CONTRIBUTION OF POLLUTER PAYS PRINCIPLE IN CONTROLLING THE MARINE POLLUTION UNDER INTERNATIONAL LAW

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ABSTRACT

Marine pollution has emerged as one of the most pressing environmental challenges, demanding stronger legal responses at the global level. The Polluter Pays Principle (PPP) has evolved as a guiding norm in environmental law, placing responsibility on polluters to bear the costs of preventing, controlling, and remedying ecological damage. This study examines the relevance of PPP in addressing marine pollution within the framework of international law. It traces the conceptual development of the principle and its reflection in international instruments such as the Rio Declaration, Agenda 21, and other multilateral agreements. Special attention is given to liability and compensation provisions under conventions including the Convention on Biological Diversity, the Cartagena Protocol, the Basel Convention, and the London Protocol, highlighting both their strengths and shortcomings in ensuring accountability for marine environmental harm. The research further considers how PPP has been applied in different legal systems, its practical challenges, and its role within maritime law through instruments like UNCLOS and regulations under the International Maritime Organization. The analysis suggests that while PPP has gained recognition, its consistent application in marine environmental governance remains limited. The paper concludes with recommendations for strengthening liability regimes, enhancing international cooperation, and ensuring effective enforcement to achieve sustainable protection of marine ecosystems.

Keywords: Polluter Pays Principle, Marine Environmental Law, International Conventions, Liability and Compensation, UNCLOS, International Maritime Organization, Ocean Governance, Sustainability

CHAPTER I: Introduction:

Principles of international environmental law are 'reflected in treaties, binding acts of international organizations, state practice, and soft law commitments, opinions of international law writers, writings of international law publicists, pronouncements of courts of international jurisdiction, etc; these are potentially applicable to all members of the international community.'[1] Some of them are universally accepted and frequently endorsed in state practice. The 1970s were a meaningful era to initiate the development of international marine environmental law. Its background is given as the fact that a series of pollution accidents and events since the late 1960s have changed the situation as the health of the marine environment was long neglected by the public prior. In 1967, the sinking of the Liberian oil tanker, the Torrey Canyon, woke the international community to devote attention to marine environmental protection. The following accidents, namely Amoco Cadiz off Brittany in 1978, Exxon Valdez off Alaska in 1989, Sea Empress off south-west Wales in 1996,[2] and on the other side of the world, Amorgos off south Taiwan in 2001,[3] accumulated public concerns for global marine environmental protection. Furthermore, the occurrences of offshore oil spills from oil wells in the Ekofisk field in the North Sea in 1977, Ixtoc I off Mexico in 1979, [4] and the most recent 2010 BP in Gulf of Mexico incident[5] and numerous oil spills accidents in North China's Bohai Sea[6] again drew further public attention to the adverse effects sea oil spills have on marine lives and environment. Other sources, such as pesticides, other hazardous chemicals and even wastes, into the sea have also deteriorated the marine environment. Obviously, the marine environment has been facing various challenges throughout these years.

The emphasis in the development of these regulations in the 21st century has turned from legislation to enforcement. More specifically, the effectiveness of these regulations relies on the "liability and compensation mechanism," which is deployed as a means to implement

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[1] Sands P. Principles of International Environmental Law, 2nd edition, Cambridge: Cambridge University Press, 2003, 231.
[2] Robin Churchill and Vaughan Lowe, The Law of the Sea (Manchester: Manchester University Press, 1999), p. 328.
[3] Taipei Times, "Taiwan seeks NT$350m for 2001 'Amorgos' spill," January 10, 2003. Available at: (last visited on March 10, 2012).
[4] Robin Churchill and Vaughan Lowe, op. cit., p. 328.
[5] Bryan Walsh, "The BP Oil Spill, One Year Later: How Healthy Is the Gulf Now?" Time, Science, April 19, 2011, available at (last visited on March 10, 2012).

[6] People's Daily Online, "Oil Spill Hits North China's Bohai Sea," October 16, 2011, available at: (last visited on March 10, 2012).

environmental standards or to supplement existing enforcement mechanisms.[7] This mechanism is mobilized not only restore any environmental damages, but also to function as a deterrent to prevent these damages from occurring in the first place.[8] The "polluter pays" principle, a main principle of environmental law now incorporated in numerous international environmental agreements and statements, embodies the concept of liability and compensation and, thereby plays a role in the efforts to improve the effectiveness of the implementation of international marine pollution regulations.

The polluter pays principle (PPP) is a principle that can hold to account those who cause environmental damage, making them responsible for paying the costs of remediation and compensation, which helps to promote environmental responsibility and accountability. The PPP has been applied in the context of environmental regulation and is used as a regulatory or policy tool to encourage polluters to internalize the environmental costs of their activities.

1.2 Concepts of Polluter Pays Principle

The polluter pays principle, as an element of the modern approaches of environmental protection,[9] was firstly formally articulated, in 1972, by the Council of the Organization for Economic Co-operation and Development (OECD). According to the OECD Recommendations,[10] the polluter pays principle is an "economic policy and principle used for allocating or internalizing 'economic costs of pollution prevention and control measures to encourage rational use of scarce environmental resources and to avoid distortions in international trade and investment' by subsidizing the environmental costs."[11] This principle means that the polluter, those "who directly or indirectly damages the environment or those who creates conditions leading to such damage should bear the expenses of carrying out the

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[7] Peter Ehlers, "Origins and Compensation of Marine Pollution-A Survey," Jürgen Basedow and Ulrich Magnus eds., Pollution of the Sea-Prevention and Compensation (Heidelberg: Springer-Verlag, 2007), p. 113; Rüdiger Wolfrum, "Maritime Pollution-Compensation or Enforcement?" Jürgen Basedow and Ulrich Magnus eds., op. cit., p. 129.

[8] Peter Ehlers, "Origins and Compensation of Marine Pollution-A Survey," op. cit., p. 113.

[9] Malgosia A. Fitzmaurice, International Protection of the Environment, Martinus Nijhoff Publishers, 2002, pp. 285-287, stating that other elements include the precautionary principle, environmental impact assessment and due diligence.

[10] UN Doc. A/ CN.4/SER.A/1995/Add.1 (Part 1), Yearbook of the International Law Commission, Volume II, Part One, Documents of the forty-seventh session, 1995, p. 80, citing OECD and the Environment (Paris, 1986), i.e. OECD Recommendation on Guiding Principles concerning International Economic Aspects on Environmental Policies (May 26, 1972); OECD Recommendation on the Implementation of the Polluter Pays Principle (November 14, 1974); OECD Recommendation on the Application of the Polluter Pays Principle to Accidental Pollution (July 23, 1989).

