintiffs have to face is the proof of causation. As has been already mentioned, without an alleviation of the burden of proof - mainly due to technical and scientific lack of knowledge - claimants face almost insurmountable obstacles when trying to prove causation in environmental damage claims. Clear principles are missing in South African law with regard to an alleviation of the burden of proof on the side of the plaintiff.

As is true for the German law, South African civil law does also not deal with the problem of environmental damage specifically. Under South African civil law the environment as such can only be protected if it is connected to a proprietary right. As in Germany, provisions that allow actions to be taken on behalf of the unowned environment do not exist. The question to what extent environmental damage that appears in the form of pure economic loss can be recovered, also has not been solved yet.

²⁰³ Liability for nuclear damage and water pollution by oil is strict; it is not quite clear whether strict liability exists in neighbour law; pollution damage does not underlie a strict liability scheme.

From the foregoing follows that the costs of preventive or remedial measures in respect of environmental degradation are often not recoverable under South African civil law.

Public law remedies exist²⁰⁴ or are discussed²⁰⁵ that go further and aim at the protection and restoration of the environment as such. Main questions that have to be dealt with in the context of environmental damage are however also not yet answered by the existing public law provisions.

Lack of uniformity in South African law with regard to compensation for environmental damage has also another dimension. The different principles existing with regard to the problem of environmental damage, make it difficult to assess the risk involved in any economic activity which may have effects on the environment. This may result in insecurity on the side of the investors who cannot calculate their risk but also on the side of the insurers since the availability of insurance is directly influenced by the probability that a certain type of liability may be incurred.²⁰⁶

This insecurity is even intensified by the fact that it is not clear if and how the courts will improve the situation for victims of environmental damage with regard to s 24, s 39 of the Constitution. These problems show that so far South African law on environmental liability is not sufficient. Instead, it is suggested that a comprehensive environmental liability law is introduced in South Africa to remedy the outlined deficiencies.

b.) Necessity for Legislative Intervention with a View to the South African Constitution and Environmental Policy

The need for legislative intervention can also be derived from the Constitution and the national principles on environmental policy.

²⁰⁴ Environmental Conservation Act, Minerals Act, Act 50 of 1991, New Water Bill

²⁰⁵ Based on the decision *Fose v Minister of Safety and Security* 1997 (3) SA 786 (CC), C Loots (*Damages in South African Environmental Law* conference paper prepared for the Environmental Law Conference on 'Environmental Justice and the Legal Process' April 1998 in Cape Town) discusses the possibility of claims for environmental damage with the device of a constitutional delict.

²⁰⁶ P Havenga supra note 120 at p 188

Section 24 (b) of the Constitution gives the legislative a clear obligation to protect the environment through reasonable legislative and other measures. The environmental clause hereby clearly stresses that the state must give effect to the environmental right by reasonable legislative intervention. It has been shown that one of the purposes for the introduction of civil liability schemes for compensation of environmental damage, is to prevent pollution from occurring and to provide for sufficient restoration of the damaged environment. It could therefore be argued that due to its deficiencies, the existing law cannot be considered as satisfactory means for the protection of the environment and that legislative action is required to improve this situation.²⁰⁷ Another argument in favour of the introduction of a comprehensive civil liability scheme is that it reflects a value judgement of society, whether damages as compensation for a certain type of damage can be claimed. The value the Constitution attaches to a sound environment can only appropriately be reflected in respective laws which grant compensation in the event of environmental degradation in a uniform way and do not differentiate between the different environmental media.²⁰⁸

The necessity for legislative intervention with regard to civil liability for environmental damage can also be derived from the national environmental policy as laid down in the CONNEPP²⁰⁹ Draft White Paper of June 1997.²¹⁰ The CONNEPP White Paper contains, among others, the 'polluter pays principle'. This principle must be used to 'apply, develop and test policy and subsequent actions including decision making, legislation, regulation and enforcement'.²¹¹ The Draft National Environmental Management Bill²¹² does not refer to the 'polluter pays principle' expressively but asserts the 'principle of sustainable development'. This principle has to be applied in a manner that

²⁰⁷ This argument is strengthened by Principle 13 of the Rio Declaration which orders states to develop national law regarding liability and compensation for the victims of pollution and other environmental damage.

²⁰⁸ J Neethling, J M Potgieter and P J Visser *supra* note 122 at p 3

²⁰⁹ Consultative National Environmental Policy Process; CONNEPP stands for a comprehensive process by which national environmental policy has developed in South Africa.

²¹⁰ White Paper on Environmental Management Policy for South Africa *Government Gazette* no. 18164 July 28 1997; this Paper resulted in the Draft National Environmental Management Bill *Government Gazette* no. 19031 July 1 1998

²¹¹ This principle has to be applied according to the White Paper in a way that 'those responsible for environmental damage must pay the repair costs both to the environment and human health, and the costs of preventive measures to reduce and prevent further pollution and environmental damage' (White Paper p. 24).

²¹² *supra* note 213

'where disturbance of ecological systems or degradation of the environment cannot be avoided, it has to be minimised or remedied'.²¹³

While it is not clear how these principles will be implemented into South African law,²¹⁴ it is apparent that existing provisions do not hold the polluter liable for environmental damage comprehensively and also fail to ensure comprehensive remedy for environmental damage. Therefore they seem to lag behind the required standard. Some legislative action seems to be required in order to ensure compliance with the adopted principles for environmental legislation.

c.) Conclusion

There exist several inconsistencies and gaps in South African law with regard to liability for pollution damage. In order to improve this situation and rule out any ambiguities, a single statutory instrument that codifies comprehensive rules for environmental impairment liability is needed. Further legislative intervention seems also to be required on the basis of the new Constitution and the new environmental policy.

