CHAPTER 2
TRANSBOUNDARY ENVIRONMENTAL HARM AND INTERNATIONAL LAW

2.1 Introduction

This chapter examines the evolving parameters of transboundary environmental liability in the field of international law, especially now when the states are more prone to the transboundary effects of the globalization. Transboundary environmental harm and risk are ever present realities in the diversity of activities taking place all around us which are posing an increasing challenge to governance institutions. The general principles of state responsibility and liability for harm are still not developed and the state of the existing international law is inadequate for imposing liability for harm across national boundaries and to the global commons.¹ Principle 13 of the 1992 Rio Declaration on Environment and Development calls on states to cooperate in developing liability and compensation rules for environmental damage caused by activities both within and beyond their areas of territorial jurisdiction or control.² The development of state liability provisions in public international law has progressed in a haphazard manner. There are a number of multilateral environmental treaties which refer to state responsibility and liability for environmental damage, but they do not prescribe the nature of liability and compensation. The 1972 Convention on International Liability for Damage Caused by Space

¹ P. Birnie and A. Boyle, International Law and the Environment, 113 (Oxford University Press, 2002).
Objects remains one of the few treaties with explicit state liability obligations rules which supported a successful claim by Canada against the USSR for the cleanup of radioactive debris following the break-up of a Soviet satellite over Canadian territory in 1979. More significantly the United Nations Security Council Resolution 687 recognised Iraq’s liability for environmental damage resulting from its invasion and occupation of Kuwait. The instances of inter-state claims for liability for transboundary pollution damage are few. Rather state practice reveals a widespread reluctance to pursue environmental liability through inter-state claims. The Chernobyl incident is a glaring example of this reluctance. The International Law Commission which in 1978 started its work on the codification of general legal principles of international liability has also recognised the states’ preferences for increasing the importance of private liability attached to operators of risk-bearing activities as the main mechanism for progressing environmental liability. This preference led to the emergence of civil liability regimes in international environmental law. These regimes focus on the financial accountability of responsible parties under national legal regimes in conformity with international liability conventions. They have emerged to facilitate risk management for economic activities considered hazardous, notably potential damage arising from the peaceful use of nuclear energy, oil pollution, and the transportation of dangerous goods and the transboundary movement of hazardous wastes. This chapter will focus on the recent developments in various regimes of international law for codification and development of the liability for transboundary environmental harm.

3 Supra note 1
5 Supra note 1 at 116.
6 Ibid.
2.2 Substantive and Procedural Principles and Rules

The distinctive feature of international environmental law making process is its flexibility, recourse to vague concepts and principles and the predominance of soft law or legally non binding instruments. But it is this flexibility which allows for further development of the rules and law. The political and economic constraints of states make it difficult for them to agree upon more stringent rules and therefore ‘soft’ instruments facilitate the dynamic development of modern international environmental law.

The emergence of the environmental principles has been interestingly termed as the ‘twilight’ norms by Ulrich Beyerlin. According to him, any norm that does not clearly set out the legal consequences that follow automatically from the presence of all stipulated facts can be seen as ‘twilight’.

Thus, there is this broad spectrum of concepts encompassed by the 1992 Rio Declaration on Environment and Development, which range from ‘sustainable development’ and ‘inter-generational equity’, to ‘cooperation’ and ‘common but differentiated responsibilities’ to ‘precaution’, ‘polluter-pays’, ‘environmental impact assessment’ and others. Although all of these concepts are declared to be ‘principles’ in various instruments both international and national, they are hardly homogenous in nature. The content and legal status of these principles has been a constant challenge both to the policy and law makers.

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8 Ibid.
10 This definition goes along the lines of R. Dworkin’s understanding of what legal rules should be.
2.3 Historical Development

The emergence of international law on environment can be seen as the consequence of the balancing of competing interests of neighbouring states through bilateral and multilateral agreements. The modern international environmental law is enrooted in the bilateral treaties addressing shared natural resources like fisheries,\(^\text{12}\) equitable utilisation of watercourses of riparian states,\(^\text{13}\) or the protection of wild birds.\(^\text{14}\) The United Nations Conference on Human Environment in 1972 and the Rio Conference on Environment and Development in 1992 gave non binding instruments in the form of principles. These soft instruments have in many cases contributed to the development of consistent state practice, or provided evidence of existing law, or of the law making intention which is necessary for the evolution of new customary law or have lead to the negotiation of binding treaty commitments.\(^\text{15}\)

Organisations and expert groups have worked on the development and promotion of these emerging concepts and principles in international environmental law. The expert group of Commission on Sustainable Development identified nineteen ‘principles and concepts of international law for sustainable development’ with the objective to help in the development of new legal instruments by states as well as in the interpretation and application of existing treaty

\(^{12}\) E.g. the Fisheries Convention between France and the Great Britain of 11 November 1867; between Great Britain and the United States of America for a *Modus Vivendi* in Relation to the Fur Seal Fisheries in the Bering Sea of 15 June 1891.

\(^{13}\) E.g. the Convention between Great Britain and the United States of America Relating to Boundary Water and Boundary Questions between the US and Canada of 11 January 1909.

\(^{14}\) E.g. the Convention on Protection of Birds Useful to Agriculture of 19 March 1902; the Convention on the Protection of Migratory Birds in the US and Canada of 16 August 1916.

\(^{15}\) *Supra* 1 note at 11.
and non-treaty obligations. According to the expert group, the principles and concepts are norms that generate substantive and procedural obligations or constitute sources from which more detailed obligations may flow such as the principle of ‘common but differentiated responsibilities’. The discourse on the emerging principles in international environmental law has been to not to delve too much on the legal status of these principles. Most of the reports are on the discussion and formulation of principles without prejudice to the question of whether these are part of customary international law.

The 1996 report of a UNEP expert group compiled various ‘concepts and principles in international environmental law’ and declared them ‘core elements’ in the process of further development within this branch of law. According to the report these are for ‘providing coherence and consistency to international environmental law; guiding governments in negotiating future international instruments; providing a framework for the interpretation and application of domestic environmental laws and policies; and assisting the integration of international environmental law with other international law fields’. This report also does not elucidate upon the nature or legal status of these concepts and principle.

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17 Ibid, para 8.

18 Ibid, para 6.


20 Ibid.
However Lang differentiates the environmental principles on the criteria of the degree of their binding nature and puts them into three categories. These include:

(i) Principles of Existing International Environmental Law: such as the responsibility or liability for environmental harm, the prohibition on the use of nuclear weapons and other weapons of mass destruction.

(ii) Principles of Emerging International Environmental Law: such as ‘intergenerational equity’, ‘right to a healthy environment’, ‘duty not to use the environment as an instrument of warfare’, and various procedural obligation.

(iii) Potential Principles of International Environmental Law: such as ‘integration of environmental considerations into the development process’, ‘common but differentiated responsibilities’, and ‘precaution’.

According to Philippe Sands there are ‘general rules and principles which have broad, if not necessarily universal, support that are frequently endorsed in practice’ and these include the following seven rules and principles:

(i) ‘states’ sovereignty over their natural resources and the responsibility not to cause transboundary environmental damage;

(ii) preventive action;

(iii) cooperation;

(iv) sustainable development;

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22 Ibid.
(v) precaution;

(vi) polluter pays; and

(vii) common but differentiated responsibility.\textsuperscript{24}

According to Sands the Principle 21 of the Stockholm Declaration or Principle 2 of the Rio Declaration and the cooperation principle are sufficiently well established to provide a basis for international cause of action as an international customary legal obligation the violation of which gives rise to a free standing legal remedy.\textsuperscript{25} He extends the same legal status to the precautionary principle in the European context.

On the status of other environmental principles Sands generally states that “any effort to identify general principles and rules of international environmental law must necessarily be based on a considered assessment of state practice, including the adoption and implementation of treaties and other international legal acts, as well as the growing number of decisions of international courts and tribunals”.\textsuperscript{26}

Environmental principles set out in the Stockholm Declaration and the Rio Declaration have been given recognition in the preambles of treaties and other international acts. They have been promoted for general application by inducting them into the operative provisions also. Article 3 of the 1992 Climate Change Convention provides a list of ‘Principles’ intended to guide the parties ‘in their actions to achieve the objective of the Convention and to implement its provisions’. Article 3 of the 1992 Biodiversity Convention introduces the text of Principle 21 of the Stockholm Declaration as the sole ‘principle’. The EC Treaty, as amended in 1986, 1992 and 1997, sets forth principles

\textsuperscript{24} Ibid.
\textsuperscript{25} Id., at 232.
\textsuperscript{26} Id., at 234.
and rules of general application in Article 174(2) (formerly Article 130r). Other treaties follow a similar approach.\textsuperscript{27}

### 2.4 Principles and Rules

The legal effect of principles and their relationship to rules was laid down in the \textit{Gentini} case, in 1903 which adopted the following distinction:

\begin{quote}
A ‘rule’ . . . is essentially practical and, moreover, binding . . . [T]here are rules of art as there are rules of government while principle ‘expresses a general truth, which guides our action, serves as a theoretical basis for the various acts of our life, and the application of which to reality produces a given consequences.\textsuperscript{28}
\end{quote}

In this sense, positive rule of law may be treated as the ‘practical formulation of the principles’, and the ‘application of the principle to the infinitely varying circumstances of practical life aims at bringing about substantive justice in every case’. According to Dworkin “principles and rules point to particular decisions about legal obligations in particular circumstances, but they are different in the character of the direction they give. Rules are applicable in an all or

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nothing fashion . . . [A Principle] states a reason that argues in one direction, but does not necessitate a particular decision . . . All that is meant, when we say that a particular principle is a principle of our law, is that the principle is one which officials must take into account, if it is relevant, as a consideration inclining in one way or another.”

This distinction finds some support in the practice of international Courts and allows the conclusion that principles embody legal standards, but the standards they contain are more general than commitments and do not specify particular actions, unlike rules. But recently the fact that legal principles, like rules, can have international legal consequences has focused attention on their content being elaborated in recent treaties.

Thus the principles and rules on international environmental law have traced their journey from bilateral treaties, the work done under the United Nations, the multi lateral environmental agreements and the decisions of international tribunals. The substantive principles and rules on transboundary environmental harm have been developed in the process of treaty-making on specific issues or regions like marine pollution, pollution of international rivers and lakes, atmospheric pollution, and the protection and conservation of fauna and flora.

