Course	:	PBL612S Environmental Law
Name	:	Sean de Bruin
Student Number	:	DBRSEA001
Supervisor	:	Francois Du Bois
Date	:	29 November 1996

68

TITLE:

AN ANALYSIS OF FOREIGN STATUTES DEALING WITH ENVIRONMENTAL LIABILITY WITH A VIEW TO THE DRAWING UP AND PROMULGATING OF AN ENVIRONMENTAL LIABILITY STATUTE IN SOUTH AFRICA TO DEAL WITH THE LEGAL PROBLEMS OF CIVIL LIABILITY FOR ENVIRONMENTAL DAMAGE

CONTENTS

INTRODUCTION

This essay concerns civil liability for environmental damage and has as its focus, the drawing up of an Environmental Liability statute for South Africa. The approach taken in the essay is largely a comparative one, with topics being approached first from a general perspective and then with reference to various foreign statutes and the approach taken therein to the issues being discussed. The essay begins by analysing the problems with relying on the common law, as it is in South Africa, as a basis for civil liability. This will focus largely on the necessary common law requirements of Fault and Causation, and the particular problems encountered when applied to the area of environmental harm or damage claims. This section will also contain a brief explanation of why it is believed that a statutory form of liability should be introduced as opposed to, for example, allowing the situation to be self-regulated by contractual warranties and/or indemnities. The essay then considers what the objectives of such a statute should be. The focus here is on whether the goals of Remediation and Prevention are both attainable within the framework of a single statute and, if so, to what degree. The next section seeks to analyse exactly what the basis of liability for environmental harm or damage should be and how it should be structured in order to overcome the specific problems created by common law liability requirements. The focus here will be on which variant of the regimes broadly referred to as strict liability should be adapted for a prospective South African statute. The essay will examine whether liability should be defined in terms of general principles or rather by reference to certain specific criteria and also what approaches can be discerned to the problem which Causation presents for the potential plaintiff in an environmental liability suit. In both cases the essay will examine the option(s) adapted in various jurisdictions and the success and/or problems encountered. This section will also cover the possibility of an Information Right for prospective plaintiffs and the desirability and legality of instituting a reverse onus on the defendant in an environmental liability suit. The scope of such a statute forms the content of the following section. The discussion here revolves around how damage to the environmental should be defined. The

essay will examine the importance of defining what constitutes damage and will examine a range of options as have been adopted in foreign statutes, analysing their respective strengths and weaknesses. The essay then moves on to discuss what Defences should be available to a defendant charged with liability under the statute. Again, a range of defences shall be examined and the appropriateness and implications of each discussed. The question of who should be able to recover damages as against the various types of harm covered by the statute forms the basis of the next section. This section will focus on the issue of whom, if anyone, should be able to recover for ecological damage, especially with regard to what can be termed, the "unowned environment". Various options will be discussed and their suitability evaluated. The penultimate section of the essay deals with which parties should be held liable under a prospective statute, for harm or damage as covered by such an act. The question of multiple wrongdoers and how to deal with such a situation will be discussed. A comparative study will again be employed, analysing varying approaches taken in foreign jurisdictions. This section will also cover the issue of Lender Liability. The question of how to ensure that defendant's held liable will be able to pay, will also be discussed. The final section of the essay will involve a discussion of certain aspects of Remedial Liability. These will be the Definition of remediation, various Approaches to Remediation, how to ensure compliance with remediation orders and finally, a suggested procedure for remediation. This section will be followed by general conclusions drawn from analyses performed in the body of the essay.

PROBLEMS WITH A COMMON LAW BASIS TO LIABILITY

It can be seen that civil liability claims within the sphere of environmental harm or damage provide certain difficulties for a prospective plaintiff. The difficulties arise out of the nature of the requirements for liability of common law when applied to the environmental arena. Most jurisdictions have as requirements in

civil liability claims that a plaintiff prove both Fault on the part of the defendant and also the existence of a causal link between the damage sustained by the plaintiff and the activity carried on by the defendant.[1] This is certainly the case as regards the position in the common law in South Africa where both Fault and Causation are generally essential elements for civil liability claim. Before examining why a plaintiff in an environmental liability suit is forced with particular difficulties in seeking to satisfy the requirements of Fault and Causation, it is necessary to elaborate on the content of these two elements in South Africa law.

Fault in South African common law can involve either intention (dolus) or negligence (culpa). For the purpose of this essay, the focus will be on the negligence aspect. The test for negligence, which is an objective one can essentially be described as the "test of reasonableness".[2] Burchell[3] explains the operation of the test as follows: firstly, one asks, would a reasonable person, in the same circumstances as the defendant, have foreseen the possibility of harm to the plaintiff. Secondly, would a reasonable person have taken steps to guard against such a possibility and, thirdly, did the defendant fail to take the steps which he or she should reasonably have taken to guard against it. From the above, it can be seen that the concept of forseeability forms an essential part of the test. This concept of forseeability, however, becomes particularly difficult to apply to claims in an environmental liability context. This is due to the fact that, firstly, damage to the environment often either only occurs or becomes tangibly visible a long time after the activity which led to the damage, e.g. the actual emission or discharge of a pollutant and, secondly, that all too often there is insufficient knowledge of the effect of toxic substances on human health and/or the environment.[4] These two factors can often be taken together so as to make it very difficult for a prospective plaintiff to prove that the damage in question was forseeable. The situation could well arise where, at the time of the activity leading to the damage, no knowledge of the harmful effects of the substance or pollutant was available, or even suspected and moreover the harmful effects only come to light years or decades later. In this regard one can mention the "Cheminova" case in Denmark where a company's dumping of waste materials

on a North Sea Beach during the 1960's was condoned by authorities, due to lack of knowledge of the potentially damaging consequences. Damage became apparent only in the mid 1980's.[5] Similarly in an English case (Cambridge Water Company v Eastern Counties Leather P/C) the fact that damage had occurred as a result of the defendant's activity took a period of twenty years to become evident.[6]

The second element, that of Causation presents similar problems when applied to environmental liability concerns. Causation in South African common law involves a two-stage enquiry. Firstly one must prove Factual Causation. Here the test is whether the harm would have occurred, but for the defendant's conduct.[7] (If the answer is no, the defendant's conduct is the cause of the harm. Conversely, if the answer is yes, than the defendant's conduct is not the cause of the harm). Secondly, assuming the factual causation test is successfully overcome, a plaintiff must then satisfy the test of Legal Causation. In this regard, three different tests are involved, namely those of Direct Consequences (in which one asks whether there was an intervening act or cause (novus actus) between the defendant's act and the plaintiff's damage), Adequate Cause (where one asks whether; if according to human experience, in the normal cause of events, an act has a tendency to bring about the type of consequence in question) and Forseeability (where one asks whether the damage is of such a kind that it would have been foreseen by a reasonable person).[8] All three of these "sub-tests" can provide difficulty for a prospective claimant when applied to issues pertaining to environmental damage. Not only can environmental damage take a long time to become apparent, but it is frequently very possibly caused by a combination of pollutants.[9] Furthermore, some materials, whilst not pollutants in themselves, can become hazardous when mixed with other pollutants or even with natural environmental media.[10] This holds certain serious implications for a plaintiff seeking to satisfy either the Direct Consequences or the Adequate Cause test. One could argue the mixing of substances, either with each other or with environmental media constitutes a novus actus, thus rendering the defendant not liable. Alternatively, defendants could argue that their act in itself, does not tend to produce the harm in question. The Forseeability test likewise becomes that

much more difficult for a plaintiff to satisfy, as a defendant could argue that a reasonable person would not foresee harm from an inherently harmless substance being mixed with natural environmental media. A further problem in this regard concerns a plaintiff, trying to meet the above tests, not having either the technical or financial resources to conduct complex technical, chemical or medical tests which might well be necessary in meeting the burden of proof in the above causation tests.[11]

In the light of the above, it can be said that traditional rules of common law civil liability cannot cope with the demands posed by liability for environmental damage and that reform is needed.[12] This essay will argue that such reform should be by means of a single, comprehensive statute dealing with environmental liability. Before moving to discuss various aspects of the content of such a statute, the motivation for opting for statutory environmental liability will briefly be discussed.

Firstly, it is argued that the drawing up and promulgating of such a statute, in bringing environmental liability "under one roof" as it were, will bring a sense of uniformity to the area as opposed to the current situation where liability is dealt with piece-meal in various different, often ineffective statutes and with the common law as a "residue" for liability claims.

Secondly, should one wish to surmount the obstacles posed under the common law, this will have to be expressly stated and this is best done in statutory form. That this is both desirable and necessary can be seen from the case of the Cheminova (already mentioned above) where the court ruled that one cannot overrule the common law merely on the grounds of policy, but must expressly provide for such a situation by legislation.[13] The English case of Cambridge Water Company v Eastern Counties Leather[14] demonstrates the desirability of having all forms of environmental damage being governed by the same standard of liability. In this case, the owners of a tannery were held liable for contaminating the borehole of a water company one mile downstream. Contamination had resulted from an accidental spillage of solvents during off-loading operations. In the facts of the case, the defendants were held not to have been negligent. The court was able however to hold the defendants strictly liable

→ Yes – the Court of Appeal; but the House of Lords overruled this decision

on the ground that they had interfered with the plaintiff's rights to the water running beneath its land. Such a right, the count held, was incidental to ownership for which, in English law, liability is strict. The point to note is that had the plaintiff's right not being incidental to its ownership, then strict liability could not have been imposed and the defendants not held liable. Both the jurisprudential requirements of certainty and uniformity, and the demands of environmental policy, necessitate the installation of comprehensive statutory liability.