[11] UN Doc. A/ CN.4/SER.A/1995/Add.1 (Part 1), Yearbook of the International Law Commission, Volume II, Part One, op. cit., paras. 102-117.

measures decided by public authorities to ensure that the environment is in an acceptable state." In other words, the cost of these public measures should be reflected in the price of goods and services which results from pollution occurring in the process of production and/or consumption.

The polluter pays principle consists of two component elements, namely the right to equal access and civil liability. Equal access to national remedies has been considered as one method of implementing the polluter pay principle, as it aims to "afford equivalent treatment in the country of origin to transboundary and domestic victims of pollution damage, or to those likely to be affected by such a principle." The equal right of access may involve "access to information, participation in administrative hearings and legal proceedings and the application of non-discriminatory standards for determining the illegality of domestic and transboundary pollution."

Moreover, what should be emphasized is that civil liability regimes have been considered as another method to implement the polluter pays principle. Civil liability regimes have been used in dealing with the pollutions resulting from nuclear power and oil spills. Of further note, it has been argued that "the civil liability conventions do not necessarily implement the polluter pays principle, since States and voluntary contributions from other sources pay for the polluter." While this may be true, considering that the payment made by the public sectors, e.g. States, for the costs of pollution may constitute a form of subsidy and distort international trade and investment; therefore, the civil liability conventions should still take into consideration the implementation of the polluter pays principle. Besides, making the real polluter pay can have a deterrent effect and help to avoid such consequences from illegal acts, in addition to contributing to the better enforcement of environmental regulations. The polluter pays principle, hence, should be taken into consideration in civil liability conventions.

The principle creates the burden of proof in demonstrating the fact that given that a particular technology, practice or product is safe should lie with the developer, not the general public.[12] The Polluter Pays Principle is at the core of sustainable development and promotes economic efficiency in the implementation of environmental control policies and also encourages businesses to control pollution in their activities.[13]

[12] http://www.sustainable-environment.org.uk/Principles /Objectives.php 30.01.2021.
[13] Ibid.

1.3 Historical Analysis of Pollute Pays Principle

The polluter pays principle was first referred to at the international level explicitly in 1972 in a Council Recommendation on Guiding Principles Concerning the International Economic Aspects of Environmental Policies of the Organisation for Economic Co-operation and Development (OECD).

The modern day principle of polluter pays was first incorporated in Principles 21[14] and 22[15] of the Stockholm Declaration, 1973[16]. Thereafter, the European Charter on the Environment and Health, 1989[17] and the Single European Act, 1986[18] made provisions for applying the polluter pays principle. The United Nations Conference on Environment and Development, 1992[19] in Principle 15 explicitly incorporates the polluter pays principle. This laid the historic and monumental foundation for the adoption and acceptability of the principle as state practice and subsequently accorded international municipal judicial notice.

The long held tradition of law must be remembered, that 'every breach of international law gives rise to an obligation to make reparations'[20] . This may have inspired the drafters and proponents of the principle to adopt, modify and expand this principle as an instrument for environmental control. Although traditional norms of state responsibility concerns the treatment of aliens and their property, the **Trail Smelter**[21] arbitration recognised that the principle of state responsibility is applicable in a field of transfrontier pollution and consequently argues that states may be held liable to private parties or other states for pollution that causes demonstrable damage to persons or property.

[14] The polluter should bear the expenses of carrying out the. Measures decided by public authorities to ensure that the environment is in an acceptable state.
[15] 'States shall cooperate to develop further the international law regarding liability and compensation for victims of pollution and environmental damage caused by activities within the jurisdiction or control of such states to areas beyond their jurisdiction.'
[16] Alexander Kiss and Dinnah Shelton, International Environmental Law 66 The Charter provides that environmental standards should be constantly revised in light of new knowledge and new economic conditions applying the polluter pays principle whereby any public or private entity causing or likely to cause damage to the environment is financially responsible for restorative or preventive measures, 1991.
[17] ILM 1416 , 1972. https://www.asil .org/eisil/ declaration - united -nation s -conference -human -environment. 30.01.2021
[18] The Rio Declaration on Environment and Development cf. 31 ILM 876, 1992.
[19] States shall develop national laws regarding liability and compensation for the victims of pollution and other environmental damage.
[20] 31ILM(1992).http://heinonline.org/HOL/Page?handle=hein.journals/intlm31&div=114&g_sent. 30.01 ,2021.
[21] **Chorzow Factory (Indemnity) Case,** pcn Ser. A. "Reparation must in so far as possible wipe out all the consequences of the illegal act and re -establish the situation which would in all probability have existed if that act had not been committed. 1928; 17:29.

CHAPTER II: Polluter Pays Principle and the Liability and Compensation Mechanism in International Marine Environmental Law

2.1 The Legal Status of the Polluter Pays Principle

One may argue that the polluter pays principle is only an economic policy, not constituting (at least not yet) a general principle of international environmental law.[22] However, the following analysis by investigating relevant international documents demonstrates that this principle has already gained some certain legal influence.

a) Agenda 21

Agenda 21 was adopted in the 1992 UN Conference on the Environment and Development (UNCED), held in Rio de Janeiro.[23] Chapter 17 of Agenda 21, titled "Protection of the Oceans," also called the "Oceans Chapter," holds that the unity of the ocean would be a starting point for a new approach to international law of the sea.[24] It initially emphasizes that "[t]he marine environment – including the oceans and all seas and adjacent coastal areas – forms an integrated whole that is an essential component of the global life-support system and a positive asset that presents opportunities for sustainable development."[25] Chapter 17 also requires the adoption of the approach to marine environmental protection as one of the new programme areas in the marine and coastal area management.[26] Moreover, this decree is aware of the fact that "land-based sources contribute 70 per cent of marine pollution, while maritime transport and dumping-at-sea activities contribute 10 per cent each."[27] In addition, in order to comply with the States' responsibility under Part XII of the LOS Convention, Chapter 17 also

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[22] Anthony Aust, Handbook of International Law (Cambridge: Cambridge University Press, 2005), pp. 331-332.
[23] United Nations Conference on Environment and Development, Rio de Janeiro, Braz., June 3-14, 1992, Agenda 21, UN Doc. A/CONF.151/26 (Vol. II) (August 13, 1992).
[24] Yoshifumi Tanaka, "Zonal and Integrated Management Approaches to Ocean Governance: Reflections on a Dual Approach in International Law of the Sea," 19 INT'L J. OF MARINE & COASTAL L. 4, 16 (2004)
[25] Chapter 17 of Agenda 21, para. 17.1.
[26] Chapter 17 of Agenda 21, para. 17.1. Its programme areas as follows: (a) Integrated management and sustainable development of coastal areas, including exclusive economic zones; (b) Marine environmental protection; (c) Sustainable use and conservation of marine living resources of the high seas; (d) Sustainable use and conservation of marine living resources under national jurisdiction; (e) Addressing critical uncertainties for the management of the marine environment and climate change; (f) Strengthening international, including regional, cooperation and coordination; (g) Sustainable development of small islands.
[27] Chapter 17 of Agenda 21, para. 17.18.