Procedural principles and rules like the environmental impact assessment, prior notification, the principle of warning, and the principle of consultation and exchange of information have emerged simultaneous to the development of the substantive principles and

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30 Case C-2/90, EC Commission v. Belgium, (1993) 1 CMLR 365, where the ECJ relied on the principle that environmental damage should as a priority be rectified at the source (EC Treaty, Article 130r (2)) and the principles of self sufficiency and proximity (in the Basel Convention) to help it justify a conclusion, paras 34-35.
rules. According to Sands these are techniques of implementing international principles and rules and include environmental impact assessment, prior notification, consultation and exchange of information along with liability for environmental damage, international trade and competition, financial resources, technology and intellectual property and foreign investment.\textsuperscript{32} There are other legal techniques like regulation of identified activities, substances and pollutants, through prohibitions or restrictions on the production, trade, consumption, disposal, or emission of certain substances or pollutants, and standard-setting for those purposes\textsuperscript{33}. At the heart of these procedural principles and rules lies the duty of due diligence and care. Most of these procedural principles are also recognised in customary and treaty law.\textsuperscript{34}

\textbf{2.4.1 Primary Rules and Secondary Rules}

In international law a distinction is made on basis of primary rules and secondary rules. According to the International Law Commission, primary rules have been defined as “rules of international law which, in one or another sector of inter-State relations, impose specific obligations on States”.\textsuperscript{35} Whereas terms like ‘state responsibility’ or ‘\textit{liability ex delicto}’ refers to the secondary rules of international law, rules “concerned with determining the legal consequences of failure to fulfil obligations established by the ‘primary’ rules”.\textsuperscript{36}

\begin{itemize}
  \item \textsuperscript{32} \textit{Supra} note 23 at 799-1092.
  \item \textsuperscript{33} \textit{Ibid.}
  \item \textsuperscript{34} \textit{Ibid.}
  \item \textsuperscript{36} \textit{Ibid.}
\end{itemize}
2.4.2 State Responsibility, State/International Liability and Civil Liability

The International Law Commission (ILC) in the early 1970s concluded that liability for internationally wrongful acts should be distinguished from liability for acts which are not internationally wrongful.\(^\text{37}\) The term ‘responsibility’ or ‘State responsibility’ was decided to be used only in connection with internationally wrongful acts and the term ‘liability’ or ‘state liability’ for other forms of liability, including liability for the injurious consequences arising out of acts not prohibited by international law.\(^\text{38}\) In practice also a distinction has been drawn between the liability of states and other international persons under public international law, and the liability of actors (which could include states) under rules of national law adopted pursuant to treatises which aim to harmonise national civil liability rules or set minimum standards. State or international liability in this sense refers to the liability of international persons under international law of state responsibility.\(^\text{39}\)

Therefore in international law the term ‘state liability’ refers to the origin as well as the contents, forms, and degrees of liability \textit{ex delicto} and liability \textit{sine delicto} of states under international law.\(^\text{40}\) It is different from the concept of ‘civil liability’ which refers to liability under a municipal legal system.\(^\text{41}\) Liability \textit{ex delicto} is State-to-State liability; more popularly called state responsibility, and creates a new relationship between the State perpetrator of the internationally wrongful Act and the injured State, whereas liability


\(^{38}\) Ibid.

\(^{39}\) Ibid.

\(^{40}\) Ibid.

\(^{41}\) Ibid.
sine delicto may either be State-to-State liability or transnational liability.\(^42\) The term ‘transnational liability’ refers to a relationship which is created between the State which is liable and the nationals and permanent residents of another State who have been affected by the conduct that has led to the imposition of liability.

The liability for injury caused, has a basis also in the polluter pays principle and the notion of compensatory justice. These concepts suggest the need for compensation by the State causing the injury to the State suffering the harm.\(^43\) The international community also seems to be mindful of the concepts of fairness, justice, and equity. There is increasing support for the principle that the innocent victim should not be left to bear the loss, at least not alone.\(^44\) The states have asserted that the injurious consequences of harm should be borne by the source of the harm or should, at least, be shared by means of some kind of burden-sharing arrangement irrespective whether the source of the harm has violated the law or not.

The international concern for serious environmental incidents gained momentum after the explosion at the Chernobyl nuclear power

\(^{42}\) Ibid.


\(^{44}\) See e.g. remarks made in the UNGA Sixth Committee by Australia, UN Doc. A/C.6/ 46/SR.32, at 14 (para. 52); Austria, UN Doc. A/C.6/46/SR.32, at 2 (para. 5); Belarus, UN Doc. A/C.6/46/SR.35, at 20 (para. 86); Brazil, UN Doc. A/C.6/47/SR.27, at 12 (para. 49); Canada, UN Doc. A/C.6/47/SR.28, at 2 (para. 3); India, UN Doc. A/C.6/47/SR.29, at 10 (para. 41); Ireland, UN Doc. A/C.6/48/SR.26, at 9 (para. 48); Italy, UN Doc. A/C.6/ 47/SR.29, at 13-14 (para. 53); Madagascar, UN Doc. A/C.6/46/SR.32, at 6 (para. 17); Marshall Islands, UN Doc. A/C.6/46/SR.36, at 8-9 (para. 35); the Netherlands, UN Doc. A/C.6/46/SR.33, at 10 (para. 40); Nordic countries, UN Doc. A/C.6/47/SR.27, at 13 (para. 52); Spain (“even if the party that had caused the damage was not guilty in the legal sense of the word”), UN Doc. A/C.6/46/SR.36, at 2 (para. 1); Sri Lanka, UN Doc. A/C.6/47/SR.30, at 4 (para. 14); Uganda (“whether or not the acts were wrongful”), UN Doc. A/C.6/44/SR.37, at 3 (para. 6); United States, UN Doc. A/C.6/43/SR.27, at 19 (para. 83); Uruguay, UN Doc. A/C.6/42/SR.49, at 8 (para. 35); Venezuela, UN Doc. A/C.r./4r./SR.3’i. at 17 (para. 69).
plant and the pollution of the River Rhine by Sandoz Chemical Corporation. The Bhopal Gas tragedy created an impetus to the search for a normative basis on which to compensate victims in the absence of a violation of the law.

However the concern has not been able to translate into concrete rules of affixing liability. Under the pressure of states’ unwillingness to go beyond the notional recognition of state liability even the ILC decided to further divide the liability topic into a part on the prevention of transboundary harm from hazardous activities and a part on liability for injurious consequences. The liability part focused on the legal regime for allocation of loss from transboundary harm arising out of hazardous activities, on which two reports and a set of draft principles have been thus far submitted. The focus of ILC has also shifted to civil, from that of state liability. The ILC continues to consider due diligence as the basic standard of care incorporated in the state’s duty of prevention international environmental law. States are required to take all appropriate measures for the prevention of significant transboundary harm by the State of origin. The draft convention affirms a number of important procedural obligations between states, which have to contribute to the avoidance of significant transboundary harm like cooperation, notification and information and consultation on preventive measures and exchange of information.

Draft Principles on the Allocation of Loss in the case of Transboundary Harm Arising out of Hazardous Activities, the text of which was annexed to General Assembly Res. 61/36 of 4 December 2006, *Sixty-first Session, Supplement No. 10 (A/61/10).*

Article 3, Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, with commentaries 2001, Text adopted by the International Law Commission at its *Fifty-third session*, and submitted to the General Assembly as a part of the Commission’s report covering the work of that session (A/56/10) at 392.

Articles 4, 8, 9 and 12, *ibid.*
2.4.3 Primary Rules of International Environmental Law on Liability for Transboundary Environmental Harm

The obligations of the states under primary rules are found both in treaty and general customary international law. Liability for transboundary damage is one of the oldest concepts available in inter-state disputes. The customary basis of international environmental law lies in the sovereign right to use of a state’s territory. That states cannot use or permit the use of their territories to the detriment of the rights and legitimate interests of other states is the principle of limited territorial sovereignty as expressed in the Roman law maxim *sic utere tuo ut alienum non laedas*. This principle is intrinsically related to that of state responsibility, that states are responsible for the damage that they cause to other states. The *Trail Smelter arbitration* manifested the principle of limited territorial sovereignty invoked in the trans-border pollution context. This principle was incorporated in Principle 21 of the Stockholm Declaration on Human Environment and later in 1992 it was adopted in a non-binding form by the United Nations Conference on Environment and Development (UNCED) as Principle 2, which provides that “States have, in accordance with the Charter of the United Nations and the principle of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to

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51 *Trail smelter case (United States v. Canada)*, Award, 1941, 3 U.N.R.I.A.A 1905 at 1965.
the environment of other States or of areas beyond the limits of national jurisdiction”.

Both Principle 21 of Stockholm Declaration and Principle 2 of the Rio Declaration each comprise of two elements namely the sovereign right of states to exploit their own natural resources; and the responsibility, or obligation, not to cause damage to the environment of other states or of areas beyond the limits of national jurisdiction.

2.6 Transboundary Environmental Harm under International Law

In international law and literature it is generally accepted that the classical approach to State responsibility for transboundary harm has developed on the basis of the award in the Trail Smelter Arbitration, in which the tribunal relied on ‘the principle of general international law’ prohibiting a State to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons therein, when the case is of serious consequences and the injury is established by clear and convincing evidence. The International Court of Justice in the Corfu Channel case, referred to ‘every State’s obligation not to allow knowingly its territory to be used and as to cause harm to the citizens or property of other states’. In the Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons, the ICJ recognizes

The existence of the general obligations of States to ensure that activities within their jurisdiction and control respect the environment of other States

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55 Ibid.

56 33 AJIL (1939), 182 and 35 AJIL (1941), 684.

57 Corfu Channel case (UK v. Albania), ICJ Rep. 4 at 22 (1949).
or of areas beyond national control is now part of the corpus of international law relating to the environment.58

Summarizing the authorities, Weeramantry J. observed:

These principles of Environmental Law thus do not depend for their validity on treaty provisions. They are part of customary international law. They are part of the ‘sine qua non’ for human survival.59

There is enough recognition in the literature and authorities for basis of state responsibility for transboundary damage. The responsibility of states for transboundary damage depends principally on objective fault like failure to act with due care or diligence, or a breach of treaty, or the commission of a prohibited act.60 If states can be held more generally responsible without showing fault, the examples remain at best exceptional and questionable.61 Another facet to this rule against significant transboundary environmental harm is that it appears to include also the duty to adopt preventive measures to protect the environment. In the Trail Smelter Arbitration62, Canada was ordered to adopt measures to prevent further injury, and such a duty is now at the core of numerous contemporary environmental treaties.63 The UN Security Council held Iraq responsible for damage to other states, including environmental damage, arising from its illegal invasion of Kuwait. The UN Compensation Commission was created to administer claims for compensation.64 That the general principle of state responsibility for transboundary damage has been

58 ICJ Reports, 225 (1996), para 29.
60 Supra note 44.
61 Ibid.
62 Supra note 32.
63 Supra note 1 at 128.
recognised in the law of state responsibility is reflected in the work of the International Law Commission.\textsuperscript{65} More specifically the principle is endorsed in the work of in Article 3 of the 2001 draft Convention on the Prevention of Transboundary Harm.\textsuperscript{66}

2.6.1 Obligation to Prevent Significant Transboundary Environmental Harm

The obligation to prevent transboundary environmental harm is recognised in some arbitral and judicial decisions. The obligation has consistently been endorsed and recognised at international fora including the Stockholm and Rio Declarations. Treaties, both international and regional have recognised this obligation in varied terms and context. More significantly it is recognised now as an obligation of harm prevention and not merely a basis for reparation after the event.\textsuperscript{67} In the \textit{Trail Smelter} arbitration the tribunal not only awarded damages to the USA and but also prescribed a regime for controlling future emissions from a Canadian smelter which had caused the air pollution damage.\textsuperscript{68} For this ‘no harm’ rule the tribunal relied on the \textit{Alabama Claims Arbitration}\textsuperscript{69} for the general proposition that ‘A State owes at all times a duty to protect other states against injurious acts by individuals from within its jurisdiction’, and on the evidence of US federal case law dealing with interstate air and water pollution, which it held ‘may legitimately be taken as a guide in this


\textsuperscript{66} Articles 3-7, \textit{supra} note 42; The Draft Articles are proposed to be adopted as Draft Convention. It requires all parties to adopt ‘all appropriate measures to prevent or minimize risk of significant transboundary harm’.


