Abstract

Serious environmental damage with widespread consequences is rightfully causing increasing alarm in the world of today. With speeding globalization of industrial and economic activity follows greater mobility of goods and people and therewith also greater risk to the global environment. Recent incidents of oil spill and toxic contamination pose warning examples.

The transboundary nature of environmental damage is presenting an intricate problem to lawmakers and to international bodies of cooperation and regulation as well as to national governments and private corporations acting on the international stage.

In our shrinking world we realize the growing interdependence and thereby also the joint responsibility for a common environment. Efforts are being made to cope with the current problems and to prevent future problems and disasters. A problem of the second order is that of finding ways and means of harmonizing local, regional, national and international efforts.

A common prerequisite for joint efforts in general is a common language, in this connection a common body of laws and regulations or at least an arena for discussion and policymaking. Such an arena is continuously being built and refined through the work of diverse international bodies of cooperation such as the United Nations, International Maritime Organization, International Law Commission and the European Community.

This paper examines how and to what extent private entities may be held responsible for transboundary environmental damage under existing international law. The study of a number of actual cases will indicate results and lead to conclusions.

The overall conclusion of this paper is that the coverage of the liability regimes must be widened and made more flexible in order to prevent future disasters and to restore damage done and compensate those exposed to consequences.

Abbreviations

ADR	European Agreement Concerning the International Carriage of Dangerous Goods by Road
AJIL	American Journal of International Law
CLC Convention, 1969	The 1969 International Convention on Civil Liability for Oil Pollution Damage
CLC Convention, 1984	The 1969 International Convention on Civil Liability for Oil Pollution Damage as amended by its 1984 Protocol
CLC Convention, 1992	The 1969 International Convention on Civil Liability for Oil Pollution Damage as amended by its 1992 Protocol
COE Convention	The Council of Europe Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment
CRISTAL	Contract Regarding a (Interim) Supplement to Tanker Liability for Oil Pollution
CRTD Convention	Convention on Civil Liability for Damage Caused During Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels
EC	European Community
EU	European Union
EEZ	Exclusive Economic Zone
HNS	Hazardous and Noxious Substances
HNS Convention	International Convention on Liability and Compensation for Damage Caused by Carriage of Hazardous and Noxious Substances at Sea
HNS Fund	Hazardous and Noxious Substances Damage Compensation Fund
ICJ	International Court of Justice
ILC	International Law Commission
IMF	International Monetary Fund
IOPC Convention	International Convention on the Establishment of an International Fund for Compensation of Oil Pollution Damage
IOPC Fund	The International Fund for Compensation of Oil Pollution Damage
MARPOL	Convention on the Prevention of Pollution from Ships
NYIL	Netherlands Yearbook of International Law

OECD	Organisation for Economic Cooperation and Development
PPP	Polluter Pays Principle
SDR	Special Drawing Rights
TNC	Transnational Corporation
TOVALOP	Tanker Owners Voluntary Agreement Concerning Liability for Oil Pollution
UK	United Kingdom
UN	United Nations
UN/ECE	United Nations Economic Council for Europe
UNEP	United Nations Environmental Program
UNGASS	United Nations General Assembly Special Session
US	United States
YIEL	Yearbook of International Environmental Law

Contents

I. Introduction

a) Objective

The objective of this study is to examine the extent to which private entities may be liable under international law for transboundary environmental damage. The status of de lege lata in international law will be presented. The evolution of a more common international legal foundation and framework will be indicated through the identification of a number of incidents, judicial actions and ongoing international cooperative efforts. A few lines of thought into the future will be opened up.

b) Definitions and Delimitations

The issue of liability for environmental damage is a complex of related issues. Several aspects and perspectives, important and relevant to global environmental protection, are more or less closely linked to the core issue of this paper.

For the sake of focus we will stay strictly within the limits of above stated objectives. Thus I will examine only private entities. With private entities I mean privately owned, controlled or operated entities including state-owned business corporations. However, for reasons stated later in this paper, damage connected to the operation of nuclear installations will be excluded.

Damage connected to human actions will be examined, whereas damage caused by natural disaster will not. Human actions by military personnel or units also fall outside the scope of this paper.

Furthermore, the study concerns only the civil liability of the private entity causing damage to the environment, not the criminal liability. Also, since I have chosen to examine environmental liability under international law, this paper exclusively deals with transboundary damage.

With “environment“ I mean outdoor environment with environmental media as water, soil, flora and fauna[1]. Although a part of general environmental law, indoor and working environments fall outside the scope of this paper. Environmental damage is defined in the instruments of environmental law, and includes adverse effects on man, his artefacts and the environment.[2] In the schemes of reparation and liability however, compensable environmental damage is defined as embracing economic losses only, or rather harm expressed in economic terms.

Consumer’s goods and other products sold, used and disposed of constitute a major global environmental problem. Liability for environmental impact or damage caused in these connections is normally referred to as civil product liability and will not be elaborated upon in this paper.

Another closely linked and increasingly discussed issue is that of lender liability. This issue, which concerns the specific question of distribution of liability between owner/operator and financier, earns focused attention but will not be dealt with in this paper.

c) Method

In gathering data for this paper I have searched the literature as presented in books, journals and electronic media, mainly in the fields of law and other social sciences.

In examining the legal sources relevant to the subject matter of this paper traditional legal method has been used.

The legal sources examined are customary law, treaties and conventions, principles of international law, judicial decisions, writings of publicists and certain other sources of relevance and authority, such as resolutions and decisions of international and regional organisations and the work of the International Law Commission.

e) Overview

This paper aims at examining the extent to which private entities may be liable under international law for transboundary environmental damage. The first chapter contains a brief introduction presenting the objective of the paper, definitions and delimitations, method and an overview.

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[1] The English Environment Protection Act of 1990, defines the environment as consisting “of all or any, of the (medias) the air, water and land; and the medium of air includes the air within buildings and the air within other natural or man made structures above or below ground.“
[2] Saunders, P.W.J., p. 2

In chapter two I examine the increasing role of private entities in connection to environmental issues.

In chapter three international legal norms relating to the natural environment and the question of civil liability of private entities are further elaborated.

A concise presentation of the evolution of the law of state responsibility and the emerging issue of environmental liability for private entities is made. Fundamental principles, decisions and statements on international environmental liability are together with the efforts of the United Nations Environmental Programme and the International Law Commission elaborated on. This presentation is followed by a brief exposé on environmental damage in order to illuminate the term.

Treaties and conventions relevant to the subject have the greatest legal weight in the current system of international law and are thus in this chapter comprehensively elaborated upon. Along with these are presented a note on evolving environmental policy of the European Community.

In chapter four actual cases of large-scale environmental damage caused by private entities are presented and commented on.

Chapter five analyses the international regime on liability of private entities for transboundary environmental damage and points to its strengths and weaknesses.

Finally, in chapter six, I conclude the status quo of the international legal regimes concerning the subject matter, discuss the challenges to these regimes and propose possible measures in order to enhance the protection presently afforded.

II. Environmental Damage and Private Entities

In June 1997, the United Nations General Assembly Special Session (UNGASS) reviewed environmental progress made in the five years since the Rio "Earth Summit". The report on that review showed, despite positive developments in some areas, that progress had been disappointing. The state of the environment had continued to worsen in respect of a variety of indicators.[3] The report notes that greenhouse gases were still being emitted at higher levels than agreed upon under the UN Framework Convention on Climate Change.

The use of renewable resources, such as land, fisheries, forests and fresh water was furthermore not sustainable and beyond their natural regeneration capacity. Changes to global biogeochemical cycles were leading to widespread acidification, changes in hydrological cycles and the loss of biodiversity, biomass and bio productivity. The report concludes that the pressure mankind is putting on the global environment is increasing. On top of a growing population, consumption per capita is steadily growing. The trend since 1997 has not been altered. As the wheels of global economy continues to spin faster, the pressure put on the environment increases.

Delegates of the UN Commission on Sustainable Development agreed in 1997 that certain subjects merited particular effort and attention. Among these subjects were the need for clean fresh water in connection to the particular problem of increasing water pollution, the global atmosphere and the particular regional and local problem of air pollution, plus protecting the forests and preventing over-fishing of the world's oceans.[4]

[3] UNEP, Global Environmental outlook 1, Global State of the Environment Report 1997
[4] OECD, Globalisation and the Environment,1999, p. 30

In these days we are confronted with a growing number of incidents of severe damage to the environment as a result of human activities. Examples of such incidents are the Amoco Cadiz oil spill, the Chernobyl accident and the Seveso, Sandoz and Bhopal chemical accidents. Releases of hazardous liquid tailings from mining activities like at the Aurul goldmine in Rumania or the Marcopper plant in the Philippines are other examples. There have furthermore been numerous cases brought before the German courts in the last couple of years in respect of matters such as air pollution from a coal fired power station in France, water pollution of German rivers from French mines and noise pollution from airports in Salzburg and Zurich.[5] The list could be made much longer and for the matter of focus two relevant cases are chosen. I will later on in this paper present and to a certain extent elaborate on the Aurul incident, involving a discharge of cyanide-laced water into the Tisza River system, and the Amoco Cadiz oil spill off the coast of Brittany.

The more frequent occurrences of incidents like these show clearly the increasing impact industry is having on the environment. Part of the reason for this increase in influence is a combination of the nature and scale of contemporary industrial activity in general. The nature of pollution, nuisance and environmental risk of contemporary industrial activities are such that they will likely give rise to transboundary problems thereby causing direct or indirect adverse effects in the territories of other states. Adding to the complexity of the issue is the fact that the size and transnational nature of modern business means that a company based in one country may well have operations in many other jurisdictions causing harm.

The threat to the environment does, as the mentioned incidents indicate, not come solely or even principally directly from the exercise of the political will of states but mainly from the activities of private entities. The result of the activities causing damage may furthermore either, directly affect the daily lives of individuals living in other states, or influence certain matters in which essentially individuals, rather than states, are perceived as having an interest. Thus, both in terms of imposition of obligations and in the exercise of rights, the individual is an important, and in some respects even a necessary, actor within the field of environmental law.

Multinational economic entities and corporations are today at the centre stage of the international world economy following their growth in the field of international capital flows and the increase in trade during the last couple of decades.[6] Private entities control a major part of the world economy and their activities have a significant and growing impact on the global environment and the situation of all people.

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[5] Thomas, S., p. 441
[6] UNSG, E/CN.4/Sub.2/1995/11, para. 4-7

Many of the non-governmental organisations (NGO) engaged in environmental issues is certain that the emerging process of globalisation and liberalization to an inproportional extent contributes to greater exploitation and depletion of biological diversity and natural resources. In connection to this process, private entities also by these organisations, are said to be responsible for a major part of the environmental damage caused worldwide. The sometimes destructive impact of the private entities on the environment constitutes a growing concern for these organisations.[7]

A similar notion is made also by industry itself. In an article on sustainability in the era of globalisation, the Director of the World Business Council on Sustainable Development (WBCSD), Björn Stigsson, presents what the WBCSD sees as the major environmental challenges facing business today. One of the three categories of challenges presented is the short-term risk of sudden incidents, such as accidental pollution spills. These can for the company result in substantial costs or fines and adversely affect the value of the company.[8] This is a serious concern for the business sector.

The failure to adequately monitor and regulate the activities of private entities has led to a situation today where environmental damage caused by these activities make up a heavy burden on the global natural resources and biodiversity.

The liberalization process in many third world countries today is paired with a lack of financial flows and a continuing problem of debt and falling commodity prices. Countries in that situation often lack sufficient economic space to implement environmentally sound policies and practices. They are to a very large extent dependent on the investments of private entities. A commonly used manner to attract business by these countries is to slacken national environmental regulation providing an improved opportunity for the investors to gain further profit. With this kind of national policies mutually implemented in several states, a downward spiral in environmental policies is a fact.[9]

[7] Third World Network, TNCs and Globalisation: Prime sources of worsening ecological crises
[8] Stigson, B, p. 64
[9] UNSG, E/CN.4/Sub.2/1997/9, paras. 28-30

Social pressure over the more frequent environmental incidents and the general impact of industry on the environment has however, in the wake of several major environmental accidents grown larger, since the last twenty years.[10] Against that background states have in recent years shown a greater willingness to close in on the issue of international environmental liability for private entities. The question of who should pay for the costs involved in the clean up of pollution and the restoration of damage has thus been more frequently debated. Should the bill for this be borne by society at large, in other words, by the taxpayers, or should it be borne by the polluter, in cases where it is possible to identify one?

A key to preventing further deterioration to the global environment lies in creating adequate tools for intervention into the action of the forces of the free markets.[11] The pace of the process of ratification of international environmental liability instruments has been slow during the last century. A sense of urgency is lacking. Internationally and nationally, the funds and political will have yet been insufficient to address the most pressing environmental issues and to halt further global environmental degradation.

[10] Smith, D., p.173
[11] Third World Network, TNCs and Globalisation: Prime sources of worsening ecological crises

III. International Legal Norms Relating to the Natural Environment and the Question of Liability of Private Entities

a) Environmental Liability in International Law

1) The Evolution of State Responsibility and the Trail Smelter Arbitration

The launching of the Harmon Doctrine in 1895 was a triumph for the concept of state sovereignty. It confirmed and established that all states have the right to exploit their national natural resources for their own benefit, in particular concerning the use of boundary waters. The extent of this concept has after it's launching been circumscribed at several occasions during the last century by cases and agreements like the Trail Smelter Arbitration and the introduction of the Principle 21 of the 1972 Stockholm Declaration.[12] The contemporary approach to sovereignty thus includes both a duty for the state to protect the environment within its jurisdiction, prevent transboundary harm and to preserve the global commons for present and future generations.