Thirdly, it is argued that the sometimes touted alternative to regulation by statute, that of self-regulation by parties through contractual means, is ineffective. Allocating liability by contract usually involves the use of warranties and/or indemnities. It is submitted that this option proves inadequate for the same reason that common law liability proves ineffective, i.e. the nature of environmental problems.[15] The same problems of liability of an environmental nature as discussed above cause warranties and indemnities to be ineffective for a number of reasons. Difficulties arise with regard to establishing the time of which an actionable breach occurred as well as showing that the damage suffered resulted from the particular breach in question. Furthermore, where a purchaser of a contaminated site conducts the same business on site as did the seller, the question of who was responsible for the damage becomes particularly difficult.[16]

For all the reasons as discussed, it is suggested that the imposition of statutory liability is both desirable and necessary. The essay now turns to consider the general objectives of such a statute.

OBJECTIVES OF STATUTE

The Council of Europe Convention on the protection of the environment[17] lists five potential aims of an environmental liability statute. They are: firstly, to ensure that individuals and/or organisations which suffer loss because of damage to the environment are adequately compensated. Secondly, to provide a remedy to ensure that damage to the non-owned environment is rectified or,

where such damage cannot be rectified, that compensation is paid to the public. Thirdly, to pass the costs of environmental harm or damage back to the individual or entity that produced the harm. Fourthly, to provide an incentive for industry to engage in more environmentally safe practices to avoid the consequences of liability and, fifthly, to achieve greater certainty and efficiency in the legal process.

The fifth aim, as mentioned, has been covered in the previous section of the essay. The other four aims can be divided into two more general objectives. Aims one and two, in seeking to recover remediation costs from liable parties, together with the third mentioned aim, can be seen to be an application of the polluter pays principle.[18] Aim four meanwhile, i.e. providing an incentive to potential polluters to avoid environmental damage, is an application of the Preventative Principle.[19] The question that needs to be asked is whether these two broad objectives, of Compensation and Prevention, can both be accommodated in a single environmental liability statute and, if so, to what degree. An answer to this is best found by examining the content of statutes that have as their goal the attainment of one or both of these aims.

The German environmental liability statute, Umwelthaftungsgetz (UmweltHG), promulgated during January 1991 has as its main purpose the compensation of environmental damage. It also aims, however at creating incentives to prevent damage from occurring.[20] The argument is made that imposing a strict liability regime, which UmweltHG does, will simultaneously achieve both purposes. While strict liability will enable victims to claim compensation, a severe liability on operators will persuade them to engage in preventative action by, for example, instituting alternative production techniques.[21]

However, it can be argued that certain problems are encountered if one seeks to incorporate fully both a compensation and prevention objective in the same statute. In contrast to Germany's UmweltHG statute, Sweden has opted for two separate statutes dealing with prevention and compensation respectively. The Swedish Environmental Protection Act aims to ensure that anyone engaging in

environmentally hazardous activities shall take preventative action by complying with any regulatory or restrictive measure that may reasonably be imposed.[22] The act further states that such measures shall be determined according to their technical and economic feasibility.[23] By contrast, Sweden's Environmental Damage Act which has a compensatory or remedial focus makes no allowances for damage caused by activity carried on within prescribed conditions or regulations.[24] In effect, the taking of reasonable precautionary measures is a valid defence against a charge brought under the Environmental Protection Act, but not to a charge brought under the Environmental Damages Act. It is submitted that this distinction is quite necessary, bearing in mind the discussion of the common law provisions and problems encountered when applying them on environmental liability. Especially as regards the question of lack of knowledge of potential dangers of substances and that precautionary measures are often set in line with existing knowledge, to allow a defence of reasonable measures to a compensation claim, would effectively restore the common law position that one is trying to displace. However, such a defence can be acceptable on a charge of not taking effective preventative action (but where no damage has yet occurred). In short, taking of reasonable precautions is a valid, and perhaps the only way of measuring preventative action. Such measures however, may not be able to prevent damage from occurring, for which one wishes to compensate any victims and remediate any such damage. For precisely this reason, it is submitted that the situation as contained in the Queensland Contaminated Land Act, should be avoided. This act, which has as its main focus, remedial liability, also contains preventative provisions by making it an offence for a person to cause land to become contaminated.[25] The act explicitly states, however that the taking of all reasonable steps to prevent contamination is a valid defence under the act.[26] Within the South African context, such a defence, it is argued, merely perpetuates the common law position, defeating the object of the statute. The Swedish option, by contrast, avoids this possibility.

It is nonetheless submitted that the objectives of Compensation and Prevention are not totally incompatible. The reasoning that severe liability on operators or

polluters for causing harm or damage will encourage them to take preventative action against the causing of harm[27] is seen as logical and correct. However what must be said is that the two objectives are only compatible to a degree and that an effective environmental liability statute wishing to ensure compensation and provide for remediation should seek to apply preventative principles only as a subsidiary aim. The achievement of comprehensive preventative principles is perhaps best left to a separate statute.
The essay now turns to consider, in more detail, what the basis of liability in a South African environmental liability statute should be.

THE BASIS OF LIABILITY FOR A SOUTH AFRICAN ENVIRONMENTAL LIABILITY STATUTE

Any form of liability contained in a statute which alters or overrides the common law position is invariably labelled strict liability. It is important to note that there is a whole spectrum of liability, with strict liability being one option on the spectrum.[28] It is important to distinguish accurately exactly what form of liability is being argued for and not merely to refer to strict liability as a generic term denoting any liability regime other than that of the common law. The spectrum can be stated as follows:[29] Absolute liability - where there is no fault nor causation requirement whatsoever, Strict liability - with no defences allowed, strict liability where certain defences are allowed, Fault - as per the common law in South Africa and Statutory Immunity. In both cases of strict liability, causation is a factor, but not in so onerous a degree to the plaintiff as with the common law. It is this sense of strict liability that this essay will refer to and argue as a basis for statutory liability (the question of defences to strict liability claims will form the subject of a separate section).

It is submitted that arguments in favour of strict liability outweigh the argument against its imposition, while it (strict liability) would also appear to be the most

appropriate choice on the spectrum. Strict Liability lightens the plaintiffs burden of proof as regards both fault and causation, which is the biggest difficulty in a common law claim.[30] It also, as was argued earlier, supports the Polluter Pays principle and in so doing, encourages the application of the Preventative Principle.[31] In this regard, it can be noted that the option of allowing certain defences to strict liability claims is preferable to not allowing defences as operators, if faced with inevitable liability for damage, might deem preventative action of no great value to them. The same argument can be made out against an absolute liability regime. Furthermore, strict liability can promote consistency between different jurisdictions, which is particularly important in an age of international, commercial trade.[32] In this regard, it must be said that different jurisdictions, while all adopting strict liability, show differences in defining its scope and application, as will emerge from the rest of this section.

The main argument made against strict liability is that modern society cannot afford for all damage and inconvenience because of pollution to be compensated. Technological progress, it is said, demands that society bear a degree of discomfit. This raises the question of whether progress can and should outweigh discomfit or vice versa, especially given that the bearers of the discomfit are frequently not the same beneficiaries of the progress. A more concrete reply to this criticism of strict liability is that it is not all and every inconvenience or even harm that must be compensated for. This is precisely the reason for allowing defences to a strict liability claim. This argument against a strict liability regime cannot therefore be sustained.

An important aspect in the establishment of a strict liability regime is the question of whether it should operate by reference to general principles or by reference to specific criteria. The former option was chosen by Austria, in a draft statute for environmental liability. The Austrian draft statute was modelled to an extent on the German environmental liability statute, Umwelthaftungsgetz, however, the Austrian drafters wished to go further than the German statute which applied strict liability only to activities emanating from certain establishments, as listed in an annex to the statute.[34] The Austrian draft statute consequently imposed strict

liability on any establishment or activity (which caused environmental damage) on the grounds of the effect being "dangerous to the environment".[35] No list of enumerated installations or activities were inserted. However, this draft statute was subsequently abandoned in favour of a list of installations akin to the German approach. The reason for the change in approach lay in concerted and sustained opposition from industry to the previous approach. Industry feared the potentially wide application of the phrase "dangerous to the environment" could cause a loss in competitiveness at a time when Austria was becoming part of the European community.[36] A possible parallel exists for South Africa, with industry possibly fearing a loss in competitiveness at a time when South Africa is trying to establish a foothold in world markets. There are however, further arguments, more environmentally orientated, against a general approach. While a general principle approach as with the original Austrian approach, could lead to excessively wide liability, it could also be interpreted by courts so as to lead to a very restrictive application of environmental liability. Moreover, having a general, but vague phrase, e.g. "dangerous to the environment" does not promote the certainty and efficiency which, as was discussed, a statutory system should seek to do.