\textsuperscript{69} Alabama Claims Arbitration (1872), Moore, 1 \textit{International Arbitrations}, 485.
field of international law . . . where no contrary rule prevails’. 70 The ICJ in the Corfu Channel case, 71 reiterated the obligation in more general terms, ‘every state’s obligation not to allow knowingly its territory to be used for acts contrary to the rights of other states’. 72 The requirement of warning to other states of known dangers is recognised as the duty of the states. The obligation of states in environmental context was recognised by the ICJ in the Nuclear tests case where it allowed the matter to be raised before it though could not decide because of other constraints. 73 Without attaching too much significance of these few older judicial or arbitral precedents, Birnie and Boyle believe that there is ample evidence of continued international support for the broad proposition that states must control sources of harm to others or to the global environment arising within their territory or subject to their jurisdiction and control. 74

2.6.2 Stockholm Principle 21 and Rio Principle 2

The development of law and practice in environmental matters has been influenced by two principles significantly. 75 The Trail Smelter rule was taken up in Principle 21 of the Stockholm Declaration on the Human Environment and Principle 2 of the Rio Declaration on Environment and Development, which extend the duty to prevent transboundary harm to areas outside states’ jurisdiction on control. The rule has become one of the few uncontested norms of customary international environmental law in the environmental field. The UN general assembly resolution confirms Principle 21 as a ‘basic rule’ governing international environmental responsibility. 76 Principle

70 Supra note 51  
71 Ibid.  
72 ICJ Reports, 22 (1949); Lac Lanoux Arbitration, 24 ILR 101, 123 (1957).  
74 Supra note 1 at 109.  
75 Ibid.  
21 ‘affirmed existing rules’ on international responsibility for damage to other states or areas beyond national jurisdiction was also clarified at the Stockholm conference itself.\textsuperscript{77} Principle 21 of Stockholm Declaration finds support in United Nations Resolutions,\textsuperscript{78} in UNEP principles,\textsuperscript{79} and in multilateral treaties such as the London Dumping Convention, the Geneva Convention on Long-Range Transboundary Air Pollution, the Ozone Convention, or the Basel Convention on the Transboundary Movement of Hazardous Wastes. Its normative character is also recognized in Articles 192-194 of the 1982 United Nations Convention on the Law of the Sea, and in the 1992 Convention on the Transboundary Effects of Industrial Accidents. Similarly Principle 2 has been influential in the post-Rio development of the law, notably in the 1993 Nuuk Declaration of Environment and Development in the Arctic and the 1994 Convention to Combat Desertification.\textsuperscript{80}

The bilateral character of this ‘no harm’ principle, as seen in the transboundary case of \textit{Trail Smelter}, is now expanding in scope. Even in 1972 the UN General Assembly resolved that in the exploration, exploitation, and development of their natural resources, “states must not produce significant harmful effects in zones situated outside their national jurisdiction”.\textsuperscript{81} Analysis of the recent conventions show an international acceptance of the proposition that states are now required to protect global common areas, including Antarctica and those areas beyond the limits of national jurisdiction,

\textsuperscript{78} UNGA Res. 2849 XXVI (1971); 2995 XXVII (1972); 2996 XXVII (1972); 381 XXIX (1974); 34/186 (1979).
\textsuperscript{79} Principles of Conduct in the Field of the Environment Concerning Resources shared by Two or More States, Principle 3, UNEP/IG/12/2 (1978).
\textsuperscript{80} Supra note 1
\textsuperscript{81} UNGA Res. 2995 XXVII (1972).
such as the high seas, deep seabed, and outer space. Consequently a changed perspective is reflected in treating the obligation as no longer solely bilateral in character but taking the international community as a whole. This point is emphasized by the reference to Rio Principle 2 in the preamble to the 1992 Convention on Climate Change.

As seen the significance of Principle 21 has been in bringing focus of international community on the preventive element of environmental responsibility of the states. More than making reparation for environmental damage Principle 21 has brought focus on the duty of states to take suitable preventive measures to protect the environment. In the Trail Smelter case also, Canada was ordered by the tribunal to take measures to prevent future injury. That the rule is now primarily one of prevention and control is further illustrated through various provisions. They establish the basic obligation underlying international environmental law and the source of its further elaboration in rules of greater specificity. That principle 21 reflects customary law is now confirmed by the ICJ’s 1996 Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons.

### 2.6.3 Rio Declaration and Transboundary Environmental Harm

The Rio Declaration specifically addresses transboundary harm and environmental risks through Principles 2, 18 and 19. Whereas Principle 2 reiterates the duty of states to prevent harm to the

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84 Dupuy, in OECD, *Legal Aspects of Transfrontier Pollution*, 372.
85 Article 194 of the 1982 UNCLOS; Article 2(1) of the 1991 ECE Convention on Environmental Impact Assessment; and in Article 3 of the ILC 2000 draft Convention on the Prevention of Transboundary Harm, “all appropriate measures to prevent or minimise the risk of significant transboundary harm”.
environment of other states or of common spaces.\textsuperscript{87} The procedural obligations of duty to notify emergencies likely to affect the environment of other states, prior notification and consultation in good faith before undertaking activities that may have significant adverse transboundary environmental effects are laid down in Principles 18 and 19. Taken as a whole, the Rio Declaration is a much more significant statement of the law on transboundary environmental harm than the Stockholm Declaration, and it has provided a starting point for the further elaboration of this part of international environmental law by the International Law Commission and the International Court of Justice.\textsuperscript{88}

2.6.4 Standard of Care for Affixing Liability in International Law

An overview of the international law shows three kinds of standard of care prevalent to establish a case of state responsibility or liability. These are fault, strict or absolute standard. Fault is a standard based upon intention and negligence; strict liability is a prima facie responsibility with various qualifications and defences available and absolute liability for which there can be no mode of exculpation.\textsuperscript{89} According to Oppenheim there is probably no single basis of international responsibility applicable in all circumstances, but rather several, the nature of which depends upon the particular obligation in question’.\textsuperscript{90} Therefore there should be not much use for seeking a specific standard of care for transboundary harm. The issues with regard to these standards where applicable are to come to some uniformity in their criteria. An effort is made in the present chapter to seek out the possible elements of uniformity.

\textsuperscript{87} Supra note 1 at 104
\textsuperscript{88} Ibid.
\textsuperscript{89} Supra note 23 at 176
\textsuperscript{90} Oppenheim, \textit{International Law}, Vol. 1, 509 (9\textsuperscript{th} Edition).
2.6.4.1 Due Diligence

In international law due diligence is a standard of care imposed on all states while conducting activities within their jurisdiction requiring not to cause damage to the environment of the other states.\(^{91}\) ‘Due diligence’ requires the introduction of legislation and administrative controls applicable to public and private conduct which are capable of effectively protecting other states’ and the global environment, and it can be expressed as the conduct to be expected of a good government.\(^{92}\) It is also accepted as a general standard for activities which are not ultra hazardous and dangerous.

Meaning and Content

The international law provides for a number of procedural principles and rules, both customary and conventional which clarify and elaborate upon the procedural duties of due care or diligence of the states to protect the environment.

However there is flexibility of the standard of care required and the fact that the obligation of due diligence does not make the state an absolute guarantor of the prevention of harm and therefore does not make it an effective standard of care for environmental harm.\(^{93}\) An analysis of various international decisions and awards also understates its weaknesses.\(^{94}\) Various considerations like effectiveness of territorial control, the resources available to the state, and the nature of specific activities may be taken into account to justify differing degrees of diligence.\(^{95}\) Various conventions also provide great latitude

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\(^{91}\) Supra note 23, at 177
\(^{92}\) OECD, Legal Aspects of Transfrontier Pollution, 385; 39 ILM, 237 (2000).
\(^{93}\) Id., at 380.
\(^{94}\) Alabama Claims Arbitration (1872), Moore, 1 International Arbitrations, 485; Case Concerning Diplomatic and Consular Staff in Tehran, ICJ Reports, 29-33 (1980); Corfu Channel Case, ICJ Reports 89 (1949).
\(^{95}\) Ibid.
for interpretation and application thereby bringing an element of vagueness and uncertainty. Article 2 of the 1972 London Dumping Convention requires parties to take effective measures “according to their scientific, technical and economic capabilities”. Article 194 of the 1982 UNCLOS allows the concerns of developing states to be accommodated, though less flexibility is allowed where the harm is to other states than in cases affecting common spaces. Similarly Article 4(4) to Annex III of 1982 UNCLOS provides that ‘the sponsoring State or states shall pursuant to Article 139, have the responsibility to ensure within their legal systems that a contractor so sponsored shall carry out activities in the Area in conformity with the terms of its contract and it obligations under this Convention. A sponsoring State shall not, however, be liable for damage caused by any failure of a contractor sponsored by it or to comply with its obligations if that State party has adopted laws and regulations and taken administrative measures which are, within the framework of its legal system, reasonably appropriate for securing compliance by persons under its jurisdiction”. Viewed in this manner this lack of certainty makes it difficult to determine operative effects of the ‘no harm’ rule.96

Alternately viewed, it is this flexibility because of which there is almost unanimous agreement that the prevention of harm is an obligation of due diligence. This conclusion is reflected in the ILC’s draft Convention on the Prevention of Transboundary Harm.97 The draft convention clarifies the content of environmental procedural rules and, most importantly, confirms the duty of due diligence as the standard underlying international environmental obligations.

97 Supra note 42. International Law Commission, Fifty-eighth session, Geneva, 2006 International liability for injurious consequences arising out of acts not prohibited by international law (International liability in case of loss from transboundary harm arising out of hazardous activities) Comments and observations received from Governments A/CN.4/562, 8.
But in a significant movement towards liability and compensation the ILC while clarifying the application of the ILC Draft Principles on the Allocation of Loss in the Case of Transboundary Harm Arising out of Hazardous Activities, states that it is assumed that duties of due diligence under the obligations of prevention have been fulfilled.\(^98\) Accordingly, the focus of the draft principles is on damage caused despite the fulfilment of such duties.

### 2.6.4.2 Development of the Content of Standard of Diligence

The principle of due diligence was also considered in the context of the Commission’s work on international watercourses. The matter was dealt with specifically for the first time in Mr. Stephen McCaffrey’s fourth report. In relation to draft Article 16 on pollution of international watercourses, he indicated that the obligation of due diligence should not be interpreted as resulting in the strict liability of a State for any harm caused by pollution. He identified the following elements of the obligation of due diligence:\(^99\)

(a) Exercise of the degree of care that could be expected of a good government. In other words, a Government or a State should possess “on a permanent basis, a legal system and material resources sufficient to ensure the fulfilment of [its] international obligations under normal conditions”. In particular, the State must have established, and maintain, an administrative apparatus that is minimally sufficient to permit it to fulfil those obligations;

(b) Use of the infrastructure with a degree of vigilance adapted to the circumstances;

\(^{98}\) *Ibid.*

(c) Conduct giving rise to the transfrontier pollution damage, as well as the damage itself, must have been foreseeable. In other words, the higher the degree of the inadmissible transfrontier water pollution, the greater would be the duty of care to prevent such pollution on the part of the State. Similarly, use of dangerous technologies or industries imposes on States a higher degree of responsibility to exercise vigilance, irrespective of the extent of their general development.