The law has not been static but has evolved significantly to adapt to the dramatic change in the nature and extent of international relations since then. Initially the law of state responsibility was conceived in a restricted manner, protecting only personal rights, later evolving to protect also economic rights of nationals of other states. Given the limited scope of international relations at the time it was quite obvious that the law would only cover aspects in which contacts were most frequent and thus, conflicts were most likely to appear.

The law of state responsibility has developed in the international legal order over the years. It has generally followed the characteristics of law of torts in domestic legal system. It thus initially applied only in response to an already caused injury on another state, not including any preventive action. The casual link required, between the injury and the act or omission attributable to the state, further restricted the application of the law. It was furthermore applied only when that act or omission was "wrongful", i.e. contrary to a precise obligation under international conventional or customary law.

[12] Larsson, M.-L., pp. 155-159

There are numerous cases supporting the principles of liability, in connection to transboundary environmental damage. Two of them of central importance, are the Corfu Channel Case and the Trail Smelter Arbitration.

The Trail Smelter Arbitration concerned damage for harm caused in the USA by transboundary air pollution originating from a smelter factory in Trail, province of British Colombia, Canada. The Tribunal in 1941 concluded that Canada was to compensate for the damage caused and that the Trail Smelter was to refrain from further pollution.[13] The Arbitration was accompanied by one of the most significant breakthroughs in the process of development of the law of state responsibility. Relying largely on principles and decisions of US courts and on the basis of the general international law principle "sic utere tuo ut alienum non laedes", the tribunal concluded that,

" no state has the right to use or permit the use of its territory in such manner as to cause injury … in or to the territory of another"[14]

Applying the "sic utere"-principle in that manner meant that international law entered into the field of transboundary environmental protection. It should be noted however, that its application was still limited to the territories of states only.

Later cases and instruments support the conclusion of the tribunal in the Trail Smelter Arbitration. A similar conclusion was reached in the Corfu Channel Case in relation to acts contrary to international law and the rights of other states. The International Court of Justice found Albania responsible for damage and loss of human life resulting from explosions of mines and awarded Albania with a duty to pay compensation to the UK. The ICJ concluded that a states obligation is,

" not to allow knowingly its territory to be used for acts contrary to the rights of other states."

2) The Influence of Principle 21

In 1972 the United Nations Conference on the Human Environment adopted the Stockholm Declaration. According to Principle 21 of that declaration, states have the sovereign right to exploit their resources however they wish, taking into account nothing but their own environmental policy. This right, however, according to Principle 21, is subject to the state's responsibility

[13] Transnational environmental law, Case No. 5: Trail Smelter, *http://www.jura.uni-muenchen.de/tel/cases/Trail_Smelter.htm*
[14] The Trail Smelter Arbitration, 33 AJIL (1939), p. 182;35 AJIL (1941) p. 684-716

"to ensure that activities within their jurisdiction and control do not cause damage to the environment of other states or to areas beyond the limits of national jurisdiction".

The link between the sovereignty and the responsibility not to cause damage included in Principle 21 constitutes a major development to international law extending the transboundary reach to include areas beyond the limits of national jurisdiction. This development improved the reach of the Trail Smelter decision and was particularly apparent in relation to the marine environment and the atmosphere.

Should this responsibility be breached it implies a corresponding legal obligation to provide reparation or compensation. This obligation is not precise enough however to be substantial. Hoping to provide substance, the delegates of the Stockholm Conference, adopted Principle 22 stating that:

"States shall cooperate to develop further the international law regarding liability and compensation for the victims of pollution and other environmental damage caused by activities within the jurisdiction or control of such states to areas beyond their jurisdiction."[15]

Broad international regimes, based on the principle of responsibility have since, been established under the influence of the Principle 21. Several international organisations has furthermore, ever since the Stockholm Conference, striven to develop further the concept of liability for environmental damage, to fulfil the mandates of Principles 21 and 22.

The essence of this responsibility in the context of environmental protection is expressed in an article on environment and trade, recently published by the United Nations Environmental Program (UNEP), summarized as:

"States are responsible for injuries caused to the environment of another State or the global commons resulting from violations of a generally accepted international rule or standard."[16]

The liability area of international customary law offers possibilities for compensation from a state for transboundary pollution. Examining case law however, it appears, that the opportunity is little used.

[15] Stockholm Declaration
[16] Hunter, Sommer, Vaughan, chap. 5

3) The Polluter Pays Principle

The year the Stockholm Declaration was adopted, the OECD introduced the Polluter Pays Principle, a principle of great significance to the notion of liability of private entities for environmental damage.

The OECD Council originally recommended the Polluter Pays Principle in May 1972 as an economical principle. It meant that the cost of pollution abatement should be born by the individual polluter and not by the commons. It would then be up to the polluter to pass the cost on to the consumers through internalising the cost into the price of the product.

The principle originates from the earlier belief that use of resources was free to all. The costs of pollution, in the form of degradation of resources through emissions and discharges, were passed on to future users of the same resources. This resulted in a market failure in the form of an improper allocation of the cost of pollution. The internalisation of external costs is the basis of the Polluter Pays Principle.

The Polluter Pays Principle has since been increasingly accepted as an international environmental principle. It has been explicitly adopted in several bilateral and multilateral resolutions and declarations, including Principle 16 of the Rio Declaration, which provides that:

"National authorities should endeavour to promote the internalisation of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment."[17]

The Polluter Pays Principle has been incorporated in the environmental liability context as a means of paying for the cost of pollution and control. According to the principle the polluter is under the obligation to make good the damage. The principle has been interpreted as including a responsibility for the polluter to compensate for harm from pollution damage.

Regarding the application of the Polluter Pays Principle to accidental pollution the Environment Directorate of the OECD concludes its 1992 monograph on the principle that,

"it is simply a means of financing emergency expenditure by a public department following an accident."[18]

[17] Rio Declaration, principle 16
[18] The Environment Directorate, OECD Analyses and Recommendations, p. 37

Concerning the issue of compensation for the victims of pollution damage the Directorate in the same report concludes that applying the polluter pays principle and allocating the cost of serious pollution damage to the operator is a growing trend in many of the member states of the OECD. This trend is exemplified by the German Law on Environmental Liability, which imposes a strict liability regime for the operator of a hazardous installation. The trend of allocation of the cost of pollution may be seen to a large extent both in national and in international law as a consequence of the Polluter Pays Principle.[19]

4) Towards Liability

The work of the International Law Commission (ILC), inspired among others, by the "sic utere"-principle has greatly clarified the conceptual framework governing the field of responsibility and liability in international law. A central distinction contributed by the ILC is that between the notion of *state responsibility* and *international liability*. State responsibility arises exclusively from unlawful acts whereas international liability has come to encompass both lawful and unlawful acts. Liability has in the first General Assembly report of the ILC on the Prevention of Transboundary Damage from Hazardous Activities been defined as "a negative asset, an obligation, in contradiction to a right"[20]

Much elaboration on the issue of liability and responsibility in connection to transboundary environmental damage has been carried out by the ILC. For over forty years the Commission has been working on the codification of state responsibility in a set of draft articles on that subject. These articles deal with internationally wrongful acts of states and the question of their responsibility. The Commission, however, has noted that also activities not prohibited by international law causing transboundary damage are relevant in examining this field. In the 1970's the Commission decided to specifically elaborate on those activities under the new topic of International Liability for Injurious Consequences Arising out of Acts Not Prohibited by International Law. The scope of the topic is limited to injurious consequences from physical activities, causing physical damage. The draft articles by the ILC, thus, do not cover economic damage as a consequence of economic activities.

[19] The Environment Directorate, OECD Analyses and Recommendations, p. 43
[20] ILC, A/CN.4/487, para 41

The ILC elaborates on two different sets of draft articles, on one hand, state responsibility and on the other international liability. The work of the ILC on international liability is specifically relevant to the notion of liability of private entities in international law. The Special Rapporteur of the ILC on the topic of international liability had from the very beginning of the Commissions work on International Liability argued in favour of State liability as a primary factor of environmental liability in international law. In the latter part of his work however, he started to opt for a mix of that concept with that of civil liability of the operator of an activity. In the seventh report on the subject in 1991 a new Special Rapporteur proposed that the notion of civil liability for environmental damage should be primary and that state liability should only be residual to that.[21]

In 1996 a Working Group of the ILC presented to the General Assembly a set of draft articles on International Liability for Injurious Consequences Arising out of Acts Not Prohibited by International Law. The reactions of the General Assembly to the proposal of the Working Group was mixed. One group of states commenting on the proposal thought that the draft articles did not sufficiently focus on the principle of liability and compensation. Another group of states regarded the proposal as too vague and unspecific concerning the question of eligibility as subject of liability. It could be assumed that the draft articles sought to impose obligations upon states exclusively, not on private entities as well. The US government commented specifically

"from a policy point of view, a good argument exists that the best way to minimize such harm (significant transboundary harm) is to place liability on the person or entity that causes such harm, rather than on States."[22]

Developments of the work of the ILC continue and are presented in yearly reports. Unless these articles represent customary law or are adopted by states either through conventions or State practice, they are not firm international law and as such have little direct relevance to transboundary pollution.

The United Nations Environmental Program has put a lot work into developing the concept of liability in international environmental law over the years. UNEP established a working group in response to Principle 21 in the early 1970s with the aim to develop the concept of liability in international environmental law. Its elaborations were fruitless and the Working Group did not continue in its efforts due to governments not ready to deal with the issue.[23]

[21] ILC, A/CN.4/501, para. 16
[22] ILC, A/CN.4/501, para. 58
[23] Thomas, P, p. 25

Even though the results by the preliminary efforts by UNEP initiated in the 1970's were not encouraging, the situation has improved since the past few years upsurge in interest of the environment. Governments are now more eager to tackle the issue and develop rules concerning liability and compensation for persons suffering environmental damage. There have been numerous working groups considering the issue and several principles and guidelines adopted. Work has been carried out not only in response to the Polluter Pays Principle but also triggered by United Nations General Assembly resolutions and UNEP Governing Council Decisions.

Action concerning the issue of liability for environmental damage channelled through UNEP has been articulated in several different ways. Note should be made of actions expressed in the Stockholm Declaration of 1972, Principles of Conduct in the Field of the Environment for the Guidance of States in the Conservation and Harmonious Utilization of Natural Resources Shared by Two or More States, the Montevideo Programme of 1981, the Montreal Protocol on Substances that Deplete the Ozone Layer of 1987, the Basel Convention on the Control of Transboundary Movements and Their Disposal, and in the conclusions of the study specifically on offshore mining and drilling drafted in response to UNEP governing Council Decision 91 of 25 may 1977.[24] Some of the treaties that will be presented in this paper are also fruits of the work within the framework of UNEP.

A number of developments are central to the evolution of this body of law. One such is that of widened applicability of environmental law. At the time of the Trail Smelter Arbitration and the Corfu Channel Case, environmental law was only applicable to activities causing transboundary damage between neighbouring states. Today, environmental law is also applicable to activities causing effects at a long distance, and even more important to those causing effects upon areas beyond territorial jurisdiction. Thus the law has evolved from a purely national level in its origins to a transnational dimension and then to an international or global level. It is now not necessary to await damage to occur.

Ian Brownlie expressed in an article in the Natural Resource Journal in 1973 that international customary law contains no rules or standards related to the protection of the environment as such. This does not seem to be the case today when international environmental law has been significantly developed.

[24] Thomas, P., p. 25ff

Today there is no doubt that States under customary international law are required to take steps to control and regulate all sources of pollution or of harm to the environment from within their territory, such as land-based sources, or environment subject to their jurisdiction and control, such as vessels, dumping and offshore mineral exploration and exploitation.

Private initiatives in the field of liability for environmental damage have gained widespread application. Examples of agreements in the oil industry are: Tankers Owners Voluntary Agreement Concerning Liability for Oil Pollution (TOVALOP), 1974 Offshore Pollution Liability Agreement (OPOL) and Contract Regarding a (Interim) Supplement to Tanker Liability for Oil Pollution (CRISTAL). Almost 90 percent of the global oil transporting fleet is covered either by the TOVALOP, OPOL and or the CRISTAL agreements. The operators of these activities are thereby governed by basically the same provisions on liability as under the CLC and the IOPC Fund Convention. [25][26]

Regardless of the developments that have taken place in international customary law though, it does not as yet cover the specific question of liability of private entities for environmental damage. To include this issue in current international law, we are still dependent on solutions through treaties, conventions and other more specific regimes.

b) Environmental Damage in International Law

In presenting the civil liability regimes of international environmental law, providing a clearer picture of what damages are covered by those regimes is essential. The concept of environmental damage in this connection is not obvious. There has been established a more or less controversial terminology in international environmental law.

First of all, when elaborating on this matter, it must be noted that not all types of environmental damage can be efficiently dealt with using the concept of liability. The White Paper on Environmental Liability by the European Commission, denote three criteria necessary for effective remedy of environmental damage through liability. The polluter has to be identifiable and the damage, concrete and quantifiable. There also needs to be established a causal link between the polluter and the damage. Damage in the global environmental concept can thus derive from two categories of sources with different characters.