The alternative to the general principle approach is that of defining or applying strict liability with reference to specific criteria. Three possibilities are suggested.[37] Firstly, the definition can be by reference to the nature of the damage caused. This approach has been criticised on the grounds that it is an ex post facto determination of liability whereas people need to know whether or not they will become strictly liable in advance, i.e. before beginning the activity.[38] Secondly, one can define liability relative to the type of activity being conducted. This is the approach taken in both Germany's Umwelthaftungsgetz[39] and in Denmark's Act on Compensation for Damage to the Environment.[40] The Danish Act however is limited in that only listed plants or installations (i.e. as listed in the act) are subject to the liability of the act.[41] Under this system, the situation could arise where one has two plants, each engaged in the same activity, but one on the list and one not.[42] The German act meanwhile enumerates types of

activities, and not individual plants, which are covered by the act, thus avoiding the potential problem under the Danish Act.
A third possibility is to have liability triggered if damage is caused by certain listed substances.[43] This option also avoids discrimination between installations and activities and further, provides for the problem of when damage is caused by diffuse sources.[44] The potential problem does, however, arise of an inherently non-harmful substance, in all probability not included on the list causing harmful effects due to its quantity. A solution to this would be to provide a residual provision in the list, allowing for such an eventuality.[45]

In summary, it can be seen that the approach of defining strict liability relative to defined criteria is preferable to a definition along general principles, with the former approach providing greater certainty and effectiveness, as well as proving more acceptable to industry. Defining liability relative to types of activity or relative to certain substances is preferable to a definition by reference to the nature of the damage caused. Should the option involving types of activities be chosen, then one should not limit liability to listed installations, but should rather focus on types of activities irrespective of specific, named installations.

As was noted earlier, the need to prove causation of common law can be an insurmountable hurdle for a plaintiff due to the nature and complexities of environmental damage. Various approaches to attempt to overcome this problem have been employed by different jurisdictions in their drawing up and promulgating of environmental liability statutes. In terms of the Swedish Environmental Damage Act, the burden of proving causation remains with the plaintiff, but the burden is an alleviated one. The plaintiff must prove firstly injury or damage and secondly, the occurrence of a disturbance in terms of the act.[46] This brings in to ploy an alleviated evidence rule whereby the disturbance will have been deemed to cause the damage where there is preponderant probability of causation having regard to the nature of the disturbance and the damage, other possible causes, and other circumstances.[47] This formulation would appear to be too vague to be of any real use to a prospective plaintiff while

more importantly, it does not resolve the problems created by the nature of environmental problems.

A more comprehensive and potentially more effective approach is seen in Germany's Umwelthaftungsgetz (UmweltHG) which employs a presumption of causality in certain circumstances. Under UmweltHG, the plaintiff must prove the propensity of an establishment to cause the damage in question.[48] Should (s)he succeed in doing this, causation is presumed. Whether an establishment is inclined to cause the damage in question or not is decided with regard to a wide range of factors including, but not limited to: the operation of the establishment, the equipment used, the kinds and concentrations of emitted substances, meteorological conditions, the time and place of the occurrence of the damage and the character of the damage.[49] The list is much more detailed and comprehensive than the Swedish equivalent. A drawback remains however in that a plaintiff might not have the resources to canvass the list effectively. Three steps are involved to trigger the presumption. The plaintiff must show: that the establishment emits substances into the environment, that (s)he was exposed to these substances, and that there is a recognised relationship between the emitted substances and the plaintiff's injury or damage.[50] What is not clear is whether the above is subject to a wide or narrow interpretation. A narrow interpretation would see the act apply only where a single establishment is involved. A wide interpretation however, would allow the presumption to operate even where there are several establishments which could have contributed to the harm, i.e. it would be sufficient to show that the defendant's establishment is inclined to cause the damage, albeit taken together with other factors.[51] This latter interpretation is the preferred one and should an approach akin to the German one be adopted in South Africa it should be made clear in the statute that such a wide approach is envisaged.

A negative feature of UmweltHG is that the presumption is excluded where the establishment in question has complied with all regulations and conditions of any licences issued.[52] The essay has already discussed how such a provision effectively defeats the object of strict liability. For those reasons, as discussed, it is recommended that any future South African statute omit such a provision.

It can be seen that, even with the introduction of an alleviated evidentiary burden or a presumption in favour of causation, as discussed above, difficulty remains for a plaintiff in proving his/her claim due to lack of ability and/or resources to conduct the complex and detailed investigations needed in environmental damages suits. To counter this problem, certain jurisdictions have inserted an Information Right in favour of the plaintiff in their environmental liability statutes. UmweltHG, the German environmental liability law, contains such a right to enable the plaintiff, who typically has little or no knowledge of the operational conditions of the defendant establishment, to prove that the establishment is inclined to cause the damage in question. The plaintiff is given an information right against both the operator of the establishment and against certain special agencies.[53] As regards the former, three conditions are necessary to activate the right. The plaintiff must first prove damage.[54] Secondly, (s)he must have facts to justify the assumption that damage was caused by the establishment. To meet this condition one requires not merely suspicions, or even a serious possibility, but concrete facts.[55] It must be said that this standard of requiring concrete facts defeats the very object of the information right. A plaintiff in possession of such concrete facts would presumably not require the information right. The question also remains as to how a plaintiff would obtain these concrete facts without the assistance of the information right. The third condition for triggering the right demands that the information being sought by the plaintiff be necessary to determine whether damages are recoverable in terms of UmweltHG or not.[56] This too involves a measure of circular reasoning, for a plaintiff without such information will not know whether UmweltHG is applicable or not. The information right against an operator is also subject to certain exceptions. The right does not apply wherever the information is to be kept secret either by operation of special rules or because the operator, or a third party, has a dominant interest in keeping the information secret.[57] The framing of this latter provision, without any qualifications, would appear to give an operator a very wide defence to the information right, again negating its value to the plaintiff. The plaintiff's right against Special Agencies is subject to the same

conditions, and similar limitations, as the right against operators, making it in practice not as effective a means for the plaintiff to prove his case as it might sound in theory.

The Environmental Quality Act in Quebec, Canada provides for a different approach in enabling a plaintiff to gain access to the necessary information.[58] Here the government is empowered to investigate claims of harm or damage following the institution of an environmental liability suit by a plaintiff, with the plaintiff being able to use the investigation report in his claim. The drawback with the Quebec legislation is that the government is not obliged to initiate an investigation, but is merely authorised to do so should it see fit.

The statutes discussed above have, to varying degrees, sought to lighten the onus of proving causation, but have nonetheless still placed the onus on the plaintiff. an alternative approach is to institute a "reverse onus" on the defendant, i.e. to have the defendant prove that it is not the cause of the harm or damage. Such an approach can be seen in the Norwegian Pollution Act which states that anyone causing pollution which by itself or in combination with other sources, may have caused damage, shall be deemed to have caused such damage unless they can establish that another cause is more likely.[59] The rationale behind the Norwegian approach is that where there is a lack of clarity, it is more appropriate for a polluter as opposed to a claimant to bear the consequences.[60] This approach also has the potential to overcome the hurdles faced by a plaintiff, especially as regards the ability to collect and interpret information necessary to make a finding on causation. Defendant operators are in a much better position to access information and, especially in the case of large industries or companies, to meet any financial expenses incurred in so doing. From an environmental policy viewpoint, the reverse onus approach would appear to be a desirable one. The question that must be answered is whether it is a legally acceptable one in South African law.

It might be argued that such a reverse onus is constitutionally invalid in that it conflicts with the right to innocence presumption contained in section twenty five

of the interim constitution. One counter to this argument would be the view that the constitution applies only vertically, i.e. between the state and private individuals or entities and not horizontally, i.e. between private individuals or entities, the significance of this being that a civil claim for environmental damage will most often be between private individuals or entities. The issue of verticality or horizontality of the constitution is a matter of as yet unresolved debate, however it is submitted that in the context being discussed, there are particular arguments against the application of section 25(3)(c). Section twenty-five can be seen to refer to the issue of criminal arrests and prosecutions, whilst what is at issue is a civil matter. Moreover the defendant in an environmental liability, civil suit is not being charged with the commission of an offence as such, but is being sued for compensation for having caused harm to the plaintiff.

It can also be argued that by instituting a reverse onus clause, effect is in fact being given to section twenty-nine of the constitution, i.e. the right of every person to an environment which is not detrimental to his or her health or well-being. Given the nature of problems confronting a victim of environmental damage, it is arguably necessary to institute the reverse onus so as to give section twenty-nine any real meaning. The same argument, i.e. the necessity of reverse onus could also be employed by justify a limitation of section twenty-five's right to innocence presumption in terms of the constitution's limitation clause (section thirty-three).