Due diligence as criteria has been often criticised for its flexibility and lack of uniformity. But the opinion that the general formulation of due diligence is unhelpful in environmental matters because it offers little guidance on what legislation or controls are required of states in each case is a little too harsh. There are existing treaties and agreements where the search for content and predictability is not totally futile. Some prominent techniques or approaches of international regulation of standards contributing to development of standard of due diligence include:

I) Internationally agreed minimum standards set out in treaties or in the resolutions and decisions of international bodies such as IMO or IAEA offer detailed guidelines.  

II) Reference to the use of ‘best available technology or similar formulations, such as “best practicable means”’.

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100 Annexes of the 1973 MARPOL Convention; P.M. Dupuy in Bothe, Trends in Environmental Policy and Law, 369

The technique of resorting to standards of this kind for the purpose of binding obligations of conduct is employed by several multilateral treaties. The 1982 UNCLOS incorporates by reference both the MARPOL Convention and the London Dumping Convention by requiring states to give effect to generally accepted international rules and standards, whether or not they are independently binding on parties.\(^{102}\) Similarly the technique of incorporation by reference to internationally accepted standards are found in the Basel Convention on Trans-boundary Movement of Hazardous Wastes.\(^{103}\) It is debatable that in some cases states are given more latitude and need only ‘take account of international standards’ thereby diluting the standards or bringing in the elements of vagueness and uncertainty. But even this transformation gives some guidance as to the content of their general obligation of diligence.

The search for specific standards of diligent control finds some support in the in various guidelines and their monitoring by international supervisory institutions. Such application of specific conduct with reference to specific activity or pollutant may acquire customary force, if international support is sufficiently widespread and representative. The MARPOL Convention may be one example of this transformation process.\(^{104}\) IAEA guidelines for the dumping of radioactive waste at sea or the IMO’s International Maritime Dangerous Goods Code are arguably other.\(^{105}\) Thus whether or not they are found in legally binding instruments, it is now often possible to point to specific standards of diligent conduct which in turn can be monitored by international supervisory institutions or employed by international tribunals to settle disputes. The emergence of more

\(^{102}\) Articles 210 - 211.
\(^{103}\) 1999 Basel Protocol on Liability and Compensation for Damage Resulting from the Transboundary Movement of Hazardous Wastes and Their Disposal (Document UNEP-CHW.5/29);
\(^{104}\) Supra note 1 at 211-212.
\(^{105}\) Ibid.
international tribunals to settle disputes also ordains the application of such international standards.

Thus there is significant support in favour of due diligence as bases of states’ primary international environmental obligations. The work of the ILC also recognises this.\footnote{\textit{Articles 3–7 Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, A/56/10; and the 1997 Convention on the Law of the Non-Navigational Uses of International Watercourses, General Assembly resolution 51/229 of 21 May 1997, (UN Doc A/51/869).}} There is ample authority in treaties,\footnote{For e.g., 1982 UNCLOS, Article 194; 1979 Convention on Long Range Transboundary Air Pollution, Article 2; 1985 Convention for the Protection of the Ozone Layer, Article 2; 1996 Protocol to London Dumping Convention, Article 1; 1991 Convention on EIA in a Transboundary Context, Article 2; for land based sources of marine pollution.} case law,\footnote{\textit{Corfu Channel Case}, ICJ Reports, 89 (1949).} and state practice for regarding these provisions of the ILC’s draft convention as a codification of existing international law. They may be taken as to represent the minimum standard required of states when managing transboundary risks and giving effect to Principle 2 of the Rio Declaration. More recently the obligation of due diligence has been explained by the ICJ in its Judgment in the \textit{Pulp Mills on the River Uruguay case}.\footnote{\textit{Pulp Mills on the River Uruguay (Argentina v. Uruguay) (Judgment)} (International Court of Justice, General List No 135, 20 April 2010).} The ICJ illustrates the meaning of a specific treaty obligation that it had qualified as “an obligation to act with due diligence” as follows: “it is an obligation which entails not only the adoption of appropriate rules and measures, but also a certain level of vigilance in their enforcement and the exercise of administrative control applicable to public and private operators, such as the monitoring of activities undertaken by such operators . . “.\footnote{\textit{Ibid.}}

The International Law Commission’s Draft Article 3 of its Articles on Prevention of Transboundary Harm from Hazardous Activities, adopted in 2001, states that the State of origin of the
activities involving a risk of causing transboundary harm shall take all appropriate measures to prevent significant transboundary harm or at any event to minimize the risk thereof. Commentary to Article 3, states: “The obligation of the State of origin to take preventive or minimization measures is one of due diligence. It is the conduct of the State of origin that will determine whether the State has complied with its obligation under the present articles. The duty of due diligence involved, however, is not intended to guarantee that significant harm be totally prevented, if it is not possible to do so. In that eventuality, the State of origin is required . . . to exert its best possible efforts to minimize the risk. In this sense, it does not guarantee that the harm would not occur”.111

2.6.4.3 The Content of the “Due Diligence” Obligation to Ensure

The fact that the content of “due diligence” obligations may not easily be described in precise terms has been acknowledged by the Seabed Disputes Chamber under the International Tribunal of Law of Sea (ITLOS). According to its recent Advisory Opinion relating to the Responsibilities and Obligations of States Sponsoring Persons and Entities with respect to Activities in the Area the factors that make such a description difficult is the fact that “due diligence” is a variable concept. It may change over time as measures considered sufficiently diligent at a certain moment may become not diligent enough in light, for instance, of new scientific or technological knowledge. It may also change in relation to the risks involved in the activity . . . . The standard of due diligence has to be more severe for the riskier activities.112

111 Supra note 42 at 154.
112 Responsibilities and Obligations of States Sponsoring Persons and Entities with respect to Activities in the Area (Advisory Opinion) (International Tribunal of the Law of the Sea, Seabed Disputes Chamber, Case No 17, 1 February 2011).
The Advisory opinion from ITLOS Seabed Disputes Chamber is an insight into the state’s ‘obligation to ensure’ under the statute. Article 153, paragraph 4, last sentence, of the Convention states that the obligation of the sponsoring State in accordance with article 139 of the Convention entails “taking all measures necessary to ensure” compliance by the sponsored contractor. Annex III, Article 4, para 4, of the Convention makes it clear that sponsoring States’ “responsibility to ensure” applies “within their legal systems”. With these indications the Convention provides some elements concerning the content of the “due diligence” obligation to ensure. Necessary measures are required and these must be adopted within the legal system of the sponsoring State. Interpreting the relevant provisions under the Convention the Chamber identified two kinds of obligations.

The state’s ‘obligation to ensure’ compliance by sponsored contractors with the terms of the contract and the obligations set out in the Convention and related instruments. According to the opinion this is an obligation of ‘due diligence’ and an obligation of ‘conduct’ rather than ‘result’. The obligation entails not only the adoption of appropriate rules and measures within its own legal system, but also a certain level of vigilance in their enforcement and the exercise of administrative control applicable to public and private operators, such as the monitoring of activities undertaken by such operators. In this manner the sponsoring State is bound to make best possible efforts to secure compliance by the sponsored contractors. The standard of due diligence may vary over time and depends on the level of risk and on the activities involved. The applicable standard is that the measures must be ‘reasonably appropriate’.

113 Ibid, para 132.
114 Ibid.
115 Quoted approvingly from the ICJ’s judgment in the Pulp Mills on the River Uruguay (Argentina v. Uruguay) (Judgment) (International Court of Justice, General List No 135, 20 April 2010).
The ICJ has recognised few more direct obligations of the sponsoring States under the UNCLOS. According to the Advisory opinion the obligations of sponsoring states are not limited to the due diligence “obligation to ensure”. Under the Convention and related instruments, sponsoring States also have obligations with which they have to comply independently of their obligation to ensure certain behaviour by the sponsored contractor. These obligations may be characterized as “direct obligations”.  

Among the most important of these direct obligations incumbent on sponsoring States are: the obligation to assist the Authority in the exercise of control over activities in the Area; the obligation to apply a precautionary approach; the obligation to apply best environmental practices; the obligation to take measures to ensure the provision of guarantees in the event of an emergency order by the Authority for protection of the marine environment; the obligation to ensure the availability of recourse for compensation in respect of damage caused by pollution; and the obligation to conduct environmental impact assessments. It must nevertheless be stated, at the outset, that compliance with these obligations can also be seen as a relevant factor in meeting the due diligence “obligation to ensure” and that the said obligations are in most cases couched as obligations to ensure compliance with a specific rule.  

2.6.4.4 Foreseeability of Harm: The Precautionary Principle

Foreseeability of harm, in the sense of an objectively determined risk, is sufficient to engage a State’s duty to take measures to prevent transboundary harm. There is enough substance in the international literature which supports the rule in international law that states must not cause or permit serious or significant harm to

\[ \text{116 Supra note 102, (paras 124-150).} \]
\[ \text{117 Ibid.} \]
other states or to common spaces is not simply one of responsibility for injury *ex post facto*. It is apparent that the principle to prevent transboundary harm or the ‘no harm’ rule is necessarily primarily an obligation of diligent prevention and control. Various writers interpret this as application of a ‘precautionary approach’\textsuperscript{118} Since the obligation is of diligent control and regulation it requires an element of foreseeability or likelihood of harm and of its potential gravity. The *Corfu Channel* case\textsuperscript{119} emphasised on the obligation that arises when there is a known risk to other states. According to Birnie and Boyle, in general, foreseeability of harm, in the sense of an objectively determined risk, will usually be sufficient to engage the state’s duty of regulation and control.\textsuperscript{120} The draft Convention on Prevention of Trans-boundary Harm also tries to develop the law on the same lines. The states are required to prevent or minimize the risk posed by harmful activities. ‘Risk’ is defined to encompass both ‘a low probability of causing disastrous harm’, and ‘a high probability of causing significant harm’.\textsuperscript{121} Thus, both the magnitude and probability of harm are relevant factors.\textsuperscript{122} What is objectively foreseeable may of course vary over time, and will depend on the state of knowledge regarding the risk posed by the activity in question at the time when it has to be appreciated.\textsuperscript{123} Hence in case of an ultra hazardous activity that shows a low probability of causing disastrous transboundary environmental harm, the state of origin should bear the burden of proof of having diligently fulfilled its obligation of prevention. The state of origin should be required to show that it has taken all adequate


\textsuperscript{119} Supra note 50.

\textsuperscript{120} Supra note 1 at 116.

\textsuperscript{121} ILC Draft Convention, Article 2, *supra* n. 6, and commentary in UN Doc. A/CN.4/L.554, Add. 1 (1998), at 7-10.