IV.) Perspectives for South Africa

In order to develop a statutory system which deals effectively with the identified shortcomings, several points have to be taken into consideration.

Firstly, the content of such legislation must take the guidelines given by the Constitution and the environmental policy into account. Based on the different environmental principles, a comprehensive liability scheme for South Africa must ensure equal protection of all environmental media affected by pollution by making the polluter pay.

²¹³ section 2(2) (a) (i) (ii)

²¹⁴ P Havenga supra note 132 at p 93

Secondly, such legislation has to consider the specific situation of South Africa where first world environmental problems meet with third world problems. While economic growth is always a developing country's number one priority, existing industrial activity in South Africa already causes high levels of waste and pollution. This has an impact on air, land and water as is typical for an industrial country.²¹⁵ Pollution problems in South Africa as a third-world country are enhanced by the world-wide tendency of multinational companies to locate hazardous activities in less developed countries where environmental regulations are expected to be less stringent than in developed countries.²¹⁶ Environmental law and policy must develop strategies that take those two sides into account. Hence, environmental law implemented in industrialised countries like Germany cannot always serve as a model for South Africa.²¹⁷

While South Africa has to combat pollution problems with efficient environmental legislation, it also needs to attract foreign investment to ensure long-term economic growth and stability. To achieve these goals a law on environmental liability for South Africa has to be carefully designed, so that the recessing South African economy will be able to cope with further financial burdens. It has to lay down the basic principles that have the potential to protect the environment efficiently. In order to promote economic growth, these principles have to be distinct and standardised at the same time to make the risk for possible investors foreseeable.

1.) Strict Liability

The main question to be answered is whether a civil liability scheme for South Africa should be fault-based or whether it should introduce strict liability for hazardous activities as the German UmweltHG. While the traditional approach of civil liability is based on fault, strict liability

²¹⁵ Major environmental impacts are due to mining and agriculture, the main factors in South African economy; energy, mineral and petro-chemical industry also take a great share in air pollution since energy is mostly supplied by coal burning power stations; South Africa also suffers from ineffective waste management

²¹⁶ e.g. many foreign multinational companies have mined asbestos in South Africa and left behind a legacy of hazardous waste dumps.

²¹⁷ J Glazewski supra note 119 at p 178

schemes have been introduced increasingly on an international and national level during the last years for hazardous or ultra-hazardous activities.²¹⁸

The adoption of strict liability for hazardous and ultra-hazardous activities is a consequent application of the 'polluter pays principle'. An effective application of this principle requires that the polluter who draws economic benefits from a harmful activity should be the one in the first place to bear the consequences resulting from the creation of such risk.²¹⁹

It is also held that a system of strict liability could protect the environment better than a fault-based approach and would for that reason have more potential to promote the 'preventative principle'. Despite arguments to the contrary,²²⁰ it seems to be most likely that the risk of being held liable under a strict liability scheme will create an economic incentive to reduce pollution. It can be expected that the operator of an installation that is likely to cause environmental damage will take all necessary action to minimise the risk up to the point where the additional costs would be more than the prevented compensatory costs.²²¹ Efforts to minimise the financial burden would then in turn lead to a reduction of pollution itself. It seems therefore reasonable to assume that a strict liability scheme would be more efficient with regard to environmental protection than a fault-based system.

Since both, the 'polluter pays principle' and the 'preventative principle' are supported by the Constitution and CONNEPP, a civil liability law for South Africa should be based on strict liability for hazardous activities.

²¹⁸ apart from the UmweltHG in Germany e.g. the Finnish Environmental Damage Compensation Act of 1995; CERCLA legislation (supra note 5) in the US; Environmental Damage Act in Sweden of 1986 (Miljoeskodlag 1986:225); 1969 Convention on Civil Liability for Oil Pollution Damage, 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space Including the Moon and Other Celestial Bodies (Outer Space Treaty)

²¹⁹ In accordance with modern pollution control approaches it is also reasonable that the polluter pays for insurance and includes the price for the premiums as an operating cost in his economic activity and thereby internalises the costs.

²²⁰ A fault-based liability scheme describes clear duties of care towards third parties. Compliance with those rules exempts from the reproach of negligence. It is therefore held that fault liability creates an incentive to obey certain duties while strict liability on the other hand does not refer to any specific duties and could easily lead to a more resignative attitude.

²²¹ Those preventive activities can even include scientific research on the damaging results of the plant or alternative production methods.