recognizes the necessity to apply certain principles under international environmental law;[28] among which, polluter pays principle is included.[29]

Moreover, each programme area of Chapter 17 focuses on management activities and implementation means. It has not only emphasized the polluter pays principle but also to certain degree acknowledged the function of the compensation fund as it can play a significant role in improving the enforcement of rules. In fact, the following documents may serve to further support the status of the polluter pays principle in the liability and compensation mechanism.

b) Rio Declaration on Environment and Development

Also adopted in the UNCED(United Nation Conference on Environment and Development), Principle 16 of the 1992 Rio Declaration on Environment and Development provides that "national authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment." This wording, reflecting the definition provided by the OECD Recommendations, is rather soft than absolute and obligatory.[30]

Moreover, according to the International Law Commission, the polluter pays principle may be seen as a general principle of international environmental law designed to ensure that victims who suffer harm resulting from incidents involving hazardous activities are able to obtain "prompt and adequate compensation."[31] This principle has thus been incorporated into certain environmental treaties, in particular those on marine pollution.[32]

c) Other Conventions and Documents

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[28] Chapter 17 of Agenda 21, para. 17.22, the principles include (a) preventive, precautionary and anticipatory approaches, (b) impact assessment, (c) integrated protection, (d) polluter pays principle, (e) improvement of the living standards.

[29] Ibid., stating that it is necessary to "develop economic incentives, where appropriate, to apply clean technologies and other means consistent with the internalization of environmental costs, such as the polluter pays principle, so as to avoid degradation of the marine environment."

[30] Alan Boyle, "Polluter Pays," in Rüdiger Wolfrum ed., Max Planck Encyclopedia of Public International Law, op. cit., paras. 5-6.

[31] International Law Commission, Draft Principles on the Allocation of Loss in the Case of Transboundary Harm Arising out of Hazardous Activities, with Commentaries, Yearbook of the International Law Commission, Vol. II, Part Two, 2006, p. 115.

[32] Alan Boyle, "Polluter Pays," op. cit., paras. 5-6.

Some global and regional environmental conventions, in particular to those which focus on the European region, have explicitly identified the polluter pays principle as a general principle of international environmental law with a more fundamental and obligatory nature.[33]

For instance, the Convention on the Protection of the Marine Environment of the Baltic Sea Area (Helsinki Convention) was firstly adopted in 1974 and enacted in 1980. Due to the political changes and developments in international environmental and maritime law throughout that era, a new version was adopted in 1992 and enacted in 2000.[34] Under the 1992 Helsinki Convention, the polluter pays principle is strengthened as one of the fundamental principles and obligations that the Contracting Parties shall apply.[35]

The International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC), adopted in 1990 by the IMO and came into force in 1995, as a convention dealing with the prevention of marine pollution aims to "preserve the human environment in general and the marine environment in particular."[36] The OPRC Convention, in its preamble, considers the polluter pays principle as a general principle of international environmental law on the one hand, and on the other hand, takes account of other IMO conventions covering liability and compensation.[37]

The Convention on the Transboundary Effects of Industrial Accidents, adopted by the United Nations Economic Commission for Europe (UNECE) in 1992 and came into force in 2000, aims to protect human beings and the environment against the effects of industrial accidents.[38] Similar in this respect to the OPRC Convention, it also acknowledges its consideration of "the polluter pays principle as a general principle of international environmental law."[39]

Furthermore, the principle is found in the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention), which was opened for signature at the Ministerial Meeting of the Oslo and Paris Commissions in Paris in 1992 and entered into force in 1998. Under the OSPAR Convention, one of the two general obligatory principles that

[33] Rüdiger Wolfrum, "Transboundary Pollution," in Fred Morrison and Rüdiger Wolfrum (eds.), International, Regional, and National Environmental Law, Springer (2000).
[34] The Helsinki Convention, latest amendments entered into force on November 15, 2008, available at: (last visited on March 10, 2012).
[35] Article 3(4) of the 1992 Helsinki Convention.
[36] Preamble to the OPRC Convention.
[37] Ibid.
[38] Preamble to the Convention on the Transboundary Effects of Industrial Accidents.
[39] Ibid.

the Contracting Parties shall apply is the polluter pays principle, by virtue of which the costs of pollution prevention, control and reduction measures are to be borne by the polluter.[40]

However, these conventions do not provide more significant details on the definition and specific elements of this principle. Two issues should be raised: firstly, whether this principle is universally applicable; secondly, whether this principle constitutes customary international law. Birnie and Boyle have considered that this principle can neither be treated as a “rigid rule of universal application” nor be implemented in the same way in all cases.[41] They both recognized the existence of the flexibility in the application of this principle, as differences reveal in the nature of the risk and in the capacity of the industries which have various economic feasibilities.[42] Furthermore, the legal status of the polluter pays principle as customary international law would be doubtful; in relation to States in the EC, the UNECE, and the OECD, such doubt can be reduced as demonstrated by the regional environmental conventions and recommendations.[43] Nonetheless, it is said that the practice of the United States does not fully sustain the polluter pays principle.[44] Obviously, this principle does not form universally applicable customary international law.

Another example used to describe the legal status of the polluter pays principle is the case of the Convention on the Transboundary Effects of Industrial Accidents. In the other paragraph of convention’s preamble, it also emphasizes “the principles of international law and custom, in particular the principles of good-neighbourliness, reciprocity, non-discrimination and good faith.”[45] Not listing together with these “principles of international law,” the polluter pays principle did not seem to be receiving the same legal standing as the “general principles of international law.” The polluter pays principle, however, can be considered as “a general principle of international environmental law,” as it has been underlined in numerous international and regional environmental conventions.