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and reasonable measures to control and regulate in advance all intrinsically hazardous activities planned within its jurisdiction, such as the operation of a nuclear plant close to its national border.\textsuperscript{124} Thus the question as to what is appropriate and reasonable measures are necessarily linked with the activity under question and to be answered on the merits of each case. The \textit{Aerial Herbicide Spraying case}\textsuperscript{125} makes a good illustration for the known and foreseeable risk of significant harm where Colombia failed to regulate and control the spraying to the standards necessary to give effect to its obligation to prevent transboundary harm, or to mitigate the harmful effects on Ecuador. The spraying operations were directed by the Government of Colombia and carried out on its behalf. Adequate precautionary measures should have been taken in order to prevent or minimize the risk of transboundary harm or to minimize its effects. Ecuador relied on Article 3 of the ILC’s 2001 Articles on Prevention of Transboundary Harm and Article 14(1)(d) of the 1992 Convention on Biological Diversity.\textsuperscript{126} It argued that this formulation implies an

\begin{footnotesize}
\begin{enumerate}
\item[124] Ibid.
\item[126] “The State of origin shall take all appropriate measures to prevent significant transboundary harm or at any event to minimize the risk thereof”. See to the same effect Article 2(1) of the 1991 Convention on Transboundary Environmental Impact Assessment: “The parties shall, either individually or jointly, take all appropriate and effective measures to prevent, reduce and control significant adverse transboundary environmental impact from proposed activities”. Article 14(1)(d) provides: “1. Each Contracting Party, as far as possible and as appropriate, shall: (d) In the case of imminent or grave danger or damage, originating under its jurisdiction or control, to biological diversity within the area under jurisdiction of other States or in areas beyond the limits of national jurisdiction, notify immediately the potentially affected States of such danger or damage, \textit{as well as initiate action to prevent or minimize such danger or damage}”. (emphasis added). Article 3 of the Convention recognises the responsibility of states “to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states”. \textit{ILC Report} (2000), para. 718: “the special rapporteur was of the opinion that ‘all appropriate measures’ and ‘due diligence’ were synonymous”. \textit{Supra} note 42.
\end{enumerate}
\end{footnotesize}
obligation to undertake a risk assessment and act with due diligence in controlling the spraying operation so as to avoid harm to Ecuador.\textsuperscript{127}

The link between an obligation of due diligence and the precautionary approach was traced to the Southern Bluefin Tuna Cases which required that the parties “should in the circumstances act with prudence and caution to ensure that conservation measures are taken, and finding that “there is scientific uncertainty regarding measures to be taken to conserve the stock of southern bluefin tuna” and that “although the Tribunal cannot conclusively assess the scientific evidence presented by the parties, it finds that measures should be taken as a matter of urgency”.\textsuperscript{128}

The ICJ Judgment in Pulp Mills on the River Uruguay had held that “a precautionary approach may be relevant in the interpretation and application of the provisions of the Statute” i.e., the environmental bilateral treaty whose interpretation was the main bone of contention between the parties.\textsuperscript{129}

The Advisory opinion from the Seabed Disputes Chamber has developed the law on this position on precautionary approach in context of the UNCLOS which requires that states “shall apply a precautionary approach, as reflected in Principle 15 of the Rio Declaration” in order “to ensure effective protection for the marine environment from harmful effects which may arise from activities in the Area”.\textsuperscript{130} The Regulations transform this non-binding statement of

\textsuperscript{127} Ibid.
\textsuperscript{128} Southern Bluefin Tuna Cases (New Zealand v. Japan; Australia v. Japan) ITLOS Reports, 274 (1999), paras 77-80.
\textsuperscript{129} Pulp Mills on the River Uruguay (Argentina v. Uruguay) (Judgment) (International Court of Justice, General List No 135, 20 April 2010).
\textsuperscript{130} Principle 15 of the 1992 Rio Declaration on Environment and Development reads: ‘In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation’.
the precautionary approach in the Rio Declaration into a binding obligation. The implementation of the precautionary approach as defined in these Regulations is one of the obligations of sponsoring States. The Chamber after highlighting the flexibility in principle 15 and, establishing that under the Nodules Regulations and the Sulphides Regulations, both sponsoring States and the Authority are under an obligation to apply the precautionary approach in respect of activities in the Area, held that it is appropriate to point out that the precautionary approach is also an integral part of the general obligation of due diligence of sponsoring States, which is applicable even outside the scope of the Regulations.\textsuperscript{131} The due diligence obligation of the sponsoring States requires them to take all appropriate measures to prevent damage that might result from the activities of contractors that they sponsor.\textsuperscript{132} This obligation applies in situations where scientific evidence concerning the scope and potential negative impact of the activity in question is insufficient but where there are plausible indications of potential risks. A sponsoring State would not meet its obligation of due diligence if it disregarded those risks. Such disregard would amount to a failure to comply with the precautionary approach.

Thus we see that the \textit{Pulp Mills} case and the \textit{Advisory opinion} on \textit{Responsibilities and Obligations of States} of the Seabed Authority Chamber have recognised precautionary principle as having the content and specificity to be applied in the interpretation of and application of the provisions of a statute. The Advisory opinion has gone to the extent of observing that the incorporation of the principle 15 formulation in many international treaties has initiated a trend towards making this approach part of customary international law.\textsuperscript{133}

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\textsuperscript{131} \textit{Supra} note 102, paras 151-163.
\textsuperscript{132} \textit{Ibid}.
\textsuperscript{133} \textit{Ibid}., para 135.
Recognising a link between best environmental practices and precautionary approach the Chamber observes that ‘The adoption of higher standards in the more recent Sulphides Regulations would seem to indicate that, in light of the advancement in scientific knowledge, member States of the Authority have become convinced of the need for sponsoring States to apply “best environmental practices” in general terms so that they may be seen to have become enshrined in the sponsoring States’ obligation of due diligence’. In the absence of a specific reason to the contrary, it may be held that the Nodules Regulations should be interpreted in light of the development of the law, as evidenced by the subsequent adoption of the Sulphides Regulations.

2.6.4.5 Principle of Strict or Absolute Liability

Strict liability is a standard which emerged from the national laws and has progressively found favour for ultra-hazardous activities which might have transboundary impacts. Given the frequent and widespread induction of the standard in the international treaties, regional and supranational treaties and national laws there is a strong proposition in favour of considering it a general principle of law. The fact that most of the civil liability treaties adopt the principle of strict liability for hazardous activities influenced the work of ILC also. The ILC Draft Articles on International Liability for Injurious Consequences Arising out of Acts Not Prohibited by International Law

134 Ibid’, Moreover, regulation 33, paragraph 2, of the Sulphides Regulations supplements the sponsoring State’s obligation to apply the precautionary approach with an obligation to apply “best environmental practices”. The same obligation is established as a contractual obligation in section 5.1 of Annex 4 (Standard Clauses for exploration contracts) of the Sulphides Regulations. There is no reference to “best environmental practices” in the Nodules Regulations; their standard contract clause (Annex 4, section 5.1), merely refers to the “best technology” available to the contractor’. para 136.
also propose that a state of origin would be strictly liable for harm to the environment and the resulting harm to property and persons.\textsuperscript{135}

Legally the concept of strict liability is used in two senses. In cases where the state of mind is relevant it reverses the burden of proof by putting on the defendant state the onus to show that it was not negligent or at fault, in which case the diligence or state of mind may remain relevant. Alternatively the failure of due diligence or subjective fault is not required, but other defences are available. The work of ILC on Liability for Transboundary Harm endorses the principle of strict liability in the second sense.

Absolute liability as a standard even for ultra-hazardous activities does not enjoy acceptance in state practice. Even nuclear liability regimes are also not absolute but based on strict liability as there are provisions for supplementary funding. The prohibition of certain activities by international law, such as dumping at sea of high level radioactive waste, or atmospheric nuclear tests, the obligation seems more one of conduct than of result.\textsuperscript{136} It remains a duty of diligence rather than an absolute obligation.\textsuperscript{137} However prohibited activities leading to environmental damage is within the law of state responsibility but whether the states would be absolutely liable for such wrongful acts has not laid down in the Draft Articles on State Responsibility.

In international literature there are references to a form of strict or absolute liability for environmental harm based on the general principles of law, equality, equity or good neighbourliness.\textsuperscript{138} The search for an alternate basis for strict liability for lawful activities which cause environmental harm can be traced to Trail Smelter itself

\textsuperscript{135} Articles 24, 26 and 28, \textit{supra} note 41.
\textsuperscript{136} \textit{Supra} note 11 at 711.
\textsuperscript{137} \textit{Ibid}.
\textsuperscript{138} \textit{Ibid}.
wherein the law of state responsibility was invoked for causing harm by lawful activities. The tribunal addressed the issue of harm which was sought to be compensated for and prevented in future and not the prohibition of the activity itself. The rationale for affixing strict liability for ultra hazardous activities has found acceptance both in national and international community. There is a scholarship which considers ultra hazardous activities are a distinct category for which strict or absolute responsibility is an exceptional principle, which justifies shifting the burden of proof and justifying a more equitable distribution of loss.\textsuperscript{139}

There is no indication in practice or opinions to interpret the principle of preventing transboundary harm requiring states to ‘prevent, reduce and control’ pollution in absolute sense.\textsuperscript{140} For the unacceptable burdens it would put on the freedom of states to pursue their own environmental and developmental policies, and to exercise their sovereign rights over their own natural resources such an interpretation thus would have no takers.\textsuperscript{141} An argument generally tendered against the absolute liability standard is that it concentrates more on shifting the burden of proof and the burden of responsibility for loss back to the polluter than on the diligent control of dangerous activities, since conduct will be irrelevant to the performance of such obligations.\textsuperscript{142} Thus even if arguments for an absolute standard of prevention are accepted as a basis for state responsibility for environmental injury, in practice the elaboration of standards of diligent conduct remains an essential complementary principle and a better basis for international regulation of the environment, and the

\textsuperscript{139} P. Birnie and A. Boyle and et al., \textit{International Law and Environment}, 222 (2009).

\textsuperscript{140} Ibid.

\textsuperscript{141} Id., at 224.

\textsuperscript{142} Ibid.
interpretation of Rio Principle 2. However it has its utility in liability debate.

2.6.4.6 Precautionary Principle and Principle of Prevention of Transboundary Environmental Harm

It is clear that precautionary principle if understood as a principle that requires States not to use the lack of full scientific certainty as a reason for postponing measures to prevent environmental degradation in situations where there are threats of serious or irreversible damage – the precautionary principle has no application in circumstances where studies indicate that no serious harm is foreseeable.

Also the precautionary principle must operate within the limitations of the exceptional nature of provisional measures. Judge Wolfrum stated in the MOX Plant case, even if that principle were to be accepted as part of customary international law, the basic limitations on the prescription of provisional measures, which “finds its justification in the exceptional nature of provisional measures”, cannot be overruled by invoking the precautionary principle. To hold otherwise would mean that ‘the granting of provisional measures becomes automatic when an applicant argues with some plausibility that its rights may be prejudiced or that there was serious risk to the marine environment. This cannot be the function of provisional measures in particular since their prescription has to take into consideration the rights of all parties to the dispute.’ Judge Weeramanty explained the precautionary

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144 Ibid

145 MOX Plant Arbitration (Jurisdiction and Provisional Measures) PCA (2003) see also MOX Plant Case (Provisional Measures) ITLOS No. 10 (2001)

146 Ibid

147 Ibid
principle in the French *Nuclear Test cases*,\(^\text{148}\) as a principle, which places a clear burden on a State to carry out a precautionary lawful activity to establish that no essential damage will ensure as a result of such activity. However, he was reluctant to recognize the precautionary principle as an established principle in international law and stated that it can without doubt be termed as an emerging principle.’ In the *Gabčíkovo-Nagymaros case*, ICJ stated, in the Judgment: “Court recognizes that both Parties agree on the need to take environmental concerns seriously and to take the required precautionary measures.”\(^\text{149}\) Some writers distinguish precaution from prevention which has due diligence as the duty of States, a real link between the lawful and unlawful at the international level, with respect to the risks inherent to certain activities.\(^\text{150}\)

In brief, it may be stated that precaution bases its actions on uncertain risks, while prevention is focused on a certain risk, and uncertain damages.\(^\text{151}\) Thus in this sense the precautionary principle constitutes an internal policy act, through which a State or international entity exercises its sovereign powers to determine the level of environmental protection to be imposed under its jurisdiction.\(^\text{152}\)

In contrast to the principle of prevention that may be deployed *ex ante* and *ex post* the damaging fact, precautionary measures must always be implemented *ex ante*, as they respond to forecasts of a potential risk that might cause damages, before being supported by unchallenged scientific evidence of whether the activities are hazardous or

\(^{148}\) *Supra* note 73
\(^{149}\) ICJ Reports 1996 p. 258.
\(^{150}\) Sands, “International Courts and the Precautionary Principle”, Precaution from Rio to Johannesburg, at 212
\(^{152}\) *Ibid*
not. More specifically, due to the speed of scientific progress, the precautionary principle itself indicated the provisional nature of these precautionary measures, which should be reviewed in the light of the various levels of certainty/uncertainty offered by scientific progress.  