Having submitted that the constitution is not a bar to a reverse onus, it is further argued that the demands of legal policy in general do not mitigate against its inclusion in an environmental liability statute. The standard contemporary burden of proof (i.e. (s)he who alleges, must prove) is laid down ultimately because of what is considered to be fair. Fairness in this context translates into true equality before the law.[61] As has been repeatedly shown, the nature of problems confronting an environmental liability plaintiff produce a situation of acute inequality between plaintiff and defendant, in favour of the defendant. To the extent that a reverse onus can alleviate this situation, it can be seen to be a sound measure from the points of view of both environmental policy concerns and legal policy criteria.

Having examined the issues of what the basis of liability of a statute dealing with environmental liability should be, the question of what the scope of such a statute should be, will be dealt with.

THE SCOPE OF THE STATUTE AND THE IMPORTANCE OF DEFINING ENVIRONMENTAL DAMAGE

To have an effective regime of civil liability for damage to the environment, one requires a legal definition of what constitutes environmental damage.[62] The importance of defining damage to the environment lies in the fact that the definition will determine the scope of the statute,[63] i.e. when the statute does or does not apply. The difficulty here arises out of the fact that, apart from cases of obvious damage to the environment and cases where results of human activity are clearly beneficial, it is virtually impossible to define with any degree of certainty, a point on the spectrum of effects where change becomes damage.[64] Even in cases where one has a clear-cut environmental disaster, effects can be varied and uncertain and this becomes all the more so with regard to long term and insidious pollution incidents.[65] Too few scientific methodologies are capable of measuring levels of damage in quantifiable terms and there are too many unanswered questions about how different aspects of the environment interrelate.[66] That a definition appropriate and suitable for the object of an environmental liability statute be found, is however imperative. Defining the concept too widely will lead to a waste of resources and ultimately become a burden on society at large. Defining the concept too narrowly meanwhile will lead to a system that is ineffective.[67] Bearing the above in mind, a range of options will now be considered as to where the line as to what constitutes damage in an environmental liability claim should be drawn.

The first option which can be considered is drawing the line at the point where human, health is affected by the action in question.[68] The difficulty with this

option, immediately apparent, is that humans are not independant of the natural environment, but part of it. Confining the test to human health results in a test for too narrow in scope.

Secondly, the line could be drawn at the point where living organisms are effected.[69] Problems here arise in that such effects are not always directly ascertainable. This option suffers from the same drawback as does the first, namely that it excludes damage to the inanimate environment. Such damage however can lead to damage to living organisms. Fish and other living marine resources can and do suffer through pollution and damage caused to the inanimate marine environment by an oil spill.

It is clear that any definition of damage must, if it is to be effective, avoid the narrow approach of looking simply at actual effects on living organisms and enable consideration to be given to effects on the physical environment.[70] Within this context, questions arise as to what environmental media should be covered and what sources of the damage should be included. As to the first question, it would appear that jurisdictions who have implemented environmental liability statutes have been content to cover the physical environment by reference to land, air and water supplies. This is the wording of the United States Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), commonly known as "Superfund".[71] British Columbia's Waste Management Act refers to "soil, or underlying groundwater", while the Swedish Environmental Protection Act also simply refers to "water, air or soil".[73] Differences emerge however as to what sources of damage are included. Finland's Environmental Damage Compensation Act applies to pollution emanating from a "specific area". Specific area in turn is defined as real property.[74] The act therefore excludes from its ambit pollution caused by means of transport. Likewise, the Swedish Environmental Protection Act applies to discharges emanating from land, buildings or other permanent installations, with emanations from road traffic, railway traffic, ships, boats or aircraft specifically being excluded.[75] By contrast, Sweden's Health Protection Act, which focuses on harm to human health,

specifically includes movable pollution sources.[76] The distinction between human health and damage to physical environmental media cannot, in the light of the above arguments, be maintained. Accordingly, any South African statute should include movable pollution sources in its ambit. This is the approach of the Norwegian Pollution Act which covers pollution from both real property and from means of transport.[77]

To avoid the ambit of the act becoming too wide, i.e. to the point where resources become wasted in attempting to apply it, the qualifying word hazardous is used, i.e. substances or emanations must be hazardous to the environment. The use of hazardous is preferable to harmful as this allows incidents involving substances not pollutants in themselves to be covered under the act. An example can be seen in the Swedish Environmental Protection Act, which refers to environmentally hazardous activities.[78] This allowed the dumping of sand into a watercourse, causing turbidity and build-up of silt to be legally classified as pollution and therefore covered by the act.[79] Similarly, where water at a seaside resort was contaminated by sand owing to draining of forest land, the act applied even though this did not constitute a health risk to bathers.[80] The Queensland Contaminated Land Act seeks to give effect to this principle by a comprehensive definition of what constitutes a hazardous substance. A hazardous substance is defined as any substance that, because of its quantity, concentration, acute or chronic effects, toxicity, carcinogenicity, teratogenicity, mutagenicity, corrosiveness, flammability or physical or chemical characteristics, may pose a hazard to either human health or the environment when improperly treated.[81]

Another aspect worthy of attention is the distinction made in some quarters between "damage" and "impairment", such as with the European Community Proposals on Civil Liability for Damage caused by waste. These proposals refer to "damage" when referring to personal injury and damage to property, but refer to "impairment" when dealing with the physical environment.[82] The impression created is that impairment is somehow less severe or of shorter duration then damage, i.e. that damage to the environment is not on the same footing as human harm or damage to property. If this is the intention, it is argued that it is one

which should not be followed in South Africa for the distinction does not accord with the accepted fact that the basis of ecology is that life is a complex, interlinked system with species (including humans), habitat and ecosystem all dependant on environmental media and on each other.[83] Impairing one aspect of the ecological system can equate to damage to other aspects.

A further suggested approach is to define damage as being of the point where environmental quality standards or other relevant parameters have been exceeded.[84] Such an approach might present problems in South Africa where too often there are no regulatory standards in place. A more general problem is that where such standards or controls are set, these are, or should be set up in line with the precautionary principle which focuses on unknown or uncertain risks of potential damage and not merely actual damage. Consequently a defendant could argue that failure to meet such standards, even if an offence, does not qualify as damage.[85] It has been suggested though that where failure to meet standards results in the environmental medium in question becoming unsuitable for its intended purpose, then damage can be said to have occurred.[86]
The above is closely connected to the suggested approach of defining damage as being the point at where there is an unacceptable level of risk of harm. This reflects the world-wide move towards applying the precautionary principle in environmental policy. Again, however, the question is raised whether from a liability perspective. One can equate unknown potential harm with actual harm. The precautionary principle is ultimately focused on prevention of harm which, as has been discussed under the section dealing with objectives, is not fully compatible with compensation and best left to a separate statute.
The essay now turns to consider the question of what defences should be available in the proposed liability statute.

DEFENCES IN TERMS OF THE PROPOSED ACT

It is necessary that any defences allowed in terms of the proposed liability regime be clearly defined. This is to allow those persons potentially liable in terms of the proposed act to adequately assess their risk.[87] Before beginning a detailed examination of the validity of various defences, a brief word needs to be said on the issue of Exemptions. British Columbia's Waste Amendment Act of 1993 appears to distinguish between defences and exemptions. This can be seen in that while Due Diligence is not a defence under the act, it is listed as an exemption in section seventy-eight of the act.[88] It is submitted that, from a perspective of liability, there is no qualitative difference between defences and exemptions and to have two such separate sections is an unnecessary confusion.

The first defence whose validity falls to be considered is that of an Act of God (otherwise known as Force Majeure). This defence is not limited to absolute impossibility, but involves unusual circumstances, beyond the defendant's control such that despite the exercise of due care, harm is unavoidable, unless excessive sacrifice is made.[89] The defence is thus available only where the harm or damage could not reasonably have been guarded against and the defendant did everything in their power to avoid harm.[90] It has been suggested that granting force majeure as a valid defence be conditional upon the establishment of a joint compensation fund, i.e. a fund sustained by contributions from economic sectors most closely linked to the type of damage necessitating restoration.[91] The question of the establishment and operation of a joint compensation fund will be dealt with in more detail later in the essay. It can be said this does have the advantage of avoiding a too onerous liability while ensuring means for compensation and remediation are available.

"State of the Art" is the second defence to be examined. Various interpretations are accorded to the meaning of this concept. Should the standard be the state of the industry in general or the best available technology at the time of the incident, i.e. was the defendant, at the time of the incident, employing the best technology

available?[92] There is also debate as to defining the incident triggering liability. It is argued that liability should be dependant on technology and knowledge available at the time when the defendant's product entered the market and not at the time when production was originally begun.[93] This can be argued to be imposing liability retrospectively, but this argument is outweighed by the responsibility on an operator to continually improve the environmental safety aspects of his production operation as technological advancements allow. As with force majeure, it has been suggested in some quarters that this defence be allowed subject to the creation of a joint compensation scheme.[94] The German environmental liability law, UmweltHG, however, totally excludes the state of the art defence. The thinking here is that allowing the defence would approximate to allowing defendants to argue that they could not reasonably have known of the danger (due to it being unknown or unforseeable with the best available technology at the time of the incident).[95] Allowing such reasoning as a defence would defeat the object of a strict liability statute. On the strength of this argument, it is submitted that the "state of the art" defence should not be available under any South African statute.

