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RESEARCH ARTICLE

Transformation From Soft Law to Hard Law of International Environmental Protection: Process, Basic Concepts And Principles – Part II: "No transboundary environmental harm", "Precautionary", "Environmental impact assessment" and "Access to information and participation in decision-making process" principles*

Mehmet Semih Gemalmaz**

3. No (transboundary) Environmental Harm Principle

i. Recognition and scope of the principle in soft law instruments

Following the adoption of the UN General Assembly resolution 626 (VII) of 21/12/1952 on the "*Right to exploit freely natural wealth and resources*"[1] in which this right of peoples has been recognized as "inherent in their sovereignty" and as complying with the purposes and principles of the UN Charter[2], a significant step was taken by the adoption of the UN General Assembly resolution 1803 (XVII) of 14/12/1962 on *"Permanent sovereignty over natural resources*".[3] The 1962 resolution was adopted as an economic aspect of self-determination, which declared that "the right of peoples and nations to permanent sovereignty over their natural wealth and resources must be exercised in the interest of their national development and of the well-being of the people of the State concerned", (para.1).[4] Although the UNGA

1 The UN General Assembly Resolution 626 (VII) on "*Right to exploit freely natural wealth and resources*" was adopted on 21 December 1952, (411th plenary meeting), UN Doc A/Res/626 (1952). In operative paragraph 2 of this resolution the GA recommends to all Member States to refrain from acts, direct or indirect, designed to impede the exercise of the sovereignty of any State over its natural resources.

2 James N. Hyde, 'Permanent Sovereignty over Natural Wealth and Resources' (1956) 50 (4) AJIL 854.

3 The UN General Assembly Resolution 1803 (XVII) on "*Permanent sovereignty over natural resources*" was adopted on 14 December 1962; 17 UN GAOR (1194th plenary meeting), UN Doc A/Res/1803 (1962). Paragraph 7 of the Resolution 1803 provided that "Violation of the rights of peoples and nations to sovereignty over their natural wealth and resources is contrary to the spirit and principles of the Charter of the United Nations and hinders the development of international co-operation and the maintenance of peace".

4 For an analytical review of the Resolution 1803 (XVII) of 14/12/1962, see, Karol N. Gess, '*Permanent Sovereignty over Natural Resources'* (1964) 13 (2) ICLQ 398 (The author stated that "the General Assembly intended to set forth, within the vehicle of a

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Corresponding Author: Mehmet Semih Gemalmaz (Prof. Dr.), İstanbul, Türkiye. E-posta: msgemalmaz@gmail.com
ORCID: 0000-0002-7686-5612

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Resolution 1803 did not provide for conservation of natural wealth and resources, the standard proclaimed by this resolution was subsequently used for the protection of the environment at the 1972 Stockholm and the 1992 Rio Conferences.[5]

Principle 21 of the 1972 Stockholm Declaration provides:

> "States have, in accordance with the Charter of the United Nations and the principles 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 the environment of other States or of areas beyond the limits of national jurisdiction".[6]

Principle 22[7] of the 1972 Stockholm Declaration requires States to further develop the international law regarding liability and compensation for victims of pollution and other environmental damage caused by activities within their jurisdiction or control to areas beyond their jurisdiction.

The UN General Assembly Resolution 2995 (XXVII) on "*Cooperation between States in the field of environment*"[8], adopted on 15/12/1972, emphasizes 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", (para.1). This Resolution recognizes that Principle 21 of the Stockholm Declaration "will be effectively achieved if official and public knowledge is provided of the technical data relating to the work to be carried out" by the acting State "with a view to avoiding significant harm that may occur in the human environment of an adjacent area". It further recognizes that technical data "will be given and received

declaration, the basic principles and modalities of the exercise of permanent sovereignty over natural resources, subject to the overriding requirement that both principles and modalities of exercise be in conformity with the rights and duties of States under existing international law, and, further, that the principles set forth reflect minimum standards", *ibid* 411).

5 See, Ayesha Diaz, 'Permanent Sovereignty over Natural Resources' (1994) 24 (4) EPL 157; Patricia Birnie, 'Environmental Protection and Development' (1995) 20 (1) Melb. Univ. Law Rev. 69.

6 The "*Declaration of the United Nations Conference on the Human Environment*" ("Stockholm Declaration") was adopted on 16/06/1972 by the United Nations Conference on the Human Environment held at Stockholm from 5 to 16 June 1972, in, Report of the United Nations Conference on the Human Environment, UN Doc. A/CONF. 48/14/Rev. 1, sec. 1, (1972); *reprinted in*, 11 ILM 1416 (1972). Principle 21 of the Stockholm Declaration was originally accompanied by a proposed Principle 20 that would affirm a duty to inform transboundary risks. The proposed Principle 20 was as follows: "Relevant information must be supplied by States on activities or developments within their jurisdiction or under their control whenever they believe, or have reason to believe, that such information is needed to avoid the risk of significant adverse effects on the environment in areas beyond their national jurisdiction". However, in view of the controversy over the proposal the Stockholm Conference decided to omit the controverted Principle 20 of the Declaration. Consequently, the duty to inform did not get sufficient support at the Conference to be recognized as a principle of international law; See, Daniel Partan, 'The "Duty to Inform" in, International Environmental Law' (1988) 6 (1) B. U. Int'l L. J. 43, 44-46; Louis B. Sohn, 'The Stockholm Declaration on the Human Environment' (1973) 14 (3) Harv. Int'l L. J. 493, 496-502; M. Semih Gemalmaz, 'Introduction to International Environmental Law: From Initial Steps to Institution Building for the Conservation of Environment-Part 1' (2021) 33 (2) ERPL/REDP 255, 361; M. Semih Gemalmaz, 'Introduction to International Environmental Law: From Initial Steps to Institution Building for the Conservation of Environment-Part II' (2021) 33 (3) ERPL773, 786-787. Gemalmaz (n *) 129-132, 144-145, 149.

7 Sohn (n 6) 493-502.

8 The UN General Assembly Resolution 2995 (XXVII) on "*Cooperation between States in the field of environment*" was adopted on 15/12/1972 at 2112th plenary meeting. The vote was 115 to none, with 10 abstentions. This Resolution was based on a proposal made by Brazil.

in the best spirit of cooperation and good neighborliness". In the UNGA Resolution 2996 (XXVII) of 15/12/1972, entitled "*International responsibility of States in regard to the environment*", the General Assembly, after recalling Principles 21 and 22 of the Declaration of the United Nations Conference on the Human Environment concerning the international responsibility of States in regard to the environment, stated that those principles lay down the basic rules governing this matter. Additionally, it declared that no resolution adopted at the 27th session of the General Assembly could affect Principles 21 and 22 of the Declaration.[9] With regard to duty to inform aspect of the issue the 1972 General Assembly resolution was criticized as it failed to affirm the duty to inform in a clear and straightforward manner.[10]

Undoubtedly Principle 21 is one of the most important principles laid down by the Stockholm Declaration since it balances two basic elements, namely, the right of a State to develop its economy and the duty not to cause transfrontier environmental harm.[11] "Principle 21, in a characteristic UN formulation asserted the competing principles of international responsibility and national authority within a general framework of international rights and obligations".[12] Thus, Principle 21 of the Stockholm Declaration confirms the basic structure of the environmental conflict. "This two-way definition" is repeated in more or less the same form in many international environmental instruments. "It is a 'process-definition': it indicates the relevant values but leaves the determination of their normative impact into further process".[13] According to Sohn "Principle 21 makes clear that the rule of responsibility applies not only to damage caused to environment of other states but also to any injury inflicted on the environment of 'areas beyond the limits of national jurisdiction', such as the high seas or Antarctica. Within the ambit of the principle are not only damage-causing activities within the area under a state's jurisdiction, including its territorial waters, but also activities conducted by persons or ships under its 'control', wherever they may act".[14]

9 The UNGA Resolution 2996 (XXVII) on "*International responsibility of States in regard to the environment*" was adopted on 15/12/1972 at 2112th plenary meeting. The vote was 111 to none, with 11 abstentions. Also see Partan (n 6) 47; Sohn (n 6) 502.

10 Partan (n 6) 48 (After having examined various documents and developments, the author in his analysis concluded that "the 'duty to inform' has become a cornerstone of the effort to bring transboundary environmental risks under governmental control. Without full information concerning the nature and extent of the risks to which their territories and peoples are subject, governments cannot respond effectively to the increased magnitude and new forms of transboundary risks created by the use of new technologies. The source state ought therefore to be legally obligated to provide affected states with all relevant and available information needed to cope with such risks", *ibid* 87-88).

11 Pierre-Marie Dupuy, 'Overview of the Existing Customary Legal Regime regarding International Pollution', in Daniel Barstow Magraw (ed) *International Law and Pollution* (Penn Press 1988) 61, 64; Sohn (n 6) 485-493 (In view of the author Principle 21 "attempts to balance the right of a state to control matters within its territory with its responsibility to ensure that what is done within that territory does not cause damage outside", *ibid* 485-486); Further see, Gemalmaz, '*Introduction to International Environmental Law: Part II'* (n 6) 786-787; Gemalmaz (n *) 129-132.

12 Oscar Schachter, 'The Emergence of International Environmental Law' (1990) 44 (2) J. Int'l Aff. 457, 459.

13 Martti Koskenniemi, 'Peaceful Settlement of Environmental Disputes' (1991) 60 (1) Nordic J. Int'l L. 73, 76.

14 Sohn (n 6) 493.

Handl is of the opinion that Principle 21 "can only be understood as referring to material damage alone, and that it thus confirms that material damage is the precondition for a state's responsibility arising out of an activity lawful *per se*".[15] Furthermore, reading Principle 21 from the perspective of unilateral state action Bilder argued that this principle "implies that a state threatened by another state's breach of this duty has the right to take reasonable action to protect itself from environmental damage. To the extent that international law presently recognizes such a principle, the arguments for the legitimacy of unilateral action may be strengthened".[16] Both Principles 21 and 22 of the Stockholm Declaration were designed to deal with responsibility and liability for environmental harm based on existing international law at the time in question. However, "in their generality, they did not address what was meant by a state being responsible, or what principles of liability should be applied, only that they should be developed further. Nor did the (Stockholm) Declaration shed any light on how questions of liability and responsibility should be settled. Nevertheless, both Principles were based on previous statements of law."[17]

In addition to the aforementioned documents, Principle 21 of the Stockholm Declaration has subsequently been reaffirmed by several decisions of international bodies, such as the European Economic Community (European Union, EU)[18] or the Organization for Economic Cooperation and Development (OECD), as well as in various instruments.[19] For example, in the UN General Assembly Resolution

15 Günther Handl, 'Territorial Sovereignty and the Problem of Transnational Pollution' (1975) 69 (1) AJIL 50, 67 (The author stated that in the deliberations of the Preparatory Committee on the Stockholm Declaration there was no reference at all to the question of the moral injury the victim state of transnational pollution might suffer in the form of a violation of its sovereignty, *ibid* 67); Also see, Henn-Jüri Uibopuu, 'The Internationally Guaranteed Right of an Individual to a Clean Environment' (1977) 1 Comp. L. Y.B. 101, 105 (According to the author, Principle 21, "referring to material damage done to another State, does not refer to the territory of the polluting State and thus also not to its own inhabitants". Although both Handl and Uibopuu emphasized the element of "material damage" indicated in that Principle, this does not make both arguments the same. It is because, while Handl's limited observation with respect to responsibility emanates from the damage given to another State, Uibopuu went further and added that provision does not cover the damage occurred in the polluting State. It is clear that the very purpose of Principle 21 was to formulate the former, i.e. refraining from given transboundary harm. But it may be possible to argue that the same Principle also implies a duty and consequently responsibility imposed on a State not to harm its own inhabitants).

16 Richard B. Bilder, 'The Role of Unilateral Action in Preventing Environmental Injury' (1981) 14 (1) Vand. J. Transnat'l L. 51, 64 (With regard to burden of proof, the author commented that this issue may be particularly relevant where the law is unclear, as may often be the case in the developing field of international environmental law. The more permissive view, which appears more widely supported, would in theory tend to buttress and encourage unilateral environmental action in such cases; the argument being that a state may do anything that international law does not specifically forbid, *ibid* 66); Compare this argument, (*Colombia v. Peru)* [1950] ICJ Rep 276-277; But also see, Individual Opinion of Judge Alvarez appended to "*Fisheries* (*United Kingdom v. Norway*)" [1951] ICJ Rep 145, 152 (Judge Alvarez stated that "any State alleging a principle of international law must prove its existence; and one claiming that a principle of international law has been abrogated or has become ineffective and requires to be renewed, must likewise provide proof of this claim").

17 Robert E. Stein, 'The Settlement of Environmental Disputes: Towards a System of Flexible Dispute Settlement' (1985) 12 (2) Syracuse J. Int'l L. & Com. 283, 284 (The author drew attention to the fact that Principle 21 was based on the 1963 Limited Test Ban Treaty which contained similar language, *ibid*).

18 For example, see, Principles 3 and 6 of the European Economic Community "*Programme of Action on the Environment*" (16 O.J. EC (No. C 12/6), 1973; 20 O.J. EU (No. C 139), 1977; 26 O.J. EU (No. C 46), 1983).

19 For example, the 1974 OECD Council Recommendation C (74) 224 concerning "*Principles of Transfrontier Pollution*" (Annex, title B), reproduced in, 14 ILM 242 (1975) (This Recommendation stated, *inter alia*, that "Prior to the initiation in a country of works or undertakings which might create a significant risk of transfrontier pollution, this country should provide early information to other countries which are or may be affected"). Also see, the 1974 OECD Council Recommendation C (74) 220 on the "*Control of Eutrophication of Waters*", and Recommendation C (74) 221 on "*Strategies for Specific*

3129 (XXVIII) of December 1973 on "*Co-operation in the Field of Environment concerning Natural Resources Shared by Two or More States*"[20], it was indicated that sharing of such resources "must be developed on the basis of a system of information and prior consultation within the framework of the normal relations" existing between such States. For example, Section 5 of the OECD "*Final Act of the Conference on Security and Cooperation in Europe*" (Helsinki Final Act) of 01/08/1975 read as follows: "Each of the participating States, in accordance with the principles of international law, ought to ensure, in a spirit of co-operation, that activities carried out on its territory do not cause degradation of the environment in another State or in areas lying beyond the limits of national jurisdiction".

Article 30 of the UN "*Charter of Economic Rights and Duties of States*" of 12/12/1974 clearly provides that all States have the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.[21] The United Nations "*World Charter for Nature*"[22] of 28/10/1982, under Section "III- Implementation", requires States, public authorities, international organizations, individuals, groups and corporations to "ensure that activities within their jurisdictions or control do not cause damage to the natural systems located within other states or in the areas beyond the limits of national jurisdiction", (para.21/d), and to "safeguard and conserve nature in areas beyond national jurisdiction", (para.21/e). The World Charter for Nature could not have legally binding force.[23] Furthermore, it "does not purport to have

Pollutants Control". The 1977 OECD Council Recommendation C (77) 28 (Final) on the "*Regime of equal access and non-discrimination in relation to transfrontier pollution*" of 17/05/1977, reproduced in, 16 ILM 977 (1977) (In the 1977 Recommendation it is stated, *inter alia*, that "the Country of origin, on its own initiative or at the request of an exposed Country, should communicate to the latter appropriate information concerning it in matters of transfrontier pollution or significant risk of such pollution and enter into consultations with it"); See, Dupuy (n 11) 64-65; Partan (n 6) 51-52, 84.

20 The UN General Assembly resolution 3129 (XXVIII) on "*Co-operation in the Field of Environment concerning Natural Resources Shared by Two or More States*" was adopted on 13/12/1973, (UN GAOR Supp. (No.30A), UN Doc. A/9030/Add.1, 1973) (This Resolution adopted by a vote 77 to 5, with 43 abstentions). Also see, Partan (n 6) 49 (According to the author "the lack of consensus on the 1973 resolution should not be understood as expressing disapproval of the duty to inform. Since the negative votes and the abstentions in 1973 were explained on other grounds, the vote on the 1973 resolution could be construed as in effect an endorsement of the duty to inform affected states of transboundary risks", *ibid*).

21 Also see, Article 29 of the 1974 "Charter of Economic Rights and Duties of States". Cf. the "Declaration of Principles Governing the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, Beyond the Limits of National Jurisdiction" of 17/12/1970, (para.1). The 1970 'Declaration of Principles on the Sea-Bed" led to the adoption of the 1982 UN Convention on the Law of Sea.

22 The '*World Charter for Nature*' was adopted by the UN General Assembly resolution 37/7 on 28/10/1982 at its 48th plenary meeting; UN GAOR, 37th Sess., Supp. No.51, p.17, UN Doc.A/37/51 (1982). The vote was 111 to 1, with 18 abstentions. The only negative vote was the United States'.

23 Harold W. Wood, Jr., 'The United Nations World Charter for Nature: The Developing Nations' Initiative to Establish Protections for the Environment' (1985) 12 (4) Ecology L.Q. 977 (According to the author the Charter could not have any legally binding force, *ibid* 982. Numerous countries commented on the Draft Charter, one of which was Turkey: "Although the draft contains some general principles for nature conservation which have been taken from various international agreements such as the Stockholm Declaration and the World Conservation Strategy, nevertheless, the reaffirmation of these principles at the global level in a World Charter for Nature is of great importance for it will help to promote man's awareness of the need for preserving the natural balance and rational management of the environment as a whole") *ibid* 987. Further see, Partan, (n 6) 62; (Although the Charter uses the mandatory word 'shall', the principles fail to present a legally enforceable standard, *ibid* 983. One commentator noted that "the Charter does not specify which of its provisions embody or reflect legal obligation. It would therefore be difficult to conclude that the Assembly regarded the World

any greater legal effect than the Stockholm Declaration".[24] As was already noted in the "Introduction" part of this study, the 1982 'World Charter for Nature' seems to recognize a non-utilitarian approach (Preamble).

The UN General Assembly in its resolution 44/207 of 22/11/1989 on "*Protection of global climate for present and future generations of mankind*"[25] reaffirms that, in accordance with the Charter of the United Nations and the principles of international law, States have the sovereign right to exploit their own resources in accordance with their environmental policies. It also reaffirms their responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction and to play their due role in preserving and protecting the global and regional environment in accordance with their capacities and specific responsibilities (para.4). In the same line, the UN General Assembly resolution 44/224 of 22/12/1989 on "*International cooperation in the monitoring, assessment and anticipation of environmental threats*"[26] confirms the same principles (para.4).

The UN International Law Commission (ILC) also dealt with environmental questions in the course of its codification work on a draft code of crimes against the peace and security of mankind, on the law of non-navigational uses of international watercourses, and on international liability for injuries and their consequences arising out of acts not prohibited by international law. As early as 1976, the ILC suggested that a State's "serious breach of an international obligation of essential importance for safeguarding and preservation of the human environment" violates principles that "have become particularly essential rules of general international law".[27]

Charter's notice provisions as obligatory").

24 Marc Pallemaerts, 'International Environmental Law From Stockholm to Rio: Back to the Future?' in Philippe Sands '*Introduction*' (ed) *Greening International Law* (The New Press 1994) 1, 3.

25 The UN General Assembly resolution 44/207 on "*Protection of global climate for present and future generations of mankind*" was adopted on 22/11/1989 at its 85th plenary meeting.

26 The UN General Assembly resolution 44/224 on "*International cooperation in the monitoring, assessment and anticipation of environmental threats and in assistance in cases of environmental emergencies*" was adopted on 22/12/1989 at its 85th plenary meeting. In this resolution the General Assembly reaffirms that, in accordance with the UN Charter and the principles of international law, "States have the sovereign right to exploit their own resources in accordance with their environmental policies". The same resolution also reaffirms the responsibility of States "to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction, as well as to play their due role in preserving and protecting the global and regional environment in accordance with their capacities and specific responsibilities", para 4.

27 *Report of the ILC on the work of its 28th session*, *Draft Articles on State Responsibility*, Article 19, UN GAOR, Thirty-first session, Supp. No.10 (A/31/10) (1976); *Report of the ILC on the work of its 32nd session*, UN GAOR, Thirty-fifth session, Supp. No.10 (A/35/10) (1980); *Report of the ILC on the work of its 42nd session*, UN GAOR, Frothy-fifth session, Supp. No.10 (A/45/10) (1990); *Report of the ILC on the work of its 48th session*, UN GAOR, Fifty-first session, Supp. No.10 (A/51/10) (1996); Daniel Barstow Magraw, 'Transboundary Harm: The International Law Commission's Study of International Liability' (1986) 80 (2) AJIL 305; Francesco Francioni, 'Legal Aspects of Mineral Exploitation in Antarctica' (1986) 19 (2) Cornell Int'l L.J. 163, 175; Stephen C. McCaffrey, 'The Work of the International Law Commission Relating to Transfrontier Environmental Harm' (1988) 20 (3) N.Y.U. J. Int'l L & Pol. 715; Alan E. Boyle 'State Responsibility and International Liability for Injurious Consequences of Acts Not Prohibited by International Law: A Necessary Distinction?' (1990) 39 (1) 1; Peter H. Sand, 'International Law on the Agenda of the United Nations Conference on Environment and Development Towards Global Environmental Security' (1991) 60 (1) Nordic J. Int'l L. 5, 9; Kenneth F. McCallion, 'International Environmental Justice: Rights and Remedies', (2003) 26 (3) Hastings Int'l & Comp. L. Rev. 427, 430-431.

Principle 2 of the 1992 'Rio Declaration' imposes a general duty upon States with respect to prevention of transboundary damage. In the latter Principle it is stated that

> "States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and *the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction*." (Emphasis added).

Consequently, this principle indicates the duty of States not to cause damage to areas beyond national jurisdiction. In view of Sanwal, "while the Stockholm Declaration was concerned with the conflict between the sustainable use of natural resources and transboundary pollution, twenty years later the understanding of both the content and the context of human interference with the ecosystem has changed. The policy focus is no longer the apprehension that environmental considerations will restrict the right of states to exploit their natural resources but the impact on sovereignty of restrictions over activities affecting the natural environment. With the widening scope of accepted restrictions, sovereignty is acquiring a new meaning. The restrictions affect a range of economic activities from those likely to cause irreversible environmental damage to those maintaining an open and fair trading system".[28]

Some states fear that Principle 2 of the Rio Declaration, akin to Principle 21 of the Stockholm Declaration, may lead to an overwhelming liability for all parties to a conflict.[29] The Rio Declaration has expanded the scope of compensation for transboundary pollution to include environmental damages in addition to damages incurred by victims and their property. Legal liability as an economic instrument for environmental protection, by placing a price on polluting activities, will promote preventive measures in a setting of uncertainty.[30]

ii. The principle with respect to nature, including marine, conservation

The principle not to cause (transboundary) environmental harm can be found in binding instruments.

28 Mukul Sanwal, 'Sustainable Development, the Rio Declaration and Multilateral Cooperation' (1993) 4 (1) Colo. J. Int'l Envtl. L. & Pol'y 45, 51.

29 Rymn James Parsons, 'The Fight to Save the Planet: U.S. Armed Forces, "Greenkeeping", and Enforcement of the Law Pertaining to Environmental Protection During Armed Conflict' (1998) 10 (2) Geo. Int'l Envtl. L. Rev. 441, 456 (The author added: "Interpreted literally, this language imposes responsibility for environmental damage during armed conflict even when such damage is justified under the law of armed conflict and humanitarian law, and imposes responsibility for incidental damage to global resources beyond the jurisdiction of individual states. Many states are wary of exposing themselves to this type of liability and would therefore object to the recognition of these provisions as customary international law").

30 Sanwal (n 28) 59.

For instance, in the preambular paragraph 3 of the "*Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter*"[31] (London Dumping Convention) of 29/12/1972, it was emphasized that States have, in accordance with the Charter of the UN and the principles of international law, 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 the environment of other States or of areas beyond the limits of national jurisdiction".[32]

Article 6, paragraph 3, of the UNESCO "Convention for the Protection of the World Cultural and Natural Heritage" of 23/11/1972 provides that "each State Party to this Convention undertakes not to take any deliberate measures which might damage directly or indirectly the cultural and natural heritage referred to in Articles 1 and 2 situated on the territory of other States Parties to this Convention." This provision implies the recognition of no transboundary harm principle, the latter of which was expressly formulated in Principle 21 of the 1972 Stockholm Declaration with regard to environmental protection.

Under Part XII of the United Nations "Convention on the Law of the Sea" (UNCLOS) of 10/12/1982 Article 192 provides a general obligation that "States have the obligation to protect and preserve the marine environment". However, Article 193 states that "States have the sovereign right to exploit their natural resources pursuant to their environmental policies and in accordance with their duty to protect and preserve the marine environment". Article 194, paragraph 2, of the UNCLOS requires States to "take all measures necessary to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other States and their environment, and that pollution arising from incidents or activities under their jurisdiction or control does not spread beyond areas where they exercise sovereign rights in accordance with this Convention".[33] Thus, the formulation set forth in Principle 21 of the Stockholm Declaration of 1972 and Principle 2 of the Rio Declaration of 1992 also appears in the provisions of the UNCLOS of 1982.

31 The "*Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter*" was adopted on 13/11/1972, by the Intergovernmental Conference on the Convention on the Dumping of Wastes at Sea, London, 30 October-13 November 1972, signed on 29/12/1972 and entered into force on 30/08/1975. It is reproduced in 11 ILM 1294 (1972) and 67 (3) AJIL (July, 1973) 626-636. Article I of this Convention reads: "Contracting Parties shall individually and collectively promote the effective control of all sources of pollution of the marine environment, and pledged themselves especially to take all practicable steps to prevent the pollution of the sea by the dumping of waste and other matter that is liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea".

32 Preambular paragraph 4 of the 1972 "London Dumping Convention" referred to the 1970 "Declaration of Principles on the Sea-Bed" adopted by the UN General Assembly resolution 2749 (XXV) on 17/12/1970.

33 Pursuant to Article 194, paragraph 1, of the UNCLOS, States are under obligation to prevent, reduce and control pollution "using for this purpose the best practicable means at their disposal and in accordance with their capabilities". Furthermore, in accordance with Article 195, in taking measures to prevent, reduce and control pollution of the marine environment, "States shall act so as not to transfer, directly or indirectly, damage or hazards from one area to another or transform one type of pollution into another".

Pursuant to Article 20 of the ASESAN "*Agreement on the Conservation of Nature and Natural Resources*" of 09/07/1985, the Parties recognize their international responsibility in regard to transfrontier environmental effects and undertake to avoid and reduce adverse environmental effects of activities under their jurisdiction.

Article 4 (General Provisions), paragraph 6, of the "Noumea Convention" of 24/11/1986 (which entered into force on 22/08/1990) provides that "nothing in this Convention shall affect the sovereign right of States to exploit, develop and manage their own natural resources pursuant to their own policies, taking into account their duty to protect and preserve the environment. Each Party shall ensure that activities within its jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of its national jurisdiction".

In the same line Article 3 of the "Convention on Biological Diversity" of 05/06/1992 provides that "States have, in accordance with the Charter of the United Nations and the principles 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 the environment of other States or of areas beyond the limits of national jurisdiction".

Article 5, paragraph (c), of the ECE "Protocol on Water and Health" of 17/06/1999 indicates the following standard as one of the guiding principles: "States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction."

In preambular paragraph 6 of the 2003 "(Revised) African Convention on the Conservation of Nature and Natural Resources" the Parties reaffirm that States have, in accordance with the Charter of the United Nations and the principles of international law, a sovereign right to exploit their own resources pursuant to their environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction. The "International Tropical Timber Agreement" adopted on 27/01/2006, which is the successor to the 1994 Agreement, in preamble para. d repeats the same principle in identical words.