The effects of any strict liability scheme depend on the precise scope of such a scheme, especially the availability of limitations and defences. Since all operators, insurers, lenders and potential purchasers of industry need to assess their risk precisely, any scheme of environmental civil liability must define clearly the scope as well as limitations or defences to liability. Only a well-defined strict liability regime can reduce legal uncertainty and confusion and in turn attract investment.²²²

a.) Scope

Since strict liability is justified with the creation of a high risk and the benefits the creator of those risk usually draws from the dangerous activity,²²³ the German Civil Liability Act confines strict liability to certain enumerated high-risk establishments. This focus on particular facilities does unfortunately not assure liability of all those who create a high-risk of causing environmental damage. Other possibilities to define the scope of an environmental liability act are by reference to the either polluting activity²²⁴ or the substances emitted.²²⁵ These approaches have the advantage that anomalies between two types of installations handling the same substance and engaging in the same activities can be avoided. The problem of diffuse sources can also be dealt with more effectively. It would therefore be advantageous to introduce a system in South Africa which refers to certain high-risk establishments and also allows for liability in case of clearly defined ultra-hazardous activities or substances.²²⁶

b.) Limitations and Defences

²²² The Working Party of the European Environmental Law Association (EELA Working Party): "Repairing Damage to the Environment" - A Community System of Environmental Liability" A Submission of the European Communities p. 26 See (1994) *Environmental Liability* 1 at p 11

²²³ J Neeethling, J M Potgieter and P J Visser supra note 122 at p 342

²²⁴ e.g. the Spanish Draft Act on Civil Liability for Environmental Damage of December 16 1996 (see J M-G Barrenetxea "The Spanish Draft Act on Liability for Environmental Damage" *Environmental Liability* (1997) 115

²²⁵ This approach was taken e.g. in the EEC Green Paper supra note 5

²²⁶ This approach would also be in line with the ECA which also refers to high-risk activities in order to impose a stricter regime of control (e.g. section 21 and 22 ECA)

The UmweltHG introduces strict liability for all those who create special danger to any of the environmental media. They are held liable even if there is no fault on their side, if according to the state of art the emitted substances are not harmful, and if the operation is licensed and damage is caused during normal conduct. It only allows the *force majeure* defence.²²⁷

The exclusion of most of the possible defences has severe negative consequences on industry. Therefore it has often been debated whether this burden on industry should not be alleviated by allowing for more defences within the strict liability scheme. As shown above, the German solution can be justified with the idea underlying a strict liability scheme which is based on risk creation rather than illegality.

The 'precautionary principle' which is supported in South African environmental policy also implies that the state of art defence has to be applied with caution.²²⁸ On the other hand, there is a trend in new South African environmental legislation to distinguish between responsibility for damage caused during normal conduct and responsibility as a result of an emergency incident.²²⁹ Since environmental degradation is usually not caused by single disastrous accidents but by pollution caused in the course of legal and undisturbed operation, a law on civil liability for South Africa should find a solution to the problem of pollution damage caused during normal conduct.

Since permissibility of certain defences lifts part of the burden put on enterprises by a strict liability scheme for environmental damage, it could be argued that a liability scheme introduced within the recessing economy of South Africa should be more lenient than a system for Germany. It should introduce a wider variety of defences which grant privileges for normal and authorised conduct or allow the state of art defence.

²²⁷ § 4 UmweltHG

²²⁸ Section 2 (2) (a) (vii) of the Draft National Environmental Management Bill (supra note 212) provides that a 'risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions'

²²⁹ see e.g. section 35 and 36 Draft National Environmental Management Bill (supra note 212), section 19 and 20 New Water Bill

If South Africa would introduce a wide variety of defences and privileges within environmental impairment liability, solutions have to be found to the question of who should pay for the arising costs caused by pollution damage in those cases when the polluter can raise a defence.

Where licensed conduct has been accepted as a defence, the licensing public authority could be held responsible since this would be the authority which had failed to assess correctly the effects of the activities or discharges to which it had given consent. One advantage of this solution is that it would render the public authority directly accountable to the public for its decisions in the area of pollution, and would give public authorities an incentive to make cautious decisions when drafting and granting licences. This approach would be in line with the 'precautionary principle'. Passing on the restoration cost to the state - which in effect shifts the costs of restoration to the taxpayer - seems, however, to run contrary to the 'polluter pays principle'. The inclusion of public authorities in the liability schemes has also the remarkable disadvantage that possible liability might deter authorities from pursuing actions.

A joint compensation mechanism may provide a solution to the problem.²³⁰ These mechanisms will be discussed below.²³¹ This solution would have the advantage that it would place a duty on both the licensing authority and the private sector to act responsibly.

In order to grant remedy for environmental impairment and secure environmental justice, it would therefore be favourable to couple defences which may be introduced in a South African civil liability system with redress from a joint compensation fund.²³²

²³⁰ this solution is favoured by the EEC Green paper supra note 5

²³¹ see IV.) 6.)

²³² The Lugano Convention (supra note 5) provides in Article 12 that all operators conducting a dangerous activity shall be required to participate in a financial security scheme or to have and maintain a financial guarantee up to a certain limit.

c.) Persons to be Held Liable

When liability is strict, it is essential to define very precisely the persons who will be held liable for the environmental damage. According to the German UmweltHG, this is the person who is in control of the activity.

One issue of central importance which is often debated but has not been dealt with by the UmweltHG is, whether lending institutions should be held liable under a civil liability mechanism.²³³ As shown above, the question of lender liability is also discussed in South Africa. Lender liability may be justified in cases where banks are secured by property and are in the position to control the enterprise or influence the management of a facility.²³⁴ Liability for those who provide financial resources for investments and innovation, may however, have severe consequences for industry. If credit institutions can be held liable for environmental damage some economic sectors may have problems to borrow money.²³⁵ For these reasons lender liability was not favoured in Germany and is probably also not advisable as a general principle for South Africa. Since existing provisions in South Africa are not clear on the issue of lender liability,²³⁶ it is nevertheless important that a civil liability scheme for environmental damage in South Africa addresses the issue and clarifies the situation.