[40] Article 2(2)(b) of the OSPAR Convention. The other general obligatory principle is the precautionary principle, “by virtue of which preventive measures are to be taken when there are reasonable grounds for concern that substances or energy introduced, directly or indirectly, into the marine environment may bring about hazards to human health, harm living resources and marine ecosystems, damage amenities or interfere with other legitimate uses of the sea, even when there is no conclusive evidence of a causal relationship between the inputs and the effects.”
[41] Birnie and Boyle, International Law, pp. 94-95.
[42] Ibid., p. 95.
[43] Rüdiger Wolfrum, “Transboundary Pollution,” in Fred Morrison and Rüdiger Wolfrum (eds.), International, Regional, and National Environmental Law, op. cit.
[44] Birnie and Boyle, International Law and the Environment,, pp. 94-95.
[45] Preamble to the Convention on the Transboundary Effects of Industrial Accidents.

In other words, the polluter pays principle on the basis of these conventions gains certain legal influence as "a general principle of international environmental law." Nonetheless, since these conventions do not provide a clear scope and coverage of the principle and the application of these conventions has not been universally practiced by States, this principle has not formed customary international law and general principle of international law. In the most recent informal documents prepared by the UNEP, this principle again received some attention. For example, in the Draft Guidelines for the Development of National Legislation on Liability, Response Action and Compensation for Damage Caused by Activities Dangerous to the Environment noted in the fourth programme for the Development and Periodic Review of Environmental Law at the Governing Council of the UNEP in 2008,[46] the polluter pays principle had been emphasized to be taken into account when establishing an effective regime on environmental liability, redress and compensation.[47] Additionally, a commentary prepared by UNEP Consultants and Secretariat also expressed that a national and/or domestic law should make explicit references to the polluter pays principle as a basic organizational concept for environmental liability, redress and compensation.[48]

If one does not argue the effectiveness and the universal application of these international documents, it can be principally found that there has been a trend since the 1992 Rio Declaration to accept the polluter pays principle. Such effect emphasizes the implementation of the polluter pays principle through the establishment of the liability and compensation mechanism on marine pollution.

CHAPTER III: Enabling Clauses under International Conventions

In spite of the emphasis on the Stockholm Declaration and Rio Declaration, there are still no significant developments in the legal norms governing international liability and redress for environmental damage.[49] The concept of liability and compensation in the conventional provisions is hence built merely as an enabling clause.

3.1 Liability and Redress Mechanism under CBD

[46] UN Doc. UNEP/GC/25/INF/15/Add.3, Draft Guidelines for the Development of National Legislation on Liability, Response Action and Compensation for Damage Caused by Activities Dangerous to the Environment, Governing Council of the United Nations Environment Programme, Nov. 26, 2008.
[47] Ibid., p. 14.
[48] Ibid., p. 20.
[49] CBD, "Programmes & Issues, Liability and Redress: About Introduction," available at: (last visited on March 20, 2012).

For instance, with the objectives of the conservation of biological diversity, the sustainable use of the components of biological diversity and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources,[50] the Convention on Biological Diversity (CBD) was adopted in 1992 and entered into force in 1993. Although the issue of liability and redress, with regard to transboundary damage to biological diversity, was also one of the themes on the CBD negotiations, the negotiators were unable to reach any consensus on the details of the liability regime under the CBD and thereby postponed the consideration of such issue to a future date.[51] Consequently, Article 14.2 of the CBD merely states that "the Conference of the Parties shall examine, on the basis of studies to be carried out, the issue of liability and redress, including restoration and compensation, for damage to biological diversity, except where such liability is a purely internal matter."[52] This provision provides very little guidance regarding the issue of liability and redress. The progress of the Convention's work on liability and redress continues, however, and Parties are still examining the issue.

3.2 Liability Issues in Cartagena Protocol and Nagoya-Kuala Lumpur Supplementary Protocol

Similarly, as a supplementary agreement to the CBD, the Cartagena Protocol on Biosafety to the CBD, adopted in 2000 and entered into force in 2003, is an international treaty regulating the movement of living modified organisms (LMOs) resulting from the movements of modern biotechnology from one country to another.[53] The negotiators were aware of the critical nature and urgency of the issue of liability and redress for damage that resulted from the transboundary movements of LMOs.[54] However, they were unable to reach any consensus regarding the details of a liability regime under the Cartagena Protocol.[55] Therefore, an enabling clause to this effect was included in the final text of the Protocol. Article 27 of the Protocol provides that "the Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first meeting, adopt a process with respect to the appropriate elaboration of international rules and procedures in the field of liability and redress for damage resulting from transboundary movements of living modified organisms, analysing and taking due account of the ongoing processes in international law on these matters, and shall endeavour

[50] Article 1 of the CBD.
[51] CBD, "Programmes & Issues, Liability and Redress: About Introduction," op. cit.
[52] Article 14.2 of the CBD.
[53] CBD, "The Cartagena Protocol: About the Protocol," available at: (last visited on March 20, 2012).
[54] Ibid.
[55] Ibid.

to complete this process within four years."[56] On the basis of this provision, the Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety (N-KL Supplementary Protocol) after six year of negotiations was adopted in 2010 and closed for signature with 51 signatories on March 8, 2012.

The N-KL Supplementary Protocol adopts an administrative approach to addressing appropriate response measures where there is damage or sufficient likelihood of damage to the conservation and sustainable use of biological diversity resulting from the transboundary movements of LMOs. Like its parent treaty, the Cartagena Protocol on Biosafety, the adoption of the N-KL Supplementary Protocol is seen as a function of preventing damage and as a measure of further confidence-building in the development and application of modern biotechnology. It advances the enabling environment for deriving maximum benefit from the potential of LMOs by providing rules for redress or response where there is damage or sufficient likelihood of damage, according to the precautionary approach.[57] It, taking into account Principle 13 of the Rio Declaration, also requires Contracting Parties to provide, in their respective domestic laws, for rules and procedures that address damage; to continue to apply relevant rules on civil liability and to address the elements of the civil liability, including damage, standard of liability, channelling of liability and right to bring claims.[58] This new environmental treaty can be considered of making significant contribution to developing a detailed set of rules on the liability and compensation mechanism.