Article 11 of the "Convention to Combat Desertification"[34] (UNCCD) of 17/06/1994, which deals with sub-regional and regional action programs, provides

34 The "*United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa*" was adopted on 17/06/1994 and entered into force on 26/12/1996; *reproduced in*, 33 ILM 1328 (1994).

that such co-operation may include "agreed joint programmes for the sustainable management of transboundary natural resources, scientific and technical co-operation, and strengthening of relevant institutions". In Article 11 of Annex I (regional implementation for Africa), it is stated that the Parties are required to establish mechanisms for the management of shared natural resources, in which it is stated that such mechanisms might effectively handle transboundary problems associated with desertification and/or drought. Article 5, paragraph 3, of Annex II (regional implementation for Asia) to the UNCCD indicates that agreed joint programs for the sustainable management of transboundary natural resources relating to desertification may be included into sub-regional or joint action programs.

Article 5, paragraph 1, of the UN "Convention on the Law of the Non-navigational Uses of International Watercourses"[35] of 21/05/1997 imposes a duty upon watercourse States to utilize an international watercourse in an equitable and reasonable manner by taking into account the interests of other watercourse States. In that connection, the factors and circumstances to be taken into account include, *inter alia*, ecological factors, the social and economic needs of other States, and the effects of the use of watercourses in one watercourse State on the other watercourse States (Article 6/1,a, b and d). Pursuant to Article 7, paragraph 1, of the Convention, watercourse States are also required to take all appropriate measures to prevent the causing of significant harm to other watercourse States. The same prevention, reduction and control of pollution that may cause significant harm to other watercourse States is further emphasized in Article 21, paragraphs 2 and 3.[36]

iii. The principle with respect to atmospheric pollution

In this context Article IV of the "ENMOD Convention"[37] of 18/05/1977 may be cited as one of the earliest examples. The substance of the 1977 Convention was reasserted in very general terms in the subsequent conventions.[38] There is a rich

35 The "*Convention on the Law of the Non-navigational Uses of International Watercourses*" was adopted by the UN General Assembly Resolution 51/229 on 21/05/1997 and entered into force on 17/08/2014.

36 Further see, Article 22 (Introduction of alien or new species) and Article 27 (Prevention and mitigation of harmful conditions) of the Convention on Non-navigational Uses of International Watercourses of 21/05/1997.

37 The "*Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques*" was opened for signature on 18/05/1977 and entered into force on 05/10/1978. Article IV of the ENMOD Convention reads as follows: "Each State Party to this Convention undertakes to take any measures it considers necessary in accordance with its constitutional processes to prohibit and prevent any activity in violation of the provisions of the Convention anywhere under its jurisdiction or control".

38 Further see the following instruments: **(i)** Pursuant to Article VII of the "*Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies*" of 27/01/1967 "Each State Party… that launches or procures the launching of an object into outer space… and each State Party from whose territory or facility an object is launched, is *internationally liable for damage to another State Party to the Treaty or to its natural or juridical persons* by such object or its component parts on the Earth, in air space or in outer space, including the Moon and other celestial bodies". Furthermore, Article IX provides, *inter alia*, that "States Parties to the Treaty shall pursue studies of outer space, including the Moon and other celestial bodies, and conduct exploration of them so as *to avoid their harmful contamination and also adverse changes in the environment of the Earth* resulting from the introduction of

literature on the issue.[39]

Preamble paragraph 2 of the Vienna "*Convention for the Protection of the Ozone Layer*" of 22/03/1985 declared that the Parties recalled "the pertinent provisions of the Declaration of the United Nations Conference on the Human Environment, and in particular principle 21, which provides that "States have, in accordance with the Charter of the United Nations and the principles 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 the environment of other States or of areas beyond the limits of national jurisdiction".

Preambular paragraph 8 of the 1992 UN "*Framework Convention on Climate Change*" (UNFCCC) reads as follows: "States have... in accordance with the Charter of the United Nations and the principles of international law, the (...) responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction."

While preambular paragraph 5 of the ECE "*Convention on Long-range Transboundary Air Pollution*" of 13/11/1979 (entered into force on 16/03/1983)

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extraterrestrial matter and, where necessary, shall adopt appropriate measures for this purpose" (Emphasis added); Also see, John M. Kelson, 'State Responsibility and the Abnormally Dangerous Activity' (1972) 13 (2) Harv. Int'l. L. J. 194, 214-215. **(ii)** While Article 3, paragraph 3, of the "*Agreement Governing the Activities of States on the Moon and Other Celestial Bodies*" of 18/12/1979 requires States Parties not place in orbit around or other trajectory to or around the Moon objects carrying nuclear weapons or any other kinds of weapons of mass destruction or not place or use such weapons on or in the Moon, paragraph 4 of the same Article forbids the establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military maneuvers on the Moon. Furthermore, pursuant to Article 7, paragraph 1, of the 1979 Agreement, "in exploring and using the Moon, States Parties shall take measures to *prevent the disruption of the existing balance of its environment*, whether by introducing adverse changes in that environment, by its harmful contamination through the introduction of extra-environmental matter or otherwise. States Parties shall also take measures to *avoid harmfully affecting the environment of the Earth through the introduction of extraterrestrial matter or otherwise*" (Emphasis added). **(iii)** Preambular paragraph 4 of the "*Principles Relevant to the Use of Nuclear Power Sources in Outer Space*", adopted by the General Assembly resolution 47/68 of 14/12/1992 provides that "the use of nuclear power sources in outer space should be based on a thorough safety assessment, including probabilistic risk analysis, with particular emphasis on reducing the risk of accidental exposure of the public to harmful radiation or radioactive material". Pursuant to Principle 3 (Guidelines and criteria for safe use) "1- *General goals for radiation protection and nuclear safety:* (*a*) States launching space objects with nuclear power sources on board shall endeavour to protect individuals, populations and the biosphere against radiological hazards. The design and use of space objects with nuclear power sources on board shall ensure, with a high degree of confidence, that the hazards, *in foreseeable operational* or accidental *circumstances*, are kept below acceptable levels as defined in paragraphs 1 (*b*) and (*c*)." Principle 2 (Use of terms), paragraph 3, clarifies the terms: "For the purposes of principle 3, the terms 'foreseeable' and 'all possible' describe *a class of events or circumstances whose overall probability of occurrence is such that it is considered to encompass only credible possibilities* for purposes of safety analysis" (Emphasis added). Principle 4 (Safety assessment), paragraph 1, requires States "ensure that a thorough and comprehensive safety assessment is conducted".

39 In addition to the literature which has been already indicated (eg, Stephen Gorove, 'Freedom of Exploration and Use in the Outer Space Treaty: A Textual Analysis and Interpretation' (1971) 1 (1) Denv. J. Int'l L. & Pol'y 93; Joanne Irene Gabrynowicz, 'Space Law: Its Cold War Origins and Challenges in the Era of Globalization' (2004) 37 (4) Suffolk U. L. Rev. 1041; Rosanna Sattler, 'Transporting a Legal System for Property Rights: From the Earth to the Stars' (2005) 6 (1) Chi. J. Int'l. L. 23; Jijo George Cherian & Job Abraham, 'Concept of Private Property in Space: An Analysis' (2007) 2 (4) J. Int'l. Com. L. & Tech. 211; Sarah Coffey, 'Establishing a Legal Framework for Property Rights to Natural Resources in Outer Space' (2009) 41 (1) Case W. Res. J. Int'l. L. 119; Steven Freeland, 'The limits of law: challenges to the global governance of space activities' (2020) 153 (1) J. & Procee. R. S. New South Wales 70) in the "Part 1" of the present article, further see, Daniel A. Porras, 'The 'Common Heritage' of Outer Space: Equal Benefits for Most of Mankind' (2006) 37 (1) C. W. Intl. L. J. 143.

directly refers to Principle 21 of the 1972 "Stockholm Declaration", the next preambular paragraph notes "the existence of possible adverse effects, in the short and long term, of air pollution including transboundary air pollution". The Parties to the 1979 Convention undertake a general duty "to protect man and his environment against air pollution and shall endeavour to limit and, as far as possible, gradually reduce and prevent air pollution including long-range transboundary air pollution", (Article 2).[40]

In preamble paragraph 8 of the "*Protocol on Persistent Organic Pollutants*" of 24/06/1998, the Parties reaffirmed that "States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction". An identical statement appears in preamble paragraph 9 of the "Protocol on Heavy Metals" of 24/06/1998, and in preamble paragraph 12 of the "*Protocol to Abate Acidification, Eutrophication and Ground-Level Ozone*"[41] of 30/11/1999.

In preambular paragraph 4 of the IAEA "*Convention on Early Notification of a Nuclear Accident*"[42] of 26/09/1986, "the need for States to provide relevant information about nuclear accidents as early as possible in order that transboundary radiological consequences can be minimized" is emphasized. In accordance with Article 1, paragraph 1, "this Convention shall apply in the event of any accident involving facilities or activities of a State Party or of persons or legal entities under its jurisdiction or control, …from which a release of radioactive material occurs or is likely to occur and which has resulted or may result in an international transboundary release that could be of radiological safety significance for another State". With regard to duty to inform Article 2 provides that, in the event of a "nuclear accident", the State Party concerned shall "forthwith notify… those States which are or may be physically affected… of the nuclear accident, its nature, the time of its occurrence

40 Pursuant to Article 1, paragraph (b), of the "Convention on Long-range Transboundary Air Pollution" of 13/11/1979, the phrase 'Long-range transboundary air pollution' means "air pollution whose physical origin is situated wholly or in part within the area under the national jurisdiction of one State and which has adverse effects in the area under the jurisdiction of another State at such a distance that it is not generally possible to distinguish the contribution of individual emission sources or groups of sources".

41 The "*Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution to Abate Acidification, Eutrophication and Ground-Level Ozone*", adopted on 30/11/1999 and entered into force on 17/05/2005; available at, http://www.unece.org/env/lrtap/pops

42 The IAEA "*Convention on Early Notification of a Nuclear Accident*", adopted by the General Conference at its special session, 24-26/09/1986, and opened for signature in Vienna on 26/09/1986 and in New York on 06/10/1986. It entered into force on 27/10/1986; *reproduced in*, 25 ILM 1370 (1986). Article 5 specifies the information to be provided. But Article 5/3 undermines the effectiveness of the Convention by allowing a notifying party to restrict another party's use of its information to the detriment of the health of the receiving party's citizens. Article 11 provides dispute settlement procedure with respect to disputes concerning interpretation and application of this Convention, which includes the possibility that the case may be submitted to the arbitration or referred to the ICJ; See, Melanie L. Oxhorn, 'The Norms of Nuclear Accidents after Chernobyl' (1992-1993) 8 (2) J. Nat. Resources & Envtl. L. 375, 387-388, 390.

and its exact location where appropriate", and shall promptly provide affected States with available information to minimize the radiological consequences in those States.[43] In that context one may also refer to the "*Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency*" of 26/09/1986.[44] Those two conventions were elaborated following the Chernobyl incident and they entered into strict force in a very short period of time. The seriousness and wide adverse transboundary effects of the disaster would result in a broad adherence to these treaties.

Indeed, at the time of the Chernobyl accident no multilateral treaty requiring the provision of prompt and detailed information was in existence, neither for general air-carried pollution nor specifically for radioactive materials. Furthermore, although the Vienna Convention on Civil Liability for Nuclear Damage, which provides absolute liability for operators of nuclear plants that cause transboundary harm, was opened to signature on 21/05/1963, the Soviet Union was not a party to that Convention.[45] However, the impact of the IAEA's aforementioned two post-Chernoblyl Conventions of 1986 on actual nuclear safety was limited since they were concerned merely with the aftermath of nuclear accidents, not with their prevention.[46]

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43 Also see, the "*Treaty Establishing the European Atomic Energy Community*" (EURATOM) of 25/03/1957, 298 UNTS 167. Article 37 of the EURATOM provides for a regulatory system for planning for the disposal of radioactive waste, including the provision of information by Member States to the Commission, such as general data relating to any plan for the disposal of radioactive waste in whatever form in order to determine whether the implementation of such a plan is liable to result in the radioactive contamination of water, soil or airspace of another Member State; See, Malgosia Fitzmaurice, 'OSPAR Tribunal: Dispute Concerning Access to Information under Article 9 of the OSPAR Convention (Ireland v. United Kingdom)' (2003) 18 (4) Int'l J. Marine & Coastal L. 541, 543.

Further see, the European Communities legislation, for example: **1.** (87/600/Euratom): Council Decision of 14/12/1987 on "*Community arrangements for the early exchange of information in the event of a radiological emergency*", [1987] OJ L 371/76). (It established a framework for notification and provision of information to be used by the Member States in order to protect the general public in case of a radiological emergency). **2.** (89/618/Euratom): Council Directive of 27/11/1989 on "*Informing the general public about health protection measures to be applied and steps to be taken in the event of a radiological emergency*" [1989] OJ L 357/31). (It imposed obligations on the Member States to inform the general public in the event of a radiological emergency. While Article 5, paragraph 1, of Directive 89/618 states that "Member States shall ensure that the population likely to be affected in the event of a radiological emergency is given information about the health-protection measures applicable to it and about the action it should take in the event of such an emergency", paragraph 3 of the same Article provides the following: "This information shall be communicated to the population … without any request being made"). **3.** Commission communication on the "*Implementation of Council Directive 89/618/ Euratom of 27 November 1989 on informing the general public about health protection measures to be applied and steps to be taken in the event of a radiological emergency*", [1991] OJ C103/12). **4.** (97/43/Euratom): Council Directive of 30/06/1997 on "*Health protection of individuals against the dangers of ionising radiation in relation to medical exposures, and repealing Directive 84/466/Euratom*", [2009] OJ L 180/22). **5.** (2009/71/Euratom): Council Directive of 25/06/2009 "*Establishing a community framework for the nuclear safety of nuclear installations*", [2009] OJ L172/18). Article 8 of 2009/71 Directive provides the following: "Member States shall ensure that information in relation to the regulation of nuclear safety is made available to the workers and the general public. This obligation includes ensuring that the competent regulatory authority informs the public in the fields of its competence. Information shall be made available to the public in accordance with national legislation and international obligations, provided that this does not jeopardise other interests such as, *inter alia*, security, recognised in national legislation or international obligations".

44 The "*Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency*", adopted on 26/09/1986; *reproduced in*, 25 ILM 1377 (1986).

45 Oxhorn (n 42) 376. The Soviet Union refused to pay any compensation for the Chernobyl incident, *ibid* 382-386.

46 Menno T. Kamminga, 'The IAEA Convention on Nuclear Safety' (1995) 44 (4) ICLQ 872, 874; Also see, Manfred Lachs, 'The Challenge of the Environment' (1990) 39 (3) ICLQ 663, 667. "Existing customary law and general principles do not seem to cover the issue of the operation of nuclear power stations and other nuclear devices… Following the Chernobyl disaster, two conventions were concluded in 1986 which constitute an important step forward. One provides for the obligation to notify as soon as possible all parties concerned and the other regulates questions of assistance in cases of

In preambular paragraph 10 of the "*Stockholm Convention on Persistent Organic Pollutants*"[47] ("Stockholm Convention on POPs") of 22/05/2001 the Parties reaffirm that "States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction".

iv. The principle in international jurisprudence

With regard to the obligation not to cause damage by transfrontier pollution, in addition to examples of the above-mentioned provisions of both soft and hard law instruments, there is an increasing case-law produced by various judicial organs.

a. The Trail Smelter arbitration

In the well-known and frequently cited "*Trail Smelter Arbitration* (*USA v. Canada*)"[48] case[49] which involved transnational pollution by air, Canada was held responsible for the damage in the United States that resulted from fumes emitted in British Columbia and deposited in the area of Washington State. In the second phase of the case the Arbitral Tribunal in its decision[50] of 11/03/1941 laid down a general rule that "under the principles of international law, as well as the law of the United States, *no State has the right 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 property of persons therein, when the case is of *serious consequence* and the injury is established by clear and convincing evidence".[51] (Emphasis added). Basing on this determination

accidents. In view of the secrecy surrounding some nuclear installations, possible access to energy reactors may pave the way to more effective control".

47 The "*Stockholm Convention on Persistent Organic Pollutants*", adopted at Stockholm on 22/05/2001, opened to signature on 23/05/2001, and entered into force on 17/05/2004; available at, <http://treaties.un.org>. The 2001 Stockholm Convention seeks to protect human health and the environment from the risks posed by POPs. The Convention reflects the international community's support for a risk-based approach to reducing or eliminating the potential impacts of listed POP chemicals. See, Paul E. Hagen and Michael P. Walls, '*The Stockholm Convention on Persistent Organic Pollutants*' (2005) 19 (4) Natural Resources & Environment 49.

48 "*Trail Smelter Case* (*USA v. Canada*)", Decision of the Tribunal of 11/03/1941, see, U.N. Reports International Arbitration Awards 1945, 1905; *reproduced in*, '*Trail Smelter Arbitral Tribunal - Decision*' [1941] 35 (4) AJIL 684.

49 On this case, for example see, John E. Read, 'The Trail Smelter Dispute' (1963) 1 Canadian YBIL 213-229; George A. Rempe, 'International Air Pollution' (1968) 10 Ariz. L. Rev. 138, 142; Alfred P. Rubin, 'Pollution by Analogy: The Trail Smelter Arbitration' (1971) 50 (3) Oregon L. Rev. 259; Cecil J. Olmstead, 'Prospects for Regulation of Environmental Conservation under International Law', in Maarten Bos (ed.) The Present State of International Law (Kluwer, The Netherlands 1973) 245, 247; Handl (n 15) 60-63; Jerome B. Elkind, 'Footnote to the Nuclear Test Cases: Abuse of Right - A Blind Alley for Environmentalists' (1976) 9 (1) Vand. J. Transnat'l L. 57, 91-94; Sanford E. Gaines, 'International Principles for Transnational Environmental Liability' (1989) 30 (2) Harv. Int'l L. J. 311, 337-339; Karin Mickelson, 'Rereading Trail Smelter' (1992) 31 Canadian YBIL 219.

50 Trail Smelter Case (n 48) 716.

51 Read (n 49) 220; Alexandre Kiss and Dinah Shelton, 'Guide to International Environmental Law' (Martinus Nijhoff Publishers 2007) 19; Further see, Stephen C. McCaffrey, 'Trans-Boundary Pollution Injuries: Jurisdictional Considerations in Private Litigation Between Canada and United States' (1973) 3 (2) Cal. W. Int'l L. J. 191, 220 "The Trail Smelter Arbitration Tribunal, in determining the rights and liabilities of the United States and Canada in international law for

the tribunal's answer to the question whether the Trail Smelter should be required to refrain from causing damage in the State of Washington in the future, and if so to what extent, was as follows: "So long as the present conditions in the Columbia River Valley prevail, the Trail Smelter shall be required to refrain from causing any damage through the fumes in the State of Washington; the damage herein referred to and its extent being such as would be recoverable under the decisions of the courts of the United States in suits between private individuals".[52] As was already stated in the "Introduction" of this study, a significant role has been played by the International Joint Commission created by the "Treaty relating to the Boundary Waters between the US and Canada"[53] of 11/01/1909 in the *Trail Smelter* case.

The importance of the *Trail Smelter* decision clearly lies in its uniqueness in laying down principles of liability for transnational air pollution.[54] Some authors argue that this decision has become the leading case on state liability for acts that cause damage across transnational boundaries. "Principle 2 of the (Rio) Declaration is clearly consistent with this decision, which sought to place rational, environmentally-sensitive limits on the wealth acquisition process."[55] According to Weiss, one of the most important aspects of the Arbitration is the Tribunal's decision that if there is a threat of serious continuing harm, the State must cease the harmful conduct (which implies that damages would not be sufficient). The Tribunal required the parties to effectuate a monitoring regime to ensure that further damaging pollution did not occur.[56]

But looking at the case from another perspective Gaines argued that this case exemplified for complexity of determining causal relationships between pollution and changes in environmental quality or personal health. "International liability law cannot rely on a system that requires six years of fact-finding, including original scientific studies, to resolve a relatively simple transboundary damage claim. The transaction costs limit international adjudication to extreme cases and perhaps only to disputes between countries that can afford the diversion of funds into such a process. A relaxed standard for proof of causation would simplify the factual inquiry and reduce transaction costs significantly". [57] According to Schachter, "the choice

injuries to United States citizens from a Canadian smelter, relied upon cognate interstate controversies which had been decided by the United States Supreme Court".

52 Trail Smelter Case (n 50); see; 3 U.N. Reports International Arbitration Awards 1945, 1965; *reproduced in*, "*Trail Smelter Arbitral Tribunal - Decision*", [1941] 35 AJIL 716.

53 The "*Treaty Relating to the Boundary Waters and Questions Arising Along the Boundary Between the United States and Canada*" of 11/01/1909.

54 Handl (n 15) 60.

55 John Batt & David C. Short, 'The Jurisprudence of the 1992 Rio Declaration on Environment and Development: A Law, Science and Policy Explication of Certain Aspects of the United Nations Conference on Environment and Development' (1993) 8 (2) J. Nat. Resources & Envtl. L. 229, 264.

56 Edith Brown Weiss, 'International Environmental Law: Contemporary Issues and the Emergence of a New World Order' (1993) 81 Geo. L. J. 675, 677.

57 Gaines (n 49) 338-339.

of dispute-settlement procedures cannot ignore practical factors, including costs of protracted proceedings. The *Trail Smelter* case, for instance, involved about six years of fact finding and scientific studies in addition to lengthy hearings. In this respect, *Trail Smelter* would not be a model for future acts. It reminds us that if international liability is to perform an effective role, the conditions and procedures for determining responsibility have to avoid the heavy transaction costs of international governmental adjudication".[58]

Since the *Trail Smelter Arbitration* is a rare example of international environmental adjudication in this early period, it has acquired an unusually important place in the jurisprudence of international environmental law.[59] Although there are arguments that *Trail Smelter* remains the "landmark arbitral decision" with regard to international liability for transborder environmental injury[60], which recognizes that principles of state responsibility are applicable in the field of transfrontier pollution, and consequently states may be held liable to private parties or other states for pollution that causes significant damage to persons or property[61], there are many warnings about the misuse of the *Trail Smelter* which tend to focus on its invocation as support for the existence of customary duties to avoid causing transboundary environmental damage and to make reparation for such damage should it occur.[62] Some authors also, who referred to *Trail Smelter* as a "much cited, and with regard to its international legal relevance also often overestimated, decision"[63], argued that "the result in the form of general principles of international law is less than one might have expected, The only certain conclusion inferable from the tribunal's holding is, that under international law a state has to tolerate the consequences of the activities of another state affecting its territory which are lawful *per se* so long as these extraterritorial effects do not amount to an injury and the case is not of serious consequence". This decision also remains inconclusive as to the question of moral injury.[64]

Furthermore, the test criteria, namely that of "serious consequence" and that of the injury being "established by clear and convincing evidence", used by the Tribunal have been criticized as they may allow the polluter to continue in polluting activities in so far they may not cause 'serious' damage, which is measurable in monetary terms,

58 Schachter (n 12) 481-482; Also see, Kiss and Shelton (n 51) 84 (The authors draw attention to a long period required in interstate environmental litigation as appeared in the *Trail Smelter* case which began with the claims presented by pollution victims in 1926 and concluded with a final arbitral award in 1941).

59 Weiss (n 56) 677.

60 Schachter (n 12) 480.

61 Kiss and Shelton (n 51) 19.

62 Mickelson (n 49) 220.

63 Günther Handl, 'Balancing of Interests and International Liability for the Pollution of International Watercourses: Customary Principles of Law Revisited' (1976) 3 Canadian YBIL 156, 167.

64 Handl (n 15) 61 (With regard to question of prospective damage, the author argued that "provided the strict requirements of evidence as to the probability and not mere possibility of future material damage can be met, there is no reason why a claim for a judgment declaring the pollution generating activity unlawful to the extent of its expected extraterritorial impact should not succeed in an international tribunal", *ibid* 75).

to the industrial or agricultural production of a second State.[65] The "precedential value" of the *Trail Smelter*, in view of some commentators is limited due to specific circumstances that surround both the decision to submit the dispute to arbitration and the decision of the Tribunal. Canadian liability for the damage in the state of Washington had already been acknowledged by the Convention (signed at Ottawa on 15/04/1935) constituting the Arbitral Tribunal. Furthermore, the Arbitral Tribunal was required to apply both international law and the law of the US with regard to the question of whether damage had occurred and to the measure of compensation payable by Canada.[66]

On the other hand, the *Trail Smelter* case is also significant regarding the effective use of experts (scientists), which was provided in Article II. Each party designated one expert who was present at all hearings, heard all witnesses and the arguments, examined all the documents, inspected the smelter, the site of the scientific experiments and the areas of alleged injury, and who was always available to the Tribunal for consultation and advice in deliberation. Furthermore, at the end of the presentation of evidence and argument, the Tribunal found it necessary to make further investigations. Consequently, the Tribunal appointed the same experts as Technical Consultants, who were in a position to administer during the experimental period and to conduct their own investigations.[67]

b. The Lake Lanoux arbitration

The *Lake Lanoux Arbitration* (France v. Spain) (Arbitral Tribunal award of 16/11/1957)[68] concerned the use of the waters of Lake Lanoux in the Pyrenees. The French Government proposed to carry out certain works for the utilization of the waters of the lake and the Spanish Government feared that these works would adversely affect Spanish rights and interests, contrary to the Treaty of Bayonne of May 26, 1866, between France and Spain and the Additional Act of the same date. In any event, it was claimed that, under the Treaty, such works could not be undertaken without the previous agreement of both parties, (p.1). The Tribunal found that the French scheme complied with the obligations of Article 11 of the Additional Act, (p.34). The Tribunal decided that in carrying out works for the utilization of the waters of Lake Lanoux without prior agreement between the two Governments, in the conditions mentioned in the Scheme for the Utilization of the Waters of Lake

65 Rubin (n 49) 272; Mickelson (n 49) 222.

66 Handl (n 63) 168; Mickelson (n 49) 223; Further see, Rubin (n 49) 259 (According to the author, "such heavy reliance on a single precedent breeds overstatement as analysts attempt to reinterpret the case to fit various hypothetical circumstances and new cases").

67 Read (n 49) 225-226; Gaines (n 49) 338; Mickelson (n 49) 232.

68 "*Lake Lanoux Arbitration* (*France v. Spain*)", Arbitral Tribunal award of 16/11/1957; 12 R.I.A.A. 281 (1957); available at, <www.ecolex.org/server2.php/libcat/docs/COU/Full/En/COU-143747E.pdf>; *reproduced in*, 24 ILR 101; (1959) 53 (1) AJIL 156.

Lanoux, the French Government was not committing a breach of the provisions of the Treaty of Bayonne of May 26, 1866, and the Additional Act of the same date, (p.35). According to the Tribunal, "it has not been clearly affirmed that the proposed works would entail an abnormal risk in neighbourly relations or in the utilization of the waters". Furthermore, "the technical guarantees for the restitution of the waters are as satisfactory as possible" and "if, despite the precautions that have been taken, the restitution of the waters were to suffer from an accident, such an accident would be only occasional", (p.19).