2.) Causation

Within the forgoing survey it has been shown that one of the biggest problems that plaintiffs face with civil liability claims for environmental damage in South Africa is the proof of causation between the damage and a damaging activity. Introducing a presumption of causation by way of statute - as was done in the UmweltHG - is one way of dealing with these problems. The proof of

²³³ P L Tester G M Whitehead 'The EEC Directive on Civil Liability for Damages Caused by Waste: Lessons from the "Superfund" Law' *European Environmental Law Review* June 1992 p 29

²³⁴ see *United States v Fleet Factors Corp.*, 31 E.R.C. 1465 (11th Cir. 1990)

²³⁵ O McIntyr supra note 176 at p 36

²³⁶ s 19 and 20 New Water Bill, section 31A ECA

causation here is facilitated by a provision that causation will be presumed upon *prima facie* proof that the facility is 'inherently suited' to cause the damage in question. The presumption is excluded if the defendant can show that his facility was properly operated.

If one follows the assumption that not illegality but risk creation is the basis for environmental impairment liability, it is rather uncertain whether it is justified to privilege legal operation.

On the other hand, such a privilege creates an incentive for industry to obey environmental legislation and makes liability more predictable for investors.

If South Africa were to follow the German example, it would be necessary to find a solution to the problem of who should bear the costs of environmental damage in cases where the polluter is privileged. For the reasons already discussed above with regard to possible limitations, the best solution would again be to accompany such a privilege by a joint compensation fund.

One major shortcoming of South African as well as German law is that neither deals with environmental damage caused over a long period of time by different indeterminable sources.²³⁷ Neither the solution of granting no compensation at all,²³⁸ nor the solution to let the state pay, seem to be very attractive since this stands in contradiction to the 'polluter pays principle'. The present most popular solution to this problem is probably here as well to make use of the idea of a joint compensation mechanism.²³⁹ If such a solution is favoured, one must decide where the line should be drawn between non-compensable damage - which has to be considered as the general risk of life - and compensable damage which exceeds this level of impairment. Furthermore economic difficulties must be taken into account.²⁴⁰

3.) Compensable Damage

²³⁷ for example damage to forests ('Waldschaeden')

²³⁸ Under the US CERCLA (supra note 5) which was amended by the 1986 Superfund Amendments and Reauthorisation Act this damage is not recoverable.

²³⁹ R H Ganten supra note 84 at p 85

²⁴⁰ In Germany compensation for damage to forests alone exceeded 1000 million German Mark in 1988 (R H Ganten supra note 84 at p 86)

a.) Compensation for Ecological Damage

As outlined above, the concentration on individual rights under South African civil liability law leaves pure ecological harm outside the scope of liability. The polluter is absolved of responsibility under civil law in most cases where he damages environmental resources not owned or not capable of ownership.

Despite several drafts which supported the idea of introducing some mechanism to compensate for pure ecological damage in Germany,²⁴¹ the UmweltHG also preserved the concept of traditional civil law. Accordingly, a claim for damages will only follow the violation of an individual right. As a result, protection of the environment via civil liability in Germany as well as in South Africa only takes place indirectly by preventing or remedying damage to property with ecological dimensions.

The German legislator decided to limit civil liability law in this manner mainly for two reasons which have already been mentioned.²⁴² On the one hand it was held that the protection of common goods should remain within the public law sphere. On the other hand it was seen as too difficult to limit liability for environmental damage as long as no scientifically founded definitions for the term 'environmental damage' would exist.²⁴³

A separation of liability under civil law for damage to individual rights and liability under public law provisions for damage done to common goods does, however, lead to the unfavourable situation that liability for environmental impairment damage varies, depending on the specific damage.

As long as public law provisions do not ensure that polluters can be held liable for any damage to the environment in a uniform way, this approach may even leave significant gaps in the protection of the environment. Such a fragmentary solution which does not hold the polluter liable for all

²⁴¹ G Hager E Rehbinder in Landmann/Rohmer supra note 73 at § 16 Rn 2

²⁴² see II.) 2.) c.) aa.) (2)

²⁴³ G Hager E Rehbinder in Landmann/Rohmer supra note 73 at § 16 Rn 2, E Deutsch supra note 78 at p 1097

damage to the environment in the same way, does therefore not comply with a modern understanding of environmental protection which regards the environment as a value *per se*. A consequent implementation of the 'polluter pays principle' in all areas of law seems to imply that liability for environmental damage must arise independently of individual rights within a civil liability scheme.

It is therefore advisable, that a South African liability scheme deviates from the traditional civil law approach and is designed to protect not only individual rights but also the common interest in a healthy environment. Different civil liability concepts which may serve as models have been drafted and adopted to represent and protect this common interest.²⁴⁴

If the environment as such is included in the catalogue of protected rights, a definition for the term 'environmental damage' has to be found. Furthermore the question of which parties might have the right to sue, has to be resolved.

aa.) Definition of Environmental Damage

The definition of environmental damage is of fundamental importance in any liability scheme. It determines the type and degree of environmental impact for which liability arises. The costs which are recoverable depend mainly on this definition.²⁴⁵ A satisfactory, scientifically founded definition of the term environmental damage is difficult to find, since all human activity generates environmental damage in some respect. While a narrow concept might result in an ineffective system, a definition which is too wide leads to unpredictable liability and may put an excessive onus on industry.²⁴⁶ The definition of the term 'environment' given by the ECA would, for example, be too broad and can therefore not serve as a model for a liability scheme.²⁴⁷

²⁴⁴ The Lugano Convention (*supra* note 5), for example, defines damage as being not only loss of life, personal injury and loss of or damage to property but also as loss or damage by impairment of the environment itself.