[25] Brubaker, p. 159
[26] Larsson, M.-L., p. 197

Liability is not well suited for instances of widespread pollution of a diffuse character where a link between the damage and a specific polluter cannot be made. Examples of this kind of damage are effects of climate change as a result from emissions of CO^2 or similar and damage to forests caused by acid rain and air pollution as a result from traffic. Damage resulting from industrial accidents, on the other hand, or pollution caused by hazardous waste is more efficiently dealt with under a liability scheme.[27]

In existing international environmental instruments both traditional damage and environmental damage per se is usually covered. Traditional damage, in these instruments, includes personal injuries or loss of life and damage to property with an ecological dimension. Compensable damage, regarding personal injuries and loss of life, are direct costs and indirect and non-pecuniary losses. As regards property damage, pure financial loss is compensated for in addition to the above mentioned.[28]

Environmental damage per se entails pure ecological damage only. For this kind of damage indirect compensation awarded through measures of reparation and restoration is mostly realized. Two kinds of environmental damage can however be identified. First, pure ecological damage, sometimes referred to as environmental impairment, and secondly, property damage with an ecological dimension.[29]

The issue of compensability of damage to biodiversity and natural resources is controversial[30]. An increasingly comprehensive approach to acknowledge this kind of damage has recently emerged. This approach could be seen as an attempt to bring ecology and traditional tort law together and a further recognition to that traditional tort law alone is not sufficient in the context of compensation for environmental damage.

Two basic questions are discussed with regard to compensation for damage to natural resources. The first question regards the notion of assessment. Since there generally is no open market for the resources involved, the assessment of damage is problematic. Traditional tort law methods, utilizing market value to assess compensation are therefore not fully adequate. New methods are being elaborated on, but have not gained acceptance.

[27] White Paper on Environmental Liability, p. 13
[28] Larsson, M.-L., p. 528
[29] Larsson, M.-L., p. 486
[30] Larsson, M.-L., p. 485

The second question, concerning who should have the right to ask for, or to take action to remedy, is not less controversial. Traditionally the state within whose jurisdiction the damage occurred would have the exclusive right to remedy. There are trends however, especially in national environmental law, towards giving this right also to certain NGOs and other groups concerned with environmental issues.

The notion of assessment has been controversial in the debate on the development of the CLC regime. As will be discussed later in this paper the wording in the original text was vague and left openings to compensability of pure ecological damage. Following discussions on this notion it was decided that pure ecological damage was not to be compensated for. Considering the difficulties of assessing this kind of damage, the intentions of the international society have in the elaboration of these kinds of international instruments, then been to compensate exclusively for the costs of reparation or restoration of the environment.

With this in mind the international instruments governing the issue of environmental liability of private entities will be presented.

c) International Treaties

1) Introduction

In general, treaties in the field of environmental law do not contain any provisions on liability for persons causing damage. The 1979 Geneva Convention on Long Range Transboundary Air Pollution, for example, contains a footnote expressly stating that the convention "does not contain a rule on liability as to damage". The same applies to the Vienna Convention on the Protection of the Ozone Layer and the Basel Convention on the Transboundary Movements of Hazardous Wastes. Many regional conventions contain only general provisions on the question of liability. Article 25 of the Convention on the Protection of the Marine Environment of the Baltic Sea Area for example states that,

"the Contracting Parties undertake jointly to develop and accept rules concerning responsibility for damage resulting from acts or omissions in contravention of this Convention, including, inter alia, limits of responsibility, criteria and procedures for the determination of liability and available remedies."[31]

The vagueness and uncertainty of such provisions breeds doubts as to their binding force and the possibilities to enforce liability.

[31] Convention on the Protection of the Marine Environment of the Baltic Sea Area, Article 25

Considering the transboundary context in which environmental damage today often times occurs, harmonization of the diverse national legal regimes on protection of the environment is of great importance. The contemporary civil liability regimes of international law are not adequately adapted to the situation.

The pace of the process of formulation and ratification of international civil liability regimes is slow. The main reason for this is that the question of liability is politically highly sensitive. States however prefer the notion of civil liability for environmental damage and are less reluctant to that than towards the formulation of international instruments on state responsibility. It is apparently more appealing to a state to impose liability for compensation of damage on a private person than on itself.

Conventions entailing liability for the person causing damage have been agreed upon with regard to particular activities in connection to which environmental damage is more likely to occur. The gravity of a potential incident or the probabilities of numerous incidents together causing significant environmental damage are incentives for states to agree on liability regimes.
Traditionally environmentally dangerous activities, such as transport of oil, and other hazardous and noxious substances at sea, are normally quite well covered by these regimes since pollution at sea many times involve a transboundary aspect or appear in a stateless area. Operation of nuclear installations for energy production is also comparably well regulated when it comes to civil liability. As regards nuclear damage it is mainly the massive gravity of the potential damage that fuel states to agree on harmonization of liability provisions through international instruments.

The most elaborate rules in the matter of civil liability are thus, those of the 1969 Convention on Civil Liability for Oil Pollution Damage, the related International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage and their respective supplementary agreements.

1.1) Immovable Sources

In examining international civil liability regimes a distinction is commonly made between immovable and movable sources. The only regime on immovable sources in force at present is the international regime on civil liability for nuclear damage concerning activities in and in connection to nuclear installations. The operations of nuclear installations involve apparent risks of causing large-scale transboundary environmental damage. Civil liability regimes in connection to this are therefore as already mentioned highly structured. Even though the liability regimes on nuclear damage considering the title of this paper logically could fall within the scope of the paper, I have chosen to exclude them.

The reason for this is that the industry involving the operation of nuclear installations, almost exclusively, is directly or indirectly, controlled through state ownership. This means that the liable parties almost exclusively would be, if not states in themselves, entities controlled by states. The regime on oil pollution damage already provides us with a very good example of a sophisticated liability regime. For the reason of focus and space, we will therefore in the following only very briefly describe the liability regimes on nuclear damage.

Fundamental to the regime on nuclear damage are its three main layers of liability. First, strict and limited liability for damage is imposed on the operator of the nuclear installation in combination with requirements for a compulsory insurance. As a second layer the state also has to accept strict limited liability. The third and final liability layer of this regime is the national nuclear damage insurance pool providing for insurance cover at an international level.

The international instruments on liability for nuclear damage have been elaborated since over 40 years and its three-layer structure serves as a model in many other areas of application. The major treaties concerning this issue are: the 1997 Vienna Convention on Civil Liability for Nuclear Damage, the Convention on Third Party Liability in the Field of Nuclear Energy as amended by the Additional Protocol of 1964 and by the Protocol of 1982, the Convention of January 1963 Supplementary to the Paris Convention of July 1960 as amended by the Additional Protocol of January 1964 and by the Protocol of November 1982, the Convention Relating to Civil Liability in the Field of Maritime Carriage of Nuclear Materials, the Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention, and the Convention on Supplementary Compensation for Nuclear Damage.

1.2) Movable Sources

Civil liability regimes concerning movable sources can be divided into four categories. The most elaborate of those regimes are the ones concerning damage caused in connection to transportion. These treaties will thus be presented first. With respect to transport of hazardous substances, conventions can be divided into subcategories according to the means of transport used. Several conventions developed establish a civil liability regime mainly because of the great probability of an occurrence of harm rather than the magnitude of harm. The first subcategory covers sea borne transports. According to the nature of the goods transported, these conventions can be divided into transports of oil, transports of nuclear materials, and finally, transports of other hazardous substances. The second subcategory includes transports of hazardous substances by road, rail and inland navigation vessels. A subdivision according to the nature of the hazardous substance is usually made between nuclear materials and other hazardous substances. The third subcategory, transport by air, is somewhat differently treated. Flying is considered a hazardous activity in itself and the nature of the transported substance is therefore not relevant in the application of the regime. It covers damage

"caused by an airplane in flight or by any person or thing falling therefrom"[32].

I do not in this paper, as earlier mentioned, include liability regimes on nuclear damage. Two of the categories mentioned in the above paragraph concern nuclear materials specifically and will not be elaborated upon.

Second, civil liability regimes concerning the use of natural resources and ecosystems of certain environmentally sensitive areas have been adopted with respect to offshore areas and the Polar Regions. Examples of civil liability regimes in these areas are, the 1988 Convention on the Regulation of Antarctic Mineral Resource Management, and the Convention on Civil Liability for Oil Pollution Damage Resulting from Exploration for and Exploitation of Seabed Mineral Resources. The sensitivity of the environment, in which the activities covered in the regimes are carried out, motivates these regimes. Response action and reparation in the sensitive and sometimes remote areas can be very costly due to geographical and technical obstacles. One of the main objectives of these regimes is to assure that there exist adequate funds for combating the consequences of environmental interference in these particularly sensitive areas.

[32] Convention on Damage Caused by Foreign Aircraft to Third Parties on the Surface, Article 1:1

Third, provisions relating to management of hazardous wastes are provided for, only in a general manner, in certain civil liability regimes. There are for example, provisions concerning storage on land and dumping at sea of hazardous substances, included in the 1993 Council of Europe Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment[33]. Specific civil liability regimes in force cover different locations of waste disposal site or areas of waste dumping. Dumping of hazardous waste in outer space is covered by a state liability regime and therefore falls outside of the scope of this paper. The disposal of nuclear materials furthermore is covered by a regime of its own also not elaborated on in this paper. The draft on a general civil liability regime on the management of hazardous wastes, finally, is still at is at an embryonic stage. It shows great similarities with the regimes applicable on transport of hazardous substances.

Fourth, the gross part of the international instruments entailing civil liability for environmental damage utilizes the sectoral approach. The 1993 Council of Europe Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment is, however, an example of a horizontal regime covering a variety of different activities that are potentially dangerous to the environment.

1.3) Factors of Analysis

In the following presentation of international treaties concerning civil liability for environmental damage, a number of factors of the regimes relevant to this paper are in focus. The factors included and elaborated are, who is liable and what the standard of his/her liability is. Furthermore included is, for what the person/persons are liable, i.e. what the scope of the instrument is and what kind of damage affords compensability. Possibilities afforded to the liable person to limit his/her liability under the provisions of the different instruments are also reported upon.

In presenting the liability regimes, the intention of this paper is not to present a full review of the instruments, but to provide a broad image of the environmental liability regimes under international law. The conventions are presented in the above-described structure.

2) Transport of Hazardous Substances

As previously mentioned, international instruments on environmental liability concerning transport of hazardous substances can be subdivided into three different categories with respect to the mode of transportation. Hazardous substances can be carried by sea borne modes of transportation, by road, rail and inland navigation vessels and by air.

[33] Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment, Article 7, Hereafter called “The COE Convention“

2.1) Sea Borne Transports

2.1.1) Transportation of Oil

Transport of oil and oil products amount to 38% of the world's total sea borne transportation.[34] Transportation of hazardous substances in such large quantities involves a great deal of risk as regards environmental damage. For that reason the international liability regime concerning the transportation of oil is today relatively well regulated. States have been more able to agree on harmonization through international instruments on this issue because of the higher risk involved.

The International Convention on Civil Liability for Oil Pollution Damage (1969 CLC Convention) was adopted in 1969 under the auspice of the International Maritime Organisation (IMO) and entered into force after being ratified by a sufficient number of states in 1975. In May 1999 the Convention as amended by its 1992 Protocol has been ratified by 77 states worldwide.[35]

When the CLC convention entered into force in 1975 it was the first ever international scheme specifically covering the issue of civil liability for oil pollution damage. Before that, general national rules on civil liability and the law of state responsibility applied to instances of environmental damage in connection to oil pollution. According to the 1957 Brussels International Convention Relating to the Limitation of the Liability of Owners of Sea-going Ships, the person suffering damage had to prove the fault of the owner of the ship, or of the cargo, in order to obtain compensation. The ship owners where under this convention actually protected by being granted the possibility to limit their liability for damage.

Because this regime so fundamentally changed the position of international law, it has been described as *"a revolutionary instrument in international law"* [36] within its scope. The regime on civil liability for oil pollution damage is a precedent in this area of international law. Many of the more recent international instruments on civil liability for environmental damage has been modelled on the CLC Convention and the closely connected 1971 International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (IOPC Fund Convention).

[34] Larsson, M.-L., p. 173
[35] The Fritdtjof Nansen Institute,
[36] Larsson, M.-L., p. 176

The CLC Convention applies to all sea-going vessels and sea borne craft of any kind even when the ships are on inland waterways. Warships and other ships owned or operated by a state, used for non-commercial services, are excluded.[37]

The aim of the CLC Convention is to provide adequate compensation to persons who suffer damage caused by pollution resulting from the escape or discharge of oil from ships. The geographical scope of the CLC Convention includes damage caused in the territory of the contracting parties, their territorial sea, and their exclusive economic zone. Costs of measures taken to prevent or minimize such damage are compensable wherever the measures are taken.

A right to compensation is provided under the 1969 CLC Convention for any loss or damage caused by contamination resulting from the escape or discharge of persistent oil from a ship actually carrying oil as cargo, wherever such escape or discharge may occur. The Protocol of 1992 further extends the scope of application to include not only ships actually carrying oil in bulk but also the same ships during any voyage following such carriage.[38]

Persistent oils covered by this convention are; crude oil, fuel oil, heavy diesel oil, lubricating oil or whale oil carried on board a ship as cargo or in the bunkers of such ship.

The extended application provides that operational dumping, through for example tank rinsing, is covered by the liability regime of the CLC during the voyages following those when carrying oil in bulk. The significance of operational dumping makes this an amendment of great importance. The fact is that the gross part of the total oil pollution in the world's oceans since 1983 has not been accidental but of an operational character. The operational dumping has during the period since 1983 made up to 72 % of the total dumping. Accidental dumping in the same period amounted to only 21% of the total.[39] It is on these voyages the gross part of the incidents of operational dumping occurs.