The Arbitral Tribunal "while taking a traditional view of international law regulating relations between neighbouring States, alluded to the possibility of natural resources such as the water of a lake being exploited 'in the common interests of everybody'…"[69] Some authors stressed the existence of a "strong consensus among international lawyers that riparian states should agree to share fairly the waters of international rivers among their co-riparian states to counter the historic practice reaffirmed in the Lake Lanoux Arbitration".[70] The general principles of international law do indicate the duty of a state not to engage in or permit conduct within its territory which would result in environmental injury outside its territory.[71]

The Tribunal held that a State whose actions may affect another State "has the right to give preference to the solution contained in its own scheme provided that it takes into consideration in a reasonable manner the interests of the State", (p.33). The *Lake Lanoux Arbitration* may be read as establishing the principle that a State has the duty to give notice when its actions may impair the environmental enjoyment of another State.[72]

On the other hand, the *Lake Lanoux Arbitration* is also significant as it emphasizes the obligation to seek agreement in good faith. The Arbitral tribunal stated that "consultations and negotiations between the two States must be *genuine,* must comply with the rules of *good faith* and must *not be mere formalities*."[73] This pronouncement

69 Antonio Cassese, International Law (2nd edition, Oxford University Press 2005) 485.

70 A. Dan Tarlock and Patricia Wouters, 'Are Shared Benefits of International Waters an Equitable Apportionment?' (2007) 18 Colo. J. Int'l Envtl. L. & Pol'y 523, 525.

71 Olmstead (n 49) 247; Further see, Elkind (n 49) 94-96

72 Cf, Robert P. Barnidge Jr., 'The Due Diligence Principle under International Law' (2006) 8 (1) Int'l Comm. L. Rev. 81, 106-108 (According to the author, the Tribunal "did engage in a limited discourse that informs an understanding of the due diligence principle, particularly in the context of possible transboundary environmental harm", *ibid* 108).

73 Lake Lanoux Arbitration (n 68) 16 (The Arbitral tribunal further stated the following: "…The rules of reason and good faith are applicable to procedural rights and duties relative to the sharing of the use of international rivers… are not irreconcilable with the interests of another State", *ibid* 16-17. "…the engagements thus undertaken by States take very diverse forms and have a scope which varies according to the manner in which they are defined and according to the procedures intended for their execution; but the reality of the obligations thus undertaken is incontestable and *sanctions can be applied in the event, for example, of an unjustified breaking off of the discussions, abnormal delay, disregard of the agreed procedures, systematic refusals to take into consideration adverse proposals or interests, and, more generally-, in cases of violation of the rules of good faith*", *ibid* 23. "In fact, States are today perfectly conscious of the importance of the conflicting interests brought into play by the industrial use of international rivers, and of the necessity to reconcile them by mutual concessions. The only way to arrive at such compromises of interests is to conclude agreements on an

was in line with the "*Tacna-Arica Arbitration*" of 1925.

> In the "*Tacna-Arica Arbitration*" case[74] the subject matter of the dispute was whether a plebiscite should be held over the attribution of the provinces of Tacna and Arica, the disputed territory between Chile and Peru which had been placed under Chilean jurisdiction for 10 years from the date of the ratification of the Treaty of Ancon of 20/10/1883 and whose attribution was to be decided by a plebiscite after the expiration of the period. By a Special Agreement of 20/07/1922, the two countries submitted the controversy to arbitration.[75] The arbitrator, Calvin Coolidge, rendered his award on 04/03/1925.[76] The arbitrator found that the parties were under an obligation to negotiate in good faith for the implementation of the plebiscite clause, but that neither party acted in bad faith in the delay of the plebiscite.[77] The arbitrator further stated that "the failure to agree upon a special protocol fixing the conditions of the plebiscite cannot therefore be regarded as being in itself a breach of the treaty. The parties, by Article 3 of the Treaty of Ancon, having left to a future agreement the conditions of the plebiscite must be deemed to have thereby agreed that each party should have the right to make proposals, and to object to the other's proposals, so long as they acted in good faith…"[78]

increasingly comprehensive basis. International practice reflects the conviction that *States ought to strive to conclude such agreements*: there would thus appear to be *an obligation to accept in good faith* all communications and contracts which could, by a broad comparison of interests and *by reciprocal good will, provide States with the best conditions for concluding agreements*", *ibid* 24. "In order for negotiations to proceed in a favourable climate, *the Parties must consent to suspend the full exercise of their rights during the negotiations*. It is normal that they should enter into engagements to this effect. If these engagements were to bind them unconditionally until the conclusion of an agreement, they would, by signing them, lose the very right to negotiate; this cannot be presumed…", *ibid* 28) (Emphasis added).

74 In the "*Tacna-Arica Arbitration*" arbitration of 1925, a dispute arose between Chile and Peru as to the Northern and Southern boundary of the territory covered by Article 3 of the Treaty of Ancon of 20/10/1883. The Treaty provided for an ultimate plebiscite to determine sovereignty over the territory in question. Chile contends that the treaty established a river line, that is the river Sama from its source to its mouth, that treaty of Ancon dealt with the Peruvian provinces of Tacna and Arica and with a portion of another Peruvian province, of Tarata. In the view of Peru, Article 3 dealt only with the provinces of Tacna and Arica, the province of Tarata is not included. The problem arose as regards the river line, because there was no such river line as the treaty described. For a summary of the case, see, '*Summary of Decisions by International Tribunals including Arbitral Awards*', available at, <http://www.fao.org/docrep/005/w9549e/w9549e07.htm>.

75 The texts of the "*Protocol of Arbitration of the Tacna-Arica Dispute*" and "*Supplementary Act*" of 20/07/1922, *reproduced in*, (1923) 17 (1) Supplement AJIL 11. Further see, James Brown Scott, '*The Tacna-Arica Arbitration*' (1923) 17 (1) AJIL 82, 89 ("The conference resulted on July 20, 1922 in a protocol of arbitration and a supplementary act defining the scope of the arbitration. The protocol provides that the difficulties arising out of the unfulfilled provisions of the treaty of peace of October 20, 1883 shall be submitted to the arbitration of the President of the United States of America for final decision. The supplementary act provides that the arbitrator shall determine whether a plebiscite shall be held and, if this question is decided in the affirmative, the arbitrator shall have full power to determine the conditions for holding the plebiscite. If the decision of the question is in the negative, Chile and Peru agree to further discussions of the situation and, in the event that no direct agreement is then reached, the two governments agree to request the good offices of the United States in order to reach an agreement").

76 "*Tacna-Arica Arbitration*", Reports of International Arbitral Awards II 921; For the text of the Opinion and Award of the Arbitrator, also see, (1925) 19 (2) AJIL 393; Further see, '*In the Matter of the Tacna-Arica Arbitration: Memorial of Peru, Ruling and Observations of the Arbitrator, Appointment of Peruvian Member of Plebiscitary Commission*' (1925) 19 (3) AJIL 633; Quincy Wright, '*Tacna-Arica Arbitration*' (1925) 10 (1) Minn. L. Rev. 28.

77 The arbitrator stated the following: "It has not been contended that the plebiscite should have been held before the expiration of the ten-year period. The nature of the obligation imposed by Article **3** must be derived from its terms. Until the special agreement was made there could be no plebiscite. As the parties agreed to enter into a special protocol, but did not fix its terms, their undertaking was in substance to negotiate in good faith to that end, and it would follow that a willful refusal of either party so to do would have justified the other party in claiming discharge from the provision. But, as the parties did not in the treaty prescribe the conditions of the plebiscite and left these to be the subject of a future agreement, it is manifest that with respect to the negotiations looking to such an agreement they retained the rights of sovereign States acting in good faith…" See, '*Opinion and Award of the Arbitrator*' (n 76) 398.

78 '*Opinion and Award of the Arbitrator*' (n 76) 402 (With regard to substance of the award the arbitrator decided that "no part of the Peruvian province of Tarata is included in the territory covered by the provisions of Article 3 of the Treaty of Ancon; that the territory to which Article 3 relates is exclusively that of the Peruvian provinces of Tacna and Arica as they stood on 20/10/1883; and that the northern boundary of that part of the territory covered by Article 3 which was within the

It may be added that the principle to seek agreement in good faith was also underlined by the PCIJ in its Advisory Opinion of 15/10/1931 in the case of "*Railway Traffic between Lithuania and Poland*"[79] and by the ICJ in the cases of "*North Sea Continental Shelf*" Judgment of 20/02/1969[80], as well as in the cases of "*Fisheries Jurisdiction*" Judgment of 25/07/1974[81], and more recently in the case concerning "*Land and Maritime Boundary* (*Cameroon v. Nigeria*)" Judgment of 10/10/2002.[82]

In the same context it may be added that some bilateral or multilateral agreements under certain circumstances provide for a duty to enter into negotiations (such as, Article VIII/2 of the "Antarctic Treaty" of 01/12/1959[83], Article 15 of the 1979 "Agreement Governing the Activities of States on the Moon and Other Celestial Bodies" (entered into force on 11/07/1984); Article 283 of the UNCLOS of 1982). Furthermore, in the UN "Convention on the Law of the Non-navigational Uses of International Watercourses" of 21/05/1997 the requirement to enter into consultations in a spirit of co-operation is provided in Articles 6/2, 7/2, as well as in Article 8 as a general obligation to co-operate. The latter general obligation is reinforced by a requirement of notification concerning planned measures with possible adverse effects (Article 12) and by a specific requirement that consultations and negotiations should be conducted on the basis that each State must in good faith pay reasonable regard to the rights and legitimate interests of the other State (Article 17/2). Moreover, Article 21/3 explicitly expresses the duty of consultation between the watercourse States with a view to arriving at mutually agreeable measures and methods to prevent, reduce and control pollution of an international watercourse.

Peruvian province of Tacna is the River Sama", *ibid* 429. Moreover, the Arbitrator decided that "the Southern boundary of the territory covered by Article 3 of the Treaty of Ancon is the provincial boundary between the Peruvian provinces of Arica and Tarapaca as they stood on 20/10/1883", *ibid* 430; On 03/06/1929 a treaty between Chile and Peru was concluded, giving Tacna to Peru, and Arica to Chile).

79 "*Railway Traffic between Lithuania and Poland* (*Railway Sector Landwarow-Kaisiadorys*)", Advisory Opinion of 15/10/1931 PCIJ Series A/B No.42 1931 108-123, 116 (The PCJI stated that the obligation was "not only to enter into negotiations but also to pursue them as far as possible with a view to concluding agreements", but "an obligation to negotiate (did) not imply an obligation to reach an agreement").

80 "*North Sea Continental Shelf Cases* (*Federal Republic of Germany v. Denmark*) (*Federal Republic of Germany v. Netherlands*)" [1969] ICJ Rep 46-47, para 85-86 (The ICJ stated that the obligation to negotiate in good faith should be considered as "a principle which underlies all international relations" and this principle "is moreover recognized in Article 33 of the Charter of the United Nations as one of the methods for the peaceful settlement of international disputes"), *ibid* 47, para 86 (According to the ICJ, the parties were "under an obligation to enter into negotiations with a view to arriving at an agreement, and not merely to go through a formal process of negotiation". The negotiations are to be "meaningful, which will not be the case when either of them insists upon its own position without contemplating any modification of it", *ibid* 46-47, para 85/(a). But the ICJ added that the obligation to negotiate does not imply an obligation to reach an agreement, *ibid* 47-48, para 87). Note that in para 87 of the "*North Sea Continental Shelf*" Judgment of 1969, the ICJ also referred to the PCIJ's Advisory Opinion of 15/10/1931, as cited above.

81 "*Fisheries Jurisdiction* (*United Kingdom v. Iceland*)", Judgment of 25/07/1974 (Merits) [1974] ICJ Rep 3, 32, para 75 ("The obligation to negotiate thus flows from the very nature of the respective rights of the Parties; to direct them to negotiate is therefore a proper exercise of the judicial function in this case. This also corresponds to the Principles and provisions of the Charter of the United Nations concerning peaceful settlement of disputes". The Court then referred to *North Sea Continental Shelf* cases Judgment of 1969, para 86); Identical statement in the parallel case, see, *Fisheries Jurisdiction* (*Germany v. Iceland*) [1974] (Merits), ICJ Reports, 175, 201, para 67.

82 "*Land and Maritime Boundary between Cameroon and Nigeria* (*Cameroon v. Nigeria: Equatorial Guinea Intervening*)", Judgment of 10/10/2002 [2002] ICJ Rep 303, 424, para 244 (The Court stated that "… these negotiations did not lead to an agreement. However, Articles 74 and 83 of the United Nations Law of the Sea Convention do not require that delimitation negotiations should be successful; *like all similar obligations to negotiate in international law, the negotiations have to be conducted in good faith*"). (Emphasis added).

83 Article VIII, paragraph 2, of the "Antarctic Treaty" of 01/12/1959 provides that "…the Contracting parties concerned in any case of dispute with regard to the exercise of jurisdiction in Antarctica shall immediately consult together with a view to reaching a mutually acceptable solution".

> On the same issue as a soft-law instrument one may refer, for example, to the "*Manila Declaration on the Peaceful Settlement of Disputes between States*", adopted by the UN General Assembly resolution 37/10 on 15/11/1982. Section I, paragraph 10 declares the following: "States should, without prejudice to the right of free choice of means, bear in mind that direct negotiations are a flexible and effective means of peaceful settlement of their disputes. When they choose to resort to direct negotiations, States should negotiate meaningfully, in order to arrive at an early settlement acceptable to the parties. States should be equally prepared to seek the settlement of their disputes by the other means mentioned in the present Declaration".[84]

c. The ICJ judgments and advisory opinions

Turning to the no (transboundary) environmental harm principle in international jurisprudence[85], as far back as in the 1950s, Judge Alvarez in his Individual Opinion appended to the ICJ's "*Fisheries* (*United Kingdom v. Norway*)" Judgment of 18/12/1951[86] made the following observation: "It is also necessary to pay special attention to another principle which has been much spoken of: the right of States to do everything which is not expressly forbidden by international law. This principle, formerly correct, in the days of absolute sovereignty, is no longer so at the present day: the sovereignty of States is henceforth limited not only by the rights of other States but also by other factors… which make up what is called the new international law: the Charter of the United Nations, resolutions passed by the Assembly of the United Nations, the duties of States, the general interests of international society and lastly the prohibition of *abus de droit*".[87] In relation to this observation it may be noted that it is also a well-established principle of international law that in case of a conflict between a treaty and domestic law, the provisions of the latter cannot prevail over those of the treaty, which is explicitly indicated by the PCIJ[88] and the ICJ both

84 "*Peaceful Settlement of Disputes between States*", adopted by the UN General Assembly resolution 37/10 on 15/11/1982, at the 68th plenary meeting. "Manila Declarations" is the Annex of this resolution; Also see, Malcolm Nathan Shaw, *International Law* (Printed in the United Kingdom, 4th printing, 5th edn, Cambridge University Press 2005) 920.

85 Jose Juste-Ruiz, 'The International Court of Justice and International Environmental Law', in N. Boschiero, T. Scovazzi, C. Pitea, C. Ragni (eds) *International Courts and the Development of International Law* (T.M.C. Asser Press, The Hague, The Netherlands, 2013) 383 (The author argues that the contribution of the ICJ to international environmental law is still modest, in spite of its pronouncements affirming the obligation of States to protect the environment, to prevent transboundary harm to other States or areas beyond national jurisdiction, and to carry out an environmental impact assessment before potentially harmful activities are authorized. However, the environmental jurisprudence of the Court appears to be still overly cautious as compared with the more committed attitude adopted by other competing jurisdictions).

86 "*Fisheries* (*United Kingdom v. Norway*)", Judgment of 18/12/1951, [1951] ICJ Rep 116. Taking this case as an example Fitzmaurice examines the relationship between *res judicata* and the precedent. It is clear that the decision of the Court in the *dispositif* is "only binding on the parties to the dispute, and binding on them only for the purposes of the particular dispute". According to Fitzmaurice this is "technically correct, but is it true as a practical reality?" His answer is as follows: "In practice, it is obvious that neither the United Kingdom nor any other country could now successfully contest the general principle of straight base-lines, at any rate in any legal proceedings, even (in all probability) before a tribunal other than the International Court"; See, Malgosia Fitzmaurice, 'Some Problems Regarding the Formal Sources of International Law', in Symbolae Verzijl, (Présentées au Professeur J. H. W. Verzijl a l'occasion de son XXIème Anniversaire (1958) 153, 170, cited in Robert Yewdall Jennings, '*The Judiciary, International and National, and the Development of International Law*' (1996) 45 (1) ICLQ 1,8.

87 Individual Opinion of Judge Alvarez (n 16) 152.

88 "*Greco-Bulgarian Communities*", Advisory Opinion of 31/07/1930, [1930] 17 PCIJ Series B 4, 32-33, 35. For instance, the "*Greco-Bulgarian Communities*" in answering the question "If the application of the Convention of Neuilly is at variance

in its advisory opinions[89] and judgments.[90]

In relation to Principle 2 of the 1992 Rio Declaration, the ICJ in its Advisory Opinion on the "*Legality of the Threat or Use of Nuclear Weapons*" (1996) clearly stated the following:[91]

> "The Court recognizes that the environment is under daily threat and that the use of nuclear weapons could constitute a catastrophe for the environment. The Court also recognizes that the environment is not an abstraction but represents the living space, the quality of life and the very health of human beings, including generations unborn. *The existence of the general obligations of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now part of the corpus of international law relating to the environment*", (para.29). (Emphasis added).

At the advisory proceedings on the *"Legality of the Threat or Use of Nuclear Weapons*", some States quoted Principle 21 of the Stockholm Declaration and Principle 2 of the Rio Declaration as the authority which reflects a rule of customary law.[92]

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with a provision of international law in force in the territory of one of the two Signatory Powers, which of the conflicting provisions should be preferred – that of the law or that of the Convention?", clearly states that "it is a generally accepted principle of international law that in the relations between Powers who are contracting Parties to a treaty, the provisions of municipal law cannot prevail over those of the treaty", *ibid* 32. Applying this general principle to the question examined the PCIJ concluded that "if a proper application of the Convention were in conflict with some local law, the latter would not prevail over the Convention", *ibid* 33. In the Operative part of the Opinion with regard to the "III- Answers to the questions drawn up by the Greek Government", the PCIJ in (para 5) again states that "should a proper application of the Convention be in conflict with some local law, the latter would not prevail as against the Convention", *ibid* 35.

89 For instance, see, "*Reparation for Injuries Suffered in the Service of the United Nations*" Advisory Opinion of 11/04/1949, [1949] ICJ Rep 174, 180 (The Court stated that where a "claim is based on the breach of an international obligation on the part of (a) Member (State), the Member (State) cannot contend that this obligation is governed by municipal law"); "*Applicability of the Obligation to Arbitrate under Section 21 of the UN Headquarters Agreement of 26 June 1945*", Advisory Opinion of 26/04/1988, [1988] ICJ Rep 12, para 47, para 57 ("...Assistant Attorney General declared that the Act had 'superseded the requirements of the United Nations Headquarters Agreement to the extent that those requirements are inconsistent with the statute...' The Secretary-General, in his reply of 15 March 1988 to the letter from the United States Acting Permanent Representative, disputed the view there expressed, on the basis of the principle that international law prevails over domestic law", *ibid* 31-32, para 47. The Court concluded that "it would be sufficient to recall the fundamental principle of international law that the international law prevails over domestic law. This principle was endorsed by judicial decision as long ago as the arbitral award of 14 September 1872 in the *Alabama* case between Great Britain and the United States, and has frequently been recalled since, for example, in the case concerning the *Greco-Bulgarian 'Communities'*...", *ibid* 34-35, para 57).

90 "*Nottebohm Case* (*Liechtenstein v. Guatemala*)", Judgment of 18/11/1953 (Preliminary Objection), [1953] ICJ Rep 111, 115-117 (In the "*Nottebohm Case*" Guatemala argued, *inter alia*, that "since the jurisdiction of the ICJ in relation to Guatemala has terminated and because it would be contrary to the domestic laws of that country" the Government of Guatemala is unable to appear and to contest the claim which has been made, 115-116. Liechtenstein responded to this argument that "the alleged incapacity (which is not admitted) of the Government of Guatemala under the laws of Guatemala to appear in the present case after 27/01/1952, in no way affects either the obligations of that Government under international law or the jurisdiction of the Court", 117. In the "Declaration of Judge Klaestad" appended to this Judgment, it was stated that "with regard to the allegations of the Government of Guatemala that provisions of its national law prevent that Government and its officials from appearing before the Court, it suffices to say that such national provisions cannot be invoked against the rules of international law", *ibid* 125); Further see, "*LaGrand* (*Germany v. USA*)", Order of 03/03/1999, [1999] ICJ Rep 9, 16, para 28.

91 "*Legality of the Threat or Use of Nuclear Weapons*", Advisory Opinion of 08/07/1996, [1996] ICJ Rep 226, 241-242, para 29.

92 For example, see, '*Government of Solomon Islands Written Observations on the Request by the General Assembly*', in Roger S. Clark and Madeleine Sann (eds) *The Case against the Bomb: Marshall Islands, Samoa & Solomen Islands Before the International Court of Justice in Advisory Proceedings on the Legality of the Threat of Use of Nuclear Weapons* (Rutgers University School of Law at Camden 1996) 73, 160-186.

This dictum was subsequently reconfirmed by the ICJ in its "*Gabcikovo-Nagymaros Project (Hungary v. Slovakia)*" Judgment of 25/09/1997 (para.53), as well as in the provisional measure Order of 13/07/2006 issued in the "*Case concerning Pulp Mills on the River of Uruguay* (*Argentina v. Uruguay*)" (para.72).[93]

The above-mentioned Advisory Opinion (08/07/1996), Judgment (25/09/1997) and provisional measure Order (13/07/2006) of the ICJ should be considered as an extremely important step, also because by virtue of these decisions a soft law principle provided for in Principle 21 of the Stockholm Declaration and in Principle 2 of the Rio Declaration has thus become a jurisprudential standard of an international tribunal.

The same principle also appears in separate or dissenting opinions of the judges of the ICJ. For instance, in his Dissenting Opinion appended to the "*Request for an Examination of the Situation in accordance with paragraph 63 of the Court's Judgment of 20 December 1974 in the Nuclear Tests* (*New Zealand v. France*)" Order of 22/09/1995, Judge Koroma stated that "under contemporary international law, there is probably a duty not to cause gross or serious damage which can reasonably be avoided, together with a duty not to permit the escape of dangerous substances".[94]

Judge Weeramantry in his Dissenting Opinion appended to the ICJ's "*Legality of the Threat or Use of Nuclear Weapons*" Advisory Opinion of 08/07/1996 stated that "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". The Judge added that "the principle of good neighbourliness... is one of the bases of modern international law, which has seen the demise of the principle that sovereign States could pursue their own interests in splendid isolation from each other. A world order in which every sovereign State depends on the same global environment generates a mutual interdependence which can only be implemented by co-operation and good neighbourliness".[95]

In "*Gabcikovo-Nagymaros Project (Hungary v. Slovakia)*" Judgment of 25/09/1997 the Court also stated that, "in the field of environmental protection, vigilance and prevention are required on account of the often irreversible character of the damage to the environment and of the limitations inherent in the very mechanism of reparation of this type of damage", (para.140).

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93 "*Gabcikovo-Nagymaros Project (Hungary v. Slovakia)*", Judgment of 25/09/1997, [1997] ICJ Rep 7, 41, para 53; "*Pulp Mills on the River of Uruguay* (*Argentina v. Uruguay*)", Request for the Indication of Provisional Measures, Order of 13/07/2006, [2006] ICJ Rep 1, 18, para.72.

94 "Dissenting Opinion of Judge Koroma" appended to "*Request for an Examination of the Situation in accordance with paragraph 63 of the Court's Judgment of 20 December 1974 in the Nuclear Tests* (*New Zealand v. France*)", Order of 22/09/1995, [1995] ICJ Rep 288, 378.

95 "Dissenting Opinion of Judge Weeramantry" appended to "*Legality of the Threat or Use of Nuclear Weapons*", Advisory Opinion of 08/07/1996, ICJ Rep 503.

v. Status and consequences of the principle in international law

Schachter argues that harm and risk are key concepts in international environmental law. Although no general definition is required, a general conception of environmental harm is implicit in the basic principles of the Stockholm Declaration and in the proposals for international action. With regard to transboundary environmental damage, he suggested at least four conditions which appeared to be necessary: "First, the harm must result from human activity. A second condition is that the harm must result from the physical consequence of the causal human activity. A third condition applicable to international environmental law is that the physical effects cross national boundaries. A fourth condition, rather less precise, is that the harm must be significant or substantial".[96] He further adds that "the duty of a source to inform others of impending harm to them or of significant risk of such harm is an obvious corollary of the general obligation to prevent and minimize transboundary harm. Notification would surely be an appropriate measure when a state has reason to believe that an activity or event in its jurisdiction may cause a significant risk of transboundary harm".[97] International liability is an essential concept in regard to transborder environmental injury.[98] There is no doubt that, in principle, a state that violates a rule of international law by an activity involving transborder injury is liable to make reparation and to compensate the injured state.[99]

One commentator argued that "to assert categorically that the principles have become customary law would require evidence of general state practice and *opinio juris*. Such evidence is only fragmentary. Principle 21 of the Stockholm Declaration is, *at best*, *a starting point*… On the whole, they (environmental treaties) are not accepted as expressions of customary law and are regarded as binding for the parties alone. These facts suggest that the legal principles expressed in the above-mentioned texts are *de lege ferenda* and still await the imprimatur of state practice and *opinio juris communis* to endow them with the authority of customary international law".[100] (Emphasis added). In the same line it is also argued that Principle 21 of the Stockholm Declaration has not reached customary law status.[101]

However, in the view of many scholars "the duty to ensure that activities on one's territory do not cause harm in another state is a customary legal duty, as the rule is

96 Schachter (n 12) 463-464 (This article is also quoted in, Louis Henkin – Richard Crawford Pugh – Oscar Schachter – Hans Smit, *International Law: Cases and Materials* (2nd Reprint-1998, 3rd edn, West Publishing Co. 1993) 1377, 1377).

97 Schachter (n 12) 475.

98 *Ibid* 479.

99 *Ibid* 482.

100 *Ibid* 462.

101 Betsy Baker, 'Legal Protections for the Environment in Times of Armed Conflict' (1993) 33 Va. J. Int'l L. 351, 355-356; Wil D. Verwey, 'Protection of the Environment in Times of Armed Conflict: In Search of a New Legal Perspective' (1995) 8 (1) Leiden JIL 7.

supported by the practice of states"[102]. Furthermore, "Principle 21 of the Stockholm Declaration is widely considered as having become a rule of customary international law."[103] Another scholar mentions that "Principle 21 is generally recognized today as expressing a basic norm of customary international environmental law."[104] Yet another scholar states that Principle 21 "has been commonly regarded as reflecting customary international law, and hence being binding on all states".[105] Some authors argue that the Stockholm Declaration, with a special emphasis on Principle 21, "has a strong claim to be regarded itself as a source of customary international law… The Declaration would certainly impose duties on states, independently of the treaties, not to engage in activities that, for example, would massively and unreasonably deplete the ozone layer".[106]

Numerous scholars are in agreement that Principle 21 of the Stockholm Declaration is customary international law.[107] In the view of Sands "…of these general principles and rules, Principle 21/Principle 2 and the cooperation principle are sufficiently well established to provide the basis for an international cause of action; that is to say, to reflect an international customary legal obligation the violation of which would give rise to a free-standing legal remedy".[108] "The principle of State responsibility for transboundary environmental damage is equally clearly established as a customary international norm, appearing in Principle 21 of the Stockholm Declaration and Principle 2 of the Rio Declaration, where it is linked with the principle of State sovereignty over natural resources".[109] Sands, even before ICJ's Advisory Opinion of 08/07/1996 on the "*Legality of the Threat or Use of Nuclear Weapons*", argued that Principle 21 (of the Stockholm Declaration) and Principle 2 (of the Rio Declaration)

102 Partan (n 6) 72.

103 Peter H.. Sand, 'UNCED and Development of International Environmental Law' (1993) 8 (2) J. Nat. Resources & Envtl. L. 209, 216; Also see, Pallemaerts (n 24) 5; Philippe Antoine, 'International Humanitarian law and the Protection of the Environment in Time of Armed Conflict' (1992) 32 (291) IRRC 517, 519 (The author stated that the customary nature of this principle (the obligation for States to avoid causing environmental damage beyond their borders) is widely accepted).