3.3 Basel Convention on Liability and Compensation Mechanism

Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Basel Convention). In the 1980s, due to tightened environmental regulations, there were attempts to deposit hazardous wastes originating from industrialized countries in Africa and other parts of the developing world in lieu of proper waste disposal in the place of origin.[59] In response to a public protest, the Basel Convention was adopted in 1989 and entered into force in 1992.[60] It is the most comprehensive global environmental treaty on

[56] Article 27 of the Cartagena Protocol on Biosafety to the CBD.
[57] UN Secretariat of the Convention on Biological Diversity, Montreal, Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety, 2011, p. 1.
[58] Article 12 of the N-KL Supplementary Protocol.
[59] Ulrich Beyerlin and Jenny Grote Stoutenburg, "International Protection of Environment," in Rüdiger Wolfrum ed., Max Planck Encyclopedia of Public International Law, op. cit., para. 63.
[60] UNEP, "Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Protocol on Liability and Compensation form Damage Resulting from Transboundary Movements of Hazardous Wastes and Their Disposal, Texts and Annexes," 2011, available at: (last visited on March 20, 2012).

hazardous and other wastes with the objectives to protect human health and the environment against the adverse effects resulting from the generation, management, transboundary movements and disposal of hazardous and other wastes.[61] Regarding the liability and compensation mechanism, Article 12 of the Basel Convention states that "[t]he Parties shall co-operate with a view to adopting, as soon as practicable, a protocol setting out appropriate rules and procedures in the field of liability and compensation for damage resulting from the transboundary movement and disposal of hazardous wastes and other wastes."[62] In response, the Ad Hoc Working Group of Legal and Technical Experts was established and the Basel Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and their Disposal (Basel Protocol) was adopted in the 5th Conference of the Parties (COP) in 1999. An interim arrangement to cover emergency situations until the entry into force of the Basel Protocol was also agreed on[63]. The Basel Protocol has been considered as one of the essential elements for the environmental sound management of hazardous wastes.[64] Based on Principle 13 of the Rio Declaration,[65] the Basel Protocol provides a comprehensive regime for civil liability as well as adequate and prompt compensation for damage resulting from the transboundary movement of hazardous wastes and other wastes, including incidents occurring as a result of illegal traffic.[66] The scope of "damage" in the Basel Protocol is wide.[67] The Basel Protocol applies strict liability with certain financial limits for the liability,[68] and fault-based liability without financial limit on liability.[69] However, as of March 20, 2012, the Basel Protocol has not yet entered into force.

3.4 London Protocol and Absence of Liability Mechanism

As one of the first global conventions to protect the marine environment from human activities, the London Convention on the Prevention of Marine Pollution by Dumping of

[61] UNEP and Basel Convention Secretariat, "The Basel Convention at a Glance…," 2009, available at: (last visited on March 20, 2012).
[62] Article 12 of the Basel Convention.
[63] UNEP, "Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Protocol on Liability and Compensation form Damage Resulting from Transboundary Movements of Hazardous Wastes and Their Disposal, Texts and Annexes," op. cit., p. 6.
[64] UNEP, The Basel Convention: A Global Solution for Controlling Hazardous Wastes (Geneva: UNEP, 1997), p. 19.
[65] Preamble to the Basel Protocol.
[66] UNEP, "Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Protocol on Liability and Compensation form Damage Resulting from Transboundary Movements of Hazardous Wastes and Their Disposal, Texts and Annexes," op. cit., p. 6.
[67] Article 2.2(c) of the Basel Protocol.
[68] Articles 4 and 12.1 of the Basel Protocol.
[69] Articles 5 and 12.2 of the Basel Protocol.

Wastes and Other Matter (London Convention) was adopted in 1972 and entered into force in 1975.[70] It aims to promote the effective control of all sources of marine pollution and to take all practicable measures to prevent marine pollution by dumping of wastes and other matters.[71] Article X of the London Convention requires Contracting Parties to develop rules governing liability and dispute settlement.[72]

Two decades later, in order to further modernize the London Convention, the Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Protocol),[73] adopted in 1996 and entered into force in 2006, thereby replaced the London Convention with more restrictive provisions. The London Protocol represents a major change of approach to regulating the ocean dumping, as under the London Protocol, all dumping is prohibited, except for possibly acceptable wastes on the approved "reverse list."[74] Article 15 of the London Protocol, regarding responsibility and liability, states that "[i]n accordance with the principles of international law regarding State responsibility for damage to the environment of other States or to any other area of the environment, the Contracting Parties undertake to develop procedures regarding liability arising from the dumping or incineration at sea of wastes or other matter."[75] However, since in principle all dumping of hazardous materials are prohibited, Contracting Parties have decided that no responsibility and liability mechanism is necessary.[76]

Based on these examples, we can conclude that even though the need of the liability and compensation mechanism has been explicitly recognized in the drafting of multilateral environmental conventions, commitments to develop a more detailed mechanism has often been postponed to a later date,[77] e.g., to be considered in the drafting of protocols to a

70 As of March 20, 2012, it has 87 Contracting States/Parties, according to IMO, "Status of Conventions Summary," http://www.imo.org/About/Conventions/StatusOfConventions/Pages/Default.aspx (last visited on March 20, 2012).

71 IMO, "Out Work, Marine Environment, Special Programmes and Initiatives: London Convention and Protocol," available at: (last visited on March 20, 2012).

72 Philippe Sands and Paolo Galizzi eds., Documents in International Environmental Law, 2nd ed., Cambridge: Cambridge University Press, 2004), p. 243.

73 As of March 20, 2012, it has 41 Contracting States/Parties, according to IMO, "Status of Conventions Summary," op. cit.

74 Annex 1 (Wastes or other matter that may be considered for dumping) to the London Protocol, Philippe Sands and Paolo Galizzi eds., Documents in International Environmental Law, op. cit., p. 267.

75 Philippe Sands and Paolo Galizzi eds., Documents in International Environmental Law, op. cit., pp. 259-260.

76 Louise Angélique de La Fayette, "Compensation for Environmental Damage in Maritime Liability Regimes," in Andree Kirchner ed., International Marine Environmental Law: Institutions, Implementation and Innovations (The Hague: Kluwer Law International, 2003), pp. 231-235, at 232

77 CBD, "Programmes & Issues, Liability and Redress, About: Introduction," available at: (last visited on March 20, 2012).

convention. Even though to negotiate this kind of protocol takes a long time, we still need to emphasize that a liability and compensation mechanism is essential for many reasons. For instance, this mechanism can promote compliance with international environmental standards and regulations. As it can repair the damage by shifting the external costs of environmental damage to the polluter, the liability and compensation mechanism can also serve as an instrument to implement the polluter pays principle.[78] As a result, this mechanism can also deter environmentally harmful activities and lead to greater investment in preventive measures.[79] Moreover, the liability and compensation mechanism is established to enforce the environmental standards and regulations more effectively via a protocol. On the contrary, some of these protocols may adopt strict liability with financial limits of the compensation, e.g. the Basel Protocol, which does not fully reflect the polluter pays principle and has not entered into force; some are not even adopted, e.g. the London Protocol.

CHAPTER IV: Application and limitations of Polluter Pays Principle

4.1 Application of PPP in Countries

The polluter pays principle was not applied in most of the notable environmental disaster which claimed innumerable lives in some part of the world. Exxon Valdez Disaster is thankfully an example of the application of PPP in the US. In 1989, the oil tanker ran aground and over 300,000 barrels of crude oil poured into Alaskan waters. Exxon was required to pay 125 million USD in fines to the US Federal Government and the state of Alaska, as well as 900 million USD for a fund to be doled out by government officials for environmental projects, among other things. In addition, Exxon was put under tremendous political pressure to restore the shoreline. It thus engaged in an extensive and costly clean-up operation, though with controversial results.