The owner of a ship at the time of the incident shall be strictly liable for pollution damage irrespective of fault. The person or persons registered as owners of the ship are under this convention considered its owners, or in the absence of registration, the person actually owning the ship. However, if the ship is owned by a state and operated by a company, that company is considered the owner. Where the incident consists of a series of occurrences, the owner at time of the first occurrence shall be liable for compensation under this convention.[40]

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[37] 1992 CLC Protocol, Article I, XI
[38] 1992 CLC Protocol, Article I
[39] Larsson, M.-L., p. 173
[40] 1992 CLC Protocol, Article III

In the event of damage resulting from a personal act or omission of intent to cause pollution damage or recklessly in good faith certain other persons than the owner can be held liable for damage. Under these special circumstances the servants or agents of the owner or members of the crew and a pilot, any charterer, manager or operator of the ship, persons performing salvage operations or a person taking preventive measures, or the servants or agents of any of these persons can be held liable.

Under the provisions of the CLC regime liability can be limited depending on the size of the ship. The limit of the ship owner's liability was altered in 1984 and in 1992 been by the introduction of a special limit for small vessel and a substantial increase of the limitation amounts for other larger ships. Since the amendments the limitation of liability for an owner to a ship not in excess of 5,000 gross tonnage is 3 million SDR which equals about 4.1 million US$. For owners of ships in excess of 5,000 units of tonnage the liability is limited to that same amount plus an addition of 420 SDR for each ton in excess of 5,000 tonnes. Each additional ton therefore approximately raises the limit of liability another 570 US$. For a large tanker the limit of liability can become very high according to this calculation. The limit of liability shall normally not exceed 59.7 million SDR or about 80 million US$ according to the same article of the convention. There are further ways of raising the level of limitation in extraordinary cases under certain provisions of the convention. Not even in this cases however, shall the amount exceed the maximum limit of 59.7 million SDR multiplied by three.[41]

The limitation of liability in amount is however not available to an owner that has caused pollution damage through a personal act or omission committed with the intent to cause damage or recklessly and with knowledge that such damage would probably result.[42]

Under the provisions of the convention there exists certain cases when the owner cannot be held liable for pollution damage regardless of the strict liability normally provided for. The owner is exempted from liability if the damage results from an act of war, hostilities, civil war or insurrection or from a natural phenomenon of an exceptional, inevitable and irresistible character. He can furthermore not be held liable if the damage was wholly caused by an act or omission done with the intent to cause damage by a third party. Governmental negligent maintenance of navigational aids causing damage also avails the owner of liability.[43]

[41] 1992 CLC Protocol, Article 6
[42] 1992 CLC Protocol, Article 6:1
[43] 1969 CLC Convention, Article VII

The liability of a ship owner under the CLC regime can in the event of an incident causing widespread and grave damage be significant. To ensure that means of compensation is always available the CLC Convention contains provisions on a compulsory financial security scheme. Owners of ships registered in the contracting states carrying more than 2,000 tons of oil in bulk as cargo shall be required to maintain insurance or other financial security to cover his liability under this convention.

Note that actual impairment to the environment per se is not compensable either under the IOPC Fund Convention or the CLC Convention as amended today. Compensation for impairment of the environment other than loss of profit under the CLC shall be limited to costs of reparation or restoration actually undertaken or about to be undertaken. Later decisions and codification clearly states that compensation is only awarded for reparation and restoration. In the convention text from 1969 the wording was quite vague concerning this issue. Compensation for damage to the environment *"per se"* was not literally excluded.

The 1992 protocol further limits the compensation to costs incurred for reasonable measures of reinstatement of the environment[44].

The result of this codification is that the Fund does not accept environmental damage per se as compensable. The problem of how to assess environmental damage per se is central to the notion of liability for damage under international law. As regards personal injury, loss of life or property damage including ecological aspects a market perspective is often applied. When it comes damage to the biological diversity or environmental damage per se to commons, market values are not applicable. Nature and biological diversity are not for sale and no market value exists. This makes assessment of compensation of this kind of damage problematic. The approach by the committee of the IOPC Fund is that impairment to the environment per se, is not compensable. Impairment of the environment does thus not in it self give a right to compensation under this regime, but the only costs of reinstatement of the impairment does. There is a right to compensation only for reasonable costs of reparation and restoration actually undertaken or about to be undertaken.

Costs of preventive measures and further loss or damage caused by such measures are also compensable. Also preventive measures taken as a response to a not realized threat to the environment is compensable.[45]

[44] 1992 CLC Protocol, Article 2, para. 3
[45] 1969 CLC Convention, Article I

The significant amendments to the CLC Convention of 1969 with respect to liability is the extended geographical scope also covering damage caused in the exclusive economic zone of the state, that spills from unladen tankers causing pollution damage are to be compensated and that the limit of liability of the ship owner has been altered.

During the conference in which the 1969 CLC convention was adopted, it was immediately clear that the scope of that convention was in it self, not satisfactory. Some of the participants of the Convention objected to the use of strict liability for the owner in contrast to the, at that time, traditional fault-based liability commonly used in maritime law. Others to that the limitation amounts adopted were likely to be inadequate in cases of pollution damage involving larger tankers. They requested an unlimited level of compensation or a very high limitation figure.[46]

In the light of the discussions and the reservations made during the work on the 1969 CLC Convention, the participants of the 1969 Brussels Conference considered as a compromise proposal to establish an International Fund to be subscribed to by the cargo interests. The 1971 International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (IOPC) would be available for two purposes. First, it would relieve the ship-owner of the burden imposed on him by the CLC Convention and second, it would provide additional compensation to the victims of pollution damage in cases where compensation under the CLC Convention was inadequate or unobtainable. The objective of the IOPC Fund Convention to indemnify the owner of compensation paid under the CLC Convention, under certain conditions, has however later been abolished through amendments in the 1992 IOPC Fund Protocol[47].

The main objective of the IOPC Fund Convention is thus to provide compensation for pollution damage where the CLC regime proves inadequate. The IOPC Fund Conventions is connected to the CLC Convention in that it applies exclusively with regard to compensation for pollution damage and preventive measures as defined in the CLC Convention.

[46] Hill, C., p. 423
[47] Larsson, M.-L., p. 184

In the well known first case of the IOPC Fund regarding the grounded tanker "Antoni Gramsci" the Fund was confronted with the issue of claims for damage to the marine environment per se. The Soviet tanker "Antoni Gramsci" grounded in the Baltic Sea in February of 1979 causing an oil spill of approximately 5,500 tonnes of crude oil. The oil polluted the Stockholm archipelago within 1.5 months and caused severe damage. Grave damage was furthermore caused in Finland and in the Baltic states. Sweden claimed compensation for extensive clean up work and other certain extra costs incurred because of the incident. The claim was settled at £ 8.3 million. The Soviet Union claimed compensation for environmental damage per se of about £ 43 million. The amount was assessed on a set amount of compensation per cubic metre of polluted water in accordance with the Soviet statute. The Fund could not at the time raise any objections against the claim because of the vagueness of the definition in the 1969 CLC Convention. The Soviet Union was afforded approximately £1.8 million in the final settlements. That amount competed with the Swedish for the amount available in the limitation Fund. Finland was not a party to any of the oil pollution conventions and was therefore not involved in the settlement.[48]

A working group of the Fund was set up by the IOPC Assembly in 1981 to discuss the issue of compensation for environmental damage per se. It concluded that losses to be compensated through the Fund must be quantifiable in monetary terms.

These discussions were codified in the 1984 and the 1992 protocols amending the text of 1969 CLC and the 1971 IOPC Convention. The definition of pollution damage concerning marine ecological damage in the convention states following the amendment that

"compensation for impairment of the environment … shall be limited to costs of reasonable measures of reinstatement actually undertaken or to be undertaken".[49]

Through decisions taken in the early 1980's the Fund could in 1987 reject the same kind of claims from the Soviet Union after the severe second grounding of the Antoni Gramsci.[50]

[48] Larsson, M.-L., p. 192
[49] 1992 CLC Protocol, Article 2:3
[50] Larsson, M.-L., p. 193

The Fund provides compensation to persons suffering pollution damage and for voluntary expenses or sacrifices by the owner of the ship to prevent or minimize such damage under certain criteria in three different cases. Either when no liability arises under the 1992 CLC Convention or when the owner is financially incapable of meeting his obligations and where full financial security does not cover or is insufficient to satisfy the claims for compensation. The Fund shall also pay compensation for damage exceeding the owners limited level of liability under the CLC regime.

The Fund acquires by subrogation the rights that the compensated person may enjoy under the 1992 CLC Convention against a liable owner. The Fund can thus retrieve the compensated amount from the owner, his insurer or financial guarantor.

The Fund is exempt from the obligation to pay compensation in the same manner as the owner is for damage resulting from acts of war, hostilities, civil war or insurrection or if the damage was caused by oil escaping from a warship or any other ship owned or operated by a state used in non-commercial services. It is also exempted from this obligation with respect to damage resulting from either the omission or the personal act of intent to cause damage by the person suffering the damage or from negligence of that person. There is however no such exoneration available with regard to preventive measures.[51]

The fund is exclusively obliged to pay compensation for damage caused within the territory, the territorial sea and the exclusive economic zone of a contracting state of the IOPC Fund Convention.[52]

With respect of every one incident causing damage the IOPC Fund provides a maximum limit of compensation of 135 million SDR, equaling approximately 182 million US dollars. This includes any compensation already provided for under the CLC regime. If at least three states contributing to the Fund receive more than 600 million tons of oil per year, this maximum limit is raised to 200 million SDR or about approximately 267 million US dollars.[53]

[51] IOPC Fund Convention, Articles 4:2, 4:3
[52] IOPC Fund Convention, Article 3:1
[53] IOPC Fund Protocol, Article 6:2

Contributions to the Fund are made by the oil industry under the scheme provided for in the IOPC Fund Convention. They shall according to the convention be made by all persons who in a contracting state receive more than 150,000 tons of oil carried by sea to the ports or installations in the territory of that state or indirectly via ports in a non-contracting state. All oil imported into a contracting state that has been transported by sea shall thus entail a duty to contribute to the Fund. This means that the larger importers of oil in the contracting states contribute to the Fund. In this respect, subsidiary or commonly controlled entities are regarded as one person. The amount of the annual contribution is assessed with regard to anticipated payments and estimated administrative expenses of the Fund for the forthcoming year.[54]

Just as the work on this paper is being finished in the end of March 2001, the IMO announced that agreement has been reached on a new liability regime on oil pollution damage by closing a significant gap in the global oil pollution liability regime. It completes its scope by including not only oil spills from ships carrying oil as cargo but also ships carrying oil in bulk as fuel. IMO data show that the number of oil spills from ships other than oil tankers were significantly greater than from the ones carrying oil in bulk. The convention will follow basically the same structure the CLC is built on. It will enter into force after 18 states have ratified the text. It still remains to see how long time the ratification process needs.[55]

2.1.2) Transportation of Hazardous and Noxious Substances

The International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (HNS) applies to cargo onboard a ship both in bulk and in packaged form.

The term hazardous and noxious substances include oils; other liquid substances defined as noxious or dangerous; liquefied gases; liquid substances with a flashpoint not exceeding 60°C; dangerous, hazardous and harmful materials and substances carried in packaged form; and solid bulk materials defined as possessing chemical hazards. The HNS Convention supplements the CLC by including certain other oils than those covered by the rather strict definition of *"persistent oil"* in the CLC.[56]

A basic feature of the HNS liability system is that of a two-tier shared liability system between the ship-owner and cargo-interests. The system provides for a first layer of strict liability of the ship-owner under requirement of compulsory insurance and a second layer consisting of the HNS Fund financed by a levy on the receivers of cargo.

[54] IOPC Fund Protocol, Article 12
[55] Environmental News Service, March 27 2001
[56] HNS Convention, Article 1:5

The first tier, the registered owners liability, is comparable with the provisions under the 1969 CLC Convention and the Convention on Civil Liability for Damage Caused during Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels (CRTD). The owner is under the HNS Convention liable for damage caused by hazardous and noxious substances in connection with their carriage at sea on board a ship. Hazardous and noxious substances are defined by reference to lists in the Convention on the Prevention of Pollution from Ships (MARPOL), the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk and the Code of Safe Practice for Solid Bulk Cargoes. The HNS like the CLC as amended in 1984, covers also damage caused by residues from previous carriage in bulk.[57]

The ship owner has access to the same exceptions as under the CLC and the CRTD. He is not liable for damage resulting from an act of war or natural phenomenon; or such, caused by a third party, or, as under the CLC, due to governmental neglect in maintenance of lights or other navigational aids. The HNS convention actually goes further than the CLC convention in that it covers not only pollution damage but also the risks of fire and explosion, including loss of life or personal injury as well as loss of or damage to property.[58]

The ship owner will be able to limit his liability under certain provisions of the liability system in all cases but, if he has caused the damage either by intent or recklessly. Furthermore, as in the CLC and the CRTD, servants, agents, members of the crew; the pilot; the charterer, manager and operator of the ship; a salvor or persons taking preventive measures, and so forth are protected from claims unless causing damage by intent or recklessly. If the carrier proves that the loading and unloading process took place under the sole responsibility of another person outside the sphere of the carrier that person shall be solely responsible for incidents occurring during that process.[59]

The second tier aims to provide full and adequate compensation when the ship owners liability is inadequate. The HNS Fund is modeled on the IOPC Fund as amended 1984. The amount of compensation from the Fund is limited in two levels with reference to the cause of the damage. One applies to damage resulting from natural phenomenon and the other to damage as a result from other causes. Contributions to the Fund are to be made by the receivers of HNS exceeding a certain amount of tonnage, carried by sea to a state party to the convention.[60]

[57] HNS Convention, Article 1:5
[58] HNS Convention, Article 7
[59] HNS Convention, Article 9
[60] HNS Convention, Article 14

Concerning compensable damage the convention applies similar provisions as the CLC and CRTD. Damage under the HNS includes loss of life or personal injury on board or outside the ship; loss or damage to property outside the ship; loss of profit due to contamination; reasonable costs to reinstate impairment of the environment; costs of reasonable preventive measures; and damage caused by preventive measures.[61]

2.2) Transport by Road, Rail and Inland Navigation Vessel

A convention regarding transport by road, rail and inland navigation vessel was adopted in Geneva 1989. Its aim is to ensure "adequate and speedy"[62] compensation for damage caused during transport of dangerous goods. Excluded from the application of the convention are transports preformed on grounds where the public does not have access, and all transports regulated under other specific liability regimes, like those on transport by air and by sea-going vessels even when this takes place inland waters. [63]

During the elaboration of the Convention on Civil Liability for Damage Caused during Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels (CRTD) the CLC as amended in 1984 served as a model. No counterpart to the IOPC Fund Convention has been adopted within the scope of the regime. The main feature of the CRTD is strict, limited liability imposed on the carrier in control of the transport. He is required to maintain insurance or some other financial guarantee covering this liability.[64]

Goods considered dangerous covered by the convention is defined with reference to lists in the European Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR). This means that the convention does not need to be amended to embrace new goods and substances. Transports of small amounts of dangerous substances are excluded from the application of the CRTD.