104 Alexandre Kiss and Dinah Shelton, *International Environmental Law* (1st Edn, Ardsley-on-Hudson: Transnational Publishers 1991) 106-107; Kiss and Shelton (n 51) 36; Gwenaele Rashbrooke, 'The International Tribunal for the Law of the Sea: A Forum for the Development of Principles of International Environmental Law?' (2004) 19 (4) Int'l J. Marine & Coastal L. 515, 520.

105 Weiss (n 56) 703; Also see, Duncan French, 'Developing States and the Environmental Law' (2000) 49 (1) ICLQ 35, 45 (The author first noted Principle 7 of the Rio Declaration which formulates that "States have common but differentiated responsibilities" and added the following: "Such a notion of commonality is inevitably based on the *customary obligation* that all States are responsible for ensuring 'activities within their jurisdiction and control' do not damage the environment beyond their own territory. As codified in Principle 21 of the 1972 Stockholm Declaration and Principle 2 of the Rio Declaration, the text of the 'no harm' obligation makes no reference to the socio-economic situation of States… This *customary obligation* has, more recently, been supplemented by the environmental principles of 'common good', 'common interest' and 'common concern of humankind'…") (Emphasis added).

106 Geoffrey Palmer, 'New Ways to Make International Environmental Law' (1992) 86 (2) AJIL 259, 268

107 Kiss and Shelton (n 104) 130; Timothy J. Heverin, 'Legality of the Threat or Use of Nuclear Weapons: Environmental and Humanitarian Limits on Self-Defense' (1997) 72 (4) Notre Dame L. Rev. 1277, 1298; Lluis Paradell-Trius, 'Principles of International Environmental Law' (2000) 9 (2) RECIEL 93, 97.

108 Philippe Sands, *Principles of International Environmental Law* (2nd edn, Cambridge University Press 2003) 232.

109 Owen McIntyre and Thomas Mosedale, 'The Precautionary Principle as a Norm of Customary International Law' (1997) 9 (2) J. Envtl. L. 221, 232.

demonstrate that "the responsibility not to cause damage to the environment of other States or of areas beyond national jurisdiction has been accepted as an obligation by all States. Without prejudice to its application on a case by case basis, Principle 21 is widely recognized to reflect customary international law".[110] Following the ICJ's Advisory Opinion of 08/07/1996 the same author observed that that Opinion confirmed that Principle 21 reflects customary international law.[111]

In the view of Cassese, "in the *Trail Smelter* case it was damage caused by one State to the environment of the other that triggered the legal claim. Legally the issue was not viewed as different from damage caused to private or public property, for instance by the inadvertent penetration of a foreign State's territory by armed forces. Nevertheless, there was an important novelty: for the first time an international tribunal propounded the principle that a State may not use, or allow its nationals to use, its own territory in such a manner as to cause injury to a neighbouring country".[112]

According to one commentator, the *Trail Smelter* arbitration case and the ICJ's *Corfu Channel* case "are illustrations of the international responsibility to forbid and refrain a state from acts which would cause injury or damage to persons and property outside its territory".[113] In the *Corfu Channel* case the Court confirmed the general rule "that while the territory remains under the sovereignty of a State it cannot use it or permit it to be used in a way which may cause damage and disaster to other States, and that any such action or negligence will result in international responsibility".[114] Koskenniemi observed that "yet neither case contains criteria for determining the point at which 'harm' might be so significant that it would be unreasonable to expect a country to tolerate it"; but added that "it seems agreed that only harm which is 'significant' is prohibited".[115] Palmer argued that the *Trail Smelter* arbitration also has potential application to ozone and climate change. To the extent that the case establishes a principle of good neighborliness, it may be applied to global environmental problems. "The principle would be that no state has the right to use its territory in such a manner as to cause injury to the atmosphere by emissions when serious consequences are involved and the injury to the atmosphere is demonstrated by clear and convincing evidence. Indeed, the principle established by the case may go further than this and is certainly capable to extension".[116] Werma argued that the

110 Sands (n 24) xxxi.

111 Sands (n 108) 236.

112 Cassese (n 69) 484 (The author added that "later, the idea gradually emerged that natural resources may be relevant not only to the individual States that can exploit them but also to all members of the international community and could be used in the interest of mankind", *ibid*).

113 Edward. G. Lee, 'International Legal Aspects of Pollution of the Atmosphere' (1971) 21 (2) U. Toronto L. J. 203, 207.

114 Lachs (n 46) 665. The author, who also noted the *Trail Smelter* case, added that "the principle established is frequently inadequate to deal with disasters we are facing today. Yet it remains a rock upon which we can build more precise and stringent rules", *ibid*.

115 Koskenniemi (n 13) 77.

116 Palmer (n 106) 265.

Trail Smelter, Corfu Channel and Lac Lanoux cases prove the emergence of the principle of strict liability in international law.[117] According to Barnidge, the *Trail Smelter* arbitration has contributed greatly to international law as it relates not only to the law of state responsibility for transboundary harm to environment, but also to the law of state responsibility for transboundary harm generally. Thus, the *Trail Smelter* rule extends beyond ecological/pollution damage to any damage to other states.[118] Barnidge, reading the *Trail Smelter* rule in relation to the ICJ's dictum stated in (para.29) of the "*Legality of the Threat or Use of Nuclear Weapons*" Advisory Opinion of 08/07/1996, also points out that "that the *Trail Smelter* rule supports a regime of responsibility based other than on fault does not detract from this general rule, nor does it make it any less applicable or relevant when the particular facts and circumstances present a regime of responsibility based on fault".[119]

Elkind is of the opinion that when the decisions in *Trail Smelter* and *Lake Lanoux* are compared with regard to the principle of neighborship, it can be seen that the principle works the same way in international law even though it is unformulated.[120] Birnie and Boyle stated that "if states are responsible for their failure to control soldiers and judges abroad, they may likewise be held responsible for their failure to control transboundary pollution and environmental harm caused by activities within their own territory".[121]

Handl's conclusions regarding state responsibility for extraterritorial environmental effects caused by a state activity were as follows[122]: "(1) Apart from the questions of attribution, causal relationship, and the prerequisite of an additional element of fault, international law requires proof of material damage as a precondition of the polluting state's responsibility to the affected state. (2) The state affected by transnational pollution, therefore, cannot succeed with a claim based on an alleged infliction of a moral injury, a violation of its sovereignty suffered in the fact of a

117 Dhirendra P. Verma, 'The Nuclear Tests Cases: An Inquiry into the Judicial Response of the International Court of Justice' (1982) 8 South African YBIL 20, 44 (The author added that in terms of Article 38 of the ICJ Statute, "a person who keeps a dangerous thing on his premises and allows it to escape shall be liable for the consequences of such escape. The escape and fall-out of radioactive material as a result of atmospheric nuclear tests is certainly covered by the rule of strict liability", *ibid*).

118 Barnidge (n 72) 99; Contra, see, Riccardo Pisillo Mazzeschi, "Forms of International Responsibility for Environmental Harm", in Francesco Francioni & Tullio Scovazzi (eds) *International Responsibility for Environmental Harm*, (Graham & Trotman 1991) 15, 29 who argued that "in spite of the fact that it is so well known, the *Trail Smelter* case is not really very significant, since in the compromise between the US and Canada the question of Canada's responsibility had already been resolved affirmatively", cited in, Barnidge (n 72) 99-100).

119 Barnidge (n 72) 102.

120 Elkind (n 49) 96 (The author's suggestion with regard to formulation of the said principle is as follows: "Where an owner harms his neighbor by an activity carried out solely on his own property and not constitution an invasion of his neighbor's property then the principle of neighborship does not apply". But the author also noted that "where activity causes an invasion of or trespass on one's neighbor's property by smoke, noise pollution, or similar interference in a degree which exceeds that which is reasonably necessary for use or enjoyment of one's own property, then the neighbor has a legal remedy whereby he can either prevent the interference or seek some form of damages", *ibid* 90).

121 Patricia W. Birnie and Alan. E. Boyle, *International Law and the Environment* (2nd edn, Oxford University Press 2002) 265, cited in, Barnidge (n 72) 101.

122 Handl (n 15) 75.

proved transfrontier crossing of pollutants into its territory. The mere fact of such transfrontier crossing does not in itself amount to a violation of sovereignty which could engage the polluting state's liability. (3) Material damage, denoting simply injuries to a state other than those bearing on its status as a sovereign member of the international community[123], including the psychological impact of transnational pollution on the state's population or part thereof, would seem to suffice in itself as a basis for a successful direct international claim against the polluting state."

Kelson asserted three broad principles which, when taken together, help to define the parameters of the rule of State responsibility for abnormally dangerous activities within which States must plan and implement programs of industrial and technological change: "(1) Where the risk of harm from an activity is substantial in either probability or magnitude of harm, and is transnational in character, the State within whose jurisdiction the activity is conducted is under a duty to prevent such harm as may be caused by the enterprise. (2) A State is under a duty to notify any other State which may be threatened by harm from the abnormally dangerous activities which the State permits to be conducted within its jurisdiction. (3) A State, failing to prevent harm, shall be originally responsible and strictly liable for the harm caused by abnormally dangerous activities within its jurisdiction to the residents or property of another State".[124]

Apart from arguments based on legal technicalities, perhaps what Prof. Falk stated in 1970 was the shortest expression in touching upon the essence of the question: "The main point is that separate sovereign states are artificial units from the point of view of environmental protection".[125]

4. Precautionary principle

i. Recognition and scope of the principle in soft law instruments

The UN "World Charter for Nature" of 28/10/1982 which, in addressing "activities which are likely to pose significant risk to nature", declared that "where potential adverse effects are not fully understood the activity should not proceed", (para.11/b). The World Charter for Nature is one of the most elaborate instruments with regard to the precautionary principle. The 1982 Charter, in addition to explicit recognition of the principle, by providing provisions for the protection of unique areas, habitats and

123 *Ibid* 75, note 159 (The author stated that for a notion of injury in this sense, exceeding the narrow economic damage concept adopted by the *Trail Smelter* tribunal).

124 Kelson (n 38) 242-243.

125 Richard A. Falk, 'Toward Equilibrium in the World Order System' (1970) 64 (4) Am. Soc'y Int'l L. Proc. 217, 222; Also see, McCaffrey (n 51) 191 ("Pollution does not respect international boundaries."); Oxhorn (n 42) 389. In relation to the Chernobyl accident, the author stated that that accident "starkly illustrated the fact that nuclear pollution does not respect the boundaries between sovereign states").

species on sustainable use of natural resources[126] or on planning, facilitates potential further development of the principle.[127]

The 1987 Second International Conference on the Protection of the North Sea officially introduced the precautionary principle at the international ministerial level. The *London Declaration*[128] of 25/11/1987, which was issued by the Conference, specifically referred to the principle within the text, such as, "in order to protect the North Sea from possibly damaging effects of the most dangerous substances, a precautionary approach is necessary which may require action to control inputs of such substances even before a causal link has been established by absolutely clear scientific evidence" (Art.VII); "(the participants) accept that by combining, simultaneously and complementary, approaches based on emission standards and environmental quality objectives, a more precautionary approach to dangerous substances will be established" (Art.XV, ii); "(the Ministers) accept the principle of safeguarding the marine ecosystem of the North Sea… (by using) the best available technology and other appropriate measures. This applies especially when there is reason to assume that certain damage or harmful effects on the living resources of the sea are likely to be caused by such substances, even where there is no scientific evidence to prove a causal link between emissions and effects ("the principle of precautionary action")" (article XVI/1).[129] A further step was the Final Declaration of the Third North Sea Conference[130] of 08/03/1990, which was the product of the Third International Conference on the Protection of the North Sea held at The Hague in March 1990. In the preamble of that Final Declaration the participants stated that they "will continue to apply the precautionary principle, that is to take action to avoid potentially damaging impacts of substances that are persistent, toxic and liable to bioaccumulate even where there is no scientific evidence to prove a causal link between emissions and effects".[131]

126 For example, (para.10/a and b) of the 1982 World Charter for Nature reads as follows: "Living resources shall not be utilized in excess of their natural capacity for regeneration" and "The productivity of soils shall be maintained or enhanced through measures which safeguard their long-term fertility".

127 Lothar Gündling, 'The Status in International Law of the Principle of Precautionary Action' (1990) 5 (1) Int'l J. Estuarine & Coastal L. 23,30.

128 *Second International Conference of the North Sea, London, 24-25 November 1987, Ministerial Declaration*, (London Declaration); 27 ILM 835.

129 See, Gündling (n 127) 25; Mark P.A. Kindall, 'UNCED and the Evolution of Principles of International Environmental Law' (1991) 25 (1) John Marshall L. Rev. 19, 24; James Cameron and Juli Abouchar, 'The Precautionary Principle: A Fundamental Principle of Law and Policy For Protection of the Global Environment' (1991) 14 (1) B. C. Int'l & Comp. L. Rev. 1, 4-5; Robin Churchill, 'International Environmental Law and the United Kingdom' (1991) 18 (1) J. L. & Soc'y. 155, 166-167; Phillipe Sands, 'The "Greening" of International Law: Emerging Principles and Rules' (1994) 1 (2) Ind. J. Global Legal Stud. 293, 299; John M. MacDonald, 'Appreciating the Precautionary Principle as an Ethical Evolution in Ocean Management' (1995) 26 (3) Ocean Dev. & Int'l L. 255, 267; McIntyre and Mosedale (n 109) 224.

130 *Final Declaration of the Third International Conference on the Protection of the North Sea*, (March 7-8, 1990); reproduced in, (1990) 1 YB Int'l. Envtl. L. 658, 662-673.

131 See, Cameron and Abouchar (n 129) 16; Sands (n 129) 299; McIntyre and Mosedale (n 109) 224.

Although some authors emphasize the non-binding character[132] of such ministerial declarations, this does not mean, however, that "the principle does not exist in international law; it may be recognized as an 'underlying' or 'implied' principle".[133] Political undertakings given by States at such conferences "may in some circumstances become legally binding, either because they are regarded as unilateral declarations intended to be binding or through the doctrine of estoppel."[134] It is also noteworthy that, as shown below, such Ministerial decisions, which at least represent political commitments, were subsequently transferred into legal obligations by the decisions of the international environmental law convention organs, as seen for example, in the decisions of the Oslo and Paris Commissions, established by the 1972 Oslo and the 1974 Paris Conventions, respectively. Furthermore, from the normative point of view, it cannot be ignored that the principle was subsequently inserted into legally binding instruments.

In 1989, the UNEP Governing Council decision 15/27 stated that "waiting for scientific proof regarding the impact of pollutants discharged into the marine environment could result in irreversible damage to the marine environment and in human suffering". It recommended that "all governments adopt the principle of precautionary action" with regard to the prevention and elimination of marine pollution.[135]

As part of the preparations for the 1992 UN Conference on Environment and Development which would be held at Rio by the initiation of Norway in cooperation with the UN Economic Commission for Europe (ECE), a Conference on "Action for a Common Future" convened at Bergen, Norway, in May 8-16, 1990. Environment Ministers and officials from 34 ECE States attended the Conference. The product of this meeting was the "*Bergen Ministerial Declaration on Sustainable Development*".[136] Article 7 of the Bergen Declaration provides that "in order to achieve sustainable development, policies must be based on the *precautionary principle*. Environmental measures must anticipate, prevent, and attack the causes of environmental

132 Peter Hayward, 'The Oslo and Paris Commissions' (1990) 5 (1) Int'l J. Estuarine & Coastal L. 91, 93 ("The INSCs are not held within the framework of any internationally ratified convention or treaty. They are meetings of Ministers with common responsibilities, similar problems and shared goals. Their statements represent a political commitment rather than a legal obligation. This is not in any way to belittle the impact or importance of the Conferences but is important to be clear about the nature of their 'decisions'…").

133 Gündling (n 127) 27 (The author further argued that "the principle of precautionary action played a considerable role in the debate on the appropriate protection policy for the North Sea. However, it has not always been clear whether the issue was the (precautionary) principle itself or, rather, a specific regulatory approach usually linked to the principle of precautionary action, namely that of control of emissions at source using the best available technology", *ibid* 23).

134 Churchill (n 129) 157 (The author added that "decisions of international conferences of this character are often known as 'soft law'…", *ibid* 166).

135 UNEP Governing Council Decision 15/27 (1989) on the "*Precautionary Approach to Marine Pollution*"; see, UNEP, *1989 Report of the Governing Council on the Work of its Fifteenth Session*, United Nations Environment Programme, UN GAOR, 44th Sess. Supp No 25, 12th meeting, UN DOC A44/25 (1989) 153; Also see, McIntyre and Mosedale (n109) 226.

136 "*Bergen Ministerial Declaration on Sustainable Development in the ECE Region*" of 16/05/1990; *reproduced in*, UN Doc. A/CONF.151/PC/10 (1990); 30 ILM 800 (1991); (1990) 1 YB Int'l. Envtl. L. Vol.1 429, 431-432.

degradation. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation". (Emphasis added). The importance of this ministerial level declaration emanates from the fact that the signatories to the Declaration agree that the precautionary principle exists.[137]

Principle 15 of the 1992 Rio Declaration 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". (Emphasis added).

At the drafting process of the 1992 Rio Declaration the negotiators rejected suggestions by some European countries to promote a "Precautionary Principle".[138] As shown above, Article 7 of the 1990 Bergen Ministerial Declaration indeed used the term "precautionary principle". Although there are arguments which clarify the distinction between the terms "approach" and "principle"[139], the latter term, i.e. the "precautionary principle" with regard to environmental issues, now appears to be widely used.

Furthermore, with respect to the first sentence of the provisions concerned in both the Bergen and Rio Declarations, it may be noted that the phrase "according to their capabilities" as placed into the Rio Declaration norm did not appear in the Bergen Declaration. The inclusion of the said phrase ("according to their capabilities") shows that, in applying the principle, States would like to preserve a significant margin of appreciation or flexibility. One of the other differences is that the second sentence of Article 7 of the Bergen Declaration is entirely omitted in the Rio Declaration. Finally, the second sentence of Principle 15 of the Rio Declaration, which corresponds with the third sentence of Article 7 of the Bergen Declaration, includes the term "cost-effective", which did not appear in the 1990 text.

One author observed that the precautionary approach is defined in the text by language quoted from the November 8, 1990, Ministerial Declaration of the Second

137 Cameron and Abouchar (n 129) 18 (The authors added that "by linking the principle to development proposals, the signatories have given substance to the occasionally vague policy of sustainable development. In applying a precautionary approach to development decisions, the burden of proof shifts to proponent of development to show that an emission or construction will not seriously damage the environment", *ibid*); Also see, Sands (n 129) 299; MacDonald (n 129) 264.

138 Deanna Kovar, 'A Short Guide to the Rio Declaration' (1993) 4 (1) Colo. J. Int'l Envtl. L. & Pol'y 118, 134.

139 Ellen Hey, 'The Precautionary Concept in Environmental Policy and Law: Institutionalizing Caution' (1992) 4 (2) Geo. Int'l Envtl. L. Rev. 303, 304 (The author suggests that a distinction be made between the terms "principle" and "approach"; for an analysis of the "precautionary concept", see, *ibid* 305-309); Also see, Ellen Hey, 'The Precautionary Approach: Implications of the revision of the Oslo and Paris Conventions' (1991) 15 (4) Marine Policy 244; MacDonald (n 129) 256; Stephanie Joan Mead, "The Precautionary Principle: A Discussion of the Principle's Meaning and Status in an Attempt to Further Define and Understand the Principle" (2004) 8 N.Z. J. Envtl. L. 137, 158-160.

World Climate Conference.[140] In circumstances where there is a threat of serious or irreversible environmental damage, States are not to postpone otherwise cost-effective measures to prevent environmental degradation solely because of a lack of full scientific certainty.[141]

Pursuant to paragraph 22.5(c) of the Agenda 21, States should not "promote or allow the storage or disposal of high-level, intermediate-level or low-level radioactive waste near the marine environment unless they determine that the scientific evidence, consistent with the applicable internationally agreed principles and guidelines, shows that such storage or disposal poses no unacceptable risk to people and the marine environment or does not interfere with other legitimate uses of the sea, making, in the process of consideration, appropriate use of the concept of *the precautionary approach*".[142] (Emphasis added).

In 1995, the 4th North Sea Conference of Ministers directly addressed the issue of hazardous chemicals in the environment: "The Ministers agree that the objective is to ensure a sustainable, sound and healthy North Sea ecosystem. *The guiding principle for achieving this objective is the precautionary principle*. This implies the prevention of the pollution of the North Sea by continuously reducing discharges, emissions and losses of hazardous substances thereby moving towards the target of their cessation within one generation (25 years) with the ultimate aim of concentrations in the environment near background values for naturally occurring substances and close to zero concentrations for man-made synthetic substances." (Emphasis added).

In order to pursue the evolution of the notion one may also refer to the "*Wingspread Consensus Statement on the Precautionary Principle*"[143] of 26/01/1998, a product of the experts meeting in the field. It states:

> "…We believe there is compelling evidence that damage to humans and the worldwide environment is of such magnitude and seriousness that new principles for conducting human activities are necessary.
>
> While we realize that human activities may involve hazards, people must proceed more carefully than has been the case in recent history. Corporations, government entities, organizations, communities, scientists and other individuals must adopt a precautionary approach to all human endeavors.
>
> Therefore, it is necessary to implement the Precautionary Principle: *When an activity raises threats of harm to human health or the environment, precautionary measures*

140 UN GAOR, 45th Sess., Agenda Item 81, at 17, UN Doc. A/45/696/Add.1 1990.

141 Kovar (n 138) 134.

142 Furthermore, paragraph 22.5(b) of Agenda 21 called on all States to encourage "the London Dumping Convention to expedite work to complete studies on replacing the current voluntary moratorium on disposal of low-level radioactive wastes at sea by a ban, taking into account the precautionary approach…".

143 "*The Wingspread Consensus Statement on the Precautionary Principle*", adopted by the Wingspread Conference on the Precautionary Principle on 26/01/1998, available at, <http://www.sehn.org/wing.html>.

> *should be taken even if some cause and effect relationships are not fully established scientifically*.
>
> In this context the *proponent of an activity*, rather than the public, *should bear the burden of proof*.[144]
>
> The process of applying the Precautionary Principle must be open, informed and democratic and must include potentially affected parties. It must also involve an examination of the full range of alternatives, including no action". (Emphasis added).

Consequently, the Wingspread Statement on the Precautionary Principle indicates four basic elements of precautionary policies: taking preventive action in the face of uncertainty; placing responsibility on those who create risks to study and prevent them; seeking alternatives to potentially harmful activities; and increasing public participation and transparency in decision-making.

In the literature, however, the Wingspread Statement on the Precautionary Principle formulation and the definition of the precautionary principle have also been criticized due to lack of clarity.[145]

The formulation in Principle 15 of the 1992 Rio Declaration has some important characteristics. First, the principle applies only to "threats of serious or irreversible damage". Secondly, it applies only to actions that would result in "environmental degradation". Thirdly, the principle indicates that any regulatory actions undertaken should be "cost-effective". Fourthly, the principle is not formulated in such a way as to impose affirmative duty to act.[146]

Since the precautionary principle[147] aims to prevent the occurrence of environmental

144 With regard to the quoted and emphasized two paragraphs Sunstein commented that "the first sentence just quoted is a mildly more aggressive version of the statement from the Rio Declaration; it is more aggressive because it is not limited to threats of serious or irreversible damage. But in reversing the burden of proof, the second sentence goes further still"; See, Cass R. Sunstein, 'Beyond the Precautionary Principle' (2003) 151 (2) U. Pa. L. Rev. 1003, 1013.

145 Derek Turner and Lauren Hartzell, 'The Lack of Clarity in the Precautionary Principle' (2004) 13 (4) Environmental Values 449 (The authors invoke the Wingspread Statement to assess definitional generalities. According to them, the statement "fails to indicate who must bear the cost of precaution; what constitutes a threat of harm; how much precaution is too much; and what should be done when environmental concerns and concern for human health pull in different directions", *ibid* 459); (Especially see, "Problems with the Wingspread Principle" *ibid* 453-458).

146 Gary E. Marchant, 'From General Policy to Legal Rule: Aspirations and Limitations of the Precautionary Principle' (2003) 111 (14) Environ Health Perspect**.** 1799, 1800 (The author compared Principle 15 formulation of the Rio Declaration with the formulation provided in the Wingspread Statement of 1998; Also see, John S. Applegate, 'The Taming of the Precautionary Principle' (2002) 27 (1) Wm. & Mary Envtl. L. & Pol'y Rev. 13. According to the author "in the Rio formulation, the trigger is represented by the phrase '*threats* of *serious or irreversible* damage.' In terms of timing, '*lack of full scientific certainty* shall not be used as a reason for *postponing*…. measures to *prevent*.' The expected response is '*cost-effective* measures to *prevent* environmental degradation.' Iteration is implied in the idea of '*full* scientific certainty,' because there will never be full scientific certainty, but certainty can be progressively approached. The Rio formulation is silent on burden of proof", *ibid* 20). (Emphasis original).

147 David Freestone and Ellen Hey, 'Origins and Development of the Precautionary Principle', in David Freestone & Ellen Hey (eds) *The Precautionary Principle and International Law: The Challenge of Implementation* (Kluwer Publishers 1996) 3-15; James Cameron and Juli Abouchar, 'The Status of the Precautionary Principle in International Law', David Freestone & Ellen Hey (eds) *The Precautionary Principle and International Law: The Challenge of Implementation* (Kluwer Publishers 1996) 29-52; Donald T. Hornstein, 'Reclaiming Environmental Law: A Normative Critique of Comparative Risk Analysis' (1992) 92 (3) Columbia L. J**.** 562; Daniel Bodansky, 'Scientific Uncertainty and the Precautionary Principle' (1991) 33 (7) Environment: Science and Policy for Sustainable Development 4; Barnabas Dickson, 'The Precautionary

harm, it is related to the concept of risk. As Schachter stated "risk is probabilistic concept that takes account of the uncertainties of future events as well as the variations in severity of effects. A duty to prevent and minimize risk is legally distinct from a duty to act to contain and minimize harmful effects that have already occurred. In the former, the objective requires identifying situations in terms of degree of danger and adopting rules of conduct to reduce that danger".[148] Weiss argued that "scientific uncertainty is inherent in all international environmental law. We do not have a full understanding of the natural system or of our interactions with it. Our scientific understanding is always changing, as is our technological knowledge and know-how. Consequently, those who draft international agreements have had to design instruments and implementation mechanisms that have sufficient flexibility in order to allow parties to adapt the changes in our scientific understanding and technological abilities".[149] "At its core, the precautionary principle embodies two fundamental regulatory policies: anthropogenic harm to human health and the environment should be avoided or minimized through anticipatory, preventive regulatory controls; and, to accomplish this, activities and technologies whose environmental consequences are uncertain but potentially serious should be restricted until the uncertainty is largely resolved".[150]

It is true, some authors argue that although the precautionary principle/approach is "apparently reasonable, this phrase seems to be somewhat ambiguous; in particular, the definition of 'serious' is clearly subjective and contextual"[151]; it still has no set of definition and there are set limits or rules as to its application.[152] It is also argued that

Principle in CITES: A Critical Assessment' (1999) 39 (2) Natural Resources Journal 211; Per Sandin, 'Dimensions of the Precautionary Principle' (1999) 5 (5) Human and Ecological Risk Assessment: An International Journal 899; Per Sandin, 'The Precautionary Principle and the Concept of Precaution' (2004) 13 (4) Environmental Values 461; Bodansky, 'Deconstructing the Precautionary Principle' in D. D. Caron and H. N. Scheiber (ed) *Bringing New Law to Ocean Waters*, (Brill 2004) 381 (The author concludes that it is necessary to think about what it means to be cautious in particular contexts, rather than continued incantations of the same old formulations); Lauren Hartzell-Nichols, '*Adaptation as Precaution*' (2014) 23 (2 Special Issue) Environmental Values 19. (Adaptation may therefore be understood as a precautionary measure against the damage due to climate change. The precautionary principle alone is too vague to shape adaptation policy, but a limited catastrophic precautionary principle may productively guide adaptation policy makers. The author argues that an explicit commitment to a precautionary approach based on the catastrophic precautionary principle could and should be made to strengthen the adaptation policies introduced at the United Nations Framework Convention on Climate Change); Further see, Christopher D. Stone, '*Is There a Precautionary Principle*' (2001) 31 (7) ELR News & Analysis 10790; Stephen M. Gardiner, "*A Core Precautionary Principle*" (2006) 14 (1) Journal of Political Philosophy 33; Marko Ahteensuu, 'Defending the Precautionary Principle Against Three Criticisms' (2007) 11 (61/56) Trames 366 (Arguments with regard to the vagueness of the PP, *ibid* 368-371, However, the author concludes that various arguments raised against precautionary principle do not result in the abandonment of the principle on the whole, *ibid* 378-379); Jonathan Aldred, 'Justifying precautionary policies: Incommensurability and uncertainty' (2013) 96 Ecological Economics 132 (According to the author the precautionary principle is justified for decisions involving uncertainty and incommensurability. The 'greater' the uncertainty, the 'less' incommensurability is required to justify precautionary action, and vice versa.); Thomas Boyer-Kassem, 'Is the Precautionary Principle Really Incoherent?' (2017) 37 (11) Risk Analysis 2026 (The author concludes that the PP can be envisaged as a coherent decision rule).