Example of some countries that have adopted the principle will be attempted to show the widespread goodwill that the principle enjoys; Australia The state of New South Wales in Australia has included the polluter pays principle with the other principles of ecologically sustainable development in the objectives of the Environment Protection Authority.[80]

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[78] Ibid.

[79] Ibid.

[80] Rosso Grossman M. 'Agriculture and Polluter Pays Principle', Netherlands Comparative Law Association, p. 2. Online. Available HTTP: < http://www.ejcl.org/ 113/article113 –15.pdf > (accessed 21 January 2021).

The polluter pays principle is set out in the Treaty on the Functioning of the European Union [24] and Directive 2004/35/EC of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage is based on this principle. The directive entered into force on 30 April 2004; member states were allowed three years to transpose the directive into their domestic law and by July 2010 all member states had completed this.[81] In France, the Charter for the Environment contains a formulation of the polluter pays principle (article 4): 'Everyone shall be required, in the conditions provided for by law, to contribute to the making good of any damage he or she may have caused to the environment.'[82]

In Ghana, the polluter pays principle was adopted in 2011[83]; in Sweden, the polluter pays principle is also known as extended producer responsibility (EPR). This is a concept that was probably first described by Thomas Lindhqvist for the Swedish government in 1990.[84] EPR seeks to shift the responsibility of dealing with waste from governments (and thus, taxpayers and society at large) to the entities producing it. In effect, it internalised the cost of waste disposal into the cost of the product, theoretically meaning that the producers will improve the waste profile of their products, thus decreasing waste and increasing possibilities for reuse and recycling.

Based on the polluter pays principle[85] binbags (for municipal solid waste) are taxed with pay-per-bag fees in three quarters of the communities) and the recycling rate doubled in twenty years).

The Environmental Damage (Prevention and Remediation) Regulations 2009 (for England) and the Environmental Damage (Prevention and Remediation) (Wales) Regulations 2009 (for Wales) established the operation of the polluter pays principle.[86]

The principle is employed in all of the major US pollution control laws: Clean Air Act,[87] Clean Water Act,[88] Resource Conservation and Recovery Act (solid waste and hazardous waste

[81] Protection of the Environment Administration Act 1991, section 6(2) (d) (i) [1].
[82] Article 191(2) TFEU
[83] European Commission, Environmental Liability, accessed 31January 2021
[84] Charter for the Environment, Constitutional Council, assessed 31 January 2021.
[85] Ghana Business News, Cabinet approves Polluter Pays Principle, 8 December 2011, accessed , 2021.
[86] International Institute for Industrial Environmental Economics at Lund University, Sweden (2000)."Extended Producer Responsibility in Cleaner Production" Archived 2014 -05 -13 at the Wayback Machine Doctoral Dissertation, 2000.
[87] In French) AïnaSkjellaug, "L'autre or de la Suisse, sesdéchets", Le temps, Tuesday 6 September 2016 (page visited on , 2021.
[88] The Environmental Damage Regulations: Preventing and Remedying Environmental Damage

management), and Superfund (cleanup of abandoned waste sites).Some eco-taxes underpinned by the polluter pays principle include:the Gas Guzzler Tax for motor vehicles; Corporate Average Fuel Economy (CAFE), a "polluter pays" fine; and the Superfund law requires polluters to pay for cleanup of hazardous waste sites, when the polluters can be identified.[89]

The Zimbabwe Environmental Management Act of 2002 prohibits the discharge of pollutants into the environment. In line with the Polluter Pays principle, the Act requires a polluter to meet the cost of decontaminating the polluted environment.

Nigeria's National Policy on the Environment recognises the polluter pays principle. It provides that: Nigeria is committed to a national environmental policy that will ensure sustainable development based on proper management of the environment…. This policy, in order to succeed must be built on the following sustainable development principles: …. The polluter pays principle which suggests that the polluter should bear the cost of preventing and controlling pollution.[90]

4.2 Limitations of Polluter Pays Principle

The uncertainties and flexibilities of polluter pays principle are grounded in various limitations of the principle, which include; the burden of proof, the coverage of long-term damage on the victims, the limits in amount when the strict liability is adopted, and the narrow definition of damage excluding environmental losses.[91]

A unique illustration, therefore, should be discussed: the 1993 Lugano Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment (Lugano Convention), adopted by the Council of Europe.[92] This convention has been viewed as an embodiment of the polluter pays principle,[93] as it establishes a common mechanism of strict liability for damage caused by dangerous activities or dangerous substances on the operator of the activity in question.[94] In its preamble, it has expressed the regards for "the desirability of providing for strict liability in this field taking into account the polluter pays principle."[95] Within its liability mechanism, the liability is not limited in amount and to that extent reflects

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[89] 'Air Enforcement'. Washington, D.C.: US Environmental Protection Agency (EPA). 31 January, 2021.
[90] 'Water Enforcement". EPA. 30 January , 2021.
[91] Birnie and Boyle, International Law and the Environment pp. 93-94
[92] Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment, European Treaty Series-No. 150, Lugano, 21.VI.1993.
[93] Alan Boyle, "Globalising Environmental Liability: the Interplay of National and International Law, "J. Env. L. 2005, 17(1), 3-26, p. 8.
[94] Ibid.
[95] Preamble to the Lugano Convention.

the polluter pays principle.[96] This is unlike other treaties developed under the IMO under which the loss is spread about.[97] Moreover, without any provision on additional compensation funds, this unlimited liability would be assured by compulsory insurance or other types of financial security.[98] The wide definition of "damage" covers not only injury to persons and property but also damage caused by impairment of the environment and the costs of preventive measures and further loss or damage caused by the preventive measures.[99] By the definition of "measures of reinstatement,"[100] the Lugano Convention paves the way for compensation of damage to the environment per se.[101] Even though this convention seems to establish an environmentally friendly liability mechanism, it is not welcome among European States and this thereby forms its weakness.[102] Consequently, such a liability mechanism has not come into force and this development gives a sign that breaking the limitations is not optimistic.