[61] HNS Convention, Article 1:6, 1:7
[62] CRTD Convention, Preamble
[63] CRTD Convention, Article 3
[64] CRTD Convention, Article 5, 13

The carrier is under this convention held liable irrespective of fault, i.e. it affords strict liability. The person, at the time of the incident, registered as the owner of the vehicle, or in the absence of such registration, the person at that time, in actual control of the vehicle is presumed to be the carrier and thus liable for compensation. As regards carriage by rail, the person operating the railway line on which the incident occurred is considered the carrier, and is thus the person liable. The reason for choosing the carrier as the liable subject is mainly due to that he is the person most easily identified by the person suffering damage after an accident.[65]

The carrier has access to two possible exceptions from liability even under the above-mentioned circumstances. First, if he can prove that the consignor or any other person failed to meet his obligation to inform him of the dangerous character of the goods, the carrier is excused from liability. In such case, the person failing to inform is held liable instead. This solution is controversial since it shifts the liability on to the cargo interests. Second, Certain persons can be held liable in place of the carrier if the damage was caused with intent or recklessly. These persons are the carriers servants, agents or members of the crew; the pilot; the owner; hirer, charterer, user, manager or operator if not deemed to be the carrier; any persons performing salvage operations or taking preventive measures; or any of their servants or agents.[66]

The defenses available to the carrier include, acts of war, natural phenomenon, and acts or omissions by a third party with the intent to cause damage. If the person suffering damage contributed to his own damage with intent or by negligence the carrier may also be exonerated from liability.

As under the CLC the carrier can limit his liability. The model of limitation is however somewhat different focusing on damage instead of the vehicles size. Damage is limited to different amounts for each of the different categories of transportation. The limit concerning road and rail carriage is for claims other than for loss of life or personal injury SDR 12 million whereas the limit for carriage by inland navigation vessel is SDR 7 million. Claims for loss of life or personal injury are not limited to amount under this convention. [67]

2.3) Transport by Air

The operator of the aircraft at the time when the damage was caused is normally strictly liable under the Convention on Damage Caused by Foreign Aircraft to Third Parties on the Surface.

[65] CRTD Convention, Article 1:8
[66] CRTD Convention, Articles 5:7, 6:1
[67] CRTD Convention, Article, 9

This regime is somewhat liability regime regulating transport by air different than the other conventions entailing liability for environmental damage. The motive for this difference is that flying in itself is considered a hazardous activity regardless of the character of the goods transported in it. There are no criteria on what kind of goods are covered by the regime. The means of transportation, the aircraft, is the criteria.

The shall ensure adequate compensation for persons suffering damage while at the same time not preventing the development of international civil air transport. Any person suffering damage on the surface caused by an aircraft or by any person or thing falling from it, is under this convention, entitled to compensation provided that the damage is a direct consequence of the incident and that the passage was not made in conformity with air traffic regulations. It applies to damage caused on the territory of a contracting state caused by an aircraft registered in another contracting state. Damage caused by military, customs or police aircraft is not covered by this convention.[68]

The liability for compensation for each aircraft and incident in respect of all persons liable is limited in relation to the weight of the aircraft. There shall be no limitation to the liability of compensation for damage caused by an operator by a deliberate act or omission done with intent to cause damage. This extends also to the servants and agents of the operator acting in the course of their employment and within the scope of their authority.[69]

Damage as a direct consequence of armed conflict or civilian disturbance shall exonerate all persons from liability under this convention. To the extent that the damage was caused through negligence or other wrongful act or omission of the person who suffered the damage, or his servants or agents, the operator shall furthermore no be liable.[70]

3) The Use of Natural Resources and Ecosystems of Certain Environmentally Sensitive Areas, in Particular Areas Beyond National Jurisdiction

Concerning civil liability regimes governing activities protecting natural resources and ecosystems, the two treaties in force under international law are, the Convention on the Protection of the Marine Environment of the Baltic Sea Area, and the Convention on the Regulation of Antarctic Mineral Resource Activities of 1988. Other relevant international instruments in this category are the 1959 Antarctic Treaty, and the 1973 London Convention on Civil Liability for Oil Pollution Damage Resulting from Exploration for and Exploitation of Sea Bed Mineral Resources.

[68] Convention on Damage Caused by Foreign Aircraft to Third Parties on the Surface, Articles 5, 6
[69] Convention on Damage Caused by Foreign Aircraft to Third Parties on the Surface, Articles 11
[70] Convention on Damage Caused by Foreign Aircraft to Third Parties on the Surface, Articles 5, 6

Among treaties protecting a particularly sensitive geographical area, The Baltic Sea Convention applies to the protection of the marine environment in the water-body and on the seabed of the Baltic Sea. In its article 25, the parties to the Convention, undertake to develop and accept rules concerning responsibility for damage resulting from acts or omissions in contravention with the convention. In annex VI to the Convention, the specific issue of liability for oil pollution damage from offshore operations is noted. Substantial provisions in response to Article 25 have however, not as yet been elaborated.

The Convention on the Regulation of Antarctic Mineral Resource Activities of 1988 is applicable to the Antarctic treaty area. It regulates mineral resource activities taking place on the continent of Antarctica and all Antarctic islands, including all ice shelves south of the 60th south latitude and in the seabed and subsoil of the adjacent offshore areas, however, not beyond the extent of the continental shelf.[71]

The operator of Antarctic mineral resource activities is under the provisions of this convention strictly liable for damage to the Antarctic environment or dependent or associated ecosystems arising from these mineral resource activities. He is not provided any possibility of limiting his liability. Mineral resource activities means prospecting, exploration and development but excludes scientific research activities,

It appears from the wording of the convention that also environmental impairment per se is compensable through including in the liability of the operator, *"payment when there is no restoration to the status qou ante"*[72], i.e. the status before the incident. This is very rare in international civil liability instruments.

All impact on the living or non-living components of the environment, or impact of a non-negliable character on those eco-systems, except, such impact that has been judged to be acceptable under the convention is considered to be compensable damage under the Convention

[71] Convention on the Regulation of the Antarctic Mineral Resource Activities, Article 5
[72] Convention on the Regulation of the Antarctic Mineral Resource Activities, Article 8:2,1

The operator is furthermore liable for loss of or impairment to an established use of certain kinds, caused directly by Antarctic mineral resource activities. These include the operation of other mineral resource activities and scientific investigations, conservation and rational use of Antarctic marine living resources, tourism, preservation of historic monuments and navigation and aviation. The operator is also strictly liable for loss of, or damage to property of a third party or loss of life or personal injury to a third party arising directly from mineral resource activities.[73]

Also reimbursements of reasonable costs incurred in relation to necessary response action, including prevention, containment, clean up and removal measures and action to restore the status of the environment before the incident, is compensable where mineral resource activities result or threat to result in damage to the Antarctic environment. The operator can thus be held liable for reimbursement of costs incurred without actual damage. A pure threat is enough to entail liability under this convention.

Damage caused directly by a natural disaster of an exceptional character that reasonably could not have been foreseen, or an armed conflict or an act of terrorism directed against the activities of the operator shall to the extent that it was directly caused by such an incident, not entail liability for the operator. The operator shall furthermore not be liable for damage caused intentionally or by a grossly negligent act or omission of the person claiming compensation.[74]

In Article 8 paragraph 6, 2 of the Convention it is stated that further rules shall be elaborated through a separate protocol including setting appropriate limits in amount to the liability of the operator and the setting up of a fund to enable satisfaction of the liability under this regime, in the event of a financially incapable operator. The fund is to be financed by the operators themselves, or on industry wide bases. No such rules have yet been elaborated.

The 1959 Antarctic Treaty itself contains no substantial provisions on environmental liability but its 1991 Protocol on Environmental Protection, refers to the elaboration of such provisions. In article 16 of the Protocol the parties undertake to elaborate rules and procedures relating to the liability for damage arising from activities taking place in the Antarctic treaty area, covered by this protocol. These elaborations have not yet been realized.

[73] Convention on the Regulation of the Antarctic Mineral Resource Activities, Article 1
[74] Convention on the Regulation of the Antarctic Mineral Resource Activities, Article 8:4

There is no international liability regime in force concerning the offshore industry as yet in spite of the fact that this major industry has been in operation for decades. The Convention on Civil Liability for Oil Pollution Damage Resulting from Exploration for and Exploitation of Sea Bed Mineral Resources adopted in London in 1973 was an early attempt but will probably never enter into force. Being almost 30 years old, it is in dire need of being updated. Other international environmental instruments applicable to this sector do not entail liability for the person causing damage.

4) The Management of Hazardous Waste

Concerning the management of hazardous waste the handling of the relevant substances are often covered by specific conventions like the HNS, CLC and with regard to nuclear waste other certain instruments. There are attempts however to regulate the transboundary movements of hazardous waste in general that provides provisions on civil liability. Under article 12 of Basel Convention on the Control of Transboundary Movements of Hazardous Waste and their Disposal, consultations are to be held by the contracting states with a view to adopting, as soon as possible, a protocol setting up rules in the field of liability and compensation for damage resulting from the transboundary movement and disposal of hazardous and other wastes. There apparently exists a consciousness of the problem and a political will to at least include this statement in the convention. But even though the convention entered into force in May 1992, no further specific action as regards this matter has yet been taken.

5) Environmentally Dangerous Activities in General

The civil liability regimes presented in this chapter so far have a common character. They all, although in somewhat different manners, provide liability to private entities for damage to the environment caused in connection to a specific activity, region or substance. In other words they use a sectoral approach. The Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment, also known as the Lugano Convention, is different. Instead of the commonly used sectoral approach it utilizes a horizontal approach thereby covering damage caused by a wide variety of diverse activities and substances in different geographical areas.

Noted in the preamble of the Lugano Convention is Principle 13 of the 1992 Rio Declaration. According to that principle,

"states shall develop national law regarding liability and compensation for the victims of pollution and other environmental damage; they shall also cooperate in an expeditious and more determined manner to develop further international law regarding liability and compensation for adverse effects of environmental damage caused by activities within their jurisdiction or control to areas beyond their jurisdiction"[75].

Furthermore articulated in the preamble is that the Polluter Pays Principle should be taken into account in the providing of strict liability for transboundary damage.

Strict unlimited liability is imposed on the operator under this convention. The person exercising control over a dangerous activity as defined in the convention and the operator of a site for the permanent deposit of waste, are considered operators. There is no ceiling to limit the liability for damage as in the major part of the international environmental civil liability regimes. [76]

The operator shall however not be liable for damage caused by acts of war, hostilities, civil war, insurrection or natural phenomena of an exceptional, inevitable and irresistible character. Also if a third party with intent causes the damage the operator shall not be held liable. If the damage results from compliance with a specific order or compulsory measure of a public authority, if the damage was caused by pollution at tolerable levels or if it was caused by a reasonable, lawfully taken activity in the interest of the person who suffered the damage the operator shall not be held liable.[77]

Damage covered by this convention consist of loss of life or personal injury, loss of or damage to property, other loss or damage by impairment of the environment and costs of preventive measures and loss or damage caused by preventive measures to the extent that these arises out of the hazardous properties of dangerous substance, GMO's or micro-organisms or arises or results from waste. The term "*environment*" includes biotic and abiotic natural resources such as air, water, soil, fauna and flora and their interaction, property forming a part of the cultural heritage and characteristic aspects of the landscape.[78]

[75]1992 Rio Declaration, Principle 13
[76] The COE Convention, Articles 6, 7,
[77] The COE Convention, Article 8
[78] The COE Convention, Article 2:10

Compensation for impairment of the environment other than for loss of profit shall be limited to costs for measures of reinstatement actually undertaken or to be undertaken. Covered is damage resulting from an incident occurring within the territory of a party to the convention or where the conflict of law rules lead to the application of the law of a party.[79]

The convention does not apply to incidents of damage caused by nuclear substances covered by the Paris and Vienna conventions. The convention furthermore is not applicable to damage arising from carriage except regarding carriage by pipeline or carriage in an installation or on a site accessory to other activities and as an integral part thereof.[80]

The convention applies to a wide variety of instances of damage resulting from activities dangerous to the environment. What kinds of activities are covered by the locus, "dangerous activities", is defined in Article II of the convention. Covered are certain activities preformed professionally including such conducted by public authorities dealing with dangerous substances, genetically modified organisms, micro-organisms and waste posing a significant risk for man, the environment or property and all operation of sites for permanent deposit of waste. Included are furthermore certain dangerous substances, not posing a significant risk for man, the environment or property, specified in annex I of the EC Council directive 67/548/EEC. The properties of "dangerous substances" posing that significant risk shall be determined according to the criteria and methods of amended EC Council directives 67/548/EEC and 88/379/EEC.[81]

The convention is open to all member states of the Council of Europe, to non-member states of the Council that have participated in the elaboration of this convention and to the European Economic Community. There are as of today only 6 signatories to the convention and it has yet not been ratified by any state. The convention has thus not yet entered into force.

d) Environmental Policy in the European Union

1) The European Commission White Paper on Environmental Liability

In February of 2000 the Commission presented the White Paper on Environmental Liability.