2.6.4.7 Transboundary Risk of Environmental Harm

Thus the complex concept of risk is the recent and more problematic in international environmental law. ‘Risk’ necessitates judgments not only about the probability and scale of harm, but about the causes of harm, and the effects of the activities, substances, or processes in question, and their interaction over time. In face of the scientific uncertainty in matters of causation and prediction of long-term effects the transboundary environmental harm is not easily determinable. Further the quantification of actual damage also poses a complex problem of evaluation and assessment of environmental harm. Some states have asserted that they are not bound to take action to control possible global or transboundary risks until there is ‘clear and convincing’ scientific proof of actual or threatened harm. Also undertaking expensive and possibly futile measures to deal with problems whose origin and character remain uncertain does not find favour with states. It is in this quest for an acceptable standard of proof in these situations, or who bears the burden of proof of risk, the so-called precautionary principle or approach has acquired special

154 Ibid
155 Supra note 42 at 157. (Commentary to Draft Article 7(Assessment of Risk) at 157).
156 Ibid.
157 Ibid.
158 Ibid, see also P. Birnie and A. Boyle, International Law and Environment, 224 (2002).
159 Ibid.
importance. Originating in the domestic jurisprudence of Sweden and Germany the precautionary approach was first endorsed in the North Sea Conference in 1984 and later affirmed by EC governments in the 1990 Bergen Ministerial Declaration on Sustainable Development. Based on these precedents, a text proposed by the European Union and supported by the USA secured global endorsement in the 1992 Rio Declaration on Environment and Development in Principle 15.

**Conclusion**

International environmental law has reached a stage where there is an acceptance of the principle of not causing transboundary harm but the law of State responsibility pertains to the secondary rule which comes into operation when there is a breach of primary rule. As long as the primary rules of international environmental law like precautionary principle, prevention and polluter pays etc, still stay in flux it is difficult to invoke the law of state responsibility.

**2.7 State Responsibility for Breach of General Obligation**

State responsibility is the principle by which states may be held accountable in interstate claims under international law. Responsibility in transboundary context will normally arise either because of breach of one or more of the customary obligations or breach of treaty or general principles of law. Even where an activity causing environmental harm is conducted by private parties, as in the Trial smelter case, the issue remains one of state’s duties of control, cooperation or notification, which cannot be avoided by surrendering

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the activity itself in private hands.\textsuperscript{162} The state in this sense is a guarantor of private conduct, but its responsibility is direct not vicarious.\textsuperscript{163} The Convention on Biological Diversity includes, among other things, a provision on the principle of State responsibility not to cause damage to the environment of other States or of areas beyond the 46 Paragraph 1, Article I.

2.7.1 General Principles of Consequences: Reparation, Restitution and Compensation

The obligation to make full reparation is a secondary general obligation of the responsible State consequent upon the commission of an internationally wrongful act. The general principle of reparation was set out by the Permanent Court of International Justice in the \textit{Factory at Chorzów} case as follows:

\begin{quote}
It is a principle of international law that the breach of an engagement involves an obligation to make reparation in adequate form.\textsuperscript{164}
\end{quote}

The arbitral tribunal in \textit{Rainbow Warrior} confirmed that:

\begin{quote}
Any violation by a State of any obligation, of whatever origin, gives rise to state responsibility, and consequently, to the duty of reparation.\textsuperscript{165}
\end{quote}

\textsuperscript{162} Articles 8 and 11 Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, with commentaries 2001, Text adopted by the International Law Commission at its Fifty-third session, and submitted to the General Assembly as a part of the Commission’s report covering the work of that session (A/56/10).

\textsuperscript{163} Supra note 4 at 282.

\textsuperscript{164} Factory at Chorzów, Jurisdiction, Judgment, 1927, P.C.I.J. Series A, No. 9, 21.

\textsuperscript{165} Case concerning the difference between New Zealand and France concerning the implementation or application of two agreements concluded on 9 July 1986 between the two States and which related to the problems arising from the Rainbow Warrior Affair, \textit{Reports of International Arbitral Awards}, Vol. XX 215 (1990).
The general principle of the consequences of the commission of an internationally wrongful act was stated by PCIJ in the *Chorzów* case: 166

The essential principle contained in the actual notion of an illegal act is that reparation must, as far as possible, wipe out all the consequences of the illegal act and reestablish the situation which would in all probability have existed if the act had not been committed. Restitution in kind, or if that is not possible, payment of a sum corresponding to the value which restitution in kind would bear; the award if need be of damages of loss sustained which would not be covered by restitution in kind or payment in place of it – such are the principles which serve to determine the amount of compensation for an act contrary to international law.

This principle is firmly established in international law, and has been cited by the ICJ in numerous cases. 167 More recently in the *Armed Activities on the Territory of the Congo* case the Court observed that:

it is well established in general international law that a State which bears responsibility for an internationally wrongful act is under an obligation

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166 Case Concerning Factory at Chorzow (Claim for Indemnity), 1928 P.C.I.J. (Ser. A) No. 17, 47.

167 E.g., Case concerning the Gabcikovo-Nagymaros Project (Hungary/Slovakia), Judgment, ICJ Reports, 7, 77 (1997) and Avena and Other Mexican Nationals (*Mexico v. United States of America*), ICJ Reports, 12 (2004), para. 119.
to make full reparation for the injury caused by that act.\textsuperscript{168}

In the \textit{M/V ‘Saiga’ (No. 2)} case, the International Tribunal for the Law of the Sea observed that:

Reparation may be in the form of ‘restitution in kind, compensation, satisfaction and assurances and guarantees of non repetition, either singly or in combination’ Reparation may take the form of monetary compensation for economically quantifiable damage as well as for non-material damage, depending on the circumstances of the case. The circumstances include such factors as the conduct of the State which committed the wrongful act and the manner in which the violation occurred. Reparation in the form of satisfaction may be provided by a judicial declaration that there has been a violation of a right.\textsuperscript{169}

Thus it is evident that what constitutes full reparation will depend on each case.

In the \textit{Trail Smelter} arbitration, the Tribunal was called upon to decide what indemnity should be paid for the damage.\textsuperscript{170} The Tribunal awarded damages for harm to cleared land used for crops, adopting the measure of damages applied by the American courts for nuisance or

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\textsuperscript{168} Armed Activities on the Territory of the Congo, ICJ Reports, 201 (2005), para. 259. (citing Factory at Chorzów, Jurisdiction, 1927, PCIJ Series A, No. 9, 21; Gab_{ikovo}-Nagymaros Project (Hungary/Slovakia), Judgment, ICJ Reports 81 (1997), para. 152; Avena and Other Mexican Nationals (Mexico v. United States of America), Judgment, ICJ Reports 59 (2004), para. 119).


\textsuperscript{170} Trail Smelter Case (United States v. Canada), 16 April 1938 and 11 March 1941, Reports of International Arbitral Awards, Vol. III, 1905.
trespass, namely “the amount of reduction in the value of use or rental value of the land caused by the fumigations”. It also recognised evidence of “special damage” which gave rise to a further award of monetary damages, and awarded compensation for damage to cleared land not used for crops and to all uncleared lands. Compensation did not include money spent by the United States in investigating the problems, since the agreement used the words “damage caused by the Trail Smelter”.

The case reflects the traditional market value approach to compensation excluding the loss of environmental amenity. The two awards of the Arbitral Tribunal did not deal with pure environmental damage per se, and did not assess damages in respect of injurious consequences to the Colombia River. The historical approach in the Trail Smelter case has not had much influence on the modern approach reflected in decisions adopted by the United Nations’ Compensation Commission, in determining awards of compensation for environmental and public health damage resulting from Iraq’s 1990-91 invasion and occupation of Kuwait.

### 2.7.2 United Nations Compensation Commission (UNCC) on Compensation for Environmental Damage

The UNCC was set up to implement the Security Council Resolution 687 (1991), which provided that Iraq was “liable under international law for any direct loss, damage, including environmental damage and the depletion of natural resources, or injury to foreign Governments, nationals and corporations, as a result of Iraq’s

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171 Ibid.
172 Ibid.
173 Ibid.
unlawful invasion and occupation of Kuwait”. The UNCC Governing Council decided that compensation in respect of environmental damage or depletion of natural resources would include losses and expenses arising from:

(a) abatement and prevention of environmental damage;

(b) reasonable measures already taken to clean and restore the environment or future measures which can be documented as reasonably necessary to clean and restore the environment;

(c) reasonable monitoring and assessment of the environmental damage for the purpose of evaluating and abating the harm and restoring the environment;

(d) reasonable monitoring of public health and performing medical screening for the purposes of investigating and combating increased health risks as a result of the environmental damage; and

(e) depletion of or damage to natural resources.

We find that the UNCC Panel of Commissioners while assessing claims for environmental damage and depletion of natural resources noted that the criteria set out by the Governing Council were not exhaustive and found that the term “environmental damage” was not limited to damage to natural resources with a commercial value, and that the temporary nature of loss or damage to the environment did not affect the question of compensability, although it might affect the


nature and quantum of the compensation deemed appropriate. In reaching these conclusions, the Panel had regard to the guidance contained in Security Council Resolution 687 and relevant decisions of the UNCC Governing Council. The Panel believed that its finding was not inconsistent with any principle or rule of general international law and that there was “no justification for the contention that general international law precludes compensation for pure environmental damage”. As regards the methodology for valuation, the UNCC Panel of Commissioners recognised different approaches. The Panel observed that “international law does not prescribe any specific and exclusive methods of measurement for awards of damages for internationally wrongful acts by states. The general rule is to restore what has been damaged to integrity or, if this is not possible, to provide an equivalent for it. The overall criterion is always that of effective reparation for the wrongful act. Hence, even in the absence of precise rules or prescriptions on the methods for evaluating damage, courts or tribunals are entitled and required to evaluate damage and determine appropriate compensation, relying on general principles for guidance, particularly the principle that reparation must, as far as possible, wipe out all the consequences of the illegal act”.