Compliance with Statutory Requirements is a third potential defence. This defence was successfully applied in the Gramm case in Denmark.[96] Danish law requires the approval of requisite authorities for the deposit of hazardous waste. Gramm had no formal approval, but was able to prove that the authorities had knowledge of the deposit and had thereby implicitly approved the deposit by not taking action. Gramm consequently escaped liability. This can be considered on extensive application of the defence. It is submitted that, even in its conventional form, the defence should not be allowed. As has frequently been noted, the nature of environmental damage and lack of knowledge of potential dangers, mitigate against allowing such a defence. Assuming the defence is allowed, it will still be necessary to provide for remediation funds. Liability should then, it is suggested, fall on the licensing authority who failed to assess correctly the effects of activities or discharges.[97] Two problems however arise out of this. Firstly, this will ultimately result in an increased burden for the taxpayer and

secondly, this might discourage authorities, fearing for their own liability, not to bring actions against polluters.[98] A counter to this latter problem, that of allowing locus standi to public interest groups, will be discussed later.

That Pollution occurred at Tolerable Levels under local, relevant circumstances is another often-debated defence. The Swedish Environmental Damage Act provides that where injury or damage is caused by a disturbance common to local conditions or generally in similar conditions, than compensation is payable only where the polluter was wilful or negligent.[99] The act states further that this defence applies only to pollution which does not go beyond "normal" levels.[100] Normal, however is not defined in the act. In a recent case the Swedish court supplied a definition in a case concerning noise pollution from traffic related disturbances in a residential area following the construction of a new major traffic route. The count ruled that the noise disturbance was not common to local conditions because the area had not been exposed to such heavy traffic prior to the construction of the new route.[101] Similarly, it has been held that ordinary disturbances from a new factory shall not necessitate compensation where the factory is located in an industrial area.[102] Compensation shall however be payable if the factory is located in a residential area.[103] Should the defence be included in a South African statute, it is hoped that South African courts shall adopt a similar line of reasoning in any resulting litigation.

The defence of Innocent Purchaser is allowed in the United States if the defendant can show one of either:[104] that (s)he acquired the property (responsible for the damage) without any reason to know of the hazardous substances there, that the purchaser is a government entity who acquired the property involuntarily or that the purchaser inherited the property. Under these conditions the defence is considered a valid one and has as an additional benefit, the encouraging of diligence in acquiring property, thereby providing a measure of self-regulation. Again, the notion of a joint compensation scheme would be useful for situations where the actual polluter cannot be found.[105]

In terms of an Environmental Bill in the United Kingdom, in deciding whether to recover the cost of a clean-up from a liable party, any hardship which this might cause to the defendant, must be considered.[106] Hardship effectively becomes a defence to liability. One's initial reaction is that this should not be followed in South Africa as any financial liability on a defendant will inevitably cause hardship of a degree. One might however wish to distinguish between small businesses, facing total ruin from a liability claim, as opposed to corporate industry more able to absorb liability payments, but it is difficult to see how this could be constructed on a consistent basis so as to avoid arbitory decisions. It must also be remembered that other defences will possibly be available to a defendant. Should a workable, equitable form of such a defence, i.e. with the focus being on small operators, and subject to an available alternative for compensation victims and remediating damage, the defence might be able to be implemented.

Further possible defences are Contributory Negligence by Voluntary Assumption of Risk and Emergency. Assuming that these two defences would be allowed at all, the former would have to apply only to personal injury or property damage and not to damage to the unowned environment.[107] The latter meanwhile should be unavoidable where the defendant caused the emergency.[108]
This concludes the discussion of possible defences available and the essay now turns to the question of who should be allowed to institute claims pertaining to different kinds of harm or damage.

LOCUS STANDI WITH REGARD TO VARIOUS KINDS OF HARM

The kinds of areas of harm can be divided into three broad categories: personal injury, damage to property and environmental damage. It is submitted that the first two above categories do not present any issues of particular difficulty or interest from the question of who should be allowed to claim for such damage.

Such locus standi issues as there are in this regard have been well canvassed in their application to other areas of civil claims and it would not be necessary to repeat them here. The third category, however, that of environmental or ecological damage raises certain issues arising out of the particular nature of an environmental liability claim (as opposed to other kinds of civil liability claims). Two issues can be identified. The first, the question of what exactly constitutes damage has already been debated in a previous section. The question, that of who should have locus standi to sue for damage to what can be termed the unowned environment, will now be discussed.

The concept of the environment can be divided into four categories, relative to the all important legal principle of ownership. The environment, or the part of it in question can be either privately owned or fall under ownership of the state.[109] Other areas are regarded as owned by or belonging to everyone (res communis) while still others are legally regarded as belonging to no one (res nullius).[110] For the purposes of this discussion, there is no practical difference between res communis and res nullius and the two shall be referred to collectively as the "unowned environment". It is here where specific locus standi issues arise.

The question of ownership, or lack of it, can be seen to be crucial in several countries' environmental liability statutes. Sweden's Environmental Damages Act covers both personal injury and property damage, but makes no provision for ecological damage.[111] Remediation of damaged resources can still occur where such damage can be brought under the heading of property damage, that is where the resource is privately or state owned. In effect it is the unowned environment which is not being provided for. A similar situation obtains under UmweltHG in Germany which does provide for natural resource damage, but specifically limits recovery to plaintiffs with a proprietary interest in the damaged natural resources.[112] This need by a plaintiff of a proprietary interest in the damaged environment has also been followed by the judiciary in the United States where a series of cases have barred prospective plaintiffs whom the courts have ruled do not have a proprietary interest in the environmental damage in

question. These cases have seen the courts applying the doctrine of economic loss to environmental liability claims so as to exclude certain plaintiffs while allowing others. The United States courts have frequently employed the terminology of "direct" and "indirect" use in seeking to differentiate between allowed or non allowed claims. In Union Oil Company v Oppen, an action by commercial fishermen against an oil company for damage allegedly sustained as a result of an oil spill was successful on the grounds that the plaintiffs made direct use of the resource of the sea.[113] Similarly in Burgess v M V Tamano, the claims of fishermen and clam diggers were allowed due to the defendant's interference with the plaintiffs direct exercise of a public right.[114] Conversely, the claims of those plaintiffs who purchased the seafood from the fishermen to sell to the public were not allowed on the grounds of their damages being not sufficiently direct.[115] The link between "direct use" and proprietary interest is seen in that the courts have declared fishermen to have a "constructive property interest"[116] in the resources in question.

The practice of restricting claims to plaintiffs with proprietary interests in the damaged resources holds very disturbing implications regarding damage to the unowned environment. These were well articulated by the court in the United States case of Pruit v Allied Chemical Corporation, a case involving Kepone pollution of the Chesopeake Bay which impacted severely on the Bay's wildlife.[117] The court stated as follows: "The fact that no one individual claims property rights to the bay's wildlife could arguably preclude liability. The court doubts, however, whether such a result would be just. Nor would a denial of liability serve social utility. Many citizens, both directly and indirectly derive benefit from the Bay and its marine life. Destruction of the Bay's wildlife should not be a costless activity.[118] Amazingly, in the light of this statement, the court nevertheless applied the "proprietary" interest doctrine so as to allow only claims by commercial fishermen.[119] To not allow claims for damage to the unowned environment would not only be unjust, but given the already noted complex interdependence of ecological systems, extremely unwise. Any environmental liability statute should therefore make express provision for overcoming this problem.

The conventional solution to the above problem has been to empower government authorities to bring claims for damage to the unowned environment. This is the approach of the Finnish Environmental Damage Compensation Act which excludes individuals from claiming for damage to the unowned environment, but allows government authorities to claim the costs of remediation of the damage from those persons responsible for causing it.[120] Similarly, the law in Denmark, while requiring private individuals to have possession or control of an environmental resource before being able to claim for damage to it, allows public authorities to claim compensation from liable parties for restoring the unowned environment.[121] The United States arguably takes this situation one step further in the provisions of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). CERCLA, while prohibiting private parties from recovering damages for injury to natural resources, creates the concept of public trustees, who sue on behalf of the general public to recover damage costs to natural resources.[122] Where CERCLA has a wider ambit than, for example, the Finnish and Danish acts is that the public trustee concept, in addition to state governments, extends to both federal and state governments and to bodies such as American Indian Tribal Councils.[123]

Where CERCLA is still limited however, is in that bodies such as American Indian Tribal Councils would still have to be accredited public bodies, and not organised on a private basis. In effect, the body becomes another form of a public local authority. One particular problem arises out of limiting claims for damage to the unowned environmental to government or public authorities. The problem connects to what will constitute a valid defence under the act. It was argued that where the defence of compliance with standards set by authorities is allowed, authorities, fearing liability ultimately been imposed on themselves, might decline to institute action.[124] With locus standi for claims regarding damage being limited to such authorities, no other parties will be able to step in, should authorities indeed choose not to institute claims.