[79] The COE Convention, Article 3
[80] The COE Convention, Article 4:2
[81] The COE Convention, Article 2:1, 2:2

This consists of an assessment of the options for Community action in the field of environmental liability and a presentation of potential features of a liability regime. The background to the paper includes a Commission Green Paper in 1993, a joint hearing with the European Parliament that year, a Parliament resolution asking for an EC directive, an opinion of the Economical and Social Committee in 1994, and a Commission decision in January 1997 to produce this White Paper[82].

The Commission presents its view on the range of different options and instruments for community action considered in the course of processing the question on environmental liability. Among these are found the option of acceding the convention on Civil Liability for Damage resulting from Activities Dangerous to the Environment, commonly known as the Lugano Convention. As discussed earlier in this paper the Lugano Convention contains a liability regime that covers all types of damage when caused by dangerous activities. It goes further in providing compensation for damage than several Member States of the EC do in their national regulation. These Member States and most of the industry of the Community feels that the scope of the Lugano Convention is too wide, too vague and that it does not provide sufficient legal certainty. Accession to the Lugano Convention by the Community would demand a supplementary EC act to provide more clarity and precision.[83]

Other options discussed in the White Paper are: a regime exclusively on transboundary damage, Member State action guided by a Community recommendation, a Community directive, and sector-wise regulated liability as opposed to the horizontal approach of the proposed liability regime.[84]

After having given thought to different options the Commission in the White Paper concludes that the most appropriate option for Community action is a Community framework directive on environmental liability. This regime will be based on strict liability for the operator in control of EC regulated dangerous activities causing damage. Certain defences will be available, and the regime will cover both traditional and environmental damage. Damage to biodiversity in the protected Natura 2000 areas shall also be covered when caused by non-hazardous activities. In cases like that, however, liability shall not be strict but based on fault.

[82] White Paper on Environmental Liability, p. 7
[83] White Paper on Environmental Liability, p. 25
[84] White Paper on Environmental Liability, p. 25ff

The Commission furthermore concludes that this approach would provide the most effective means of implementing the environmental principles of the EC-Treaty and in particular the "polluter pays principle" in accordance to article 174(2) of the same treaty. The details of the possible future Community environmental liability regime are to be further elaborated in the light of consultations to be held.

In its presentation of the scope of the regime the Commission discusses which activities to be covered. With respect to health or property damage and contaminated sites, links should be established to existing categories of activities dangerous to the environment of existing EC legislation. With respect to damage to biodiversity important factors according to the Commission are the existing directive on wild birds and the habitats directive. It was furthermore concluded that the liability regime shall also cover other than dangerous activities, causing significant harm in the protected Natura 2000 areas. It is articulated in the paper that the regime should provide strict liability for damage caused by activities dangerous to the environment. As regards damage caused by non-dangerous activities the regime shall as already mentioned be fault-based[85].

In order not to undermine the positive effects of strict liability the Commission proposes to allow commonly accepted defences such as force majeure, contribution or consent of the plaintiff, and intervention by a third party. Another possible defence mentioned is damage caused by releases authorized through EC regulation on state of the art and development risks. This view is controversial and particularly the economic interests of the community raise the issue.

The operator, or the person or persons in control of an activity, by which the damage is caused, should according to the Commission be primarily liable under the provisions of the potential EC regime. Member States shall however have the possibility of making other parties liable as well.[86]

The Commission proposes that the liability regime will provide compensation for pure environmental damage per se. Much work will be put into the particularly important criteria for assessing environmental damage. The regime will though provide compensation only for reasonable amounts spent on restoration or reparation of damage or costs of alternative solutions.[87]

[85] White Paper on Environmental Liability, p. 18
[86] White Paper on Environmental Liability, p. 19
[87] White Paper on Environmental Liability, p. 20

Member states of the EC have up to now established national environmental liability regimes that cover damage to goods and persons and have introduced laws and regulations dealing with the liability for, and clean up of contaminated sites. Until now, however, the issue of liability for damage to nature or pure ecological damage has not yet been addressed[88].

Environmental damage in the White Paper entails two different types of damage. Covered under the Community regime should be ecological damage through damage to biodiversity and damage in the form of contamination of sites. It is furthermore important for reasons of coherence that the regime also covers traditional damage such as damage to health or property.

Both for damage to biodiversity and contamination of sites the Commission propose a minimum threshold. Concerning contaminated sites, the regime would apply only if the contamination is significant and only significant biodiversity damage should furthermore be covered by the regime. As regards traditional damage however there shall be no such notion of "significant damage"[89]. Furthermore, with respect of biodiversity damage the application of the regime is to be limited exclusively to Natura 2000 areas.

The EC regime will not, unlike many other international instruments entailing liability, impose upon operators of activities dangerous to the environment, an obligation to obtain financial security to cover their liability under the convention.[90]

The treaties, conventions and policy regimes presented in this chapter make up the contemporary international law in the field of liability for environmental damage. All of the treaties are not ratified and thus not in force. As the reader have noticed the coverage in this field could be appreciated as quite narrow.

The characters of these treaties and conventions will be further elaborated on in chapter 5 of this paper after certain case-studies relevant to the notion of civil liability in international law has been presented in the following chapter.

[88] White Paper on Environmental Liability, p. 16
[89] White Paper on Environmental Liability, p. 19ff
[90] White Paper on Environmental Liability, p. 24

IV. Incidents of Transboundary Environmental Damage

To better understand the challenges to and functions of international civil liability regimes on environmental damage, two relevant cases of large-scale environmental damage as a result of activities of private entities will be presented in the following.

The first case constitutes an example of environmental damage caused by an activity not covered under any international environmental liability regime. It is a recent case and is a typical example of the growth of industrial activities within fields not traditionally considered environmentally ultra hazardous thus not specifically regulated under a liability regime.

The second case is an example of environmental damage caused by an activity traditionally considered ultra hazardous. In this case the activity was covered by an international civil liability regime. That regime however was proven not fully adequate. In connection to this a third case is presented briefly. This incident is covered by a more mature liability regime, making the process of compensation more effective and thus more environmentally efficient.

a) Aurul

On 30 January 2000, following a breach in a gold mine tailings dam a major spill of cyanide-rich waste was released into the river system near Baia Mare in northwest Romania. The contaminant travelled via tributaries into the river Somes, the Tisza and finally into the Danube before reaching the Black Sea. The cyanide spill from the Aurul SA gold mine in Baia Mare, Romania has been described as the worst ecological disaster in Europe since the Chernobyl accident. It virtually sterilised the Tisza River in eastern Hungary, causing grave damage to flora and fauna of the river and ruining the drinking water for thousands of people downstream.

Aurul SA is a stock company, co-owned by Remin, a Romanian state-run mining enterprise, and by Esmeralda Explorations Ltd., a private mining company based in Perth, Australia. The company processes solid wastes from mining activity to recover precious metals, especially gold and silver. The technology used at the Aurul facility utilizes high concentrations of free cyanide in the process-waters for the extraction of the precious metals. The waters containing cyanide are being reused after the solids sedimentate in the Aurul pond.

During the period December 1999/ January 2000 the pond area of the Aurul gold mine received rain and snow in large quantities. The rainfall of the entire pond area assembled in its lower portion, raising the water level. Heavy rainfall, and a sudden temperature rise the days before the dam burst, making the snow cover melt, added to the water burden. The imbalance between water burden and safe storage volume was substantially aggravated by the specific climatic conditions and the disaster was a fact.[91]

The plant could not deal with the period of severe weather at the end of the year 1999 and the period following the New Year, but failed on January 30th 2000. Because of the high level of the waters in the Aurul pond the dam overflowed. The dam crest in its poor condition was flooded and washed away in a critical area, over a length of 25 m down to the crest of the original starter dam 2.5 meters lower, resulting in the spill. The cyanide-laced water stored in the reservoir above that level escaped.[92]

Some 100,000 cubic meters of cyanide-laced tailings water, containing free cyanide and cyanide complexes, was released into the Tisza River system. Estimations are that between 50-100 tons of cyanide was released into the river environment. The spill initially entered the Sasar River near Baia Mare, and then flowed into the Lapus River before joining the Somes River that crosses the border with Hungary at Csenger. The Somes joins the Tisza River that flows through Hungary and into the Federal Republic of Yugoslavia (FRY) near Tiszasziget. The pollution took 14 days to reach the FRY, some 800 km away. The Tisza is a tributary to the Danube and the pollution flowed into the Danube upstream of Belgrade and continued for a further 1200 km before entering the Black Sea. In total, some 2,000 km of the Danube cachement area were affected by the spill.

The dam had recently been designed to be a major environmental improvement compared to the existing chronic polluting ponds in the gold and silver mine-dense region. It was the most modern dam in the region, intended to be a safe and efficient method of meeting the requirements of both the Romanian authorities and the Australian investors.

Basic design flaws in the construction of the Aurul tailings dam, however, most probably caused the spill. The inappropriately designed tailings dams are said to have led to the incident because of inadequate monitoring of the construction and operation of the dams and by severe, though not exceptional, weather conditions[93]. The system failed under circumstances that in principle could have been foreseeable.

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[91] UNEP / OCHA Assessment Mission
[92] Wilson, W., *www://www.corpwatch.org/trac/headlines/2000/186.htm*
[93] UNEP / OCHA Assessment Mission

In the UNEP final report on the Aurul cyanide-spill and its consequences Romania is recommended to accede the UN/ECE Convention on Transboundary Effects of Industrial Accidents as this would help in order to ensure prompt early warning systems and response. Concerning the main issue of this paper however, that convention contains nothing but vague and general provisions. According to the convention "the parties shall support international efforts to elaborate rules, criteria and procedures in the field of responsibility and liability"[94]. This express statement has not led to any further development of substantial international regulations on liability for environmental damage.

In its summary of the incident, the UNEP report recommends that, "the issue of liability and compensation would be easier settled if there were an international regime"[95]. It is also stated "support should be given to the proposals to develop a protocol on liability and compensation on accidents with transboundary impact".

Significant for this incident is the clear transboundary element of damage caused. In the present case, damage of different kinds occurred in several downstream states. The split and transboundary ownership of the mining company adds further to the international aspect and the need for a harmonized regime to regulate the restoration work and assessing the compensation to persons suffering damage from the incident. International environmental instruments relevant to this kind of activity do not as yet contain substantial rules on civil liability for transboundary damage. What we see here is a prime example of when an international instrument providing strict liability for environmental damage would make the restoration process, and the process of compensation of those suffering damage, both environmentally more efficient and more effective in terms of providing compensation.

The Aurul mine is still in operation despite calls from Green peace and several other environmental pressure groups to shut the facility down. The fact that Aurul AS has been fined for the equivalent of $ 166 US for the spill under Romanian law points to the lack of adequate national legislation and stresses the need for international harmonization[96]. The two owners have expressed regret for the damage, but they both deny any further responsibility.

[94] Convention on Transboundary Effects of Industrial Accidents, Article 13
[95] UN Final Report on Aurul Cyanide Spill, p.23
[96] Wilson, W., *http://www.corpwatch.org/trac/headlines/2000/186.htm*

The cost of damage from the spill is, however, as yet incalculable. Assessing environmental damage is a complex process and available methods are controversial. A recent Hungarian government estimate, however, ran in billions of US dollars. Thus, the moment the relationship between the actual impairment of the incident and the fine paid by the operator of the mine seems to be highly inadequate. This relation highlights the need for regulation in this area.

Experiences from earlier incidents of large scale environmental damage, in sectors not adequately covered by an international environmental liability regime, indicate that the court proceedings following the Aurul incident probably also will be very complex and that they possibly will go on for many years. The court proceedings following the Amoco Cadiz incident, lasting for more than 20 years, is only one example.

b) Amoco Cadiz and Tanio

The Liberian flagged Amoco Cadiz sailed in 1978 from the Persian Gulf to Rotterdam with 220,000 tons of crude oil. On March 10 the super tanker experienced a malfunction to its hydraulic pressure steering gear during a severe storm off the coast of Brittany. This malfunction resulted in a complete failure to the steering system. Driven by tides and high winds the ship drifted towards the French shoreline.

Problems with arranging a salvage operation and the inability of the tugboats to manoeuvre a ship of Amoco Cadiz's size eventually lead to the critical moment when the super tanker grounded and broke apart off the coast of Brittany. The entire load of 220 000 tons of crude oil was lost in the seas and polluted some 300 kilometres of French coastline[97]. The wreckage of the ship resulted in one of the largest oil spills in history.