148 Schachter (n 12) 466.

149 Weiss (n 56) 688.

150 Applegate (n 146) 13.

151 Shawkat Alam, 'The United Nations' Approach to Trade, the Environment and Sustainable Development' (2006) 12 ILSA J. Int'l & Comp. L 607, 635.

152 Mead (n 139) 138; also see, *ibid* 142-147 and other sources cited there with respect to uncertainty of the definition of the

the precautionary principle is too vague to serve as a regulatory standard.[153] Similarly, some commentators state that "practical interpretation of this 'approach' is creating difficulties in pollution control and fisheries commissions since it is not clear when and where the lines are to be drawn and some go so far as to presume that the burden of proof that there is no threat of damage lies with the state undertaking the activity, not those opposing it, who would have to establish that the activity is likely to or may cause harm".[154] Even going further, in the view of another commentator the precautionary principle should be rejected, not because it leads in bad directions, but because it leads in no direction at all. The principle threatens to be paralyzing, forbidding regulation, inaction, and every step in between.[155]

However, there seems to be a general agreement that the precautionary concept "may require preventive action before scientific proof of harm has been submitted. It rejects a policy whereby activities or substances are regulated or banned only if they have been scientifically proven to be harmful to the environment".[156] "Even though (in its current form) some wording is open to interpretation, there is a basic premise that stands out. This was clearly outlined in the Rio Declaration and most recently, the Earth Charter. The status of the precautionary principle has also increased as it is increasingly recognised and applied in international law".[157] According to one commentator, the precautionary principle "requires that where a causal link cannot be shown between the activity or substance introduced and a potential harm, extreme caution must be taken before allowing such an activity. This reading of the principle relies on an examination of causal links between activities and potential harms and threats".[158] In the view of another commentator the precautionary principle, or precautionary approach, in international environmental law is one response to the recognition that we are faced with the necessity to act in the face of scientific uncertainty about future harm. The principle lowers the burden of proof required for taking action against proposed or existing activities that may have serious long-term

principle, including the formulation provided in Principle 15 of the Rio Declaration; Further see, Dickson (n 147) 212 (According to the author, due to the lack of a fixed definition there is still considerable doubt about the policy implications of the principle); Sandin (n 147) 461 (The debate around the principle indicates that there is little agreement on what 'taking precautions' means).

153 Bodansky (n 147) 4-5; MacDonald (n 129) 257.

154 Birnie (n 5) 95.

155 Sunstein (n 144) 1004, 1054 8 (Although the author accepts that the precautionary principle "might well be seen as a plea for a kind of regulatory insurance" and it "might do some real-world good, spurring governments to attend to neglected problems", nevertheless "the principle cannot be fully defended in these ways, simply because risks are on all sides of social situations. Any effort to be universally precautionary will be paralyzing, forbidding every imaginable step, including no step at all", *ibid* 1007-1008. The author further suggested that "the weak versions of the precautionary principle are unobjectionable and important" *ibid* 1016, also see, *ibid* 1029).

156 Hey (n 139) 305; Günther Handl, 'Environmental Security and Global Change: The Challenge to International Law' (1990) 1 Y.B. Int'l Envtl. L 3, 20-22.

157 Mead (n 139) 176.

158 MacDonald (n 129) 256 (But the author also noted that "implementing the precautionary principle into practice on international issues is difficult where there is no consensus on its theoretical implications. The principle is not yet recognized as accepted customary law, primarily because of the polarized arguments that have arisen in attempting to define the doctrine", *ibid* 263).

harmful consequences.[159]

In the early 1990s it was argued that any precautionary approach should include the following elements: (1) scientific debate and uncertainty are the rule rather than the exception; (2) steps should be taken to analyze the environmental impacts of proposed actions and notify potentially affected parties; (3) efforts should be taken to prevent or minimize pollution and reduce risks of environmental harm through clean technologies and good management practices; (4) to the extent that the risks of environmental harm from proposed activities cannot be eliminated or reduced: (a) the activities should not be permitted where there is significant risk of serious or irreversible damage to the environment, (b) where there is no such risk, the benefits from such activities should be weighed against the potential environmental damage; (c) where activities are permitted, appropriate steps should be taken to mitigate anticipated environmental harm.[160] More recently it is also argued that substantive elements of a precautionary approach are as follows: "*Preventive action*", as indicated in the 1982 World Charter for Nature (para.11), and the 1990 Bergen Declaration[161] (para.7); "*Shifting the burden of proof*", rather than creating an absolute duty of prevention whenever an activity creates a risk of environmental harm; "*Best available technology or clean production methods*", and finally "*Cost-effectiveness*".[162]

In order to clarify the principle four basic elements can be identified: (1) a "threat of harm": although in meeting this element no scientific proof is required of the certainty of the harm, it nevertheless does not allow mere speculative, groundless concerns or claims based on vague notions or arguments entirely lacking in scientific support. (2) The principle applies in situations where there is "lack of scientific certainty or evidence". (3) The application of this principle in a situation where "cause and effect relationship" has not yet been proven. (4) There is a "necessity or duty to act": this element indicates that the principle is invoked by interested parties to protect the environment without the need for a proven link between cause and effect.[163] Another author made a similar assessment, stating that the first element is

159 Weiss (n 56) 690 (The author added that "at the fall 1991 meeting of the parties to the London Ocean Dumping Convention, countries agreed to be guided by a 'precautionary approach' in implementing the Convention. They would take preventive action when there is reason to believe the dumped material is likely to cause harm even when there is no conclusive evidence to prove a causal link to certain effects, and they would be guided by certain specific measures in carrying out this approach", *ibid*, p.690, note 111). We may add that, as shown below, the Protocol of 07/11/1996 to the London Dumping Convention" of 29/12/1979 clearly included the "precautionary approach" in Article 3. Thus, it is understood that the 1991 decision of the parties to the London Ocean Dumping Convention was subsequently integrated into a legally binding instrument.

160 Kindall (n 129) 25-26.

161 The "*Bergen Ministerial Declaration on Sustainable Development in the ECE Region*" of 16/05/1990; *reproduced in*, UN Doc. A/CONF.151/PC/10 (1990); 30 ILM 800 (1991); (1990) 1 YB Int'l. Envtl. L. 429, 431-432.

162 Bodansky (n 147) 390-391.

163 Peter L. DeFur and Michelle Kaszuba, 'Implementing the Precautionary' (2002) 288 (1-2) The Science of the Total Environment 155, 158, cited in, Mead (n 139) 150; Cf, Sandin (n 147) 889-907 (According to the author four dimensions of the principle are identified: (i) the threat dimension, (ii) the uncertainty dimension, (iii) the action dimension, and (iv) the command dimension. It is argued that the Precautionary Principle can be recast into the following if-clause, containing these four dimensions: "*If* there is (1) a threat, which is (2) uncertain, *then* (3) some kind of action (4) is mandatory").

the level of the risk that justifies precautionary action. The second element is what action should be taken when a situation triggers this level of risk and uncertainty. The third is whether it allows a balancing of the risks and benefits of a certain action or situation before invoking precautionary means. And the fourth is the level of scientific certainty, i.e., whether a consensus, but lack of certainty, can be used to avoid precautionary action.[164]

The basic premise of the principle is as follows: "The precautionary principle ensures that a substance or activity posing a threat to the environment is prevented from adversely affecting the environment, even if there is no conclusive scientific proof linking that particular substance or activity to environmental damage". It is a "guiding principle. Its purpose is to encourage –perhaps even oblige– decision makers to consider the likely harmful effects of their activities on the environment before they pursue those activities".[165] Some authors emphasized that the "uncertainties are forcing the international community to make difficult decisions regarding responses needed to counter the looming threat of global warming. The choice appears to be between adopting a precautionary approach today, one that will be very expensive and that may itself alter society in fundamental ways, or waiting for the results of the current 'experiment', and suffer the cataclysm that could result from making the wrong guess – a planet warming so rapidly that life may not be able to adapt. The choice seems clear: international society does not have the luxury of waiting for scientific certainty before it responds to the potential threat of global warming".[166] According to Blackwelder, "the precautionary principle mandates that when there is a risk of significant health and environmental damage to others or to future generations, and when there is scientific uncertainty as to the nature of that damage or the likelihood of the risk, then decisions should be made so as to prevent such activities from being conducted unless and until scientific evidence shows that the damage will not occur".[167]

Making reparation to the injured State or States for breaches of international obligation under traditional international law did not effectively deal with the question of prevention of harmful consequences of activities that may have adverse effects on the environment. This fact necessitates and legitimizes the development of the precautionary principle. Falk observed that "we do not know exactly where to locate thresholds of irreversibility, but we do know that environmental quality is

164 Deborah Katz, 'The Mismatch Between the Biosafety Protocol and the Precautionary Principle' (2001) 13 (4) Geo. Int'l Envtl. L. Rev 949, 956; for the examination of those four elements in the context of various conventions recognizing the principle, see, *ibid* 961-965.

165 Cameron and Abouchar (n 129) 2; Also see, Cameron and Abouchar (n 147) 44-45; Further see, MacDonald (n 129) 256.

166 Durwood Zaelke and James Cameron, 'Global Warming and Climate Change- An Overview of the International Legal Process' (1990) 5 (2) Am. U. J. Int'l L. & Pol. 249, 251.

167 *Capitol Hill Hearing Testimony Concerning the Cloning of Humans and Genetic Modifications before the Subcomm. on Labor, Health and Human Servs., S. Appropriations Comm.*, 107th Cong. (2002), (statement of Dr. Brent Blackwelder, President, Friens of the Earth, LEXIS CNGTST File, cited in, Sunstein (n 144) 1013.

deteriorating and that a growing number of experts are viewing the near future with alarm".[168] As one commentator observed "once a species is wiped out, 'restitution' in the sense of restoration of the *status quo ante*, is impossible. Deforestation, especially in tropics, is extremely difficult to reverse. And given that, by definition, all elements of the biosphere are interconnected, cooperation on the international level is imperative if the health of the globe is to be restored".[169] Similarly, it was also argued that "if the harm caused by abnormally dangerous activities on the international level is irreparable or irreversible, liability for damage after the fact of injury may prove of little consequence. The shifting of cost from the victim to the State which sponsors an enterprise is, after all, only part of the desired international regime. Basically, the world community wishes to avoid injury and damage altogether".[170]

The precautionary principle/approach is based upon new set of assumptions, such as, the vulnerability of the environment; the limitations of science to accurately predict threats to the environment, and the availability of alternative, less harmful processes and products.[171]

The "precautionary principle" or "precautionary approach" can also be found in some of the binding legal instruments on environmental protection.

ii. The principle with respect to atmospheric pollution

Preamble paragraph 5 of the Vienna "Convention for the Protection of the Ozone Layer"[172] of 22/03/1985 stresses the precautionary measures for the protection of the ozone layer which have already been taken at national and international levels.[173]

168 Falk (n 125) 217.

169 Stephen McCaffrey, 'The Law of International Watercourses: Ecocide or Ecomanagement?' (1990) 59 (4) Rev. Jur. U.P.R. 1003, 1004.

170 Kelson (n 38) 242.

171 Hey (n 139) 308; McIntyre and Mosedale (n 109) 222.

172 The "*Convention for the Protection of the Ozone Layer*", adopted on 22/03/1985 and entered into force on 22/09/1988; *reproduced in*, 26 ILM 1516 (1987).

173 "Early versions of the precautionary principle were silent on the question whether, by taking action on the basis of present uncertainty, regulatory authorities are obliged to revisit their decisions as new information becomes available. The 1985 Vienna Convention for the Protection of the Ozone Layer is a notable, and interesting, exception. A framework treaty that was structured to be progressively implemented by subsequent protocols, it very much looks to future regulatory action. Its preamble states that parties are, "determined to protect the ozone layer by taking precautionary measures... with the ultimate objective of their [i.e., ozone depleting substances] elimination *on the basis of developments in scientific knowledge,* taking into account technical and economic considerations." The Convention clearly anticipates that increasing knowledge and technology will indicate further reductions (rather than increases) in ozone-depleting substances, as has in fact happened; See, Applegate (n 146) 31. Although the author specifically indicates the 1985 Convention it is apparent that the quoted expression is taken from the Preamble of the 1987 Montreal Protocol.

The "Montreal Protocol on Substances that Deplete the Ozone Layer"[174] of 16/09/1987 establishes specific obligations in the implementation of the Vienna "Convention for the Protection of the Ozone Layer" of 22/03/1985. The obligations imposed upon Parties by the Montreal Protocol included reducing emissions of ozone-depleting substances (Articles 2, 3 and Annexes), controlling international trade in ozone-depleting substances (Article 4), and national and regional reporting requirements (Articles 7 and 9). In addition the Protocol also provided for environmental dispute avoidance and settlement, a noncompliance procedure regime (Article 8). Article 8 of the Montreal Protocol reads as follows: "The Parties, at their first meeting, shall consider and approve procedures and institutional mechanisms for determining noncompliance with the provisions of this Protocol and for treatment of Parties found to be in non-compliance". According to Article 9, paragraph 2, of the Montreal Protocol the Parties undertake to co-operate in promoting public awareness of the environmental effects of the emissions of controlled substances and other substances that deplete the ozone layer.[175]

The 1987 Montreal Protocol in its preamble states that the Parties, though "aware that measures taken to protect the ozone layer from depletion should be based on relevant scientific knowledge" (para.5), are "determined to protect the ozone layer by taking precautionary measures to control equitably total global emissions of substances that deplete it" (para.6). The preamble further notes "the precautionary measures… that have already been taken at national and regional levels" (para.8).

Furthermore, the precautionary principle is also emphasized by the Meeting of the Parties to the Montreal Protocol. For example, in the 1995 Meeting many governmental representatives stated that "the precautionary principle, which had been a cornerstone of the ozone regime from the outset, should continue to be applied as Parties addressed ongoing threats to the ozone layer".[176] The 2008 "*Doha*

174 The "*Montreal Protocol on Substances that Deplete the Ozone Layer*", adopted on 16/09/1987 and entered into force on 01/01/1989; *reproduced in*, 26 ILM 1541 (1987). Since 196 Parties have ratified the "Montreal Protocol on Substances that Deplete the Ozone Layer" of 16/09/1987, it represents universal ratification, and also a higher number of Parties than any other treaties in history. The London Amendment to the Montreal Protocol = 195 Parties; the Copenhagen Amendment = 192 Parties; the Montreal Amendment = 181 Parties and the Beijing Amendment = 165 Parties; data is available at, <http://www.unep.ch/ozone/Ratification_status/index.shtml>

175 See, Osamu Yoshida, 'Soft Enforcement of Treaties: The Montreal Protocol 's Noncompliance Procedure and the Functions of Internal International Institutions' (1999) 10 Colo. J. Int'l Envtl. L. & Pol'y 95, 98 (According to Yoshida "under the present international cooperation regime for protecting the ozone layer, the only legal remedy is collective treaty compliance. Monetary compensation by sovereign states consuming ozone-depleting substances (ODSs) or by transnational corporations producing ODSs is not available. Under the Montreal noncompliance procedure (NCP) regime, either a member state on the United Nations Environment Programme (UNEP) Ozone Secretariat can initiate procedural mechanisms to ensure implementation of the international ozone treaties without any question of its own legal interests being involved. Therefore, international NCP regime initiators do not have to exhaust any domestic legal remedies as a precondition. In this respect, the Montreal NCP is an unprecedented procedural mechanism designed to effectively enforce international obligations *erga omnes*, in this case the global protection of the stratospheric ozone layer". The author added that "compared with traditional judicial settlements that usually require time-consuming processes, the NCP regime seems to be more flexible, simple and rapid", *ibid* 99).

176 *Report of the Seventh Meeting of the Parties to the Montreal Protocol*, Vienna 5-7 December 1995, UNEP/OzL.Pro.7/12, 27 December 1995, para.60; available at, <http://www.unep.ch/ozone/Meeting_Documents/mop/07mop/MOP_7.shtml>

Declaration" which was adopted by the ministers of the environment and heads of delegation of the 143 Parties attending the eighth meeting of the Conference of the Parties to the Vienna Convention for the Protection of the Ozone Layer and the Twentieth Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer, in preambular paragraph (d) stated, *inter alia*, the following: "*Cognizant of the fact* that safeguarding the ozone layer will require continued global commitment, a sustained level of scientific research and monitoring and the taking of precautionary measures to control equitably total global emissions of substances that deplete the ozone layer".[177]

Similarly, the UN "Framework Convention on Climate Change" of 09/05/1992 explicitly refers to the precautionary principle, but different than aforementioned two instruments, not in its preamble but in Article 3, paragraph 3. It reads: "The Parties should *take precautionary measures* to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. *Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures*, taking into account that policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost. To achieve this, such policies and measures should take into account different socio-economic contexts, be comprehensive, cover all relevant sources, sinks and reservoirs of greenhouse gases and adaptation, and comprise all economic sectors. Efforts to address climate change may be carried out cooperatively by interested Parties."[178] (Emphasis added).

The Parties of the "Protocol on Further Reduction of Sulphur Emissions"[179] of 14/06/1994 declared that they were "*resolved* to take precautionary measures to anticipate, prevent or minimize emissions of air pollutants and mitigate their adverse effects", and "*convinced* that where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account that such precautionary measures to deal with emissions of air pollutants should be cost-effective", (preamble paragraphs 3 and 4). For the same line of provisions one may refer to other subsequent Protocols to the 1979 Convention on Long-Range Transboundary Air Pollution. For example, in preamble paragraph 3 of the "Protocol on Persistent Organic Pollutants" of 24/06/1998, the Parties stated that they were "*resolved* to take measures to anticipate,

177 *Report of the eighth meeting of the Conference of the Parties to the Vienna Convention for the Protection of the Ozone Layer and the Twentieth Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer*, Doha, 16–20 November 2008, UNEP/OzL.Conv.8/7-UNEP/OzL.Pro.20/9, 27 November 2008, "Annex VI – Doha Declaration". Available at, <http://www.unep.ch/ozone/Meeting_Documents/mop/20mop/MOP-20-9E.pdf>

178 See, *ibid*, note given for Principle 15 of the Rio Declaration.

179 The "*Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on Further Reduction of Sulphur Emissions*" adopted on 14/06/1994 and entered into force on 05/08/1998; available at, <http://www.unece.org/env/lrtap/pops>

prevent or minimize emissions of persistent organic pollutants, taking into account the application of the precautionary approach, as set forth in principle 15 of the Rio Declaration on Environment and Development". Similar expression appears in preamble paragraph 8 of the "Protocol on Heavy Metals" of 24/06/1998 with respect to "emissions of certain heavy metals and their related compounds", and in preamble paragraph 11 of the "Protocol to Abate Acidification, Eutrophication and Ground-Level Ozone" of 30/11/1999 with the phrase of "emissions of these substances".[180]

iii. The principle with respect to nature, including marine, conservation

For instance, among others, preambular paragraph 4 and Articles 61, 63-66, 116-119, as well as the provisional measure provision of Article 290, of the UN "Convention on the Law of the Sea" of 1982 may be noted in relation to "precautionary approach". Judge Laing in his Separate Opinion appended to "*Southern Bluefin Tuna Cases*" (*Cases Nos.3 and 4)*, ITLOS Order of 27/08/1999, summarized the relevant provisions of the UNCLOS as follows:[181]

> "It cannot be denied that UNCLOS adopts a precautionary *approach.* This may be gleaned, *inter alia,* from preambular paragraph 4, identifying as an aspect of the "legal order for the seas and oceans" "the conservation of their living resources ..." Several provisions in Part V of the Convention, e.g. articles 63-66, on conservation and utilization of a number of species in the exclusive economic zone, identify conservation as a crucial value. So do article 61, specifically dealing with conservation in general, and article 64, dealing with conservation and optimum utilization of highly migratory species (such as tuna). Article 116, on the right to fish on the high seas, *inter alia* reiterates the conservation obligation on nationals of non-coastal/distant fishing States while fishing in the exclusive economic zone of other States. Article 117 explicitly articulates the duty of all States "to take, or to cooperate with other States in taking such measures for their respective nationals as may be necessary for" conservation of living resources in the high seas. Article 118 requires inter-State cooperation in the conservation and management of high seas living resources. Such cooperation is to extend to negotiations leading to the establishment of subregional or regional fisheries organizations. And article 119, entitled "conservation of the living resources of the high seas", deals with the allocation of allowable catches and "establishing other conservation measures". Although paragraph 1(a) refers to measures, based on the best scientific evidence, for production of the maximum sustainable yield, the conservatory thrust of this article is vigorously reaffirmed by the treatment, in paragraph (b), of the effects of management measures on associated or dependent species the populations of which should be maintained or restored "above levels at which their reproduction

180 The "Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on Persistent Organic Pollutants" adopted on 24/06/1998 and entered into force on 23/10/2003; "Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on Heavy Metals" adopted on 24/06/1998 and entered into force on 29/12/2003; and "Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution to Abate Acidification, Eutrophication and Ground-Level Ozone", adopted on 30/11/1999 and entered into force on 17/05/2005; all available at, <http://www.unece.org/env/lrtap/pops>

181 "Separate Opinion of Judge Laing", para 17 appended to "*Southern Bluefin Tuna Cases*" (Cases Nos.3 and 4), ITLOS, Order of 27/08/1999.

> may become seriously threatened". Article 116, in association with the Part V articles mentioned above, has been stated to point to the precautionary "principle" of fisheries management, while article 119 has been said to reflect a precautionary "approach" "when scientific data is not available or is inadequate to enable comprehensive decision-making" (Virginia Commentary, Vol. IV, pp.288, 310). Most of these are the very provisions before this Tribunal today. Strikingly, also, article 290, paragraph 1's reference to serious harm to the marine environment as a basis for provisional measures also underscores the salience of the approach."

Pursuant to Article 5, paragraph (c), of the UN "*Fish Stocks Agreement*"[182] of 04/12/1995, in order to conserve and manage straddling fish stocks and highly migratory fish stocks, coastal States and States fishing on the high seas shall apply the *precautionary approach* in accordance with article 6. While Article 6 (Application of the precautionary approach), paragraph 1, obliges States Parties to apply the precautionary approach widely to conservation, management and exploitation of straddling fish stocks and highly migratory fish stocks in order to protect the living marine resources and preserve the marine environment, paragraph 2 requires States to be more cautious when information is uncertain, unreliable or inadequate. The absence of adequate scientific information shall not be used as a reason for postponing or failing to take conservation and management measures.[183] In accordance with Article 6, paragraph 6, of the 1995 Agreement, cautious conservation and management measures, including, *inter alia*, catch limits and effort limits are required in case of new or exploratory fisheries. Consequently, Article 6 has to be applied in the light of the general principles, which include the precautionary approach itself, provided in Article 5 of the Agreement. Article 5 emphasizes a proper balance between sustainability and utilization and stresses ecosystem protection based on precaution and best scientific evidence.[184] Furthermore, Annex II to this Agreement sets forth "guidelines" for the application of the precautionary approach.[185] It has been argued

182 "*Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks*", adopted on 04/08/1995 by the United Nations Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks at New York, opened for signature on 04/12/1992 and entered into force on 11/12/2001, United Nations, Doc. A/CONF.164/37; reproduced in, 34 ILM 1542 (1995).

183 Article 6, paragraph 3, of the 1995 "Fish Stocks Agreement" reads as follows: "In implementing the precautionary approach, States shall: (a) improve decision-making for fishery resource conservation and management by obtaining and sharing the best scientific information available and implementing improved techniques for dealing with risk and uncertainty; (b) apply the guidelines set out in Annex II and determine, on the basis of the best scientific information available, stock-specific reference points and the action to be taken if they are exceeded; (c) take into account, inter alia, uncertainties relating to the size and productivity of the stocks, reference points, stock condition in relation to such reference points, levels and distribution of fishing mortality and the impact of fishing activities on non-target and associated or dependent species, as well as existing and predicted oceanic, environmental and socio-economic conditions; and (d) develop data collection and research programmes to assess the impact of fishing on non-target and associated or dependent species and their environment, and adopt plans which are necessary to ensure the conservation of such species and to protect habitats of special concern".

184 David Freestone, 'Implementing Precaution Cautiously: The Precautionary Approach in the Straddling and Highly Migratory Fish Stocks Agreement', in E. Hey (ed) *Developments in International Fisheries Law* (Kluwer Law International 1999) 287, 315-316.

185 Lawrence Juda, 'The United Nations Fish Stocks Agreement', in Olav Schram Stokke and Øystein B. Thommessen (eds) *Yearbook of International Co-operation on Environment and Development 2001/2002*, (London, Earthscan Publications 2001) 53, 54, 57.

that "the introduction of the precautionary approach represents a major change in the traditional approach of fisheries management, which until recently tended to react to management problems only after they reached crisis levels. The new regime will allow States and regional fisheries bodies to justify proactive measures more easily".[186]

The "*Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean*"[187], adopted at Honolulu on 05/09/2000, establishes a regional Commission charged with various functions. In carrying out its functions the Commission has to consider a precautionary approach. Pursuant to Article 6, paragraph 2, of the 2000 Honolulu Convention, absence of adequate scientific information shall not be used as a reason for postponing or failing to take conservation and management measures.

Note that the Protocol of 07/11/1996[188] to the London Dumping Convention of 29/12/1979 had made an important innovation by introducing the "precautionary approach" in Article 3, which provides: "appropriate preventative measures are taken when there is reason to believe that wastes or other matter introduced into the marine environment are likely to cause harm even when there is no conclusive evidence to prove a causal relation between inputs and their effects". According to some authors, the precautionary approach was strongly indicated here by the words 'shall apply', which were used "presumably to compensate for the enlarged list of wastes exempt from a general prohibition of dumping in Annex 1".[189]

Preamble paragraph 5 of the "*Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean*"[190] ("Specially Protected Areas Protocol")

186 European Parliament, Directorate-General for Research, '*Working Paper: The Implications of the UN Fish Stocks Agreement (New York, 1995) for Regional Fisheries Organisations and International Fisheries Management*' (authors: C. Hedley, E.J. Molenaar, A.G. Elferink) (2003) 12. The Working Paper is also accessible at, <http://www.oceanlaw.net/projects/consultancy/pdf/ep2003.pdf>

187 The "*Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean*", done at Honolulu on 05/09/2000 and entered into force on 19/06/2004; *reproduced in*, 40 ILM 278 (2001); (2001) 95 (1) AJIL 152-155.