Various other jurisdictions, however, have extended locus standi, in cases involving damage to the unowned environment, to private individuals and/or bodies. In Canada, the Quebec Court of Appeal in the case of Comité d' environment de la Baie Inc. v Société d' electrolyse et de chimie Alcon Lfée allowed a class action of 2400 residents of Baie municipality claiming damages resulting from the pollution of air by bauxite, alumina and cooldust, emanating from port operations of the respondent.[125] Austria meanwhile expressly allows, in its environmental liability statute for class actions to be brought by private environmental organisations for ecological damage.[126] Courts in the Netherlands have also sought to allow private (i.e. non-government) environmental organisations to institute claims for compensation or remediation following damage to the unowned environment. In the Borcea case, a Rotterdam district court awarded damages to the Dutch Association for the Protection of Birds for voluntarily incurred costs in caring for seabirds affected by an oil tanker incident.[127] The court noted that seabirds fell within the concept of res nullius, but went on to say that the conservation and protection of seabirds was a general interest worthy of protection in the Netherlands.[128] A similar line of reasoning was followed in the case of De Nieuwe Meer so as to grant standing to three public interest groups to sue Amsterdam municipality for dumping dredgings from city canals into an artificial lake. The court ruled that lack of a proprietary interest was not a bar to standing, especially given the object and purpose of the organisations in terms of their articles of association.[129]
It is submitted that the above approach should be reflected in any South African environmental liability statute.

PARTIES LIABLE

Having examined who should be able to institute action, the essay now analyses which parties should be liable under the Act. Where one has comprehensive environmental liability legislation with a strict liability basis, it is important to identify as precisely as possible which parties are liable.[130] Clearly identifying

liable parties can decrease disputes regarding liability and lead to less delays in settling claims.[131] It can also assist in preventative aims as parties who are clearly liable for potential incidents will have a greater incentive to take preventative measures.[132]

A particular problem however, in the sphere of environmental liability is that where one is dealing with chronic pollution, the situation is such that several parties can potentially be held liable for the same damage.[133] One suggested solution to this problem of multiple wrongdoers is to apply a system of joint liability, i.e. to recover from each liable party, the amount of compensation equivalent to the amount of damage attributable to that party.[134] This is based on the assumption that it is technically possible to separate the amount of damage caused by each party. As has already been explained, this is frequently difficult to do. It is arguably better therefore to employ a system of Joint and Several Liability, i.e. where liability is imposed for the entire amount on each potential liable party. The party eventually held liable can seek contributions from the other liable parties. This system facilitates recovery for the plaintiff in that (s)he does not bear the risk of a particular defendant going insolvent.[135] Nor is the plaintiff faced with the task of opportunity between wrongdoers.[136] One drawback of a joint and several liability system is the potential to produce an inequitable "deep pocket effect" where a plaintiff will always institute action against the party with the greatest financial resources.[137] Methods do exist to avoid or limit this problem, however, one solution is to set out a hierarchy of liability in which parties' liability is ranked according to their respective abilities to exercise effective risk management due to their expertise, available resources and operational control.[138] The ranking will not effect the fact that each party is still liable for the entire amount, but merely provides an order in which they must be sued. Another option is to follow the example of the Swedish Environmental Damages Act which employs a system of joint and several liability, but provides that where it is feasible to apportion liability between contributing activities, then each party shall be liable only for their portion of damage.[139] The burden of proving that apportionment is feasible lies with the person carrying on the

particular activity, i.e. the defendant.[140] Subject to employing one, or even both of these two methods, the system of joint and several liability is seen to be preferable to a joint liability system.

If various statutes are examined, there would seem to be broad agreement as to certain parties who should incur liability. The statutes do, however, list these parties in different orders. The Environmental Damage Compensation Act (Finland) lists liable parties as follows: Operators (i.e. persons carrying on the activities which lead to the environmental damage); certain persons comparable to operators, including persons with control over the operator; the Transferee of an activity who knew, or should have known of damage or risk of damage of the time of transfer.[141] Likewise, the Environmental Liability Bill of the United Kingdom places persons who caused contamination of land ahead of owners or occupiers of land on its listing.[142] By contrast, the Environmental Damages Act in Sweden has the following listing: Property owners; Owners of site-leasehold rights (if they have conducted activities); others who conduct, cause to be conducted the activities in question and who use the property in business or public service activities.[143] Here owners of property are seen to be considered before operators, assuming a ranking system is employed. Should a South African statute employ a hierarchy of liability it is suggested that operators, due to their degree of involvement and immediate control over the activity, be ranked ahead of owners of the property on which the activity is conducted.

While there appears common agreement that operators and owners are to be strictly liable, debate ensues as to the inclusion of certain other parties. One such debate concerns whether a lending institution should be held liable for cost of remediation where it has loaned money to an enterprise, the loan being secured by real property which becomes contaminated by the enterprise's activities, the enterprise subsequently defaults on the loan, causing ownership of the property to vest in the lender.[144] Those in favour of lender liability argue it is necessary to ensure prompt and necessary action with regard to clean-up costs[145] whilst those against its imposition argue that it will lead to many economic sectors

experiencing difficulty in borrowing where loans are to be secured by real property.[146] This in turn, they fear, will lead to the hindering of modernisation of industry and ultimately to long term negative environmental effects.[147] A possible solution to balancing these two objectives appears in the Australian state of Victoria's 1994 amendment to the Environmental Protection Act. In terms of the act, as amended, one only enforces against a secured lender where the lender exercises active control and management of the premises on a daily basis.[148] Liability shall also only be occurred for pollution or damage occurring after security was enforced.[149] Where however, a lender was served with a notice of the existence of an environmental hazard prior to enforcing its security, it shall be liable for any subsequent damage even if it does not exercise day to day control.[150] Such an approach would seem to have merit. Where a statute seeks to provide conditions to or limitations on lender liability, it is suggested that these be comprehensively and expressly stated. This is to avoid the experience in the United States[151] where, in CERCLA, lender liability was defined in general terms. This led to courts applying the criteria in a way so as to place liability on lenders which the drafters did not originally intend. The United States Environmental Protection Agency subsequently attempted to provide clarifying standards in this regard, however the courts held that once the statute had been drafted, they, and not the EPA, would determine the standards to be imposed.[152]

An issue closely linked to the question of liable parties is how to ensure that a defendant, if found liable, will be able to meet the claim. One option is to have parties who would face liability if an action was brought take out compulsory insurance. Another option is that of a Joint Compensation Scheme, already mentioned in the section dealing with defences. All members of a particular economic sector would be compelled to make contributions to a fund which would be used to restore environmental damage of a kind closely associated with activities of that sector.[153] Such a scheme exists in terms of the Dutch Clean Air Fund.[154] Establishing such a scheme does not equate to abandoning the principle of liability but rather expanding it such that the burden falls equally on all members of the sector.[155] The scheme could be used either where no party is held

liable owing for example, to the availability of defences or where a liable party cannot pay the amount fully.[156] The success of such a scheme depends on it being effectively supported and should it be introduced, it should be mandatory for certain operators or installations to be members and make contributions. One suggested drawback of such a system is that it lowers the incentive of an operator to apply preventative measures.[157] A counter to this would be to design a system of differentiated charges based on probably impact of a particular enterprise to the environment. The size of an individual's required contribution is therefore linked to the likelihood of their causing damage.[158] This in turn could be assessed by reference to technology employed, what environmental safety standards are being used, over and above regulatory standards and general risk management.[159] This concludes the section on liable parties under the proposed regime of liability. The essay will now turn to discuss certain aspects of remedial liability before concluding. The aspects to be discussed are themselves complex and the essay will merely mention them and highlight certain points.

ASPECTS OF REMEDIAL LIABILITY

An aspect of the approach taken to remedial liability with important practical implications is the definition of remediation. One view has remediation as distinct from rehabilitation, arguing that damaged or contaminated environmental media cannot be restored to a pristine condition and this should therefore not be the stated aim of remediation.[160] In terms of this view, remediation should only occur where there is a hazard to human health.[161] This view, in the light of the points already made in the essay, must be seen as too limited. A second interpretation, flowing from the same definition, is that one should only undertake remediation to the extent that is necessary for the intended purpose of the media e.g. land or water. This "suitable-for-use" approach is contained in the United Kingdom's Environmental Bill.[162] A problem with this approach is that it does not take account of long term future use, i.e. land or water might be used for a different purpose in future, than currently intended.