CHAPTER V: Legal Frameworks of polluter pays in Maritime Law

5.1 UN Convention on the Law of the Sea

Under Article 235, the provision on responsibility and liability, States bear the responsibility for "the fulfilment of their international obligations concerning the protection and preservation of the marine environment" and the liability "in accordance with international law."[103] In order to deliver and ensure prompt and adequate compensation or other relief, States, on the one hand, are obliged to provide legal mechanisms relating to damage caused by marine pollution resulting from natural or juridical persons under their jurisdiction.[104] On the other hand, the LOS Convention also requires States to cooperate for enforcing existing international law and for further development of international law with respect to "responsibility and liability for the assessment of and compensation for damage and the

[96] Alan Boyle, "Globalising Environmental Liability: the Interplay of National and International Law," op. cit., p. 8.

[97] See infra Section III.B.2 for the IMO Conventions.

[98] Alan Boyle, "Globalising Environmental Liability: the Interplay of National and International Law," op. cit., p. 8.

[99] Article 2.7 of the Lugano Convention.

[100] Article 2.8 of the Lugano Convention states "[m]easures of reinstatement" means any reasonable measures aiming to reinstate or restore damaged or destroyed components of the environment damaged or destroyed components of the environment, or to introduce, where reasonable, the equivalent of these components into the environment. Internal law may indicate who will be entitled to take such measures.

[101] Peter Ehlers, "Origins and Compensation of Marine Pollution-A Survey," op. cit., p. 120.

[102] Alan Boyle, "Globalising Environmental Liability: the Interplay of National and International Law," p. 8, noting that due to certain changes in national tort law in the 1990s, European States hesitated to ratify this convention.

[103] Article 235(1) of the LOS Convention.

[104] Article 235(2) of the LOS Convention.

settlement of related disputes, as well as, where appropriate, development of criteria and procedures for payment of adequate compensation, such as compulsory insurance or compensation funds."[105] In other words, these provisions to a certain degree reflect the provisions of Principle 22 of the 1972 Stockholm Declaration and Principle 13 of the 1992 Rio Declaration.

5.2 Treaties Developed under the Auspices of the International Maritime Organization

The IMO[106] was established in 1948 by the Convention on the International Maritime Organization (Convention on the IMO).[107] It is the UN specialized agency with responsibility for the safety and security of shipping and prevention of maritime pollution.[108] Its tasks are carried out by its main bodies, including two main organs, the Assembly and Council, and the five main specialized Committees, namely the Maritime Safety Committee, Marine Environment Protection Committee (MEPC), Legal Committee, Technical Cooperation Committee and the Facilitation Committee.[109] In special reference to the marine environment, the MEPC, with the goal to prevent and control vessel-source pollution, was established in 1973 to act as IMO's senior technical body to coordinate the IMO's activities in dealing with relevant issues.[110]

On the basis of its objective provided under Article 1 of the Convention on the IMO,[111] the most important IMO conventions are International Convention for the Safety of Life at Sea

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[105] Article 235(3) of the LOS Convention.

[106] The original name of the IMO was the Inter-Governmental Maritime Consultative Organization or IMCO, but the name was changed to IMO in 1982. IMO, "Brief History of IMO," available at: (last visited on March 10, 2012).

[107] As of March 20, 2012, it has 170 Contracting States/Parties, according to IMO, "Status of Conventions Summary," op. cit

[108] IMO, "Introduction to IMO," available at: (last visited on March 10, 2012).

[109] IMO, "Structure of IMO," available at: (last visited on March 10, 2012).

[110] IMO, "Our Work: Marine Environment," available at: (last visited on March 10, 2012).

[111] Article 1 of the Convention on the IMO states that the purposes of the IMO are: "(a) To provide machinery for co-operation among Governments in the field of governmental regulation and practices relating to technical matters of all kinds affecting shipping engaged in international trade; to encourage and facilitate the general adoption of the highest practicable standards in matters concerning the maritime safety, efficiency of navigation and prevention and control of marine pollution from ships; and to deal with administrative and legal matters related to the purposes set out in this Article; (b) To encourage the removal of discriminatory action and unnecessary restrictions by Governments affecting shipping engaged in international trade so as to promote the availability of shipping services to the commerce of the world without discrimination; assistance and encouragement given by a Government for the development of its national shipping and for purposes of security does not in itself constitute discrimination, provided that such assistance and encouragement is not based on measures designed to restrict the freedom of shipping of all flags to take part in international trade; (c) To provide for the consideration by the Organization of matters concerning unfair restrictive practices by shipping concerns in accordance with Part II; (d) To provide for the consideration by the Organization of any matters concerning

(SOLAS), MARPOL, International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) and other major IMO conventions and protocols can be categorized into three groups as follows:[112] (1) conventions concerned with maritime safety;[113] (2) conventions concerned with the prevention of maritime pollution;[114] and (3) conventions concerned with liability and compensation, in particular some regarding damage caused by pollution.[115] This classification mainly reflects the relationship between the LOS Convention and IMO instruments,[116] as the LOS Convention incorporates, by rule-reference, the IMO instruments into its framework. Furthermore, the IMO as an institution of international cooperation is a platform to develop the liability and compensation mechanism. The following investigates the liability and compensation mechanism in the treaties relating to maritime

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shipping and the effect of shipping on the marine environment that may be referred to it by any organ or specialized agency of the United Nations; (e) To provide for the exchange of information among Governments on matters under consideration by the Organization."

[112] Other than the mentioned conventions, there are also conventions outside these major groups dealing with facilitation, tonnage measurement, unlawful acts against shipping and salvage, etc. IMO, "About IMO: Conventions," available at: (last visited on March 10, 2012).

[113] This category consists of the following conventions and protocols: 1972 Convention on the International Regulations for Preventing Collisions at Sea (COLREG), 1965 Convention on Facilitation of International Maritime Traffic (FAL), 1966 International Convention on Load Lines (LL), 1979 International Convention on Maritime Search and Rescue (SAR), 1988 Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation (SUA) and Protocol for the Suppression of Unlawful Acts Against the Safety of Fixed Platforms located on the Continental Shelf (and the 2005 Protocols), 1972 International Convention for Safe Containers (CSC), 1976 Convention on the International Maritime Satellite Organization (IMSO C), 1977 The Torremolinos International Convention for the Safety of Fishing Vessels(SFV), 1995 International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (STCW-F), 1971 Special Trade Passenger Ships Agreement (STP) and 1973 Protocol on Space Requirements for Special Trade Passenger Ships.

[114] This category consists of the following conventions and protocols: 1969 International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties (INTERVENTION), 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (LC) (and the 1996 London Protocol), 1990 International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC), 2000 Protocol on Preparedness, Response and Co-operation to pollution Incidents by Hazardous and Noxious Substances (OPRC-HNS Protocol), 2001 International Convention on the Control of Harmful Anti-fouling Systems on Ships (AFS), 2004 International Convention for the Control and Management of Ships' Ballast Water and Sediments and 2009 The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships.