188 The "*Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter*" was adopted on 07/11/1996 by the Special Meeting of Contracting Parties to the 1972 London Convention, and entered into force on 24/03/2006; IMO document LC/SM 1/6 of 14 November 1996; reproduced in, 36 ILM 7 (1997). The objectives of the 1996 Protocol are to protect and preserve the marine environment from all sources of pollution and take effective measures, according to scientific, technical and economic capabilities of the Parties, to prevent, reduce and where practicable eliminate pollution caused by dumping or incineration at sea of wastes or other matter, (Article 2). The 1996 Protocol supersedes the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972, between Contracting Parties to this Protocol which are also Parties to the Convention, (Article 23). Thus the 1996 Protocol is in fact an entirely new convention, modifying and adding to virtually every aspect of the 1972 London Convention. On the 1996 Protocol, see, Erik Jaap Molenaar, 'The 1996 Protocol to the 1972 London Convention' (1997) 12 (3) Int'l J. Marine & Coastal L 396, 398.

189 Molenaar (n 188) 399.

190 The "*Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean*" was adopted on 10/06/1995 by the Conference of Plenipotentiaries for the Protection of the Mediterranean Sea against Pollution and its Protocols, held in Barcelona, and entered into force on 12/12/1999. In accordance with Article 32, the 1995 Protocol replaces the 1982 Protocol concerning Mediterranean Specially Protected Areas. The Annexes to the 1995 Protocol were adopted on 24/11/1996 by the Meeting of Plenipotentiaries on the Annexes to the Protocol concerning Specially Protected

of 10/06/1995 provides that "when there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be invoked as a reason for postponing measures to avoid or minimize such a threat".

The "Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal" does not mention the precautionary principle. However, Article 4, paragraph 3(f) and (h) of the "*Bamako Convention on the Ban of Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes Within Africa*"[191] of 29/01/1991 emphasizes the principle. Some authors argue that treaties dealing with hazardous waste consistently score in the stronger range among the elements of the precautionary principle.[192] Article 4, paragraph 3 (f), of the Bamako Convention provides that State Parties should adopt and implement "the preventive, precautionary approach to pollution which entails, *inter alia*, preventing the release into the environment of substances which may cause harm to humans or the environment without waiting for scientific proof regarding such harm".

The "Convention on International Trade in Endangered Species"[193] (CITES) of 03/03/1973 does not refer to the precautionary principle. However, like other nature conservation treaties, it may be argued that the precautionary principle has been implicit in the CITES, especially with respect to Appendix II.[194] In the ninth meeting of the Conference of the Parties held in November 1994 the Parties agreed to apply the precautionary principle. The Resolution adopted at that meeting recognizes that "by virtue of the precautionary principle, in cases of uncertainty, the Parties shall act in the best interest of the conservation of the species when considering proposals for amendment of Appendices I and II" and decides that "when considering any proposal to amend Appendix I or II the Parties shall apply the precautionary principle so that scientific uncertainty should not be used as a reason for failing to act in the best interest of the conservation of the species".[195]

Article 2, paragraph 5/a, of the ECE "*Convention on the Protection and Use of Transboundary Watercourses and International Lakes*"[196] of 17/03/1992 provides

Areas and Biological Diversity in the Mediterranean, which was held in Monaco.

191 The "*Bamako Convention on the Ban of Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes Within Africa*" of 29/01/1991; reproduced in, 30 ILM 773 (1991).

192 Applegate (n 146) 23; Katz (n 164) 957.

193 The "*Convention on International Trade in Endangered Species of Wild Fauna and Flora*" was adopted on 03/03/1973 and entered into force on 01/07/1975; 993 UNTS 243; *reproduced in*, 12 ILM 1085 (1973); (1974) 68 (1) AJIL 197

194 McIntyre and Mosedale (n 109) 227; Dickson (n 147) 211-228.

195 Resolution of the Conference of the Parties: Criteria for Amendment of Appendices I and II, agreed at the Ninth Meeting of the Conference of the Parties, Fort Lauderdale (US), 7-18 November 1994, cited in, McIntyre and Mosedale (n 109) 227.

196 The UN/ECE "*Convention on the Protection and Use of Transboundary Watercourses and International Lakes*" was adopted at Helsinki on 17/03/1992 and entered into force on 06/10/1996, United Nations, Doc. E/ECE/1267; *reproduced in*, 31 ILM 1312 (1992). With respect to the States' duty to protect the ecosystems of international watercourses one may note, among others, the UN "*Convention on the Law of the Non-navigational Uses of International Watercourses*" of 21/05/1997, especially see, Articles 20 and 23 of this Convention.

that, in taking all appropriate measures to prevent, control and reduce transboundary impact, States Parties shall be guided by, *inter alia*, "the *precautionary principle*, by virtue of which action to avoid the potential transboundary impact of the release of hazardous substances shall not be postponed on the ground that scientific research has not fully proven a causal link between those substances, on the one hand, and the potential transboundary impact, on the other hand." One author in the early 1990s draws attention to the fact that "the obligation not to cause harm to another State offers no protection, in and of itself, to the ecosystem of the international watercourse in question. Especially where water moves from one State into another (whether in a river or underground), protection of the flora and fauna of an international watercourse is achieved, if at all, only indirectly, via the legal protection afforded States. This approach permits States to exploit an international watercourse and its waters up to the point that harm is caused to another country".[197]

According to Article 5, paragraph (a), of the ECE "Protocol on Water and Health"[198] of 17/06/1999, in taking measures to implement this Protocol, the Parties shall be guided, among others, by the precautionary principle. It reads: "The *precautionary principle*, by virtue of which action to prevent, control or reduce water-related disease shall not be postponed on the ground that scientific research has not fully proved a causal link between the factor at which such action is aimed, on the one hand, and the potential contribution of that factor to the prevalence of water-related disease and/or transboundary impacts, on the other hand".

The Helsinki "*Convention on the Protection of the Marine Environment of the Baltic Sea*"[199] of 09/04/1992 revises the "Convention on the Protection of the Marine Environment of the Baltic Sea Area", signed again in Helsinki on 22/03/1974, the latter of which ceased to apply upon the entry into force of the new Convention, (Article 36, paragraph 4). Article 3 (Fundamental Principles and Obligations), paragraph 2, of the 1992 Helsinki Convention provides that "the Contracting Parties shall apply the *precautionary principle*, i.e., *to take preventive measures when there is reason to assume that* substances or energy introduced, directly or indirectly, into the marine environment may create 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 inputs and*

197 McCaffrey (n 169) 1006-1007.

198 Furthermore, Article 5, paragraph (e), of the "Protocol on Water and Health" of 17/06/1999 states that "preventive action should be taken to avoid outbreaks and incidents of water-related disease and to protect water resources used as sources of drinking water because such action addresses the harm more efficiently and can be more cost-effective than remedial action".

199 The "*Convention on the Protection of the Marine Environment of the Baltic Sea*" was signed on 09/04/1992 and entered into force on 17/01/2000; available at, <http://untreaty.un.org/unts/144078_158780/15/3/6512.pdf>. Pursuant to Article 2, paragraph 1, of the 1992 Convention, "Pollution" means introduction by man, directly or indirectly, of substances or energy into the sea, including estuaries, which are liable to create hazards to human health, to harm living resources and marine ecosystems, to cause hindrance to legitimate uses of the sea including fishing, to impair the quality for use of sea water, and to lead to a reduction of amenities.

their alleged effects". (Emphasis added). Article 3, paragraph 3 of the Convention obliges Parties to promote the use of Best Environmental Practice and Best Available Technology, as described in Annex II of the Convention; paragraph 4 indicates the polluter-pays principle; and paragraph 6 imposes the duty upon the Parties not to cause transboundary pollution in areas outside the Baltic Sea area. Pursuant to Article 28, the Annexes attached to this Convention form an integral part of this Convention. Under Annex II ("Criteria for the Use of Best Environmental Practice and Best Available Technology"), Regulation 2- Best Environmental Practice, paragraph 2 provides that "in determining in general or individual cases what combination of measures constitute Best Environmental Practice, particular consideration should be given to", among others, "the precautionary principle".

The "*Convention for the Protection of the Marine Environment of the North-East Atlantic*"[200] (OSPAR Convention) of 22/09/1992, which is examined below, replaces[201] the "*Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft*"[202] (Oslo Convention) of 15/02/1972 and the "*Convention for the Prevention of Marine Pollution from Land-Based Sources*"[203] (Paris Convention) of 21/02/1974. In the 1974 Paris Convention no express reference was made to the precautionary principle. This gap was filled by the Paris Commission and established by the 1974 Convention, which issued Recommendation 89/1 "*on the Principle of Precautionary Action*" on 22/06/1989. This Recommendation incorporates the principle directly. The Contracting Parties "accept the principle of safeguarding the marine ecosystem of the Paris Convention area by reducing at source polluting emissions of substances that are persistent, toxic and liable to bioaccumulate by the use of best available technology and other appropriate measures. This applies especially when there is reason to assume that certain damage or harmful effects on the living sources of the sea are likely to be caused by such substances, even when there is no scientific evidence to prove a causal link between the emissions and effects ("the principle of precautionary action")…"[204] As seen, this formulation of the principle in the

200 The "*Convention for the Protection of the Marine Environment of the North-East Atlantic*" ("OSPAR Convention") was adopted on 22/09/1992; *reproduced in*, 31 ILM 1069 (1993). The Contracting Parties comprise the fifteen following governments: Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Luxembourg, The Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom, together with the European Community. The original text was subsequently amended on 24/07/1998, updated on 09/05/2002, 07/02/2005 and 18/05/2006.

201 While Article 31, paragraph 1, of the OSPAR Convention states that "Upon its entry into force, the Convention shall replace the Oslo and Paris Conventions as between the Contracting Parties", paragraph 2 of the same Article provides: "Notwithstanding paragraph 1 of this Article, decisions, recommendations and all other agreements adopted under the Oslo Convention or the Paris Convention shall continue to be applicable, unaltered in their legal nature, to the extent that they are compatible with, or not explicitly terminated by, the Convention, any decisions or, in the case of existing recommendations, any recommendations adopted thereunder".

202 The "*Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft*" signed in Oslo on 15/02/1972 and entered into force on 06/04/1974; *reproduced in*, 11 ILM 262 (1972). The 1972 Oslo Convention was amended by the protocols of 02/03/1983 and 05/12/1989.

203 The "*Convention for the Prevention of Marine Pollution from Land-Based Sources*" signed in Paris on 21/02/1974 and entered into force on 06/05/1978; *reproduced in*, 13 ILM 352 (1974). The 1974 Paris Convention amended by the protocol of 26/03/1986.

204 Paris Commission Recommendation 89/1 on the "*Principle of Precautionary Action*" (22 June 1989). See, Gündling (n

Recommendation 89/1 in fact repeated the provision of the Final Declaration of the Second International North Sea Conference (London Declaration of 1987), which is already noted above. Furthermore, the Paris Commission, again on 22/06/1989, issued another Recommendation 89/2 on the use of the "best available technology" which implies the precautionary principle.[205]

Like the 1974 Paris Convention, the 1972 Oslo Convention on dumping did not explicitly recognize the precautionary principle. However, a similar approach was also adopted by the Oslo Commission, established by the Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft. On 14/06/1989, the Oslo Commission issued Decision 89/1 on the "*Reduction and Cessation of Dumping Industrial Wastes at Sea*" in which the precautionary principle was implicitly adopted.[206]

The purpose of the "*OSPAR Convention*"[207] of 22/09/1992 was to create a comprehensive regime in a single legal instrument for the protection of the marine environment of the north-east Atlantic and Arctic oceans from pollution by the previously covered sources, as well as from other adverse effects of human activities.[208] Article 2, paragraph 2(a), of the 1992 OSPAR Convention reads as follows: "The Contracting Parties shall apply: (a) *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*

127) 28; Hayward (n 132) 93; Cameron and Abouchar (n 129) 15; McIntyre and Mosedale (n 109) 225. In addition to Rec. 89/1 the authors also refer to the Paris Commission Recommendation 90/1 on the "*Definition of the Best Available Technology for Secondary Iron and Steel Plants*", which provided the first steps for a more concrete application of the precautionary principle by defining the best available technology for iron and steel industries.

205 Paris Commission Recommendation 89/2 on the use of the "*Best Available Technology*" (22 June 1989). Gündling (n 127) 28. The author stated that the definition given for the 'best available technology' "makes express reference to the 'precautionary principle', and the final clause provides that the application of the 'best available technology' has to lead to an improvement of the environment", *ibid*. On the other hand, McIntyre and Mosedale referred to Paris Commission Recommendation 90/1 on the "*Definition of the Best Available Technology for Secondary Iron and Steel Plants*", which provided the first steps for a more concrete application of the precautionary principle by defining the best available technology for iron and steel industries; See, McIntyre and Mosedale (n 109) 225.

206 Oslo Commission Decision 89/1 on the "*Reduction and Cessation of Dumping Industrial Wastes at Sea*" (14 June 1989), cited in Cameron and Abouchar (n 129) 15. The authors stated that "the Oslo Commission has implicitly adopted the precautionary principle. In a decision on the reduction and cessation of dumping industrial wastes at sea, the Commission decided that no dumping should occur 'except for inert materials of natural origin' which would 'cause no harm to marine environment, (provided that) there be no practical alternatives on land'…" ; Also see, McIntyre and Mosedale (n 109) 225. The authors stated that "the Oslo Commission's Prior Justification Procedure has been described as 'a most rigorous application of the precautionary principle', in that it places on the party applying to dump industrial wastes the burden of proving 'both that are no practical alternatives on land and that the materials cause no harm in the marine environment'…", *ibid*; Further see, Hayward (n 132) 96.

207 Analysis on the OSPAR Convention, see, Ellen Hey - Ton IJIsra - Andre Nollkaemper, '*The 1992 Paris Convention for the Protection of the Marine Environment of the North-East Atlantic: A Critical Analysis*' (1993) 8 (1) Int'l J. Marine & Coastal L. 1; Louise de la Fayette, '*The OSPAR Convention Comes into Force: Continuity and Progress*' (1999) 14 (2) Int'l J. Marine & Coastal L. 247, 263-265.

208 Fayette (n 207) 250.

relationship between the inputs and the effects…"[209] (Emphasis added). It was argued that the mandatory prescription of the precautionary principle in itself is an important achievement.[210] This provision means that "a Contracting Party which opposes the taking of preventive measures cannot argue against taking those measures because there is lack of conclusive scientific evidence about the effects of those activities. The last phrase of Article 2(2) (a), in fact, somewhat shifts the burden of proof between those Contracting Parties advocating protective measures and those advocating that more information is required prior to taking such measures."[211] The formulation of the precautionary principle in the OSPAR Convention is significant for the following reasons: As La Fayette listed, first, unlike some other previous definitions of this principle, this is an active formulation; it requires preventive measures to be taken when there is a reasonable apprehension of a hazard. Secondly, unlike, for example, Principle 15 of the Rio Declaration, it does not require the potential damage to be serious or irreversible before action is taken. Thirdly, the formulation does not even require "damage", but only the possibility of a "hazard", which is the mere risk that damage might occur. Fourthly, unlike Principle 15 of the Rio Declaration, there is no requirement for preventive measures to be "cost-effective".[212]

The "*Convention for the Protection of the Mediterranean Sea against Pollution*"[213] of 16/02/1976 did not include a precise provision on the precautionary principle. Although the precautionary principle was lacking in the 1976 Convention, the principle was subsequently introduced to the Convention system by the Contracting Parties. Indeed, in their sixth meeting held in October 1989, the contracting parties agreed "*to fully adopt the principle of precautionary approach* regarding the prevention and elimination of contamination in the Mediterranean Sea area…" and requested the Secretariat "to review the Dumping Protocol… in order to identify any necessary amendments".[214]

The 1976 Convention was subsequently replaced by the "*Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean*" of 10/06/1995. The precautionary principle appears in the 1995 Convention. Pursuant to Article 4, paragraph 3(a), the Contracting Parties shall "apply, in accordance with

209 Also see, Article 2, paragraph 1(a), of the OSPAR Convention: "The Contracting Parties shall, in accordance with the provisions of the Convention, take all possible steps to prevent and eliminate pollution and shall take the necessary measures to protect the maritime area against the adverse effects of human activities so as to safeguard human health and to conserve marine ecosystems and, when practicable, restore marine areas which have been adversely affected".

210 Hey - IJIsra – Nollkaemper (n 207) 11.

211 *Ibid* 12.

212 Fayette (n 207) 254-255.

213 The "Convention for the Protection of the Mediterranean Sea against Pollution", adopted on 16/02/1976 and entered into force on 12/02/1978.

214 Sixth Meeting of the Contracting Parties to the Convention for the Protection of the Mediterranean Sea against Pollution, *Recommendations Approved by the Contracting Parties* (October 1989), cited in, Cameron and Abouchar (n 129) 15; Also see, McIntyre and Mosedale (n 109) 225.

their capabilities, the precautionary principle, by virtue of which 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". Consequently, the insertion of sub-paragraph (a) to paragraph 3 of Article 4 is one of the significant contributions that was made by the 1995 Convention. It follows that the inclusion of an explicit and specific provision on precautionary principle into the 1995 Convention seems to be a consequence of the steps taken in 1989 by the Contracting Parties of the original 1976 Convention.

The "*Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities*"[215] of 07/03/1996 was based on the original 1980 Protocol on Land-Based Sources. In preamble paragraph 5 of the 1996 "Protocol on Land-Based Sources and Activities" the Parties declared that they were "*applying* the precautionary principle and the polluter pays principle, undertaking environmental impact assessment and utilizing the best available techniques and the best environmental practice, including clean production technologies", as provided for in article 4 of the "Convention for the Protection of the Mediterranean Sea against Pollution", adopted on 16/02/1976 and amended on 10/06/1995.

Furthermore, the "*Protocol Concerning Cooperation in Preventing Pollution from Ships and, in Cases of Emergency, Combating Pollution of the Mediterranean Sea*"[216] of 25/06/2002 in preambular paragraph 10, refers to Article 4 of the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean of 10/06/1995, and states the following: "The Contracting Parties to the present Protocol, … Applying the *precautionary principle*, the polluter pays principle and the method of environmental impact assessment, and utilizing the best available techniques and the best environmental practices…".

iv. The principle in recent instruments

The following more recent instruments do not only insert provisions on the precautionary principle, but also make clear references to Principle 15 of the Rio Declaration. For example:

215 The "*Protocol on Land-Based Sources*" (the LBS Protocol) was adopted on 17/05/1980 by the Conference of Plenipotentiaries of the Coastal States of the Mediterranean Region for the Protection of the Mediterranean Sea Against Pollution from Land-based Sources, held in Athens. The 1980 Protocol entered into force on 17/06/1983. The original 1980 LBS Protocol was modified by amendments adopted on 07/03/1996 by the Conference of Plenipotentiaries on the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources, held in Syracuse on 6 and 7 March 1996 (UNEP(OCA)/MED IG.7/4). The amended Protocol recorded as "Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities".

216 The "*Protocol Concerning Cooperation in Preventing Pollution from Ships and, in Cases of Emergency, Combating Pollution of the Mediterranean Sea*", done at Valletta, Malta, on 25 January 2002.

In the preamble paragraph 4 of the "*Cartagena Protocol on Biosafety*"[217] of 29/01/2000 the Parties reaffirmed "the precautionary approach contained in Principle 15 of the Rio Declaration on Environment and Development". Article 1 provides that "in accordance with the precautionary approach contained in Principle 15 of the Rio Declaration on Environment and Development, the objective of this Protocol is to contribute to ensuring an adequate level of protection in the field of the safe transfer, handling and use of living modified organisms resulting from modern biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health, and specifically focusing on transboundary movements". The Cartegena Protocol[218] has three annexes. "Annex III. Risk Assessment", paragraph 4, indicates that "lack of scientific knowledge or scientific consensus should not necessarily be interpreted as indicating a particular level of risk, an absence of risk, or an acceptable risk".[219] Some examples of instruments which are comparable to the 2000 Cartagena Protocol are, the 1973 CITES, the 1987 Montreal Protocol on substances that deplete the Ozone Layer, the 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, the 1998 Rotterdam Convention on PIC-Procedure (prior informed consent procedure) for Certain Hazardous Chemicals and Pesticides in International Trade, and the 2001 Convention on Persistent Organic Pollutants.[220]

The precautionary principle was incorporated into the Protocol in an effort to reduce the risk of scientifically uncertain dangers. In the context of the Protocol, "this principle allows a country to reject imports of living modified organisms even if there is scientific uncertainty that the organisms will cause any harm".[221] But there are views that the precautionary principle was not sufficiently defined in the

217 The "*Cartagena Protocol on Biosafety to the Convention on Biological Diversity*", adopted at Montreal on 29/01/2000, and entered into force on 11/09/2003; *reproduced in*, 39 ILM 1027 (2000); Also see, Article 10 (Decision Procedure), paragraph 6, of the Protocol which reads as follows: "Lack of scientific certainty due to insufficient relevant scientific information and knowledge regarding the extent of the potential adverse effects of a living modified organism on the conservation and sustainable use of biological diversity in the Party of import, taking also into account risks to human health, shall not prevent that Party from taking a decision, as appropriate, with regard to the import of the living modified organism in question… in order to avoid or minimize such potential adverse effects". Further see, Article 11, paragraph 8, which uses the same formulation with a change in the last part of the provision: "…with regard to the import of that living modified organism intended for direct use as food or feed, or for processing, in order to avoid or minimize such potential adverse effects".

218 Veit Koester, "*Cartagena Protocol: A New Hot Spot in the Trade-Environment Conflict?*" (2001) 31 (2) Envtl. Pol'y & L. 82 (For the negotiations and the content of the Protocol, see *ibid* 82-85); Veit Koester, '*The Compliance Mechanism of the Cartagena Protocol on Biosafety: Development, Adoption and First Five Years of Life*' (2009) 18 (1) RECIEL 77.

219 Also see, "Annex III", paragraph 8 (f): "Where there is uncertainty regarding the level of risk, it may be addressed by requesting further information on the specific issues of concern or by implementing appropriate risk management strategies and/or monitoring the living modified organism in the receiving environment".

220 Koester (n 218) 92.

221 Katz (n 164) 950 (The author's general thesis was that "the most strict embodiments of the precautionary principle are inappropriate to address the risks of agricultural biotechnology and that the principle may not be appropriate at all"; *ibid* 951; Further see, Robert Falkner, '*Regulating biotech trade: the Cartagena Protocol on Biosafety*' (2000) 76 (2) International Affairs 299; also available at <https://www.cbd.int/doc/articles/2002-/A-00143.pdf>. According to Falkner, "while recognizing the potential benefits of biotechnology trade, the treaty strengthens the application of the precautionary principle in this area and explicitly states that trade and environment agreements 'should be mutually supportive'…", *ibid* 299-300).

Protocol[222] and also that there is a lack of clarity regarding how the principle will be implemented.[223]

While preambular paragraph 8 of the "Stockholm Convention on POPs" of 22/05/2001 affirms that "precaution underlies the concerns of all the Parties and is embedded within the Convention", Article 1 reads as follows: "Mindful of the precautionary approach as set forth in Principle 15 of the Rio Declaration on Environment and Development, the objective of this Convention is to protect human health and the environment from persistent organic pollutants".

The preamble paragraph 11 of the "Protocol on PRTRs" of 21/05/2003 (entered into force on 08/10/2009) declared that the Parties were "*wishing also* to ensure that the development of such systems takes into account principles contributing to sustainable development such as the precautionary approach set forth in principle 15 of the 1992 Rio Declaration on Environment and Development". Moreover, Article 3, paragraph 4, of the Protocol provides that "in the implementation of this Protocol, each Party shall be guided by the precautionary approach as set forth in Principle 15 of the 1992 Rio Declaration on Environment and Development".

Article IV of the Revised African Conservation Convention of 11/07/2003 requires Parties to adopt and implement all measures necessary to achieve the objectives of this Convention, in particular through the application of the precautionary principle.

v. The principle in international jurisprudence

Furthermore, notwithstanding whether it has explicitly or implicitly been emphasized the precautionary approach also appears in separate or dissenting opinions of the judges of the ICJ.

For example, as indicated by the ICJ in the "*Request for an Examination of the Situation in accordance with paragraph 63 of the Court's Judgment of 20 December 1974 in the Nuclear Tests* (*New Zealand v. France*)" Order of 22/09/1995, in its "Request for an Examination of the Situation" (Application instituting proceedings) of 21/08/1995 New Zealand contended "that, both by virtue of specific treaty undertakings (…) and customary international law derived from widespread international practice, France has an obligation to conduct an *environmental impact assessment* before carrying out any further nuclear tests at Mururoa and Fangataufa" and "that France's conduct is illegal in that it causes, or is likely to cause, the introduction into marine environment of radioactive material, France being under an obligation, before carrying out its new underground nuclear tests, to provide evidence

222 Falkner (n 221) 300.

223 Katz (n 164) 954.

that they will not result in the introduction of such material to that environment, in accordance with the '*precautionary principle*' very widely accepted in contemporary international law", (Order, para.5).[224] (Emphasis added).

Thus, New Zealand in that context emphasized obligation imposed upon France under international law. These obligations were supported by reference to treaty law and customary international law. New Zealand specifically referred to Article 16 of the 1986 Noumea Convention, which placed France under obligation to conduct a prior *environmental impact assessment* if it were to resume its nuclear testing program. This obligation, in the view of New Zealand, was supported by the application of *precautionary principle*.[225]

Moreover, in its oral statements New Zealand further contended "that… under current customary law, especially stringent controls applied to the marine environment, so that, in general, the introduction of the radioactive material into the marine environment was forbidden; and that specifically 'any introduction of radioactive material into the marine environment as a result of nuclear tests' was forbidden; that the standard of proof to which New Zealand should be subject in seeking to demonstrate that France was in breach of its obligations was a prima facie test; and that by virtue of the *adoption into environmental law of the 'Precautionary Principle'*, the burden of proof fell on a State wishing to engage in potentially damaging environmental conduct to show in advance that its activities would not cause contamination", (Order, para.34). In its oral statements New Zealand reiterated "that Article 16 of (the Noumea) Convention[226] required the carrying out of an environmental impact assessment before any major project 'which might affect the marine environment' was embarked upon; that a similar obligation existed under customary law; that, moreover, such obligation was not subject to any exception recognized in international law concerning national security; that *the Precautionary Principle required* France *to carry out such an assessment as a precondition for undertaking the activities, and to demonstrate that there was no risk associated with them*…", (Order, para.35). (Emphasis added).

New Zealand in its "Request for an Examination of the Situation" of 21/08/1995, among others, also specifically invoked the precautionary principle (Application, paras.105-110). [227] New Zealand argued that "there has emerged a very widely

224 "*Request for an Examination of the Situation in accordance with paragraph 63 of the Court's Judgment of 20 December 1974 in the Nuclear Tests* (*New Zealand v. France*)", Order of 22/09/1995 [1995] ICJ Rep para 5, 34-35.

225 Allan M. Bracegirdle, '*Case Analysis: Case to the International Court of Justice on Legality of French Nuclear Testing*' (1996) 9 (2) Leiden JIL 431, 438.

226 The "*Convention for the Protection of the Natural Resources and Environment of the South Pacific Region*" ("Noumea Convention"), adopted at Noumea on 24/11/1986, and entered into force 22/08/1990; *reproduced in*, 26 ILM 38 (1987).