²⁴⁵ S Thomas 'Damage to the Environment' (1994) *Environmental Liability* at p 65

²⁴⁶ S Thomas *supra* note 245 at p 65

²⁴⁷ The ECA defines the environment as 'the aggregate of surrounding objects, conditions and influences that influence the life and habits of man or any other organism or collection of organisms'.

The degree of impact could be used as an indication when a modification of the environment can be considered environmental damage.²⁴⁸ This definition leaves the question open when the environment has significantly been affected. One solution to this problem suggested by the EEC Green Paper²⁴⁹ would be to set quality requirements for various aspects of the environment as a starting point.²⁵⁰

bb.) *Locus Standi*

In principle, only a party with a legal interest in recovering compensation is entitled to bring an action in civil law cases. Under German and South African civil law, public authorities and environmental associations do not have any right to take action on behalf of the unowned environment.

Drafts and acts which promote compensation in case for purely ecological damage often give public authorities the right to claim damages.²⁵¹ Public authorities may however lack the political will to undertake any action whenever short term economic interests prevail over long term ecological concerns. An alternative would be to allow private action in the public interest to claim environmental damage. This approach would be in line with the international trend towards attributing certain forms of legal standing to interest groups and organisations for environmental purpose.²⁵² This trend can also be observed in South Africa.²⁵³ In order to delimit possible

²⁴⁸ The proposed EEC Directive on Civil Liability for Damage Caused by Waste (COM (89) 282 Final, (1989) O.J. C 251 / 1, COM (91) 219, (1991) O.J. C 192 / 6) uses this approach and deems any impairment of the environment as damage which is sufficiently significant and defines damage as a 'significant physical, chemical or biological deterioration of the environment'.

see also J M Barrenetxea *supra* note 224 at p 119

²⁴⁹ *supra* note 5

²⁵⁰ One possible criticism of this approach is, that it focuses on actual damage. It does fail to take the creation of risk into consideration. Many environmental problems are, however, concerned with unbearable levels of risk rather than actual harm. The mere presence of a substance at a certain concentration can be regarded as undesirable and as constituting harm to the environment. Therefore it may be logical to take a precautionary approach and define damage in a civil liability regime for South Africa in such a way as to include an unacceptable level of risk of damage.

²⁵¹ Under Italian law a claim for restitution of significant impairment of the environment can be asserted by state authorities or municipalities; environmental organisations have a right to initiate such proceedings. The Spanish Draft Act on Liability for Environmental Damage gives public authorities and certain environmental associations the right to claim compensation for restoration costs in case of harmed natural resources.

²⁵² Principle 10 of the Rio Declaration states that effective access to judicial proceedings, including redress and remedy, should be provided; see also p Bierboom & L De Vries 'Collective Action and Environmental Interests: The Situation in the Netherlands' (1994) *Environmental Liability* 11

claimants and combat the problem of an uncontrollable number of claims, the entitlement of interest groups or environmental organisations to defend ecological rights must depend on certain limiting criteria.²⁵⁴

b.) Pure Economic Loss

The issue of compensation for ecological damage is closely related to the question of whether and to what extent pure economical loss disconnected with personal injury or property damage, can be compensated for.²⁵⁵ Even though South African civil law does grant remedy for pure economical loss, clear guidelines with regard to ecological damage are missing and should be introduced within a new act on environmental impairment liability. In order to limit the very large and vague group of people affected negatively by environmental damage, the right to claim damage could for example, only be permitted for those who make commercial use of the infringed public right.²⁵⁶ Claims for pure economic loss could also be limited by raising the standards for the proof of causation for all possible claimants. Since it is difficult for most people who suffer in some remote sense financially from ecological damage to establish causation, such a provision would minimise the risk of creating an *actio popularis*.

²⁵³ *Locus standi* of environmental interest groups is increasingly acknowledged in South Africa. (see e.g. section 7 (4) (b), section 29 of the Constitution; section 31 and 33 of the Draft National Environmental Management Bill *Government Gazette* no. 19031 July 1 1998; *Wildlife Society of Southern Africa v Minister of Environmental Affairs and Tourism of the Republic of South Africa and Others* 1996 (3) SA 1095 Tk; *Van Huysteen and Others NNO v Minister of Environmental Affairs and Tourism and Others* 1996 (1) SA 283 (C); B van Niekerk 'The Ecological Norm in Law or the Jurisprudence of the Fight against Pollution' 92 (1975) *SALJ* 78)

²⁵⁴ Possible restrictions are to connect such a right to the presupposition that the statutory object of the organisation must be the protection of the environment or that a claim can only be brought if interests of the particular organisation have been affected adversely by the causation of specific damage.

²⁵⁵ e.g. when sea pollution leads to a diminution in earnings for fishermen or air pollution affects the area near a seaside resort and tourism declines.

²⁵⁶ This solution can be found, for example, in the US (see *Burges v M/V Tamano*, 370 F. Supp. 247 (1973)) In Canada and Norway persons who rely economically on public resources are entitled to recover losses when these resources are damaged.

4.) Extent of Liability

The question of how an adequate remedy for environmental damage can be achieved, is highly controversial since environmental damage can appear in different forms. A civil liability scheme must decide on what kind of damage can be claimed.