[115] This category consists of the following conventions and protocols: 1969 International Convention on Civil Liability for Oil Pollution Damage (CLC), 1992 Protocol to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (FUND 1992), 1971 Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material (NUCLEAR), 1974 Athens Convention relating to the Carriage of Passengers and their Luggage by Sea (PAL), 1976 Convention on Limitation of Liability for Maritime Claims (LLMC), 1996 International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (HNS) (and its 2010 Protocol), 2001 International Convention on Civil Liability for Bunker Oil Pollution Damage (Bunkers Convention) and 2007 Nairobi International Convention on the Removal of Wrecks.

[116] The relationship between the LOS Convention and IMO instruments covers the following areas: safety of navigation, prevention and control of marine pollution, liability and compensation, technical cooperation and assistance for developing countries. IMO Doc. LEG/MISC.6, "Implications of the United Nations Convention on the Law of the Sea for the International Maritime Organization," Study by the Secretariat of the International Maritime Organization (IMO), September 10, 2008.

pollution developed under the auspices of the IMO, most of which deals with oil pollution and other pollutants.

5.3 The Polluter Pays Principle and Marine Shipping Regulations

The Polluter Pays Principle as a liability and compensation mechanism is prevalent throughout ship-source pollution law. The International Maritime Organization, a specialized agency of the United Nations responsible for measures to improve the safety and security of international shipping and to prevent pollution from ships, has applied the Polluter Pays Principle in many of the conventions it has developed. These include:

- The International Convention on Oil Pollution Preparedness, Response and Co-operation
- The International Convention on Civil Liability for Oil Pollution Damage
- The International Convention on Civil Liability for Bunker Oil Pollution Damage
- The International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage
- The HNS Convention

Within the legislation of the marine shipping industry the implementation of the Polluter Pays Principle has evolved from an economic concept holding polluters accountable for the direct costs of pollution, to an actionable principle requiring polluters to pay for emergency response and clean-up costs, to having polluters pay compensation to the victims of pollution. In many cases the polluter is liable even in the absence of fault. However, legislation may provide special circumstances in which a polluter is exempt of liability. For example, the International Convention on Civil Liability for Oil Pollution Damage exempts the polluter of liability if they can prove:

- the damage resulted from an act of war, hostilities, civil war, insurrection or a natural phenomenon of an exceptional, inevitable and irresistible character, or
- the damage was wholly caused by an act or omission done with intent to cause damage by a third party, or
- the damage was wholly caused by the negligence or other wrongful act of a Government or other authority responsible for the maintenance of lights or other navigational aids, in the exercise of that function.

CHAPTER VI:

Suggestion:

The "Polluter Pays Principle" (PPP) is an essential concept under international environmental law that holds polluters accountable for the costs associated with preventing, managing, and remedying pollution. When applied to marine pollution, it emphasizes that those who cause harm to the marine environment should bear the financial responsibility for cleaning it up and preventing future damage.

1. Strengthen International Agreements and Protocols:

- **Enhance Compliance with Existing Conventions**: Strengthen enforcement of existing international agreements such as the **MARPOL Convention** (International Convention for the Prevention of Pollution from Ships) and the **Convention on Biological Diversity** (CBD), ensuring countries comply with their commitments to prevent marine pollution.
- **Create a Global Marine Pollution Fund**: Establish a global fund that polluters contribute to, based on their pollution levels. This fund can be used for research, cleanup operations, and rehabilitation of affected ecosystems, ensuring those responsible contribute to restoring the environment.

2. Implement Strict Liability Mechanisms:

- **Adopt Strict Liability in International Treaties**: Introduce liability provisions that hold polluters strictly accountable for the harm caused, regardless of whether there was negligence. This could be a powerful incentive for industries such as shipping, oil drilling, or chemical manufacturers to adopt cleaner practices to avoid legal and financial risks.
- **Ensure Access to Compensation**: Strengthen the ability of affected states or communities to claim compensation for damage caused by marine pollution, such as through insurance policies or compensation mechanisms embedded in international law.

3. Encourage Corporate Responsibility and Green Technologies:

- **Promote Corporate Accountability**: Use the PPP to encourage corporations to invest in cleaner technologies by making them financially liable for the cost of pollution cleanup. International laws could create incentives, such as tax breaks or subsidies, for businesses that use environmentally friendly technologies.
- **Facilitate Research into Cleaner Marine Technologies**: Provide funding or incentives for developing new technologies that can reduce marine pollution, such as biodegradable plastics, green ship fuel, or technologies for cleaning up oil spills. This would shift the economic burden of marine pollution management from governments to polluting industries.

4. Strengthen Monitoring and Enforcement Mechanisms:

- **Enhanced Monitoring Systems**: Implement international systems for monitoring and assessing marine pollution sources. Satellite technology, drones, and remote sensing tools can provide real-time data on pollution levels, making it easier to trace back the source of pollution and ensure accountability.
- **Stronger Penalties for Non-Compliance**: Ensure that international law includes significant financial penalties and sanctions for non-compliance with marine pollution regulations. The PPP should be enforced consistently to prevent "pollution havens" where regulations are weak.

5. Collaborate with Regional Agreements:

- **Foster Regional Cooperation**: Encourage countries to collaborate on managing and controlling marine pollution in specific regions. Regional conventions, such as the **Oslo-Paris Convention** for the North-East Atlantic or the **Barcelona Convention** for the Mediterranean, can provide a framework for coordinated efforts and help ensure hat polluters across borders are held accountable

6. Incorporate the PPP into National Legislation:

- **National Legislation Adherence**: Encourage nations to implement the Polluter Pays Principle into their domestic laws and align it with international environmental standards. This ensures that even if international treaties are slow to enforce, national policies will already be in place to regulate and address pollution.

Conclusion:

In order to enforce environmental standards, particularly in regards to marine pollution, the establishment of the liability and compensation mechanism is provided under some significant international documents, in particular Principle 13 of the 1992 Rio Declaration and Principle 22 of the 1972 Stockholm Declaration. Based on this requirement, some multilateral environmental conventions also adopt the enabling clauses to further develop this mechanism which relies on the international cooperation among States.

On the contrary, in facing the extension and seriousness of marine pollution, the polluter pays principle, when adopted as part of the liability and compensation mechanism, has some inherent flexibility. These constitute the limitations of the polluter pays principle. If, in the future, the polluter pays principle also gains legal effectiveness as a general principle of international environmental law, and helps to enforce environmental standards, the liability and compensation mechanism should then better integrate this principle into the general law's further development.

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