227 "*Request for an Examination of the Situation in accordance with paragraph 63 of the Court's Judgment of 20 December 1974 in the Nuclear Tests (New Zealand v. France)* Case, *Application instituting proceedings* (*Request for an Examination of the Situation*), 21 August 1995, 53-57, para 105-110.

accepted and operative principle of international law referred to as 'precautionary principle'. This has the effect that in situations that may possibly be significantly environmentally threatening, the burden is placed upon the party seeking to carry out the conduct that could give rise to environmental damage to prove that that conduct will not lead to such a result", (*Application*, para.105).

In his Dissenting Opinion appended to the "(*New Zealand v. France*)" Order of 22/09/1995, Judge Koroma stated that "the evidence, though not conclusive, is sufficient to show that a risk of radioactive contamination of the marine environment may be brought about as a result of the resumed tests. The Court should have taken cognizance of the legal trend prohibiting nuclear testing with radioactive effect, and it should have proceeded to an examination of the situation within the framework of the 1973 *Nuclear Tests* case."[228]

Judge Palmer, in his Dissenting Opinion appended to the ICJ Order of 22/09/1995, stressed both the precautionary approach and the principle environmental impact assessment in the following words: "*(c)* customary international law may have developed a norm of requiring environmental impact assessment where activities may have a significant effect on the environment; *(d)* the norm involved in the *precautionary principle* has developed rapidly and *may now be a principle of customary international law* relating to the environment; *(e)* there are obligations based on Conventions that may be applicable here requiring environmental impact assessment and the precautionary principle to be observed", (para.91/c-e).[229] (Emphasis added).

In the "*Gabcikovo-Nagymaros Project* (*Hungary v. Slovakia*)" case the Court rendered its judgment on 25/09/1997.[230] Hungary, in its *Memorial*[231] of May 1994, directly referred, *inter alia*, to the precautionary principle:

> "The precautionary principle is the most developed form of the general rule imposing the obligation of prevention. Its proclamation at a universal level can be considered one of the most important results of the 1992 Rio de Janeiro Declaration on Environment and Development", (*Memorial* of Hungary, p.201, para.6.64). "Almost no new international instrument, whether regional or universal, drafted since 1989, ignores the precautionary principle", (p.202, para.6.65). "The effective application of the obligation of prevention can be jeopardized, due to scientific uncertainty, and this can result in irremediable environmental damage. Thus, action must be taken at an early

228 "Dissenting Opinion of Judge Koroma" appended to "*Request for an Examination of the Situation in accordance with paragraph 63 of the Court's Judgment of 20 December 1974 in the Nuclear Tests* (*New Zealand v. France*)", Order of 22/09/1995, [1995] ICJ Rep, 379.

229 "Dissenting Opinion of Judge Sir Geoffrey Palmer" appended to "*Request for an Examination of the Situation in accordance with paragraph 63 of the Court's Judgment of 20 December 1974 in the Nuclear Tests* (*New Zealand v. France*)", Order of 22/09/1995 [1995] ICJ Rep 412, para 91.

230 (*Hungary v. Slovakia*) (n 93).

231 "*Case concerning the Gabcikovo-Nagymaros Project* (*Hungary v. Slovakia*)", Memorial of the Republic of Hungary, [1994] 1 ICJ Rep 1, 201-203, 252.

> stage based upon models of potential consequences. This is the precautionary principle. As an aspect of the obligation of prevention, the precautionary principle seeks to avoid serious environmental damage. It is of particular cogency when there is a danger that the deterioration of the environment would be irreversible" (p.202, para.6.67). "One of the implications of the precautionary principle is that the causal link may be assumed in situations even in the absence of scientific certainty. Combined with the general obligation not to cause damage to another country's environment, this means that the State whose activities are likely to damage the environment of another State must show that the proposed action will not have such effects. If this cannot be done, the proposed activity must be modified or even abandoned", (pp.202-203, para.6.68).
>
> In that context Hungary concluded: "In the proposals made to the Czechoslovak Government to investigate the environmental problems caused by implementation of the Barrage System, the Hungarian Government referred to the precautionary principle and to the irreversibility of the damage that could result from the construction. Having ignored its demands and refused to take the necessary precautionary measures, Czechoslovakia was in breach of the obligation to prevent serious environmental harm", (p.203, para.6.69).
>
> Hungary further argued that "It may be difficult to offer proof for al1 possible or potential damages. Indeed, the damming of a massive international river is precisely the type of hazardous situation that entails potential damage, the full extent of which cannot be demonstrated at this time. This is the core reason why the precautionary principle is gaining increasing authority in the legal concerns and practice of States", (p.252, para.8.31).

Despite Hungary's lengthy arguments based on the precautionary principle submitted in its *Memorial* of 1994, the ICJ in its "*Gabcikovo-Nagymaros Project* (*Hungary v. Slovakia*)" Judgment of 25/09/1997 referred to the principle only in two paragraphs. The first was the one where it summarized Hungary's contention. The Court said: "Hungary argued that subsequently imposed requirements of international law in relation to the protection of the environment precluded performance of the Treaty. The previously existing obligation not to cause substantive damage to the territory of another State had, Hungary claimed, evolved into an *erga omnes* obligation of prevention of damage pursuant to the 'precautionary principle'…", (Judgment, para.97). The second reference to the principle appears in (para.113) of the Judgment in which the Court stated the following: "The Court recognizes that both Parties agree on the need to take environmental concerns seriously and to take the required precautionary measures, but they fundamentally disagree on the consequences this has for the joint Project. In such a case, third-party involvement may be helpful and instrumental in finding a solution, provided each of the Parties is flexible in its position".[232]

232 (*Hungary v. Slovakia*) (n 93) para 97, 113.

In his Separate Opinion[233] appended to the "*Gabcikovo-Nagymaros*" Judgment of 25/09/1997, Judge Weeramantry also refers to the applicability of the principle of the "precautionary approach" either in connection with the principle of "sustainable development" or "environmental impact assessment". He further underlines "the general principle of caution".[234] Judge Koroma in his Separate Opinion appended to the same Judgment concludes that "the importance of the river Danube for both Hungary and Slovakia cannot be overstated. Both countries, by means of the 1977 Treaty, had agreed to co-operate in the exploitation of its resources for their mutual benefit. *That Treaty*, in spite of the period in which it was concluded, *would seem to have incorporated most of the environmental imperatives of today, including the precautionary principle*, the principle of equitable and reasonable utilization and the no-harm rule. None of these principles was proved to have been violated to an extent sufficient to have warranted the unilateral termination of the Treaty".[235] (Emphasis added). Thus, Judge Koroma not only recognizes the precautionary principle but also regards it as one of the environmental imperatives that has already been incorporated into international environmental law.

Some authors commented that "the Court's decision may foreshadow a bleak future for the precautionary principle, at least with respect to its application in the context of pre-existing agreements… The principle is new, and thus it is not surprising that the Court did not mention it. It is somewhat disappointing, however, especially as this principle might have offset the need for 'imminence' which the Court stressed in its rejection of Hungary's state of necessity argument as a ground for suspending work on the Project".[236] However, as examined below in this study, this Judgment inserted three basic international environmental protection principles, i.e., the principles of "sustainable development", "transboundary damage and jurisdiction" and, at least implicitly, the "precautionary principle" into the jurisprudence of the Court. In particular the pronouncements in paragraphs 55 and 57 of the Judgment may also be construed as an indirect recognition of precautionary principle.

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233 "Separate Opinion of Vice-President Weeramantry" appended to "*Gabcikovo-Nagymaros Project Case*", ICJ Judgment of 25/09/1997, [1997] ICJ Rep 88, 93-94, note 14 (Judge Weeramantry refers to the 1990 Dublin Declaration by the European Council on the Environmental Imperative *(Bulletin of' the European Communities,* 6, 1990, Ann. II. p.18) "As Heads of State or Government of the European Community, …[w]e intend that action by the Community and its Member States will be developed… on the principles of sustainable development and preventive and precautionary action", (*ibid,* Conclusions of the Presidency, Point 1.36, *ibid* 17-18); Also see, Separate Opinion, *ibid* 111. Among others he also refers to the 1985 EC Environmental Assessment Directive (Art.3); and noted that "the status of the principle in actual practice is indicated also by the fact that multilateral development banks have adopted it as an essential precaution (World Bank Operational Directive 4.00)".

234 *Ibid* 113.

235 "Separate Opinion of Judge Koroma" appended to "*Gabcikovo-Nagymaros Project Case*", ICJ Judgment of 25/09/1997, [1997] ICJ Rep. 112, 152.

236 Ida Bostian, 'Flashing the Danube: The World Court's Decision Concerning the Gabcikovo Dam' (1998) 9 (2) Colo. J. Int'l Envtl. L. & Pol'y 401, 425.

vi. The status of the principle in international law

In addition to the jurisprudence of international courts and tribunals, legally binding instruments clearly and repeatedly indicate "precautionary approach or principle" either by also referring to the Rio Declaration or simply citing the principle itself. It may be safe to conclude that this principle is now incorporated into the corpus of international environmental law.

It has been argued that the key issue that now has to be resolved is the implementation of the precautionary principle.[237]

Although some authors argue that "more clarity is preferable at the international level before the precautionary principle can adequately fulfill the position of a binding customary norm in international law"[238], that this principle has now been expressed in a number of treaties and there exists sufficient state practice to conclude that it has gained broad acceptance on the international level[239] or that "if the present trends continue, the precautionary principle could become *the* fundamental principle of environmental protection policy and law at the international, regional and local levels"[240] (emphasis original), or that "many scholars view these policy statements as evidence that the precautionary principle finally has begun to emerge as customary international law. Nonetheless, the realities of current international environmental politics preclude it from, as yet, being a customary norm"[241], or "the numerous and in some cases elaborate instruments do not justify the conclusion that there exists a norm of general international law requiring the application of the principle of precautionary action"[242], there are also views that the precautionary concept has been considered as customary international law.[243] Some authors clearly argued that "the precautionary principle has indeed crystallized into a norm of customary international law" and that "effective and satisfactory implementation of the principle can be achieved, *inter alia*, by means of, where appropriate, precautionary assessment, the setting of precautionary standards and the discharge of ancillary informational obligations".[244]

237 Freestone & Hey (n 147) 14.

238 Mead (n 139) 167 (But the author added that the precautionary principle "will soon become a norm of customary international law", *ibid* 176. The author also stated that "there is considerable evidence, when looking at the implementation of the precautionary principle in multilateral agreements that it has 'crystallized' into a rule of customary law"; *ibid* 165).

239 Sands (n 129) 299-300.

240 Cameron and Abouchar (n 129) 27. The authors also stated that "backed by political will, the precautionary principle is now emerging as a principle of law", *ibid* 4.

241 MacDonald (n 129) 269.

242 Gündling (n 127) 30; Also see, Katz (n 164) 951 (According to the author, "the widespread use of the precautionary principle makes it seem more like a 'sound bite' rather than a principle rooted in the law. It is often included in agreements without much explanation of the impact it should have or how it should be implemented").

243 Hey (n 139) 303, 307; Yoshida (n 175) 121 (According to the author "the precautionary principle can be seen as a gradual development or an effective modification of the 1972 Stockholm Declaration's Principle 21, which is currently perceived to be a binding legal obligation").

244 McIntyre and Mosedale (n 109) 223, 241; Also see, David Freestone, 'The Road from Rio: International Environmental Law After the Earth Summit' (1994) 6 (2) J. Envtl. L. 193, 209-215; Cameron and Abouchar (n 147) 36-52 (The authors conclude that the widespread inclusion of the precautionary principle in international agreements shows that it is customary

Some others argue that at the very least the precautionary principle is an "evolving norm of customary international law".[245] As one commentator observed "recent international agreements treat the precautionary principle (PP) as a binding legal instrument. Whereas earlier international environmental agreements included the PP only in their preambles, more recent agreements… include the PP as an operational requirement in the main body of the treaty text". This development does suggest that the principle has been "crystallized into a binding norm of customary international law as a result of its frequent inclusion in international environmental agreements and national regulatory decisions".[246]

It follows that when requests for the indication of interim measures have been considered by international tribunals or courts (or quasi judicial convention organs, as may be the case under international human rights law), among others, this principle might be one of the elements which has to be taken into account by the said organs in assessing such requests. As examined below, provisional measures orders prescribed by ITLOS in fact clearly show this principle or approach has been discussed by the judges of that Tribunal.

5. Environmental impact assessment (EIA) principle

i. Recognition and scope of the EIA principle in soft and hard law instruments

The environmental impact assessment (EIA) principle was first established in domestic law under the 1969 National Environmental Policy Act of the United States.[247]

At international level the United Nations General Assembly resolution 2995 (XXVII), 1972 was one of the early soft law documents.[248] The 1978 UNEP *Draft*

law).

245 Simon Marr, *The Precautionary Principle in the Law of the Sea: Modern Decision Making in International Law* (New York, Martinus Nijhoff Publishers 2003) 202 (But the author also noted the following: "However, the precautionary principle shifts the burden for proving harmlessness to those states that wish to engage in the environmentally sensitive activity. Thus it is of predominant interest whether the precautionary principle as a rule of customary international law, provides for this shift in the burden of proof", *ibid*); Further see, Mead (n 139) 163.

246 Marchant (n 146) 1801 (However, the author also added that "the PP is too vague and underspecified to serve as a legally binding decision-making rule. Yet, in every jurisdiction in which the PP has been enacted, it is increasingly assuming the status of a binding legal rule. Applying the PP in this mode will result in real and perceived arbitrariness", *ibid* 1802. The author suggested that in order to overcome such problems the more proper policy option "is to try to better define the appropriate application of precaution", *ibid*).

247 See, Kovar (n 138) 135. Kovar noted that Principle 17 of the Rio Declaration enshrines the approach of the US "National Environmental Policy Act" of 1969, ((1988 & Supp. II 1990) 42 U.S.C. para 4321-4370a); David H. Getches, 'Foreword: The Challenge of Rio' (1993) 4 (1) Colo. J. Int'l Envtl. L. & Pol'y 1, 12; Weiss (n 56) 677; Armin Rosencranz, 'The Origin and Emergence of International Environmental Norms' (2003) 26 (3) Hastings Int'l & Comp. L. Rev. 309, 312.

248 UN General Assembly Resolution 2995 (XXVII) of 15/12/1972 on "*Co-operation between States in the field of the environment*". In (para 2) of this Resolution the GA recognized that co-operation between States in the field of environment "will be effectively achieved if official and public knowledge is provided of the technical data relating to the work to be carried out by States within their national jurisdiction, with a view to avoiding significant harm that may occur in the

Principles of Conduct (Principle 5) proposed that "States should make an environmental impact assessment before engaging in any activity with respect to a shared natural resource which may create a risk of significantly affecting the environment of another State or States sharing that resource". Similarly the 1981 UNEP Conclusions of the Study on the Legal Aspects concerning the Environment Related to Off-Shore Mining and Drilling within the Limits of National Jurisdiction also emphasizes the notion of environmental impact assessment.[249] These UNEP recommendations were endorsed by the UN General Assembly in its Resolution 37/217 of 20/12/1982 on "*International co-operation in the field of the environment*"[250], as well as in the UN "World Charter for Nature" of 28/10/1982, (para.11/c) which states that "activities which may disturb nature shall be preceded by assessment of their consequences, and environmental impact studies of development projects shall be conducted sufficiently in advance".[251] Paragraph 16 of the World Charter may also be cited in this context.[252] Furthermore, the UNEP Governing Council decision of 1987 on Environmental Impact Assessment in its preamble provides a definition: "Environmental impact assessment (EIA) means an examination, analysis and assessment of planned activities with a view to ensuring environmentally sound and sustainable development. EIA goals and principles… are necessarily general in nature and may be further refined when fulfilling EIA tasks at the national, regional and international levels".[253] The "*Male Declaration on Global Warming and Sea Level Rise*" adopted by the Small States Conference on Sea Level Rise on 18/11/1989 called upon "all States to undertake environmental impact assessments for all development projects, review existing development programmes in terms of environmental impact assessment and strengthen environmental management capabilities", (para.5).[254]

Principle 17 of the Rio Declaration of 1992 reads as follows:

> "Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority."

environment of the adjacent area".

249 *The Environment Programme: Programme Performance Report January-April 1981*, UN Doc. UNEP/GC.9/5/Add.5, 1981, p.36, cited in, Pierre-Marie Dupuy, "*Soft Law and the International Law of the Environment*" (1990) 12 (2) Mich. J. Int'l L. 420, 426.

250 UN General Assembly Resolution 37/217 of 20/12/1982 on "*International co-operation in the field of the environment*", adopted at 113th plenary meeting; especially see, para 6.

251 For the arguments in favor and against of the formulation of paragraph 11(c) of the Charter, see, Wood Jr. (n 23) 984-986.

252 The World Charter for Nature (para.16) reads as follows: "All planning shall include, among its essential elements, the formulation of strategies for the conservation of nature, the establishment of inventories of ecosystems and *assessments of the effects on nature of proposed policies and activities*…" (Emphasis added).

253 UNEP Governing Council decision 14/25, *Goals and Principles of Environmental Impact Assessment*, UN Doc. UNEP/GC.14/17 (1987), cited in, Cameron and Abouchar (n 129) 27, note 98.

254 "*Male Declaration on Global Warming and Sea Level Rise*" adopted by Small States Conference on Sea Level Rise on 18/11/1989, reproduced in, '*Selected International Legal Materials*' (1990) 5 Am. U. J. Int'l L. & Pol. 602.

Principle 17 of the Rio Declaration should be read in conjunction with Principle 19 (prior notification). Furthermore, Agenda 21, Chapter 7.41 (b) provides that "All countries should, as appropriate, adopt the following principles for the provision of environmental infrastructure (…) b. Ensure that relevant decisions are preceded by *environmental impact assessments* and also take into account the costs of any ecological consequences".[255]

EIA procedures are directly related to the principle of information and consultation since they make it possible to estimate the impact of a planned activity on the environment of a neighboring State.[256] "Present customary international law may oblige states to assess the transboundary impact potential and notify the results thereof to possibly affected state(s) if activities within their territory or jurisdiction carry a prima facie risk of transnationally injurious consequences".[257]

Coming to the hard-law instruments, Article 6 of the "*Nordic Environmental Protection Convention*" of 19/02/1974[258] provides that "upon the request of the supervisory authority, the examining authority shall, insofar as compatible with the procedural rules of the States in which the activities are being carried out, require the applicant for a permit to carry out environmentally harmful activities to submit such additional particulars, drawings and technical specifications as the examining authority deems necessary for evaluating the effects in the other State."

Article 206 of the 1982 UNCLOS reads as follows: "When States have reasonable grounds for believing that planned activities under their jurisdiction or control may cause substantial pollution of or significant and harmful changes to the marine environment, they shall, as far as practicable, *assess the potential effects of such activities on the marine environment* and shall communicate reports of the results of such assessments…"

255 Also see, Agenda 21, Chapter 8.4, which reads as follows: "The primary need is to integrate environmental and developmental decision-making processes. To do this, Governments should conduct a national review and, where appropriate, improve the processes of decision-making so as to achieve the progressive integration of economic, social and environmental issues in the pursuit of development that is economically efficient, socially equitable and responsible and environmentally sound…".

256 Dupuy (n 249) 426.

257 Günther Handl, 'Environmental Protection and Development in Third World Countries: Common Destiny - Common Responsibility' (1988) 20 (3) N.Y.U. J. Int'l L & Pol. 603, 615.

258 The "*Convention on the Protection of the Environment*" ("Nordic Environment Convention") of 19/02/1974 concluded between Denmark, Finland, Norway and Sweden; *reproduced in*, 13 ILM 591 (1974). Pursuant to Article 1 of this Convention "environmentally harmful activities shall mean the discharge from the soil or from buildings or installations of solid or liquid waste, gas or any other substance into water courses, lakes or the sea and the use of land, the seabed, buildings or installations in any other way which entails or may entail environmental nuisance by water pollution or any other effect on water conditions, sand drift, air pollution, noise, vibration, changes in temperature, ionizing radiation, light etc." Among others, the recognition of noise as one of the pollution sources seems very significant especially because it appears in a Convention concluded in the early 1970s and because under international human rights law, as shown below, such specific complaints have been taken before the organs of the European Convention on Human Rights.

The Contracting Parties to the ASESAN "Agreement on the Conservation of Nature and Natural Resources"[259] of 09/07/1985 undertake that proposals for any activity which may significantly affect the natural environment shall as far as possible be subjected to an assessment of their consequences before they are adopted, and they shall take into consideration the results of this assessment in their decision-making process, (Article 14/1). Environmental impact assessment is also indicated in Article 20/3(a) of the same Agreement.[260]

In the "*Noumea Convention*"[261] of 24/11/1986, Article 16 (Environmental Impact Assessment), paragraph 2 provides that "each Party shall, within its capabilities, assess the potential effects of such projects on marine environment, so that appropriate measures can be taken to prevent any substantial pollution[262] of, or significant and harmful changes within, the Convention Area". Pursuant to paragraph 3 of the same Article, "with respect to the assessment referred to in paragraph 2, each Party shall, where appropriate, invite: (a) public comment according to its national procedures; (b) other Parties that may be affected to consult with it and submit comments. The results of these assessments shall be communicated to the Organisation, which shall make them available to interested Parties."

Article 2 and in particular Article 8 of the "Protocol to the Environmental Protection to the Antarctic Treaty" of 04/10/1991 should also be recalled with regard to environmental impact assessment. Article 8 subjects all proposed activities in Antarctica to prior environmental assessment. The threshold set by Article 8 is that of a "minor or transitory impact". This Protocol established a Committee for Environmental Protection (Article 11). One of its functions is to provide advice on the application and implementation of the environmental impact assessment procedures set out in Article 8 and Annex I, (Article 12, para.1/d). The scope and procedure of this process is set forth under eight Articles of the "Annex I – Environmental Impact Assessment" to the Protocol.[263] "One of the strengths of "Annex I" is that mandatory environmental impact assessment applies to 'any activities undertaken

259 The "*Agreement on the Conservation of Nature and Natural Resources*" was adopted at Kuala Lumpur on 09/07/1985.

260 Article 20/3(a) of the 1985 ASESAN Agreement requires the Parties "to make environmental impact assessment before engaging in any activity that may create a risk of significantly affecting the environment or the natural resources of another Contracting Party or the environment or natural resources beyond national jurisdiction".

261 The "*Convention for the Protection of the Natural Resources and Environment of the South Pacific Region*" ("Noumea Convention" or "SPREP Convention"), adopted at Noumea on 24/11/1986, and entered into force 22/08/1990; *reproduced in*, 26 ILM 38 (1987).

262 Pollution is defined in Article 2, paragraph (f) of the "Noumea Convention" of 24/11/1986 as follows: "(f) 'pollution' means the introduction by man, directly or indirectly, of substances or energy into the marine environment (including estuaries) which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities…"

263 For environmental impact assessment under the 1991 Protocol, generally see, Catherine Redgwell, 'Environmental Protection in Antarctica: *The 1991 Protocol*' (1994) 43 (3) ICLQ 599, 616-622; Francesco Francioni, 'The Madrid Protocol on Protection of the Environment' (1993) 28 (1) Tex. Int'l L. J. 47, 62-66; Samuel Kwaw Nyakeme Blay, 'New Trends in the Protection of Antarctic Environment: The 1991 Madrid Protocol' (1992) 86 (2) AJIL 387-392.

in the Antarctic Treaty area'. This goes further than domestic environmental impact assessment procedures, which generally apply only to major industrial projects, and then the Espoo Convention, which focuses on transboundary effects and hence upon larger projects".[264] It is argued that mandatory environmental impact assessment confers "credibility on the system of environmental standards established in the Madrid Protocol, which, in the absence of such a procedural instrument, would have risked transformation into merely a cosmetic instrument".[265] Some authors argued that this Protocol "is in fact nothing of the kind either in its geographical scope or in the scope for global participation. The contribution of the Protocol to international environmental law is more diffuse. It contributes to the regional application and enforcement of global environmental treaties, particularly MARPOL 73/78 (Annex IV), and contributes to the emergence of new norms of customary international law, such as the precautionary principle. The Protocol supports a 'stronger version' of this principle, with activities prohibited unless it is proved that they will not cause unacceptable harm to the environment".[266]

Article 14, paragraph 1 (a), of the "*Convention on Biological Diversity*" of 05/06/1992 requires Parties, as far as possible and as appropriate, to introduce appropriate procedures requiring environmental impact assessment of its proposed projects that are likely to have significant adverse effects on biological diversity.

In accordance with Article 7, paragraph 1, of the Helsinki "*Baltic Sea Convention*" of 09/04/1992, "whenever an environmental impact assessment of a proposed activity that is likely to cause a significant adverse impact on the marine environment of the Baltic Sea Area is required by international law or supra-national regulations applicable to the Contracting Party of origin, that Contracting Party shall notify the Commission and any Contracting Party which may be affected by a transboundary impact on the Baltic Sea Area". Paragraph 2 of the same Article imposes the duty to enter into consultations upon the Parties concerned. Pursuant to paragraph 2, in the case of two or more Parties sharing transboundary waters within the catchment area of the Baltic Sea, they should cooperate to ensure that potential impacts on the marine environment of the Baltic Sea Area are fully investigated within the environmental impact assessment. Furthermore, the Parties concerned are also required jointly to take appropriate measures to prevent and eliminate pollution including cumulative deleterious effects.

264 Redgwell (n 263) 619-620. The author also added that EC Directive 85/337 on environmental assessment similarly applies to major projects with significant environmental effects, *ibid* 620, note 119.

265 Francioni (n 263) 64.

266 Redgwell (n 263) 633 (The author also argued that Article 8 of the Protocol follows the bifocal approach of leaving it open to contracting parties to exercise jurisdiction on a territorial and/or personal basis. This jurisdictional approach leaves open the potential for future jurisdictional disputes which are not covered by the mandatory dispute-settlement provisions of the Protocol", *ibid* 633-634).

In Article 4, paragraph 3(c) and (d), of the "Barcelona Convention" of 10/06/1995 duty is imposed upon Contracting Parties to undertake environmental impact assessment for proposed activities that are likely to cause a significant adverse impact on the marine environment and to promote cooperation between and among States in environmental impact assessment procedures related to activities under their jurisdiction or control which are likely to have a significant adverse impact on the marine environment of other States or areas beyond the limits of national jurisdiction. It is clear that the latter provision also indicates the general environmental law obligation of prevention of transboundary damage.

Pursuant to Article 17 (Environmental impact assessment) of the "Specially Protected Areas Protocol" of 10/06/1995, in the planning process leading to decisions on industrial and other projects and activities that could significantly affect protected areas and species and their habitats, the Parties are required to evaluate and take into consideration the possible direct or indirect, immediate or long-term, impact, including the cumulative impact of the projects and activities being contemplated.

With respect to the international jurisprudence, one may refer that in his Separate Opinion[267] appended to the "*Gabcikovo-Nagymaros*" Judgment of 25/09/1997, Judge Weeramantry referred to numerous both soft law and hard law instruments which indicate the principle of "environmental impact assessment". According to Judge Oda, in this case "the Parties are under an obligation in their mutual relations, under Articles 15, 16 and 19 of the 1977 Treaty, and, perhaps in relations with third parties, under an obligation in general law concerning environmental protection, to preserve the environment in the region of the river Danube. The Parties should continue the environmental assessment of the whole region and search out remedies of a technical nature that could prevent the environmental damage which might be caused by the new Project".[268]

Furthermore, the principle of environmental impact assessment has also been referred to by the European and the Inter-American Human Rights Courts (notably in recent cases) in environmental human rights cases.[269]

ii. The EIA principle in the EU law

Under the European Community law, the Directive 85/337 on "*Environmental impact assessment*"[270] might be cited as the pioneer legislation in this area. Article

267 "Separate Opinion of Vice-President Weeramantry" (n 233) 111-113.