More than 50 vessels and 4,400 persons participated in the cleanup operation lead by the French military. The work lasted for more than 6 months and nearly 220,000 tons of oily waste was removed from the shores of Brittany.[98]

Claims by the French State and local communes totalled nearly 800 million francs. The owner of Amoco Cadiz set up a limitation fund to the amount of 77 million francs in accordance to the provisions of the 1969 Convention on Civil Liability for Oil Pollution Damage (1969 CLC).[99]

[97] Fontaine, E., p. 102
[98] Larsson, M.-L., p. 25
[99] Fontaine, E., p. 102

The amount of compensation established under the convention amounted thus to less than one tenth of the total amount claimed by the victims. The solutions put forward by the 1969 CLC alone do not seem sufficient for a disaster of this magnitude if the limitation of liability would be claimed. Under the 1969 CLC the claims for compensation should have been brought to trial before French courts. Establishing the owner's fault before the courts could have set the liability limit aside.

As a consequence of the limited investigative powers of the French judges, however, there would have been great difficulties in establishing the faulty of the owner. There were furthermore uncertainties as to weather the French judgement could be successfully enforced against a Liberian shell company without any assets. The parent company would probably not freely agree to bear the liability.[100]

The claimants chose to take their cases to a US court. This was done mainly due to the great advantages of the discovery process available in the US courts. The plaintiff's finally won the battle by persuading the US courts to hold the parent company, Standard Oil liable for inadequate maintenance of the vessel[101].

This case was, according to the Judge, probably the longest and most complicated ever tried in an American court. The first 6 years of the process the cost of the court proceedings amounted to more than ten million US dollars[102]. France had by 1995 obtained compensation of about 600 million francs for personnel and equipment during the cleanup and the French navy about 15.3 million for their contribution[103].

Nothing in the 1969 CLC regime precludes victims of claiming compensation outside the scope of the CLC from persons other than the ship-owner or his servants or agents. Through amendments in the 1984 and 1992 protocol to the 1969 CLC however, exclusive remedy is now provided for. The claimants thus cannot, under the amended provisions, seek remedy from anyone outside the scope of the CLC regime. Had the incident occurred today, France being party to the 1992 Protocol, bringing the case before US courts would have not been acceptable.

[100] Fontaine, E., p. 102f
[101] Fontaine, E., p. 103
[102] Fontaine, E., p. 102ff
[103] Larsson, M.-L., p. 25

A even more important change in the international regime on oil pollution damage, however, is the entry into force of the 1971 International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (1971 IOPC Fund Convention) a couple of months after the Amoco Cadiz catastrophe. In early 1978, when the Amoco Cadiz grounded, the IOPC Fund Convention had not yet entered into force and the victims of the Amoco Cadiz oil spill was thus not entitled to compensation from the IOPC Fund. The availability of this would most probably have made the process following the Amoco Cadiz incident much more effective with regards to compensation for ecological damage. The outcome of an incident of basically the same character a few years later in the same geographic area show the major benefits of the establishment of the IOPC Fund.

Only two years after the Amoco Cadiz went aground in the waters off the coast of Brittany a Malagasy tanker named Tanio broke amidships in heavy weather off the same coast. 13,500 tons of crude oil was spilled and consequently polluted the coast. At the time of this incident the IOPC Fund Convention had entered into force. The purpose of the Fund Convention was to fill the gaps left by the 1969 CLC and to provide supplementary compensation to the victims not adequately compensated under its provisions.

100 victims presented claims for compensation totalling 527 million French francs to the IOPC Fund. The claims submitted by the French state accounted for more than 90 per cent of the total amount claimed.[104]

In the process following the wreckage of Tanio, the IOPC Fund Convention General Assembly established its own policy governing what would be recoverable loss. Compensation for restoration of private property and clean-up operations was to be compensated for. Economic loss by victims depending on their earnings from sea-related activities was also compensated for[105].

The IOPC Fund has proven to be not only an efficient tool for providing supplementary compensation but has also contributed to the development of compensation rules for ecological disasters. Within only five years of the incident a gross part of the victims of the oil pollution damage caused by the Tanio had been compensated through the Fund[106]. The Tanio incident shows what a remarkable efficiency in handling the compensation of victims of large-scale oil pollution damage the IOPC Fund provides.

[104] Fontaine, E., p. 105
[105] Fontaine, E., p. 105f
[106] Fontaine, E., p. 106

V. Analysis of the Existing Legal Regimes

a) Introduction

Where are we in terms of developing clear international legal norms attributing liability to private entities for transboundary environmental damage? I have in the foregoing presented the relevant customary law, general principles of international law and the work of major international organisations. I have furthermore drawn a picture of the rules provided through international treaties and selected work on regional policymaking concerning the issue.

The development in the field of environmental liability since the turn of the century has as described, evolved from involving exclusively the notion of state responsibility to incorporating also the notion of civil liability for private entities. Principle 21 and the Polluter Pays Principle have gained widespread acceptance, but they are not adapted for direct enforcement. It is clear that customary law contains no clear, binding rules on civil liability for environmental damage in it self. It appears however that customary law on state responsibility forms a necessary basis for the creation and further growth of binding international civil liability law for environmental damage.

This leaves us dependent on explicit provisions on liability contained in international treaties, regional policies and national legislation. The treaties presented in this paper form a body of rules and provisions together covering a multitude of activities potentially threatening the environment.

The case studies of the preceding chapter reveal certain weaknesses and deficiencies of the system of international liability regimes. Bearing these cases in mind, from the factors of analysis chosen in the examination of the treaties, certain general conclusions can be drawn. These will be presented below accompanied by other central notions on the state of affaires in international law regarding the extent to which private entities may be held liable under international law for environmental damage.

b) The Standard of Liability and Designation of Liable Subject

Common to all the international treaties on civil liability for environmental damage is the choice of the standard of strict liability. Certain limitations and specific exceptions are however provided for in the different instruments.

Exemption from liability is provided under most of the regimes for damage caused in connection to certain incidents. All regimes provide that in the event of war or warlike conflicts, natural phenomena of an exceptional character, the liable party is exempted from liability for damage as a result of that. He is furthermore not to be held liable if the damage was wholly caused by an act or omission done with the intent to cause damage by a third party. Damage caused under the order of a public authority or resulting from that intervention or from governmental negligent maintenance of navigational aids does furthermore exempt from liability.

Liability under the different instruments is imposed preferably to, either the person most easily identified by the one suffering damage or to the person in actual control of the process causing damage. As far as vessels are concerned the person most easily identified is usually considered to be the owner of the ship from which the damage is caused. The CLC, IOPC and the HNS regimes thus entail liability for the owner of the ship transporting the hazardous substance.

Under the CRTD regime regarding liability for damage from inland transportation, the carrier is held liable for damage to the environment. There is however a distinction under this regime depending on in connection to what means of transportation the damage is caused. For transportation on road and inland navigation vessels the registered owner of the vehicle carrying the goods is considered the carrier. Regarding transportation by rail however, the person in control of the railway line is considered the carrier. All of the other regimes included in this paper impose liability on the operator of the activities causing damage. An advantage of channeling liability through the operator is that he is in the best position to include the costs into the goods or service he is offering to clients and thereby implementing the Polluter Pays Principle.[107]

c) Limitation of Liability

One of the most controversial features of the liability regimes is the possibility provided for the tortfeasor to limit his liability. Limitations of liability in amount are the general rule of the regimes, eventhough the amount of the limit varies between the different instruments. The Lugano Convention is an exception to this rule, not offering this possibility to the person liable under the convention for causing damage

[107] ILC, A/CN.4/459, p. 12

The rules on limitation of liability can be regarded as the price for acceptance of the standard of strict liability on a global scale. If the limits are set too high or no rules are set at all, the system might be considered too expensive to accede by some countries. Meanwhile, limitations of liability set to low can also be an argument not to accede conventions since full compensation might then not be available.
There are discussions on the adequacy of the limitation of liability imposed by the CLC, IOPC, HNS and CRTD regimes.

The method of providing the possibility to limit the liability is however not consistent with the common aim of providing full and adequate compensation expressed in Principal 21. To enhance the compensation under the different regimes, global funds are being developed. They are usually financed by levies on certain groups of businesses interests, following the principle of shared liability. These funds also provide limited compensation only.

This kind of backup exist for example under the provisions of the IOPC Fund Convention and through the HNS Fund. Under the IOPC Fund not only the shipping industry bears the costs of oil pollution at sea, but also the oil industry directly. Contributions to the HNS Fund are also made by the receivers of HNS transported by sea under a regime modelled from the IOPC Fund system.

Several conclusions can be drawn from the experience following the Amoco Cadiz incident. The foremost is of the importance of complete systems of regulation. It is central that it is constructed to adequately handle the claims for compensation. If the system is unable to do so, it will be sidestepped and the claimants will use other channels for obtaining compensation. This will result in legal uncertainty and higher costs for settling the conflict. It will furthermore make the process of cleaning up and compensating of the persons suffering environmental damage less efficient.

The difference between the oil liability regimes in force at the time of the Amoco Cadiz and the Tanio incidents is the central function of a backup-system to exclusive operator or owner liability. At the time of the Amoco Cadiz incident the IOPC Fund Convention had not yet entered into force and the limited liability under the 1969 CLC Convention alone was insufficient to fully compensate the damages caused by the environmental catastrophe.

The kind of backup can consist of compulsory insurance or other financial guarantee, of a fund financed by the industry, of unlimited strict liability of the hosting state and / or international funds set up and financed by states as the case in some of the nuclear liability regimes. The CLC and the IOPC regimes form a two-tier system of compensation for oil pollution damage. Multi-tier systems like this can enable adequate compensation even in the case of large-scale environmental accidents and / or in cases of a financially incapable owner / operator.

The state has under most of the civil liability regimes the opportunity to limit the liability for the primary subject of liability and guarantee compensation for damage from state funds instead. A reason for doing this could be that the state finds a specific branch of industry valuable because it provides employment-opportunities or services of central importance to society. In cases like this a state might not consider it reasonable to put the full burden of environmental liability upon a private entity. It might prefer to put some or all of the liability upon itself. In reality, the liability is transmitted to the community of persons in that state through taxation.

There are various pros and cons of the limitation model: To abolish the limitation model would be in line with the polluter pays principle while making the polluter (for example the oil industry) pay for the whole damage and also providing for full compensation to victims. It could however become very expensive, particularly if environmental damage “per se“ was to be fully recognized in line with present legal developments. [108]

The vagueness of the definition of pollution damage regarding wheatear environmental damage per se is compensable or not is another factor relevant to the evaluation of the limit of liability of a convention. If this kind of damage is to be compensated for, the limit set is likely to be inadequate

[108] Larsson, M.-L., p. 216

d) Compensable Damage

The type of environmental damage for which liability is suited is elaborated on in the White Paper on Environmental Liability of the European Commission. It is concluded that all forms of damage to the environment cannot be effectively remedied through imposing liability. The polluter needs to be identifiable, the damage needs to be concrete and quantifiable and a causal link needs to be established between the polluter and the damage. Liability is thus not effective in dealing with widespread, diffuse pollution where it is impossible to link the damage caused to the activities of certain actors. Environmental tort law is not strong in combating global damage of the commons; ozone layer, climate change, acid rain and so forth. Liability is better suited for cases when damage result from industrial accidents or from gradual pollution from identifiable sources.[109]

In the liability regimes, compensable damage usually includes personal injury, loss of life, property damage and losses resulting from that kind of damage. Costs for preventive measures are also mostly included. In response to developments in specific cases, particularly concerning oil pollution cases, loss of earnings due to loss of use of environmental media are also being accepted as compensable. This is common in traditional tort law and assessment of this kind of damage is relatively non-controversial.

Remedy of damage to the environment per se however is more controversial. Following legal developments of the IOPC Fund and CLC regime in connection to the “Antoni Gramsci“ the general practice today is to only compensate reasonable costs of reinstatement of impaired natural resources or prevention actually undertaken. A common argument for this standpoint is to avoid mathematic formulas for assessment and only accept the actual costs incurred due to damage.

At a symposium held in Germany in 1992, concerning liability for damage to the environment per se, the problems of evaluation of ecological damage was discussed. Professor P. Muller from the Saarland State University emphasised three different legal approaches to assessing ecological damage. The most acknowledged approach is compensation through “restoration in kind“. If this restoration is limited to the identical reproduction of the “status qou ante“ it will however in many cases not be feasable.

[109] White Paper on Environmental Liability, p. 13

The first approach to extend the scope of compensation for through restoration is off-site or out-of-kind i.e. to another environment or through other means. The second approach follows the model of pecuniary loss as a consequence of property damage. This is based on hypothetical market values applying economic methods to measure the use and non-use value of natural resources. The third approach to assess ecological damage is an analogy of the assessment of pain and suffering in personal injury cases: general damages, a lump sum compensation. This approach was used for example by the Soviet Union in the two "Antoni Gramsci" cases. It appears appealing to lawyers but the damage reward has little or no connection to the actual damage. In the first Soviet case the compensation rewarded went to the general treasury and thus not directly to repair or restore the environment following the accident.[110]

Nearly all of the instruments on this issue limit its application with reference to that only significant damage is compensated for. With regard to traditional damage however, the EC regime for example, will not introduce the notion of significant damage.[111]

e) Sectoral or Horizontal Approach and Applicability

Several international treaties in the field of environment deal with the issue of civil liability. Areas that are fairly well regulated in relation to liability is the traditionally high risk activities such as exploring and transporting oil, transporting and exploiting nuclear energy, carriage and disposal of hazardous and noxious substances and waste and transport by air. Other regimes concern the use of natural resources and ecosystems of certain environmentally sensitive areas and the management of hazardous waste. The gross part of the international instruments entailing civil liability for environmental damage utilizes a sectoral approach. Existing liability regimes cover the distinct areas mentioned.