Moreover, leaving an area of the environment partly contaminated will always allow the possibility of future harm to humans or the eco-system.[163] By contrast, the multi-functional approach adhered to in the Netherlands requires all remediation undertaken to be to the same stringent standard, with past and future intended use not being a relevant factor.[164] The argument against this approach is the drain on resources[165] which are already limited.
A suggested solution to the above problems is to distinguish between a "Need for clean-up", based on assessed potential risks and a "Priority for Clean-up", based on assessed actual risks.[166] Such risks, are to be quantified by a risk assessment methodology involving firstly, health risks, i.e. long-term impact on human health, secondly environmental risk, i.e. ecological damage to eco-systems, both on and off the contaminated or damaged site and thirdly aesthetic issues where contamination levels are such that neither human health nor the environment is endangered, but remediation is still desirable.[167]

A second issue concerning remediation is how to ensure that remediation takes place. The Queensland Contaminated Land Act reveals two approaches to this problem.[168] Under section 20 of the act, a remediation notice is served on the liable party requiring him/her to clean up the site in question. Should the party not comply, section 21 of the act then empowers the requisite authority to effect the clean-up at the state's expense and to recover such costs from the liable party.[169] Interestingly, it is a valid defence, under section 20, for a party served with a remediation notice, that the party does not have the resources to undertake the clean-up. Under section 21, however, a party may not raise the defence that (s)he cannot afford to pay for costs of clean-up performed by the state.[170] The Danish Environmental Protection Act reveals a similar two pronged, alternative approach as does the Queensland act. In terms of the Danish statute, where authorities are forced to conduct the cleanup, they are entitled to security over the plant's property to the amount of the expenses incurred.[171] This entitlement is in terms of the act itself and a court order is not necessary.[172] Should the liable party still not pay, the property may then be sold by order of court.[173] A limitation on this however is that the measure applies only to a clean-up conducted on a

defendant's own property.[174] It is submitted that there is no reason why the measure should not apply to any necessary remediation and the limitation in the Danish act should not be followed in South Africa.

A final aspect to be discussed is the actual procedure for remediation. This will be looked at by reference to the procedure outlined in the Hesse Residual Pollution Act in Germany.[175] Upon the public authority responsible for remediation receiving knowledge which the act says, could form the basis of suspicion of contamination, an investigation is begun. Should the investigation lead to a suspicion of contamination, the site is registered as a suspect site before fuller examinations and analysis are performed. In terms of the Hesse Act, the site will be classified as a pollution site, should the analyses reveal a significant effect on public health.[176] This it is submitted, is too narrow a criterion. The risk assessment methodology discussed earlier, should rather be employed in a South African statute. Clean-up measures are then designed and effected. Here it is suggested, both alternate measures as provided for by the Queensland Contaminated Land Act and Denmark's Environmental Protection Act, as discussed should be provided for. Finally, following successful remediation the site is deregistered as a pollution site. Where there is cause to believe remediation may not have provided for a permanent clean-up, the act provides for subsequent checks, at the expense of the originally liable party.[177] Should these checks reveal recurring or further pollution (i.e. new pollution from the original cause) the site is again declared a pollution site and the remediation process repeated.[178] The procedure of the Hesse Act, with the suggested alterations, could form the model for procedure under a South African statute. This completes the section on remedial liability and also the body of the essay. General conclusions can now be discussed.

CONCLUSIONS

This essay has discussed the desirability of an environmental liability statute for South Africa and has sought to analyse various aspects pertaining to such a statute. It was seen that the common law requirements for liability, of fault and causation, result in difficulty in attaching liability to defendants. This is especially so when applied to the nature of environmental damage where damage often occurs or crystallises over a long period of time and where lack of sufficient knowledge of substances is often significant in the occurrence of damage. A single, comprehensive environmental liability statute is considered both desirable, as this will, in addition to alleviating the problems under the common law, bring uniformity and certainty to the law and necessary as no other form of regulatory liability proves adequate.

Two broad objectives of such a statute were identified, i.e. Compensation and Prevention. While not totally exclusive of one another, possible tensions do in some instances exist between these two aims, notably that the breaching of a preventative-orientated standard might not qualify as damage. To fully give effect to the preventative principle, it is recommended that a separate statute be drawn up with this aim in mind. It is also recommended that wherever possible, an environmental liability statute should seek to encourage this principle.

A strict liability regime is argued for as the basis of the proposed statute as being the best way of achieving the aims of the statute. Strict liability should preferably not be defined in terms of general principles but by reference to specific criteria. The type of activity being conducted or certain listed substances were seen to be the best options in this regard.

In addressing the issue of causation, a comparative analyses showed two approaches, one being to maintain the onus of proof on the plaintiff, but to lighten the onus either by means of an alleviated evidence burden, as in Sweden or by means of a presumption of causation, as in Germany. The latter approach is considered preferable to the former. Central to the effectiveness of either of these approaches is the access by a plaintiff to certain information and to this end it was shown that, where the onus of causation, whatever the degree, remains on the

Netherlands, in allowing recovery by public interest groups, be provided for in a South African statute.

In addressing the issue of which parties should be held liable, a joint and several system of liability was seen to be the most effective way of dealing with the situation of multiple wrongdoers, which in environmental liability claims would often be the case. Such a system should, it is recommended, contain a hierarchy of liability with parties being ranked in order of liability. It is suggested that operators be ranked before owners of land not taking part in the operation(s) causing the damage. Regarding the issue of lender liability, it is recommended that an approach akin to that of the Environmental Protection Act of Victoria, Australia, be adopted such that lenders will generally incur liability only where they exercised a particular degree of control over the operator or site in question. The Joint Compensation Scheme was again seen as an effective mechanism in ensuring remediation of environmental damage. Finally, the essay looked at aspects of remedial liability. The definition and extent of remediation covered by a statute was considered and a solution suggested to avoid the limiting effects of a "suitable-for-use" approach and the possible drain on resources resulting from a too extensive ambit. The question of how to ensure remediation took place was examined with both the Australian and Danish approach being commended, except that the limitation in the Danish approach not be repeated in a South African statute. Regarding the procedure for remediation, the Hesse Residual Pollution Act of Germany, with certain alterations and additions was suggested as a model for a South African statute.

It is hoped that a South African statute on environmental liability, for which guidelines have been suggested in this essay, will become a reality, for it is the most and perhaps only, effective way of dealing with the legal issues arising out of civil liability for environmental damage.

A comprehensive and detailed essay, but it suffers from a failure to consider adequately and critically the reasons for imposing liability and the role that a liability regime (as opposed to, or in conjunction with, other regulatory techniques) can play in achieving these objectives. In the result, the analysis is rather superficial. (68)

plaintiff, this should be accompanied by a right to information pro the plaintiff. This right to be meaningful would have to extend further than either the German or Quebec provisions. An alternative approach is to institute a "reverse-onus" provision such that the defendant shall be deemed to have caused the damage unless (s)he can prove otherwise. It is argued that a reverse-onus provision would be valid in South African law, both from a constitutional perspective and as regards legal policy in general. It is also seen to be more effective in surmounting the hurdles faced by a plaintiff in an environmental liability suit. As such South Africa should follow the Norwegian Pollution Act and institute such a reverse-onus provision.

The definition of what constitutes environmental damage was seen to be important in that it determines the scope of the statute. Establishing an effective definition was seen to be a difficult task. What is essential is that any definition incorporate environmental media and not be limited to human health. The approach of statutes in both Finland and Sweden, in limiting the scope of the statute to damage emanating from immovable property is rejected in favour of the Norwegian approach of including both immovable property and movable sources of pollution. To avoid the ambit of the statute becoming too wide the use of the concept hazardous to the environment should be employed.

The essay examined the validity of certain defences under the act. Certain defences, e.g. Force Majeure were accepted and others, e.g. state of the Art and Compliance with statutory requirements were rejected. Others were considered valid in certain circumstances and subject to careful wording. The establishment of a Joint Compensation Scheme was seen to be a necessary corollory of allowing certain defences.

The issue of Locus Standi was seen to be problematic as regards the unowned environment (i.e. areas of the environment which are either res communis or res nullius) where statutes only allowed claims by plaintiffs holding a proprietary interest in the damaged environmental media. The practice of allowing public authorities to recover such damages is seen to be an improvement, but not ideal in all circumstances and it is recommended that the approach of the courts in the

REFERENCES

1. Hager Environmental Liability Vol.1 Issue 2 1993 42
2. Burchell Principles of Delict 1993 86
3. Burchell Ibid
4. Hager Op Cit 43
5. Pagh Environmental Liability Vol.3 Issue 1 1995 15
6. Atkinson Environmental Liability Vol.1 Issue 4 1993 92
7. Burchell Op Cit 115
8. Burchell Op Cit 120
9. Hager Op Cit 42
10. Wetterstein Environmental Liability Vol.3 Issue 3 1995 44
11. Wetterstein Ibid
12. Posch Environmental Liability Vol.3 Issue 6 1995 106
13. Pagh Ibid
14. Atkinson Ibid
15. Atkinson Op Cit 93
16. Atkinson Op Cit 93
17. European Environmental Law Association Report Environmental Liability Vol.2 Issue 1 1994 2
18. McIntyre Environmental Liability Vol.3 Issue 2 1995 30
19. McIntyre Ibid
20. Hager Op Cit 41
21. Hager Op Cit 41