The UNCC Panel of Commissioners cited the statement of the arbitral tribunal in the Trail Smelter case:

Where the [wrongful act] itself is of such a nature as to preclude the ascertainment of the amount of damages with certainty, it would be a perversion of the fundamental principles of justice to deny all relief to the injured person, and thereby relieve the wrongdoer from making any amend for his acts. In

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178 Supra note 164, paras 55-56.
179 Ibid, para. 58.
180 Ibid
such case, while the damages may not be determined by mere speculation or guess, it will be enough if the evidence show the extent of the damages as a matter of just and reasonable inference, although the result may only be approximate.\textsuperscript{181}

The UNCC awarded compensation for the monitoring and assessment of damage, for response costs, and for remediation of damage.\textsuperscript{182} Further claims were made by Kuwait and neighbouring States for damage from oil well fires that released airborne contaminants; for damage caused by oil lakes that migrated onto the desert surface; for oil spills into the Persian Gulf; and for the impacts of these and other acts on public health. The UNCC granted monetary damage awards to the Governments of Kuwait, Iran, Jordan and Saudi Arabia for losses of natural resources, losses of crops and livestock, loss of water resources, costs of remediation, and damage to public health.\textsuperscript{183} Significantly, the UNCC decided that pure environmental damage could be compensable, and dealt at length with the issue of quantifying the level of compensation. It decided that where a resource had commercial value, such as a crop, and was damaged for a period of time, compensation should be awarded on the basis of the market price for the period of time that the damage persisted, adjusted as appropriate to take into account the influence of other sources of damage.\textsuperscript{184} As regards damage to resources which did not have a market reference price, such as a loss of biodiversity that persisted for several years, the UNCC Panel indicated that it would be willing to compensate natural resource losses by reference to the costs of other


\textsuperscript{182} \textit{Ibid.}

\textsuperscript{183} \textit{Ibid.}

\textsuperscript{184} UNCC Fifth Report, S/AC.26/2005/10, Para 103-118 (finding that reduced crop yields in Iran are compensable)
environmental projects that were put in place to compensate for the loss of ecological services that the natural resources would have provided had they not been damaged, so long as there was “sufficient evidence that primary restoration will not fully compensate for any identified losses”.  

The ILC’s Draft Articles on State Responsibility make reference to the *Chorzów Factory* principle, and identify restitution, compensation and satisfaction either singly or in combination, as appropriate forms of reparation. The ILC has also recognised some support for the principle that pure environmental damage may be the subject of a reparation claim. Paragraph 18 of commentary to Principle 2 of the ILC Principles on the Allocation of Loss in the Case of Transboundary Harm Arising Out of Hazardous Activities states:

Recent trends are also encouraging in allowing compensation for loss of ‘non-use value’ of the environment. There is some support for this claim from the Commission itself when it adopted its

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185 *Ibid.*, para. 82. The claimants used a “Habitat Equivalency Analysis” to determine the amount of compensation claimed, which involved assessing the nature and extent of the temporary loss of ecological services from the damaged resources, determining the gain in ecological services anticipated from the compensatory projects, and calculating the cost of the compensatory projects. The Panel made awards that were quantified according to the cost of various compensatory projects like a cooperative rangeland management program to restore rangeland and wildlife habitat damaged by the influx of refugees into Jordan; shoreline preserves in Kuwait and Saudi Arabia; and damage to rangelands from the presence of refugees in Iran, on the basis of the price of fodder rather than the value that Iran derived from lost ecological services.

186 In its June 2005 report and recommendations on the so-called “F4” claims, the Panel of Commissioners considered whether claims for damage to natural resources without commercial value were compensable. The Panel framed the issue as follows: “the Panel considers that the fundamental issue to be resolved is whether, pursuant to Security Council resolution 687 (1991), claimants who suffer damage to natural resources that have no commercial value are entitled to compensation beyond reimbursement of expenses incurred or to be incurred to remediate or restore the damaged resources. In other words, the question is whether the term “environmental damage”, as used in Security Council resolution 687 (1991), includes what is referred to as “pure environmental damage”; i.e., damage to environmental resources that have no commercial value”.

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draft articles on State responsibility, even though it admitted that such damage is difficult to quantify. The recent decisions of the United Nations Compensation Commission (UNCC) in opting for a broad interpretation of the term ‘environmental damage’ is a pointer of developments to come. In the case of F-4 category of environmental and public health claims, the F-4 Panel of the UNCC allowed claims for compensation for damage to natural resources without commercial value (so-called ‘pure’ environmental damage) and also claims where there was only a temporary loss of resource use during the period prior to full restoration.187

In the Commentary to the Draft Articles on State Responsibility, the ILC has observed in relation to environmental damage that:

Environmental damage will often extend beyond that which can be readily quantified in terms of clean-up costs or property devaluation. Damage to such environmental values (biodiversity, amenity, etc. – sometimes referred to as ‘non-use values’) is, as a matter of principle, no less real and compensable than damage to property, although it may be difficult to quantify.188

Insofar as damage cannot be or is not made good by restitution, international law requires the payment of compensation. In the Aerial Herbicide Spraying case Ecuador claimed that, in respect of damage to human, animal and plant health and damage to the environment caused

187 Supra note 41, Principle 2, Commentary para. 18.
188 Supra note 175, Article 36, Commentary para. 15.
by herbicides, reparation should take the form of monetary compensation.\textsuperscript{189} They based their case on principles set forth in decisions taken by the UNCC Panel in its Fifth Report.\textsuperscript{190} The Panel disagreed and found that the assertion that general international law precludes compensation for pure environmental damage was not justified and that the exclusion of compensation for pure environmental damage in some international conventions on civil liability and compensation did not illustrate a general principle of international law to this effect.\textsuperscript{191}

Iraq’s arguments had initially been stated in terms of the temporal nature of the damage, i.e., that interim loss or damage to natural resources should not be compensable. The Panel also found

\textsuperscript{189} Memorial of Ecuador, (March 28, 2009) Volume 1, Chapter VIII, 271-316. Para 10.29 In the present case, Colombia is under an obligation to indemnify Ecuador for any loss or damage caused by its internationally wrongful acts, including in particular for the following:
(a) death or injury to the health of any person or persons;
(b) any loss of or damage to the property or livelihood or human rights of such persons;
(c) environmental damage or the depletion of natural resources;
(d) the costs of monitoring to identify and assess future risks to public health, human rights and the environment; and
(e) any other loss or damage.

\textsuperscript{190} \textit{Supra} note 167. In its June 2005 report and recommendations on the so-called “F4” claims, the Panel of Commissioners considered whether claims for damage to natural resources without commercial value were compensable. The Panel framed the issue as follows: “the Panel considers that the fundamental issue to be resolved is whether, pursuant to Security Council resolution 687 (1991), claimants who suffer damage to natural resources that have no commercial value are entitled to compensation beyond reimbursement of expenses incurred or to be incurred to remediate or restore the damaged resources. In other words, the question is whether the term “environmental damage”, as used in Security Council resolution 687 (1991), includes what is referred to as “pure environmental damage”; i.e., damage to environmental resources that have no commercial value”.

\textsuperscript{191} \textit{Ibid}. 

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that whether the loss or damage was temporary in nature did not have any relevance to the issue of compensability of this loss or damage.\textsuperscript{192}

### 2.7.3 Compensation for Transboundary Environmental Damage and Depletion of Natural Resources

It is a well-established rule of international law that an injured State is entitled to obtain compensation from the State which has committed an internationally wrongful act for the damage caused by it.\textsuperscript{193} In the \textit{Corfu Channel} case, the International Court of Justice found that Albania was under a duty to pay compensation to the United Kingdom for damage suffered as a result of the mines in its territorial waters, and that it had jurisdiction to determine the amount of compensation.\textsuperscript{194} The International Law Commission has observed that:

> It is equally well established that an international Court or tribunal which has jurisdiction with respect to a claim of State responsibility has, as an aspect of that jurisdiction, the power to award compensation for damage suffered.\textsuperscript{195}

Article 36 of the ILC Draft Articles on State Responsibility addresses the obligation to compensate insofar as damage is not made good by restitution. Article 36(2) provides that “[t]he compensation shall cover any financially assessable damage”, and the Commentary provides that the qualification “financially assessable” is “intended to

\textsuperscript{192} \textit{Ibid}, paras 24-25


\textsuperscript{194} \textit{Corfu Channel (United Kingdom v. Albania)}, Judgment, Assessment of the Amount of Compensation due from the People’s Republic of Albania to the United Kingdom of Great Britain and Northern Ireland, ICJ Reports, 244 (1949).

\textsuperscript{195} \textit{Supra} note 175, Article 36, Commentary para. 2.
exclude compensation for what is sometimes referred to as ‘moral damage’.

2.7.3.1 Aerial Herbicide Spraying case (Ecuador v Colombia)

Ecuador claimed for compensation for environmental damage and depletion of natural resources, of the border region between Ecuador and Colombia which is characterised by a unique natural wealth and diversity into which environment Colombia has deposited and dispersed the spraying of toxic herbicides. The adverse effects on cultivated crops and domestic animals, including birds and fish, are replicated in wild flora and fauna. In addition, there is evidence of pollution of fresh water resources in the border region. This has had adverse effects on the life and health of humans, animals and plants that depend upon them.

Given the vital importance of the ecosystem services performed by the environmental resources of the region, as well as their intrinsic value, it is essential that they are restored as quickly and effectively as feasible. Ecuador therefore sought compensation for monitoring and assessment of environmental damage addressed under heading as well as for reasonable measures to clean and restore the environment as appropriate. Further it claimed that where restoration is not possible or where there is an interim loss of environmental services pending restoration, Ecuador is entitled to compensation for “pure” environmental damage. In its work on the allocation of loss in the case of trans-boundary harm arising out of hazardous activities, the International Law Commission identifies as elements of “damage”:

196 Ibid., Article 36, Commentary para. 1.
197 Aerial herbicide spraying (Ecuador v. Colombia) Over 40% of the land in the border provinces of Esmeraldas, Carchi and Sucumbíos is covered by native forest, and the region is home to two of the world’s tropical forest hotspots. More than half of the world’s threatened amphibians reside in the corridor that includes the Ecuadorian border with Colombia. Ecuador is recognised as one of just 17 “mega diverse” countries in the world, possessing a disproportionately large share of the world’s biological diversity.
“loss or damage by impairment of the environment”; “the cost of reasonable measures of reinstatement of . . . the environment, including natural resources”; and “the costs of reasonable response measures”.\textsuperscript{198} Citing the ILC Commentary which notes that Draft Principle 3(b) gives a prominent place to the protection and preservation of the environment and to the associated obligations to mitigate the damage and to restore or reinstate the same to its original condition to the extent possible. Thus, Ecuador emphasized that the more recent concern of the international community to recognize protection of the environment \textit{per se} as a value by itself without having to be seen only in the context of damage to persons and property. It reflects the policy to preserve the environment as a valuable resource not only for the benefit of the present generation but also for future generations.\textsuperscript{199} In view of its novelty and the common interest in its protection, it is important to emphasize that damage to the environment \textit{per se} could constitute damage subject to prompt and adequate compensation, which includes reimbursement of reasonable costs of response and restoration or reinstatement measures undertaken”.\textsuperscript{200}


\textsuperscript{199} Principle 3, paragraph (b) provides that “The purpose of the present draft principles are: . . . (b) to preserve and protect the environment in the event of transboundary damage, especially with respect to mitigation of damage to the environment and its restoration or reinstatement”. Draft Principles on the Allocation of Loss in the case of Transboundary Harm Arising out of Hazardous Activities, the text of which was annexed to General Assembly Res. 61/36 of 4 December 2006, \textit{Sixty-first Session, Supplement No. 10} (A/61/10).