The survey on South African and German law showed that clean-up costs can usually be recovered as long as restitution in kind is possible, sufficient and not out of proportion considering the value gained. As has been discussed, restitution for environmental damage may very often be impossible, insufficient or out of proportion. Monetary compensation - which would be the alternative to restitution in kind in those cases - can not be granted until the difficult question of what value should be attached to natural resources has been solved. In order to tackle the problem of evaluating damage to natural resources various economic methods have been developed for damage assessment.²⁵⁷ This complex issue cannot be discussed here.

From an ecological point of view, restoration of the environment is preferable to monetary compensation. Therefore a modern civil liability scheme should introduce more flexible solutions with regard to restoration of environmental damage.

In the case of property damage the newly introduced § 16 UmweltHG may help owners of property to restore their land in cases where restoration of the natural resource would be out of proportion compared to the market value of the land itself. This norm could be used as a starting point to develop a solution in South Africa. The German Act does, however, not deal with the situation in which restoration is impossible or insufficient. While § 16 UmweltHG can be considered as a first step in the right direction, a new act for South Africa should also address these shortcomings.²⁵⁸

²⁵⁷ Under the US CERCLA legislation methodologies to quantify natural resource damage have been developed which incorporate a cost/benefit analysis to place monetary value on natural resource damage. The value of natural resources is measured using defined "use" and non-use" values and "use restoration costs". This concept could be used as a starting point. An evaluation of natural resource damages that includes non-use values is however certain to result in extensive amounts of damage and will most likely put a high burden on industry.

²⁵⁸ In case restoration is not possible, substitute restoration in certain specified cases could be allowed (this solution was introduced for example in § 8 German Federal Nature Act (Bundesnaturschutzgesetz: BNatSchG)). If restoration is not sufficient, partly restoration could be accepted as a solution. Furthermore, an equal state to the one

5.) Multiple Wrongdoers

A major shortcoming of South African law as well as the UmweltHG is that the problem of multiple wrongdoers has not been dealt with. The general principles which apply do not give a very clear solution which takes regard of the special problems posed by multiple wrongdoers who cause environmental damage. This is particularly true for the apportionment of liability in cases where several polluters have caused the damage in an additive manner while none of them could have caused the damage alone.

If several polluters have contributed to the damage, there is a need for clarity as to how liability will be apportioned, since the choice of approach which is eventually taken, may influence investment decisions and have significant impact on the cost and availability of environmental insurance for industry. The choice of system will be crucial when estimating the financial implications of a civil liability scheme for the various economic sectors. Apportionment could be achieved either by means of joint liability, joint and several liability or by use of a joint compensation mechanism.²⁵⁹

A joint liability system seeks to recover compensation from each liable party for the amount attributable to the party. It presupposes that it is technically possible to calculate the portion of damage caused by each party.

Joint and several liability is most favourable for the victim. Since each possible polluter is then liable for the entire amount of damage it is not necessary for the plaintiff to undertake the complicated task of determining who was responsible for what. This rule allows a quick recovery for the victims of pollution. Moreover, the victim does not have to deal with the problem of insolvency. A system of joint and several liability prejudices, however, those parties with the

that existed before the damaging act took place, rather than a identical state, could be considered sufficient restoration in case of natural resource damage.

²⁵⁹ O McIntyr supra note 176 at p 36

greatest available resources. They can usually only obtain contribution from other parties through long and complex litigation.²⁶⁰ This may have severe financial implications for industry.

Since polluters have a justified interest not to be held liable for damage that goes far beyond the risk that has been created by them, a system of joint and several liability could only be accepted if it would be accompanied by modifications.

Several systems that introduced joint and several liability provide that the polluter can escape liability if he can prove that only a certain portion of the damage is attributable to him.²⁶¹

This solution is still rather burdensome for the polluter. In most cases it will not be feasible to apportion the damage between the parties. The polluter is then held liable in an unforeseeable way for contributions of polluters which may even be unknown to him.²⁶² Such a far-reaching liability which is no longer calculable creates a risk that cannot even be insured and is therefore not favourable.

Other proposals try to alleviate these problems.²⁶³ The best balance of interest would probably be achieved if joint and several liability arose for those contributions only which have been so dangerous that they could have caused the whole damage alone.²⁶⁴

In all other cases joint compensation mechanisms which affect all polluters equally, seem to be more favourable.

6.) Joint Compensation Mechanisms

²⁶⁰ O McIntyr supra note 176 at p 36

²⁶¹ this solution is favoured for example by CERCLA (supra note 5); the Lugano Convention provides for joint and several liability of successive operators if the incident consists of a continuous occurrence or a series of occurrences having the same origin. In either case any operator who can prove that only part of the damage can be attributed to occurrences during his period of control, will be liable for that part alone; the Swedish Environmental Damage Act favours the same approach; see G Hager supra note 83 at p 140 fn 69 for further reading.

²⁶² G Hager supra note 83 at p 140

²⁶³ The Council of Europe Green Paper identifies a limited number of incidents where joint and several liability should apply. Responsibility is allocated in advance by designating the order in which potentially liable parties should be sued.