There is an emerging trend towards using the horizontal approach in environmental liability regimes that is noticeable. This predominant use of a sectoral approach in the development of civil liability regimes is increasingly being replaced by regimes that cover a variety of different activities constituting hazards to the environment. 1993 Council of Europe Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment and parts of the conclusion of the ILC draft articles on liability point clearly in the direction of harmonized special civil liability regimes covering a cluster of hazardous activities applying a horizontal approach.

[110] Marticke, H.-U., p. 30
[111] White Paper on Environmental Damage, p. 21

Less well developed are the rules governing other areas of industrial production traditionally accounting for fewer incidents of environmental damage. Except for the specific regime on nuclear liability, regimes covering damage from sources on land and immovable sources are unusual. Environmental damage resulting from activities on industrial facilities thus often fall outside the scope of the liability regimes. The treaty on transboundary effects of industrial accidents for example, does not provide for civil liability for environmental damage.

There is one regime in the field of environmental liability that contrary to common practice uses a horizontal approach. The Council of Europe Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment covers a variety of different activities potentially dangerous to the environment. The activities covered are defined explicitly in the Convention and through reference to certain European Community Directives. It has however not as yet entered into force due to insufficient number of ratifications.

The ILC is in its work on international liability increasingly involved in discussions based on a horizontal approach. Also the White Paper on Environmental Liability presented by the European Commission does not focus on a particular source of damage but entails a wider perspective. The trend in the most recent work on this issue is towards a greater openness to this kind of approach.

The problem of inadequance or incomplete coverage of different environmentally hazardous activities by contemporary liability regimes is due to several factors. The use of the sectoral approach does in this connection render an inflexible legal system with only certain types of damage covered. This is paired with a system of regimes providing an incomplete coverage of activities worldwide causing environmental damage.

Third World Network in a recent newsletter expresses their growing concern of the critical environmental issues that are emerging after the Rio Summit in 1992. Global industrial activity is increasing, but the emerging industries are not adequately covered by regimes offering adequate environmental protection. [112] Mining activities are mentioned specifically in this connection as causing serious environmental impact.

[112] Third World Networks, *http://www.twnside.org.sg/souths/twn/tritle/som-cn.htm*

As previously mentioned the Aurul incident is an example of an environmental tragedy that is not covered under any of the liability regimes. How will the disputes following the Aurul accident evolve? There exist no international instrument providing harmonized provisions on the matter of compensation and liability for the transboundary damage caused as a result of that incident.

Even under the existing sectoral regimes the coverage is often limited. Shortcomings of the regime on oil pollution damage for instance are noted by Mr. Abecassis. He points out that the CLC regime has but limited application in cases of damage to the marine environment. It does not regulate damage caused by oil escaping from river and lake vessels or offshore installations and pipelines. Furthermore it does not cover oil escaping from dry cargo ships or from tankers not carrying oil in bulk as cargo and not damage caused by non-persistent oils. Damage caused by installations outside the territory or territorial sea of a contracting state and all damage suffered on the territory or territorial sea of a non-contracting state also falls outside the scope of the CLC regime. The CLC Convention does furthermore not regulate claims against person other than the registered owner, his servants or agents.

The fact that the offshore industry is not covered by any specific environmental liability regime is surprising. There is a debate on the applicability of the CLC and IOPC Conventions on damage caused from activities on oilrigs. The recent capsize and sinking of the Petrobras oilrig outside the coast of Brazil in March 2001 highlights the fact that major environmental damage can result from incidents involving oilrigs as well as ships transporting oil. One reason for the lack of internationally harmonized provisions as regards activities on oilrigs is the fact that damage caused in connection to activities on oilrigs has been quite unusual. Nevertheless the risk is significant considering that many of the rigs can hold considerable quantities of oil in tanks submerged for example in the pontoons of the rig. An even greater potential environmental risk is connected to the possibility of a major blowout.

The ongoing legal debate regarding the applicability of the CLC and IOPC Conventions concerns the distinction between a ship and an oilrig. Can a rig ever be considered a ship under the existing oil pollution regime? There are voices that an oilrig transported out to its permanent position or moved to a new site is to be regarded as a ship. Some writers express that liability and compensation for damage from marine pollution from other sources than shipping depend wholly upon national legislation.

The most important point in connection to both the Aurul and Petrobras incidents is that a greater flexibility or a wider coverage by international law is needed to adequately handle situations arising in connection to growing global economic activity. Many of the authors commenting on the state of civil liability law furthermore states that the existing implementation gap in international law today is a consequence of unwillingness of states to subject themselves to the law by means of self-imposed sanctions obligations.[113]

The Human Development Report identifies three major deficits keeping today's policymaking from adequately handling the global issues. Firstly, there exists a jurisdictional gap. The separate national policy frameworks are not capable of dealing with the rising number of global issues. A typical example is the environmental impact of transboundary pollution. A second deficit is the existence of a participatory gap. International cooperation today is mainly intergovernmental even though many non-governmental entities act and are very influential in the globalized world. Thirdly, there is an incentive gap. International cooperation works if all participants gain from the process; it can easily be stalled by concerns for equity and fairness. One example is minimal labor standards often considered as a threat to the developing countries competitiveness.[114]

One problem of the contemporary liability regimes is that they are only applicable in a limited geographical area. The gross part of the regimes only regulates compensation caused in the territory, the territorial sea or the exclusive economic zone of the contracting states from activities under the jurisdiction of another contracting state. The impact of the regimes are thus largely dependent on how many states have ratified each convention. Most of the conventions in this field of law are open to all states. The Lugano Convention however is only open to members of the Council of Europe. A regional convention like this cannot be ratified by all states and is thus structurally prevented to gain global application.

Concluding the analysis, the international system of regimes providing liability for environmental damage consists of a number of different treaties. The treaties cover a variety of different areas of activities potentially causing damage to the environment. As regards the transportation of persistent oil and hazardous and noxious substances by sea the coverage provided through the CLC, IOPC and the HNS conventions is quite efficient. Both of these regimes provide a two-tier system of compensation, with primary liability of the owner of the ship and secondary liability channeled through the respective fund to the cargo interests. With the IMO convention agreed upon in March 2001 this coverage is widened to also include oil pollution from ships only carrying oil in bunker as fuel.

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[113] Rest, A., p. 31
[114] Human Development Report, p. 111

The CLC was also used as a model in the construction of the CRTD regarding carriage of dangerous goods on road, rail and inland navigation vessels. No counterpart to the IOPC Fund has however been adopted in connection to this regime.

The convention on liability for damage caused by foreign aircraft to third parties on the surface is the oldest of the working liability regimes. This convention provides a somewhat different coverage since it concerns all environmental damage caused by the hazardous activity, flying and is thus not limited to damage from certain types of goods only.

As regards the use of natural resources and ecosystems of certain environmentally sensitive areas, in particular areas beyond national jurisdiction there are two treaties in force under international law. The Convention on the Protection of the Marine Environment of the Baltic Sea area does not contain any substantial provisions on liability. The Convention on the Regulation of Antarctic Mineral Resource Activities on the other hand provides strict liability for the operator of those activities in the Antarctic area. Within this field it should further be noted the lack of provisions on liability regarding exploration and exploitation of seabed mineral resources.

There exists no particular liability regime regarding the handling of hazardous waste. The CLC, IOPC, HNS and the specific regimes on nuclear substances often cover this kind of handling.

As for the only horizontal liability regime in international law the operators of dangerous activities are held liable for environmental damage. The coverage of this convention is however limited due to the fact that the Lugano Convention is a regional convention, open exclusively to members of the Council of Europe. Furthermore it has not as yet entered into force due to an insufficient number of ratifications.

The European Commission White Paper on environmental liability does not constitute true international law but rather regional supranational policymaking. It is however a current reference as to what kind of development can be expected in the future since Europe is quite advanced in the development of international environmental law. The proposal uses the horizontal approach in providing liability for the operators of activities dangerous to the environment.

The effective regimes in international law is thus those on carriage by sea of oil and hazardous and noxious substances and carriage of dangerous substances by road, rail and inland navigation vessels. Except for these, the regime on nuclear damage also provides a fairly good coverage. The other regimes however are specific, not efficient or not yet in force as of today.

VI. Concluding Remarks

The present era of globalization contains many opportunities for the peoples of the world. Increases in international trade and foreign investments lay the foundation for new economies. These developments fuel not only economic growth and increased welfare but also more universally accepted environmental standards.

The faster spinning economic wheels of contemporary global society has also brought along an increasing number of incidents of transboundary environmental damage from oil spills, chemical leakage and nuclear accidents. Adverse effects on the global environment thus accompany the many benefits of new economic opportunities.

The tragic mishaps causing environmental damage can be seen as a part of the price for the economic progress of the global society. The increase in number of incidents of environmental damage is particularly noticeable in connection to activities not traditionally presenting a high-risk threat to the environment. The incident at the Aurul facility, in connection to the emerging fast growing mining sector, is an example of this. Particularly in connection to these activities the protection provided through the present system of liability regimes appears inadequate.

There exists a need to further international environmental liability law in order to come to grips with the contemporary situation. Environmental liability regimes should ideally provide a wider coverage than today to include a larger part of the activities potentially threatening the environment. There is also a need for greater flexibility within the regimes in order to enable them to adequately deal with damage as a result from activities of emerging character in the faster changing world, like mining or other industrial activities.

The central preventive function of the regimes on environmental liability is the allocation to the polluter of the costs involved in the cleanup of pollution and restoration of environmental damage. The processes following the Amoco Cadiz and the Tanio cases show the value of a complete and adequate liability regime providing full compensation to the victims of damage, channeling liability to the owner or operator of the activity causing it.

The construction of the existing liability regimes is largely similar. There is an asymmetry, however, as to the use of a horizontal or sectoral approach in providing the liability. Furthermore the issue of setting the level of the limitation of liability in amount is controversial. Assessment of environmental damage is another factor were there is a lack of consensus. Efficient regimes are the oil pollution regime and the regime on damage from carriage of hazardous and noxious substances.

There is an emerging trend today towards favoring the horizontal approach in connection to liability. This is apparent in the work of the ILC, the European Community policymaking and in the Lugano Convention. The use of this approach to complete the commonly used sectoral approach could potentially facilitate the creation of a more flexible global system of liability regimes.

The flexibility, however, brings an element of vagueness and bears with it practical problems. There is unwillingness among states to accede to broadly defined regimes concerning environmental protection. States usually prefer not to be bound by vague international law and articles potentially subject to time-consuming interpretation, thus constituting a large element of legal uncertainty. Vagueness furthermore generally tends to harm the efficiency in enforcing the provisions of the instrument.

The European Community could in connection to the future development of liability provisions use its advanced position in international lawmaking to advance the position of liability for transboundary environmental damage under international law and specifically the use of the horizontal approach.

An alternative to broad horizontal regimes is a score of liability regimes on diverse sectors, together covering a multitude of activities. The specific regime on oil pollution from ships carrying oil in bunker that was recently launched by the IMO supplements the sectoral application of the CLC regime. It is one example of implementation of an instrument in close connection to already existing international liability law utilizing a sectoral approach.

The CLC and IOPC oil pollution regime has been in effect for over 20 years. The system has served as a model for numerous more recent liability regimes. Regardless of the approach chosen in the future construction of liability regimes the experience earned from the use of these instruments should also be exploited in the most constructive manner possible.

It is essential to afford the future liability regime an adequate scope of application to enhance global environmental protection. Which activities are to be covered and how these will be defined in the treaties is central. The fact remains however, regardless of the choice of a horizontal or sectoral approach, that a widespread geographical applicability of the regimes is one of the most fundamental goals to achieve. The contemporary liability regimes usually cover only the territory under the jurisdiction of contracting states. If but a few states ratify a convention, its geographical application will be limited.

It remains to be noted that the international liability regimes can be implemented in different ways. The choice of manner used in this process is crucial. Implementation can be achieved through national legislation, resulting in international harmonization or through the creation of a supranational structure with mandate and means to compensate for damage through a common fund like the IOPC Fund. The latter manner has proven to be an effective means of reparation of damage whereas the first has a stronger preventive function towards the individual entity. A balance between the two seems sound.

All states are more or less dependent on attracting foreign investment and the activities of Transnational Corporations to sustain the national economic needs. This fact puts governments in an awkward position since the imposing of rules on environmental protection might discourage certain investors. There is another aspect to this. Not implementing adequate environmental protection might undermine the confidence of consumers and communities in the investing society. The investor may thus be exposed to unbalanced arbitrary decisions by governments as a reaction to the hostile domestic opinion. These factors highlight the importance of action at the global level.

M-L Larsson in her doctor’s dissertation on The Law of Environmental Damage notes the important role of international civil liability regimes in the global system of environmental protection. She stresses that the lack of uniformed, harmonized and consistent action among national legislators is noteworthy and that the present schemes based on civil liability is insufficient in adequately handling the contemporary situation. She finally proposes that he structure of the IOPC Fund shall be used in developing the emerging system of civil liability regimes. The scope of M-L Larsson’s dissertation is naturally both broader and wider than the scope this paper. The relevant essences of her conclusions, however, match what I have found in my work on this subject.

The work of policymaking in international law is time-consuming. Therefore the initiation of these actions cannot be further postponed. There is a growing consciousness among governments of the importance of environmental protection. There also seems to be a greater appreciation of the use of civil liability regimes since the last couple of years.

The move towards better environmental protection has been slow but is steadily catching up speed. This momentum needs to be built up further due to the increase in speed of economic change in contemporary global society.

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1973	London Convention on Civil Liability for Oil Pollution Damage Resulting from Exploration for and Exploitation of Sea Bed Mineral Resources
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