\textsuperscript{200} \textit{Ibid}, Commentary to Principle 3, para 6.
2.7.3.2 Compensation for the Costs of Monitoring to Identify and Assess Future Risks to Public Health, Human Rights and the Environment

Ecuador identified a number of adverse effects of Colombia’s aerial spraying on human health, human rights and the environment arising from Colombia’s aerial herbicide spraying. These effects are ongoing, and the full effects will only be appreciable over time. It is apparent that as a result of the spraying, Ecuador will need to conduct specific monitoring and assessment activities in order to formulate and implement effective measures to rectify or alleviate damage and to identify any further medium or long-term effects and plan appropriate remedial action.

In order to identify damage, formulate effective restoration or remediation plans and address any possible delayed or longer-term environmental impacts of a hazardous activity, requires environmental monitoring and assessment programmes in the affected regions. Following the UNCC, Ecuador claimed in respect of “reasonable monitoring and assessment of the environmental damage for the purpose of evaluating and abating the harm and restoring the environment”.\textsuperscript{201} It is notable that the UNCC Panel found that environmental monitoring and assessment were justified even where it was not yet firmly established that environmental damage had occurred. Thus, conclusive proof of environmental damage was not a prerequisite for a monitoring and assessment activity to be compensable.\textsuperscript{202} However, the Panel did not award compensation for monitoring and assessment activities that were “purely theoretical and speculative”.\textsuperscript{203}

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\textsuperscript{201} Citing UNCC, \textit{Report on the Fifth Instalment of F4 Claims, EM}, Vol. II, Annex 34, para 266. \\
\textsuperscript{202} \textit{Ibid}. \\
\textsuperscript{203} \textit{Ibid}, paras 29-31. \\
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Under the general principles of international law as codified in the ILC draft Articles on State Responsibility a single system of reparation has been set up, which applies to all of international law, including environmental law. Article 31 of the draft articles states that “the responsible State is under an obligation to make full reparation for the injury caused by the internationally wrongful Act”.

Injury includes any damage, whether material or moral, caused by the internationally wrongful act of a State. The forms of reparation envisaged by the law of State responsibility are restitution, compensation, and satisfaction, either singly or in combination.\textsuperscript{204}

Restitution is described as the re-establishment of the situation that existed before the wrongful Act was committed, unless restitution is materially impossible or involves a burden out of all proportion to the benefit deriving from restitution instead of compensation.\textsuperscript{205} Compensation is the obligation to compensate for the damage, ‘in so far as such damage is not made good by restitution’. Compensation will cover any financially assessable damage, including loss of profits, insofar as it is established.\textsuperscript{206} Satisfaction is the form of reparation that is employed when restitution or compensation cannot be used. It may take the form of an acknowledgment of the breach, an expression of regret, or a formal apology.\textsuperscript{207} Thus, failure to abide by bilateral and multi-lateral binding agreements on particular primary rules of conduct, may invoke state responsibility. But in all other situations the emphasis on clear and specific primary obligations remains a necessity.\textsuperscript{208}

\textsuperscript{204} Article 34 of Draft Articles on State Responsibility, Official Records of the General Assembly, Fifty-sixth Session, Supplement No. 10 (A/56/10),

\textsuperscript{205} Article 35, \textit{Ibid}

\textsuperscript{206} Article 36, \textit{Ibid}

\textsuperscript{207} Article 37, \textit{Ibid}

\textsuperscript{208} \textit{Ibid}. 
The draft Article 31 accordingly defines “injury” in a broad and inclusive way, leaving it to the primary obligations to specify what is required in each case. More significantly Paragraph 2 addresses the other issue, of a causal link between the internationally wrongful act and the injury.\textsuperscript{209} According to the ILC it is only “[i]njury … caused by the internationally wrongful act of a State” for which full reparation must be made.\textsuperscript{210} Clearly the subject matter of reparation is, globally, the injury resulting from and ascribable to the wrongful act, rather than any and all consequences flowing from an internationally wrongful act.\textsuperscript{211}

2.8 Principle of Causality

Most countries now rely on comprehensive regulatory systems in recognition of the limitations of tort liability as a vehicle for controlling environmental risks. In situations where large, single sources of pollutants, such as smelters, caused visible environmental damage, the common law tort of nuisance could provide some measure of redress to plaintiffs. However multiple source pollution there is difficulty in proving causal injury and therefore to compensate those exposed to environmental hazards. Some countries have adopted liability standards for environmental harm that shift or relax the burden of proving causal injury. These efforts recognize the difficulty of satisfying individualized causation standards when large populations are exposed to an environmental hazard. Scientists can estimate how many people are likely to be harmed by such exposures, even if they cannot identify which particular individuals who have a disease have it as a result of the exposure.

\textsuperscript{209} Article 31, \textit{Ibid.}
\textsuperscript{210} \textit{Ibid.}
In the United States, the Superfund legislation holds broad classes of parties associated with the generation and disposal of toxic substances strictly and jointly and severally liable for the costs of remediating releases of them, but it does not provide compensation for the victims of such releases.

The allocation of injury or loss to a wrongful act is, in principle, a legal process. The problem arises when various terms are used to describe the link which must exist between the wrongful act and the injury in order for the obligation of reparation to arise. For example, reference has been made to losses “attributable to the wrongful act as a proximate cause”, or to damage which is “too indirect, remote, and uncertain to be appraised”, or to “any direct loss, damage including environmental damage and the depletion of natural resources or injury to foreign Governments, nationals and corporations as a result of the wrongful act.

We find that in affixing responsibility two elements are essential – causality and remoteness. Further the injury to the environment has to be determined on the diverse criteria of “remoteness” or “consequential”, “directness”, “foreseeability” or “proximity”. In addition relevancy of factors like intention of State organs deliberately caused the harm in question, or the ambit of the rule which was breached also play a role. Thus the requirement of a causal link is not necessarily the same in relation to every breach of an international obligation. 212

The principle of causality has been recognised but yet again in a more general manner in Article 31 of the ILC Articles on State Responsibility which states that commentary to the articles simply describes the link that must exist between the wrongful act and the injury in order for state responsibility to arise as a sufficient casual

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212 Ibid.
It seems that keeping all such factors in considerations the notion of a sufficient causal link which is not too remote is embodied in the general requirement in Article 31 that the injury should be in consequence of the wrongful act, but without the addition of any particular qualifying phrase.\textsuperscript{214}

Therefore in an environmental context the main forms of reparation – restitution and compensation have both advantages and disadvantages. Article 35 on restitution focuses on the restoration of the status quo ante.\textsuperscript{215} The utility of restitution to remedy environmental harm makes obvious sense. It may also avoid some controversies, as it relates to restoration of a pre-existing factual situation, which does not involve the complex valuation questions associated with compensation. However, in some cases, environmental harm are irreversible, and, hence, restitution will be impossible. In other cases, restitution may be possible but will entail unreasonable burdens.\textsuperscript{216} As a result, restitution may not always be an option or may have to be complemented by compensation to ensure full reparation.

\textbf{2.9 Conclusion}

There are all possible reasons to invoke state responsibility for transboundary environmental harm. And restitution and compensation is due for established ‘financially assessable damage’. It is also established that environmental harm which is financially assessable is also compensable under the law of state responsibility. The international community has already started towards assessing environmental harm for its monetary value. But it is just touching the tip of the iceberg. The United Nations Compensation Commission


\textsuperscript{214} Ibid.

\textsuperscript{215} \textit{Id.}, at 213.

\textsuperscript{216} Ibid.
assessed Iraq’s liability for environmental damage and the depletion of natural resources. The ILC certainly considered environmental harm to fall into this category, as the commentary to the ILC Responsibility Articles suggests by singling out pollution as one of the areas in which states may seek compensation for harm suffered. As the ILC also observed in its commentary to the articles, generally in the practice of states, when compensation has been awarded, payments have been made to reimburse the injured State for expenses reasonably incurred in preventing or remedying pollution or compensating for the diminished value of polluted property. Therefore, as the law stands at present, compensation will include clean up costs and property devaluation. The ILC acknowledged, however, that actual damage would often extend to such environmental values as biodiversity, amenity, so called ‘non-use’ values, which are, ‘as a matter of principle, no less real and compensable than damage to a property, though they may be difficult to quantify’. It is also unclear whether notional or non market based value to depleted resources would be covered under the formulation of ‘financially assessable damage’.

Reparation for non-quantifiable, non-individual harm to the environment is also elusive due to lack of appropriate methods. The ILC Rapporteur singled out the release of chlorofluorocarbons (CFCs) or other ozone depleting substances causing environmental harm. Arguably, these kinds of diffuse wide spread releases can only be addressed by special treaty regimes, which not only allocate risk but also introduce standards of conduct for the parties.

The general legal framework of the law of State responsibility is relevant to the reparation for environmental harm that can be

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217 Id., at 223.
218 Supra note 1 at 24.
evaluated on a traditional basis. International practice confirms that compensation for environmental harm encompasses restoration, clean up costs, and harm to persons and private property. However, other elements that one may see as encompassed in the notion of environmental harm, such as the loss of biological diversity, wild fauna and flora, or ecosystems, escape the classical structure of reparation under the law of State responsibility. However we may say that the development of the law of compensation for transboundary environmental harm has reached a stage where the principles of liability do have an influence on states in conceding claims of the injured states. The Aerial Herbicide Spraying case has ended with an out of court settlement between the Ecuador and Colombia. This has been a great set back in furthering the legal base of the liability for significant transboundary environmental harm through judicial interpretation and enforcement.\textsuperscript{220} Yet compensation ex gratia is an acknowledgement that the contentious case before the ICJ had some influence on Colombia to settle for an undisclosed amount. Therefore, when neither restitution nor compensation can be restored to, satisfaction is the only remaining means of reparation for the injured State to rely on.

The scope of the law of State responsibility in cases of transboundary harm currently is limited. There is no certainty as to the applicable standard of fault. And even if claims for compensation are limited to ‘financially assessable damage’, the issues relating to environmental valuation are yet to addressed.\textsuperscript{221} Therefore the focus is now on methods of valuation and on overcoming the objection that something that is not necessarily ‘property’ and that has no ‘market

\textsuperscript{220} Aerial herbicide spraying (\textit{Ecuador v. Colombia}) (Discontinuance) Order of 13 September 2013 available at \url{http://legal.un.org/ICJsummaries/documents/English/202_e.pdf}.

\textsuperscript{221} Ibid.
value’ has no ‘financial or economic worth’.\textsuperscript{222} We find that the Law of State Responsibility emerged in the international legal order as a concept basically meant to operate in an ex post facto manner and has generally followed the characteristics of the law of torts in domestic legal systems. In essence it revolves around the principle of causality. This requirement of a causal link between the injury and an official act or omission attributable to the state in question limits the scope of this law. The area of operation is also in context of only those act or omission which was wrongful or that which is contrary to a precise obligation under international conventional or customary law. Given the lack of primary rules of international law on transboundary environmental harm it is not is not a law which provides any effective or adequate remedy.

\textsuperscript{222} Supra note 1 at 25-26.