²⁶⁴ G Hager supra note 83 at p 140

Joint compensation mechanisms which have often been referred to above, are schemes whereby all members of a particular economic sector are compelled to make contributions to a fund which is to be used to restore environmental damage of a kind closely associated with the activities of that sector.²⁶⁵ The advantage of these mechanisms is that they can grant compensation in all problematic cases, without abandoning the 'polluter pays principle', since they do not shift the burden on the taxpayer or the victim. These systems should not replace civil liability for environmental damage but accompany such a system and operate in situations where it becomes difficult to establish civil liability. Examples of the use of such mechanisms can be found on the international as well as national level.²⁶⁶

Despite the advantages of these mechanisms, they may reduce the incentive to prevent damage from occurring.²⁶⁷ This difficulty can be circumvented by designing a system of differentiated charges based on the probable impact of a particular enterprise on the environment.²⁶⁸ If the likelihood of causing damage is linked to the amount payable to the fund, an incentive for effective risk-management is created and the 'prevention principle' can be preserved.²⁶⁹

7.) Compulsory Insurance

In order to ensure actual payment of claims up to the coverage standards set by legislation, South Africa should follow the German example and introduce compulsory insurance. Besides granting full payment of possible claims, compulsory insurance can also serve as an incentive to prevent

²⁶⁵ O McIntyre supra note 176 at p 37

²⁶⁶ On the international level: e.g. International Convention on the Establishment of an International Fund for Compensation of Oil Pollution Damage (1971); Tanker Owners' Voluntary Agreement Concerning Liability for Oil Pollution (TOVALOP) (1969); Contract Regarding Interim Supplement to Tanker Liability for Oil Pollution (CRISTAL) (1971); on the national level: e.g. the "Superfund" created under the United State CERCLA legislation (supra note 5). It is funded by taxes on crude oil and chemical feedstocks and by environmental tax levied on United States corporations. It is used as a last resort where liable parties cannot be identified. The scheme introduced in Sweden (under the Environmental Damage Act of 1986) sets a very good starting point for administration and collection of funds in providing that all enterprises requiring an environmental permit must contribute.

²⁶⁷ O McIntyre supra note 176 at p 38

²⁶⁸ European Commission Green Paper supra note 5 at p. 49

²⁶⁹ O McIntyre supra note 176 at p 38

pollution, especially when insurability is coupled with the obligation that installations comply with safety and pollution prevention standards.

8.) Conclusion

It follows, that in order to ensure both economic growth and environmental protection South Africa should introduce a strict liability scheme for environmental damage which is combined with a presumption of causation. In order to compensate for environmental damage comprehensively, such a system should comprise not only remedy for damage caused to individual goods, but also include remedy for damage to common goods combined with the right to *locus standi* for public authorities and also for environmental groups. Accompanied with joint compensation mechanisms and mandatory insurance, such a scheme could be used as an effective tool to restore the environment and prevent further degradation without impeding economic growth.

V.) Conclusion

Civil liability schemes have been introduced in many countries during the last years in order to overcome the problems civil law combined with some special environmental statutes faces in compensating for environmental damage. These schemes can improve the situation for victims of environmental damage decisively. Consequently, in the long run, they can promote better environmental protection. These goals have been achieved partly in Germany with the enactment of the UmweltHG. Several problems which are encountered when dealing with environmental damage have been addressed. While the situation of victims of pollution damage was improved, the new act nevertheless just modifies traditional law of delict and does not in each respect set out to provide solutions to the problem of indemnification for pollution damage.

The provisions of the UmweltHG can however be taken as a starting point for the development of a new Act on civil liability for environmental damage in South Africa which has not enacted any

special legislation on civil liability for environmental damage yet. Such an act which seems to be necessary in the light of the Constitution and environmental policy of the country, should go further than German legislation. It should not only alter existing mechanisms but also use examples posed by other countries and introduce a more flexible and modern law which reflects the value the Constitution puts on an extensive protection of the environment.

BIBLIOGRAPHIE

A van Aswegen 'The Implications of the Bill of Rights for the Law of Contract and Delict' 11 (1995) *South African Journal on Human Rights* 50

J M-G Barrenetxea 'The Spanish Draft Act on Liability for Environmental Damage' *Environmental Liability* (1997) 115

P Bassenge in Palandt *Buergerliches Gesetzbuch* 54ed (1995)

P Bierbooms & L de Vries 'Collective Action and Environmental Interests: The Situation in the Netherlands' (1994) *Environmental Liability* 111

P W Birnie A E Boyle *International Law and the Environment* 1992

P Q R Boberg *The Law of Delict Aquilian Liability* Vol I (1989)

F du Bois *Towards Corrective Environmental Justice: The Need for Statutory Environmental Liability Rules* conference paper prepared for the Environmental Law Conference on 'Environmental Justice and the Legal Progress', April 1998 in Cape Town

R Breuer 'Umweltschutzrecht' in E Schmidt-Assmann *Besonderes Verwaltungsrecht* 10ed (1995)

E Deutsch 'Umwelthaftung: Theorie und Grundsätze' *JZ* 1991 1097

S Erichson *Der Oekologische Schaden im Internationalen Umweltrecht: Voelkerrecht und Rechtsvergleichung*, 1993

L A Feris *Asbestos Mining and Asbestos Related Diseases - Whose Responsibility?* conference paper prepared for the Environmental Law Conference on 'Environmental Justice and the Legal Process', April 1998 in Cape Town

R F Fuggle M A Rabie *Environmental Management in South Africa* 1992

R H Ganten 'Law on Liability for Environmental Damage - A Model for Europe?' *EPL* 1988 83

R H Ganten/ M Lemke 'Haftungsprobleme im Umweltbereich' *UPR* 1989 1

J Glazewski 'Environmental rights and the new South African Constitution' Chapter 9 in *Human Rights Approaches to Environmental Protection* Boyle and Anderson (eds) 1996

G Hager 'Umwelthaftungsgesetz: The New German Environmental Liability Law' *Environmental Liability* (1993) 41