22. Lundström Environmental Liability Vol.2 Issue 1 1993 118

23. Lundström Ibid

24. Lundström Op Cit 120

25. Rogers Environmental Liability Vol.3 Issue 3 22

26. Rogers Ibid

27. Hager Op Cit 41

28. European Environmental Law Association Report Op Cit 3

29. European Environmental Law Association Report Op Cit 3

30. Wetterstein Op Cit 42

31. Wetterstein Op Cit 42

32. Wetterstein Op Cit 42

33. Wetterstein Op Cit 42

34. Posch Environmental Liability Vol.3 Issue 6 1995 106

35. Posch Ibid

36. Posch Op Cit 108

37. European Environmental Law Association Report Op Cit 4

38. European Environmental Law Association Report Op Cit 4

39. Hager Op Cit 41

40. Pagh Op Cit 18

41. Pagh Op Cit 18

42. European Environmental Law Association Report Op Cit 3

43. European Environmental Law Association Report Op Cit 4

44. European Environmental Law Association Report Op Cit 6

45. European Environmental Law Association Report Op Cit 6

46. Lundström Op Cit 121

47. Lundström Op Cit 121

48. Hager Op Cit 42

49. Hager Op Cit 42

50. Hager Op Cit 42

51. Hager Op Cit 42

52. Hager Op Cit 43

53. Hager Op Cit 43

54. Hager Op Cit 43

55. Hager Op Cit 43

56. Hager Op Cit 43

57. Hager Op Cit 43

58 Piette Environmental Liability Vol.3 Issue 6 1995 111

59. Wetterstein Op Cit 44

60. Wetterstein Ibid

61. Department of Environmental Affairs Earthyear Edition 13 1996 34

62. McIntyre Op Cit 31

63. Tromans Environmental Liability Vol.2 Issue 3 65

64. Tromans Ibid

65. Tromans Ibid

66. Tromans Ibid

67. Tromans Ibid

68. Tromans Op Cit 72

69. Tromans Op Cit 72

70. Tromans Op Cit 72

71. McIntyre Op Cit 32

72. Lucas Environmental Liability Vol.2 Issue 2 1995 77

73. Lundström Op Cit 117

74. Wetterstein Op Cit 44

75. Lundström Op Cit 117

76. Lundström Op Cit 117

77. Wetterstein Op Cit 44

78. Lundström Op Cit 120

79. Lundström Op Cit 117

80. Lundström Op Cit 117

81. Rogers Op Cit 25

82. Tromans Op Cit 67

83. Tromans Op Cit 67

84. McIntyre Op Cit 32

85. Tromans Op Cit 71

86. Tromans Op Cit 71

87. McIntyre Op Cit 33

88. Lucas Op Cit 78

89. European Law Environmental Association Report Op Cit 5

90. European Law Environmental Association Report Op Cit 5

91. European Law Environmental Association Report Op Cit 5

92. European Law Environmental Association Report Op Cit 5

93. European Law Environmental Association Report Op Cit 5

94. European Law Environmental Association Report Op Cit 5

95. Hager Op Cit 41

96. Pagh Op Cit 15

97. McIntyre Op Cit 33

98. McIntyre Op Cit 33

99. Lundström Op Cit 120

100. Lundström Op Cit 120

101. Lundström Op Cit 120

102. Lundström Op Cit 120

103. Lundström Op Cit 120

104. European Environmental Law Association Report Op Cit 6

105. European Environmental Law Association Report Op Cit 6

106. Layard Environmental Liability Vol.3 Issue 3 1995 59

107. European Environmental Law Association Report Op Cit 6

108. European Environmental Law Association Report Op Cit 6.

109. European Environmental Law Association Report Op Cit 16

110. European Environmental Law Association Report Op Cit 16

111. Lundström Op Cit 16

112. Hager Op Cit 44

113. Peck and Page Environmental Liability Vol.1 Issue 3 1993 55

114. Peck and Page Op Cit 56

115. Peck and Page Op Cit 57

116. Peck and Page Op Cit 57

117. Peck and Page Op Cit 54

118. Peck and Page Op Cit 58

119. Peck and Page Op Cit 58

120. Wetterstein Op Cit 47

121. Pagh Op Cit 16

122. Peck and Page Op Cit 53

123. Peck and Page Op Cit 53

124. McIntyre Op Cit 33

125. Piette Op Cit 112

126. Posch Op Cit 108

127. European Environmental Law Association Report Op Cit 9

128. European Environmental Law Association Report Op Cit 9

129. European Environmental Law Association Report Op Cit 9

130. Wetterstein Op Cit 43

131. Wetterstein Op Cit 43

132. Wetterstein Op Cit 43

133. McIntyre Op Cit 36

134. McIntyre Op Cit 36

135. Hager Op Cit 43

136. Hager Op Cit 43

137. McIntyre Op Cit 36

138. McIntyre Op Cit 36

139. Lundström Op Cit 122

140. Lundström Op Cit 122

141. Wetterstein Op Cit 43

142. Layard Op Cit 78

143. Lundström Op Cit 120

144. McIntyre Op Cit 36

145. Layard Op Cit 37

146. McIntyre Op Cit 36

147. Layard Op Cit 57

148. Layard Op Cit 57

149. Layard Op Cit 57

150. Layard Op Cit 57

151. McIntyre Op Cit 36

152. McIntyre Op Cit 36

153. McIntyre Op Cit 37

154. McIntyre Op Cit 37

155. McIntyre Op Cit 38

156. McIntyre Op Cit 38

157. McIntyre Op Cit 38

158. McIntyre Op Cit 38

159. McIntyre Op Cit 38

160. Rogers Op Cit 26

161. Rogers Op Cit 26

162. Layard Op Cit 58

163. Layard Op Cit 58

164. Ford and Rowley Environmental Liability Vol.2 Issue 2 1994 42

165. Ford & Rowley Ibid

166. Ford & Rowley Op Cit 43

167. Ford & Rowley Op Cit 44

168. Rogers Op Cit 24

169. Rogers Op Cit 24

170. Rogers Op Cit 24

171. Pagh Op Cit 17

172. Pagh Op Cit 15

173. Pagh Op Cit 15

174. Pagh Op Cit 15

175. Martens Environmental Liability Vol.3 Issue 6 1995 103

176. Martens Ibid

177. Martens Op Cit 104

178. Martens Op Cit 104

BIBLIOGRAPHY

Nicola Atkinson "Warranties and Indemnities. A 'Cure All' for Environmental Liability in the United Kingdom", Environmental Liability Vol.1 Issue 4 1993 pp90-95

Jonathan Burchell Principles of Delict 1993 Cape Town Juta and Co Ltd pp85-106, 114-120

Department of Environmental Affairs: Newsletter No.2 Earthyear Edition 13 1996 p34

European Environmental Law Association, Report of Working Party. Submission to the Commission of the European Communities, "Repairing Damage to the Environment - a Community System of Liability", Environmental Liability Vol.2 Issue 1 1994 pp1-10

Dr Marcus Ford and Dr Peter Rowley, "Liabilities for Contaminated Sites in Western Europe: The Development and Implementation of Remedial Standards, "Environment Liability Vol.2 Issue 1 1994 pp42-46

Prof. Dr Günter Hager, "Umwelthaftungsgetz: The New German Environmental Liability Law", Environmental Liability Vol.1 Issue 2 1993 pp41-44

Antonia Layard, "Contaminated Land: Law and Policy in the United Kingdom. The Environment Bill, Clause 54", Environmental Liability Vol.3 Issue 3 pp52-60

Prof Alastair Lucas, "British Columbia's New Approach to Contaminated Site Liability", Environmental Liability Vol.3 Issue 3 1995 pp77-79

Rose-Marie Lundström, "Environmental Liability in Sweden: Context and Main Features", Environmental Liability Vol.2 Issue 1 1993 pp117-122

Dr Claus-Peter Martens, "The Reform of Residual Pollution Law in Germany, with Particular Reference to the Federal State of Hesse", Environmental Liability Vol.3 Issue 6 1995 pp103-105

Owen McIntyre, "European Community Proposals on Civil Liability for Environmental Damage - Issues and Implications", Environmental Liability Vol.3 Issue 2 1995 pp29-38

Peter Pagh, "The New Danish Act on Strict Liability for Environmental Damage", Environmental Liability Vol.3 Issue 1 1995 pp15-19

Neil Peck and Karen Page, "USA - Natural Resource Damage: A Defense of the Economic Loss Doctrine or Bright-Line Rule Limiting Recovery", Environmental Liability Vol.1 Issue 3 pp53-70

M Jean Piette, "Responsibility for Environmental Damage in Quebec", Environmental Liability Vol.3 Issue 6 1995 pp109-113

Prof W Posch, "An Environmental Liability Statute for Austria. A History of Failure and Delays", Environmental Liability Vol.3 Issue 6 1995 pp106-108

Nicolette Rogers, "Remedial Liability: The Queensland Contaminated Land Act 1991", Environmental Liability Vol.2 Issue 1 1994 pp22-27

Stephan Tromans, "Damage to the Environment", Environmental Liability Vol.2 Issue 3 1994 pp65-73

Peter Wetterstein, "The Finnish Environmental Damage Compensation Act - and some Comparisons with Norwegian and Swedish Law", Environmental Liability Vol.3 Issue 3 1995 pp41-48