G Hager 'Das neue Umwelthaftungsgesetz' *NJW* 1991 134

- G Hager/E Reh binder in Landmann/Rohmer *Umweltrecht* Bd II (1994)
- P Havenga 'A Few Steps Closer Toward Establishing the 'Polluter Pays' Principle' 9 (1997) *SA MercLJ* 89
- P Havenga 'Liability for Environmental Damage' 7 (1995) *SAMerchLJ* 187
- H Heinrichs in Palandt *Buergerliches Gesetzbuch* 54ed (1995)
- W Hoppe M Beckmann *Umweltrecht* (1988)
- J Koendgen 'Ueberlegungen zur Fortbildung des Umwelthaftungsrechts' *UPR* 1983 345
- H Koetz *Deliktsrecht* 4 ed (1988)
- K Ladeur 'Schadenersatzansprueche des Bundes fuer die durch den Sandoz-Unfall entstandenen "Oekologischen Schaeden"'? *NJW* 1987 1236
- C Loots *Damages in South African Environmental Law* Conference paper prepared for the Environmental Law Conference on 'Environmental Justice and the Legal Process', April 1998 in Cape Town
- O McIntyre 'European Community Proposals on Civil Liability for Environmental Damage - Issues and Implications' (1995) *Env. Liability* 29
- D Medicus 'Umweltschutz als Aufgabe des Zivilrechts - aus zivilrechtlicher Sicht' *NuR* 1990 145
- H-J Mertens in *Muenchner Kommentar zum Buergerliches Gesetzbuch Schuldrecht Besonderer Teil* Band 3 2nd edition (1986)
- J Neethling, J M Potgieter & P J Visser *Law of Delict* 2 ed (1994)
- B van Niekerk 'The Ecological Norm in Law or the Jurisprudence of the Fight Against Pollution' 92 (1975) *SALJ*
- H Schulte 'Zivilrechtsdogmatische Probleme im Hinblick auf den Ersatz "oekologischer Schaeden"' *JZ* 1988 278
- E S Steffen 'Verschuldenshaftung und Gefaehrdungshaftung fuer Umweltschaeden' *NJW* 1990 1817
- P L Tester G M Whitehead 'The EEC Directive on Civil Liability for Damage Caused by Waste: Lessons from the "Superfund" Law' *European Environmental Law Review* 1992 29
- H Thomas in Palandt *Buergerliches Gesetzbuch* 54ed (1995)

S Thomas 'Damage to the Environment' *Environmental Liability* (1994) 65

A J van der Walt *Delict: Principles and Cases* (1979)

P J Visser, J M Potgieter *The Law of Damages* 1993

TABLE OF CASES:

South African Cases:

- Adminstrateur, Natal v Trustbank van Afrika Bpk* 1979 3 SA 824 (A)
Bloemfontein Town Council v Richter 1938 AD 195
Botes v Potchefstroom Municipality & Another 1941 TPD 149
Cape Town Council v Benning 1917 AD 315
Coronation Brick (Pty) Ltd v Strachan Construction Co (Pty) Ltd 1982 4 SA 371 (D)
Cosmos (Pvt) Ltd v Phillipson 1968 3 SA 121 (R)
Diepsloot Residents' and Landowners Association v Administrator Transvaal 1993 (1) SA 577 T & 1993 (3) SA 43 T
East London Western District Farmers' Association and Others v Minister of Education and Development Aid and Others 1989 (2) SA 63 (A)
Flax v Murphy 1991 4 SA 58 (W)
Fose v Minister of Safety and Security 1997 (3) SA 786
Ministeer of Police v Skosana 1977 1 SA 31 (A)
Minister van Polisie v Ewels 1975 (3) SA 590
Moller v South African Railways and Harbours 1969 (3) SA 374 (N) at 378 H - 379 A
Mutual and Federal Insurance Company Ltd. v Swanepoel 1988 2 SA 1 (A)
Parker v Reed (1904) 21 SC 496
Pretoria City Council v De Jager 1997 (2) SA 46 (A)
Simon's Town Municipality v Dews 1993 (1) SA 191 (A)
S v Mokgethi 1990 1 SA 32 (A)
Tuck v Commissioner for Inland Revenue 1988 3 SA 819 (A)
Union Government (Minister of Railways) v Sykes 1913 AD 156 at 161
Union Government (Minister of Railways and Harbours) v Warneke 1911 AD 657
Van der Merwe v Carnevon Municipality 1948 3 SA 613 (C)
Van Huysteen and Others NNO v Minister of Environmental Affairs and Tourism and Others 1996 (1) SA 283 (C)
Van Schalkwyk v Van der Wath 1963 3 SA 636 (A)
Wildlife Society of Southern Africa v Minister of Environmental Affairs and Tourism 1996 (3) SA 1095 Tk

British Cases:

Cambridge Water Co. v Eastern Leather Plc H.L. (E.) (1994) 2 W.L.R. 53

US Cases:

Burges v M/V Tamano, 370 F. Supp. 247 (1973)

Commonwealth of Puerto Rico v The S.S. Zoe Colotroni 628 F.2d 652 (1st Cir. 1980)

United States v Fleet Factors Corp., 31 E.R.C. 1465 (11th Cir. 1990)

German Cases:

Smelting Oven Case (Kupolofenfall) BGHZ 92, 143, 146 f (1985) = JZ 1984, 1106

Cable Case (Kabelfall) BGHZ 41, 123 = BGH NJW 1964, 720