268 "Dissenting Opinion of Judge Oda" appended to "*Gabcikovo-Nagymaros Project Case*", ICJ Judgment of 25/09/1997, ICJ Rep. 153, para 33.

269 For instance, see, *Giacomelli v. Italy* App. No.59909/00, (ECtHR, 02/11/2006), para 94; *Taşkın and Others v. Turkey* App. No.46117/99, (EctHR, Judgment of 10/11/2004), para 113; "*Case of the Saramaka People v. Surinam*", (I-ACtHR, Judgment of 28/11/2007) (*Preliminary Objections, Merits, Reparations and Costs*) para 129, Operative para 9.

270 The Council Directive 85/337/EEC of 27/06/1985 on the *"Assessment of the Effects of Certain Public and Private Projects*

3 of Directive 85/337 requires that an environmental impact assessment must be carried out for certain public or private projects.[271] At least as far as the projects listed in Annex I to the Directive are concerned, the obligation act is not subject to any preconditions. This Directive also provides that the public concerned is to be consulted when an impact study is carried out, (Article 6). Since the Directive does not contain any proviso, the public's involvement in such projects is therefore obligatory.[272] Consequently, in accordance with Directive 85/337 the authorities must conduct environmental impact assessment even if there is no national legislation in place. The public concerned has to be consulted in the consent procedure. The considerations submitted must be taken into account in the decision.[273]

Here it may be additionally noted that the Decision 13/18/II of the Governing Council of UNEP of 24/05/1985, entitled "*Montreal Guidelines for the Protection of the Marine Environment against Pollution from Land-Based Sources*"[274], in (para.12) ("Environmental assessment") requires States to assess the potential effects/impacts, including possible transboundary effects/impacts, of proposed major projects under their jurisdiction or control, particularly in coastal areas, which may cause pollution from land-based sources, so that appropriate measures may be taken to prevent or mitigate such pollution.

Pursuant to Article 1, paragraph vi, of the "*Convention on Environmental Impact Assessment in a Transboundary Context*" (Espoo Convention)[275] of 25/02/1991, "environmental impact assessment" means a national procedure for evaluating the likely impact of a proposed activity on the environment. Parties to the Convention undertake to take and implement all necessary measures, including, with respect to proposed activities that are likely to cause *significant adverse transboundary impact*, the establishment of an environmental impact assessment procedure that permits public participation. They shall ensure that an environmental impact assessment is

on the Environment"; OJ L 175/40 (05/07/1985). The Directive 85/337 of 1985 was amended by Directive 97/11/EC; OJ L 73/5 (14/03/1997).

271 Sionaidh Douglas-Scott, 'Environmental Rights in the European Union-Participatory Democracy or Democratic Deficit?' in Boyle and Anderson (ed) *Human Rights Approaches to Environmental Protection* (Oxford, Clarendon Press 1996) 109, 119-121. The author refers to the EC Directive 85/337, in which Article 3 requires an environmental impact assessment to be carried out for certain projects; Also see, Dupuy (n 249) 426.

272 Ludwig Kramer, 'The Implementation of Community Environmental Directives within Member States: Some Implications of the Direct Effect Doctrine' (1991) 3 (1) J. Envtl. L. 39, 47.

273 *Ibid* 49.

274 The "*Montreal Guidelines for the Protection of the Marine Environment against Pollution from Land-Based Sources*", adopted by the Governing Council of UNEP Decision 13/18/II of 24/05/1985; available at, http://www.unep.org/law/PDF/UNEPEnv-LawGuide&PrincN07.pdf

275 The "*Convention on Environmental Impact Assessment in a Transboundary Context*" (Espoo Convention) was adopted on 25/02/1991 and entered into force on 10/09/1997; *reproduced in*, 30 ILM 800 (1991). Pursuant to Article 1/(viii) of the Convention "Transboundary impact" means any impact, not exclusively of a global nature, within an area under the jurisdiction of a Party caused by a proposed activity the physical origin of which is situated wholly or in part within the area under the jurisdiction of another Party. For an analysis on the Espoo Convention, see, Laura Carlan Battle, 'A Transnational Perspective on Extending NEPA: The Convention on Environmental Impact Assessment in a Transboundary Context' (1995) 5 (1) Duke Envtl. L & Pol'y F. 1.

undertaken prior to a decision to authorize or undertake a proposed activity, (Article 2, paras.2 and 3). Environmental impact assessment shall, as a minimum requirement, be undertaken at the project level of the proposed activity, (Article 2, para.7).

Under the Espoo Convention the primary responsibility of each party is to prevent, reduce, or control significant adverse transboundary environmental impacts from proposed activities. It creates a positive obligation for the parties to prepare an environmental impact assessment on proposed projects that may have transboundary effects; but it does not directly empower a party to prevent another from constructing a disputed project. [276]

The Conference convened in Turin on 29/03/1996 to adopt by common accord the amendments to be made to the Treaty on the European Union, the Treaties establishing respectively the European Community, the European Coal and Steel Community and the European Atomic Energy Community and certain related Acts adopted a series of Declarations. Among these Declaration 12 reads as follows: "12. *Declaration on environmental impact assessments* - The Conference notes that the Commission undertakes to prepare environmental impact assessment studies when making proposals which may have significant environmental implications.[277]

In 2001, a long-waited Directive, the European Parliament and of the Council Directive 2001/42/EC of 27/06/2001[278] on the "*Assessment of the effects of certain plans and programmes on the environment*" was issued.[279] Preamble (para.4) states that "environmental assessment is an important tool for integrating environmental considerations into the preparation and adoption of certain plans and programmes which are likely to have significant effects". Pursuant to Article 1 of the Directive 2001/42, the objective of this Directive is "to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development…" In accordance with Article 2 (Definitions), while 'environmental assessment' means "the preparation of an environmental report, the carrying out of consultations, the taking into account of the environmental report and the results of the consultations in decision-making and the provision of information on the decision in accordance with Articles 4 to 9" (para. b); 'the public' means "one or more natural or legal persons and, in accordance with national legislation or practice, their associations, organisations or groups", (para. d). Carrying out the environmental assessment "during the preparation of a plan or programme and before its adoption or

276 Battle (n 275) 5-6.

277 The "*Treaty of Amsterdam Amending the Treaty on European Union, the Treaties Establishing the European Communities and Related Acts*"; OJ C 340, (10/11/1997).

278 Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the "*Assessment of the effects of certain plans and programmes on the environment*"; OJ L/197 (21/07/2001).

279 Also see, Joanne Scott, 'Law and Environmental Governance in the EU' (2002) 51 (4) ICLQ 996, 997-998.

submission to the legislative procedure" is one of the general obligations imposed on Member States, (Article 4, para.1).

Article 6, paragraph 2, of Directive 2001/42 provides that the public be given an early and effective opportunity within appropriate time frames to express their opinion on the draft plan or program and the accompanying environmental report before the adoption of the plan or program or its submission to the legislative procedure. The Directive further provides for transboundary consultations, where a Member State considers that the implementation of a plan or program being prepared in relation to its territory is likely to have significant effects on the environment in another Member State, or where a Member State likely to be significantly affected so requests, (Article 7, paragraph 1). Pursuant to Article 9, paragraph 1, the public and any Member State consulted under article 7 are informed of the plan or program adopted, and that plan or program be made available to them, along with a summary of how environmental considerations have been integrated into them, and opinions expressed during consultations, and the reasons for choosing the plan or program as adopted, in the light of the other reasonable alternatives dealt with. The latter Article seems particularly significant not only because it imposes a duty upon the authorities to provide information, including disclosure of the counter arguments raised at the decision-taking process, and thus provides transparency to that process even after the decision has been taken, but also because it facilitates monitoring of the measures decided as provided by Article 10 of the Directive.

The "*Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in a Transboundary Context*" was adopted on 21/05/2003.[280] Pursuant to Article 1 of the Protocol, the objective of this Protocol is to provide for a high level of protection of the environment, including health, by, *inter alia*, establishing clear, transparent and effective procedures for *strategic environmental assessment*; provision for public participation in strategic environmental assessment (Art.1/c), and integration by these means environmental, including health, concerns into measures and instruments designed to further sustainable development, (Art.1/e). Article 2, paragraph 6, of the Protocol defines "strategic environmental assessment" as "the evaluation of the likely environmental, including health, effects, which comprises the determination of the scope of an environmental report and its preparation, the carrying-out of public participation and consultations, and taking into account of the environmental report and the results of the public participation and consultations in a plan or programme." Except the inclusion of an explicit phrase "including health", "strategic environmental assessment" defined in (Article 2/6) of the 2003 Protocol does not in fact make any significant contribution to the definition

280 The "*Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in a Transboundary Context*" was adopted at Kiev on 21/05/2003 and entered into force on 11/07/2010; OJ, L 308/35–49, (19/11/2008).

of the term "environmental assessment" which was already provided in (Article 2/b) of the Directive 2001/42/EC of 27/06/2001.

6. Access to information and participation in decision-making process

i. Recognition and scope of the principles in soft and hard law instruments

Beginning from the 1980s there has been an increasing recognition of the right of the general public to receive information about the state of their environment and to participate in environmental decision-making, and of the duty of states and international organizations to provide this.[281] In the broad sense this development "can be represented as the application of arguments for democratic governance as a human right to environmental matters".[282] As Kiss and Trindade observed "sustained and strengthened democracy is a precondition for environmental and human rights protection and sustainable development. The latter is the result of the former… The right to democratic participation entails individual responsibility, it in fact engages the responsibility of everyone".[283] In line with this general trend the participation of non-governmental organizations (NGOs) has also been recognized and they have assumed an increasingly important role in the negotiation, ratification, implementation and enforcement of international environmental agreements.[284] The principle of information and consultation "usually manifests itself as an obligation whereby States must inform and consult one another, prior to engaging in any activity or initiative that is likely to cause transfrontier pollution, so that the country of origin of the potentially dangerous activity may take into consideration the interests of any potentially exposed country".[285]

The UN "World Charter for Nature" of 28/10/1982 states that "all persons, in accordance with their national legislation, shall have the opportunity to participate, individually or with others, in the formulation of decisions of direct concern to their environment, and shall have access to means of redress when their environment has suffered damage or degradation", (para.23). Moreover, (para.16) of the 1974 Charter

281 Fayette (n 207) 263.

282 Alan Boyle, 'The Role of International Human Rights Law in the Protection of the Environment' in Boyle and Anderson (eds) *Human Rights Approaches to Environmental Protection* (Oxford, Clarendon Press 1996) 43, 60.

283 Alexandre. Kiss and A. Cancado Trindade, 'Two Major Challenges of Our Time: Human Rights and the Environment' in A. A. C. Trindade (ed) *Human Rights, Sustainable Development and the Environment* (Costa Rica, Institute for Inter-American Human Rights 1992) 287, 290. Referring to this article Simpson and Jackson stated that "the right to a healthy environment is one that presupposes the existence of a certain level of democratic freedoms"; See, Tony Simpson and Vanessa Jackson, 'Human Rights and the Environment' (1997) 14 (4) Envtl. & Plan. L. J. 268, 274.

284 Weiss (n 56) 693-694; James Cameron and Ruth Mackenzie, 'Access to Environmental Justice and Procedural Rights in International Institutions' in Boyle and Anderson (eds) *Human Rights Approaches to Environmental Protection* (Oxford, Clarendon Press 1996) 129, 133-146; Boyle (n 282) 62.

285 Dupuy (n 249) 425 (The author added that, from a more general point of view, the principle of information and consultation covers "additional duty to provide to these potentially exposed States all relevant and reasonably available information concerning transboundary natural resources and transfrontier environmental interference") *ibid*.

deals with disclosure of information in a timely manner on planning activities and assessment of the effects on nature in order to allow effective consultation and participation.[286]

In various provisions of the "Declaration on the Right to Development" of 04/12/1986 the element of *participation* has been specifically emphasized. For example, Article 1/1 highlights the right of individuals and peoples "to participate in, contribute to, and enjoy" development; Article 2/1 mentions the human person as an "active participant and beneficiary" of the right to development; Article 2/3 speaks of "active, free and meaningful participation in development"; Article 8/1 shows that "women have an active role in the development process" and Article 8/2 mentions the need for States to "encourage popular participation in all spheres as an important factor in development and in the full realization of all human rights".[287]

Principle 10 of the "Rio Declaration" of 1992 provides that "environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, *each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities*, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided." (Emphasis added). As Shelton observes, this provision "promotes clear obligations for states in regard to environmental rights".[288] According to Boyle "although the Rio Declaration contains no explicit human right to a decent environment, Principle 10 does give substantial support in mandatory language for participatory rights of a comprehensive kind".[289] Some authors argue that Principle 10 demonstrates a preference for the widespread sharing of environmental knowledge. "This principle establishes an informational right: the people have a 'right to know'. On environmental matters of consequence, every person is entitled to 'appropriate access' to information. This right by law is to be enforceable against public bodies that possess apposite information. Principle 10 imposes on states an affirmative duty to provide information, generate public awareness, and create open forums for debate and discussion".[290]

286 The 1982 Charter (para 16) reads: "All planning shall include… the formulation of strategies for the conservation of nature… and assessments of the effects on nature of proposed policies and activities" that "shall be disclosed to the public by appropriate means in time to permit effective consultation and participation".

287 Allan Rosas, 'The Right to Development' in Asbjorn Eide, Catarina Krause and Allan Rosas (eds) *Economic, Social and Cultural Rights* (Kluwer 2001) 119, 127-128.

288 Dinah Shelton, 'What Happened in Rio to Human Rights?' (1992) 3 (1) Yearbook Int'l. Envtl. L. 75, 84.

289 Boyle (n 282) 60.

290 Batt & Short (n 55) 273-274 (The authors added that pursuant to Principle 10 the public has a right to know all information relevant to its fate. Public officials must release information about government operations, as well as crimes and torts committed against the people by business entities", *ibid* 276. However, they omit to comment on whether that Principle

This principle is also stated in Agenda 21 under Chapter 23.2 which reads as follows: "One of the fundamental prerequisites for the achievement of sustainable development is *broad public participation in decision-making*. Furthermore, in the more specific context of environment and development, the need for new forms of participation has emerged. This includes the need of individuals, groups and organisations to participate in environmental impact assessment procedures and to know about and participate in decisions, particularly those which potentially affect the communities in which they live and work".[291]

The ECHR and the I-ACHR consider the "right to access information" ("right to be informed") and the "right to participation of decision-making process" as some of the most fundamental aspects of environmental human rights cases. In some cases both the European and the Inter-American Courts explicitly refer to Principle 10 of the Rio Declaration.[292]

Furthermore, the "right to access information" has also been provided in a series of international legally binding instruments.

For instance, Article 6, paragraph a/(iii), of the United Nations "Framework Convention on Climate Change" of 09/05/1992 requires States, *inter alia*, to promote and facilitate "public participation in addressing climate change and its effects and developing adequate responses". Article 14, paragraph 1 (a), of the "Convention on Biological Diversity" of 05/06/1992 requires that Parties "where appropriate, allow for public participation" in procedures requiring environmental impact assessment. While Article 14, paragraph 1 (d), of the "Convention on Biological Diversity" imposes duty upon States to notify immediately the potentially affected States in the case of imminent or grave danger or damage, Article 17 requires the Parties to facilitate the exchange of information, from all publicly available sources, relevant to the conservation and sustainable use of biological diversity.

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also imposes duty on States to make necessary arrangements for the provision of information on private individual sponsored projects having significant potential environmental impacts).

291 **Agenda 21**, Report of the UN Conference on Environment and Development, UN Doc. A/CONF.151/26 (Vol.III), 14/08/1992, Chapter 23.2; Also see, Chapters 27.9, 27.13 of the **Agenda 21**: ("27.13 Governments will need to promulgate or strengthen, subject to country-specific conditions, any legislative measures necessary to enable the establishment by non-governmental organizations of consultative groups, and to ensure the right of non-governmental organizations to protect the public interest through legal action") and Chapter 38.44 ("Procedures should be established for an expanded role for non-governmental organizations, including those related to major groups, with accreditation based on the procedures used in the Conference. Such organizations should have access to reports and other information produced by the United Nations system. The General Assembly, at an early stage, should examine ways of enhancing the involvement of non-governmental organizations within the United Nations system in relation to the follow-up process of the Conference"); For further discussions, see, Cameron and Mackenzie (n 284) 135-136.

292 For instance, see, *Taşkın and Others v. Turkey* (n 269) para 98-99; "*Case of Raxcaco-Reyes v. Guatemala*", (Inter-American Court, Judgment of 15/09/2005) (Merits, Reparations and Costs) para81.

Article 23, paragraph 2, of the "Cartagena Protocol on Biosafety"[293] of 29/01/2000 imposes a duty upon the Parties to consult the public in the decision-making process regarding living modified organisms and make the results of such decisions available to the public, subject to confidential information in accordance with Article 21. Pursuant to Article 23, paragraph 3, of the Protocol, each Party shall endeavor to inform its public about the means of public access to the Biosafety Clearing-House.

With regard to duty to inform the public one may also cite Article 9 of the "Industrial Accidents Convention" of 17/03/1992.[294]

The Council of Europe's "*Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment*"[295] ("Lugano Convention"), which was opened for signature on 21/06/1993, indicates three different sources which may hold environmental information, and thus recognizes that persons concerned should be able to access such information. First, Article 14 (Access to information held by public authorities), paragraph 1, of the Convention provides that any person shall, at his request and without his having to prove an interest, have access to information relating to the environment held by public authorities. But the Convention in this context also sets out seven main circumstances in which the right of access may be restricted under internal law because it would affect particular types of confidentiality, public security, matters which are currently under investigation, confidentiality of personal data or the interests of the environment concerned (Article 14, para.2). Secondly, in addition to public authorities, the Convention takes account of the existence of many bodies involved in the field of environment. Thus, bodies which have public responsibilities for the environment and which are under the control of a public authority are subject to the same obligations as the public authorities themselves. Access to information

293 Article 23, paragraph 1, of "Cartagena Protocol on Biosafety" of 29/01/2000 reads as follows: "The Parties shall: (a) Promote and facilitate public awareness, education and participation concerning the safe transfer, handling and use of living modified organisms in relation to the conservation and sustainable use of biological diversity, taking also into account risks to human health. In doing so, the Parties shall cooperate, as appropriate, with other States and international bodies; (b) Endeavour to ensure that public awareness and education encompass access to information on living modified organisms identified in accordance with this Protocol that may be imported".

294 Article 9 of the "Industrial Accidents Convention" of 17/03/1992 reads as follows: "Article 9 - Information to, and Participation of the Public - *1.* The Parties shall ensure that *adequate information is given to the public in the areas capable of being affected by an industrial accident arising out of a hazardous activity*. This information shall be transmitted through such channels as the Parties deem appropriate… *2.* The Party of origin shall, in accordance with the provisions of this Convention and whenever possible and appropriate, *give the public in the areas capable of being affected an opportunity to participate in relevant procedures with the aim of making known its views and concerns on prevention and preparedness measures*, and shall ensure that the opportunity given to the public of the affected Party is equivalent to that given to the public of the Party of origin." (Emphasis added). But note that in Article 22, paragraph 1, of this Convention a limitation on the supply of information is also recognized in order "to protect information related to personal data, industrial and commercial secrecy, including intellectual property, or national security".

295 The Council of Europe "*Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment*" (ETS No.150), adopted by the Committee of Ministers on 08/03/1993 and opened for signature, in Lugano, on 21/06/1993, but not entered into force yet. Preambular (para.6) emphasizes the desirability of providing for strict liability in the field of nature conservation and the protection of environment taking into account the 'polluter pays' principle, and (para.8) refers to Principle 13 of the 1992 Rio Declaration. For relevant literature, for example see, Robin R. Churchill, 'Facilitating (Transnational) Civil Liability Litigation for Environmental Damage by Means of Treaties: Progress, Problems, and Prospects' (2001) 12 (1) Yearbook Int'l. Envtl. L. 3.

shall be given via the competent public administration or directly by the body itself, (Article 15). As a third category, the Convention under Article 16 recognizes access to specific information held by operators. A person who has suffered damage may at any moment, and especially before instituting legal proceedings, request information. This access to information is in fact aimed at giving the person concerned the opportunity to gather all the elements necessary for him to determine if he can take the case to court and to establish the existence of a claim for compensation under the Convention, (Article 16).[296]

Article 15, paragraph 1, of the "Barcelona Convention" of 10/06/1995 provides that "the Contracting Parties shall ensure that their competent authorities give to the public appropriate access to information on the environmental state in the field of application of the Convention and its Protocols, on activities or measures adversely affecting or likely to affect it and on activities carried out or measures taken in accordance with the Convention and the Protocols". Article 15, paragraph 2, of the Barcelona Convention requires the Parties to ensure that the opportunity is given to the public to participate in decision-making processes relevant to the field of application of the Convention and the Protocols, as appropriate. Note that the public's right of access to information provided in paragraph 1 of this Article is limited on the grounds of "confidentiality, public security or investigation proceedings", (Article 15, para.3).

Although the "*Protocol on the Prevention of Pollution of the Mediterranean Sea by Transboundary Movements of Hazardous Wastes and Their Disposal*"[297] of 01/10/1996, Article 12 (Information to and Participation of the Public), paragraph 1, limits the application area with the exceptional cases in which transboundary movement of hazardous wastes is permitted under Article 6 of the Protocol, it requires Parties to ensure that adequate information is made available to the public, transmitted through such channels as they deem appropriate. In accordance with paragraph 2 of the same Article both the States of export and of import shall give the public an opportunity to participate in relevant procedures with the aim of making known its views and concerns.

Article 15 (Implementation of the Convention), paragraph 2, of the "*Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade*"[298] of 10/09/1998 reads as follows:

296 Article 19, paragraph 2, of the 1993 Lugano Convention provides that "requests for access to specific information held by operators under Article 16, paragraphs 1 and 2 may only be submitted within a Party at the court of the place: (a) where the dangerous activity is conducted; or (b) where the operator who may be required to provide the information has his habitual residence".

297 The "*Protocol on the Prevention of Pollution of the Mediterranean Sea by Transboundary Movements of Hazardous Wastes and Their Disposal*" done and opened for signature at Izmir on 01/10/1996.

298 The "*Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade*" was adopted and opened for signature at a Conference of Plenipotentiaries in Rotterdam on

"Each Party shall ensure, to the extent practicable, that the public has appropriate access to information on chemical handling and accident management and on alternatives that are safer for human health or the environment than the chemicals listed in Annex III." Annex III of the Convention lists the "chemicals subject to the prior informed consent procedure". Article 15/2 of the Convention states that "despite its significance to the prior informed consent procedure and to safe chemicals management, the issue of safer alternatives to hazardous chemicals is barely mentioned in the Rotterdam Convention".[299]

Article 16, paragraph 1, of the UN/ECE "Convention on the Protection and Use of Transboundary Watercourses and International Lakes" of 17/03/1992 requires the Riparian Parties to ensure that information on conditions of transboundary waters, measures taken or planned to be taken to prevent, control and reduce transboundary impact, and the effectiveness of those measures be made available to the public.

Pursuant to Article 5, paragraph (i), of the "Protocol on Water and Health" of 17/06/1999, access to information and public participation in decision-making concerning water and health are needed, *inter alia*, in order to enhance the quality and the implementation of the decisions, to build public awareness of issues, to give the public the opportunity to express its concerns and to enable public authorities to take due account of such concerns. Such access and participation should be supplemented by appropriate access to judicial and administrative review of relevant decisions". Specific norm on "public information" appears in Article 10 of the Protocol. While paragraphs 1 to 3 of Article 10 indicate the duty of provision of information held by public authorities, paragraph 4 (a-c) lists three grounds for not making information available. Moreover, in Article 10, paragraph 5, of the Protocol an additional eight grounds are listed in order to empower the public authority to refrain from publishing information or from making information available to the public.[300]

10/09/1998 and entered into force on 24/02/2004; *reproduced in*, 38 ILM 1 (1999). In preambular paragraph 8 of this Convention it is recognized that "trade and environmental policies should be mutually supportive with a view to achieving sustainable development". Pursuant to Article 1, "the objective of this Convention is to promote shared responsibility and cooperative efforts among Parties in the international trade of certain hazardous chemicals in order *to protect human health and the environment from potential harm* and to contribute to their *environmentally sound use*, by facilitating *information exchange* about their characteristics, by providing for a national decision-making process on their import and export and by disseminating these decisions to Parties". (Emphasis added); For an analysis, see, Nancy S. Zahedi, 'Implementing the Rotterdam Convention: The Challenges of Transforming Aspirational Goals into Effective Controls on Hazardous Pesticide Exports to Developing Countries' (1999) 11 (3) Geo. Int'l Envtl. L. Rev 707; Also see, Paula Barrios, 'The Rotterdam Convention on Hazardous Chemicals: A Meaningful Step Toward Environmental Protection?' (2004) 16 (4) Geo. Int'l Envtl. L. Rev**.** 679 (This Convention provides for three types of procedures: (i) information exchange; (ii) export notification domestically banned or severely restricted chemicals not subject to prior informed consent, and (iii) prior informed consent for the chemicals listed in Annex III", *ibid* 725).

299 Barrios (n 298) 750.

300 Article 10, paragraph 5, of the "Protocol on Water and Health" of 17/06/1999 lists the following grounds for not disclosing information: If disclosure of the information would adversely affect: (a) The confidentiality of the proceedings of public authorities; (b) International relations, national defense or public security; (c) The course of justice; (d) The confidentiality of commercial or industrial information (with an exception that information on emissions and discharges which are relevant for the protection of the environment shall be disclosed); (e) Intellectual property rights; (f) The confidentiality of personal data and/or files relating to a natural person; (g) The interests of a third party; (h) The environment to which the information relates, such as the breeding sites of rare species.

In Article 8 of the "*Protocol on Strategic Environmental Assessment*" of 21/05/2003[301] to the 1991 Espoo Convention, specific duties are imposed upon parties to ensure early, timely and effective opportunities for public participation, including that of relevant non-governmental organizations, in the strategic environmental assessment of plans and programs, by using electronic media or other appropriate means, as well as providing opportunity to the public to express its opinion, and making necessary arrangements in order to inform and consult the public. Pursuant to Article 2, paragraph 8, of the Protocol, "the public" means one or more natural or legal persons and, in accordance with national legislation or practice, their associations, organizations or groups. Furthermore, each Party shall provide for appropriate recognition of and support to associations, organizations or groups promoting environmental, including health, protection in the context of this Protocol, (Article 3, para.3), and ensure that persons exercising their rights in conformity with this Protocol shall not be penalized, persecuted or harassed in any way for their involvement, (Article 3, para.6). Protection against discrimination on the use of Protocol rights is also significant, (Article 3, para.7).

The "*Protocol on PRTRs*" of 21/05/2003, was the first legally binding international instrument on pollutant release and transfer registers.[302] Pursuant to Article 1, "the objective of this Protocol is to enhance public access to information through the establishment of coherent, integrated, nationwide pollutant release and transfer registers (PRTRs) in accordance with the provisions of this Protocol which could facilitate public participation in environmental decision-making as well as contribute to the prevention and reduction of pollution of the environment". Article 11, paragraph 1, of this Protocol imposes a duty upon the Parties to ensure public access to information contained in its pollutant release and transfer register, without an interest having to be stated, primarily by providing for direct electronic access through public communications networks. Pursuant to paragraph 2 of the same Article, if there is difficulty for direct electronic access, each Party shall ensure that its competent authority upon request provides that information by any other effective means, at the latest within a month after the request has been submitted. But in Article 12, paragraph 1 (a) to (e), of the Protocol a considerably long list of grounds for keeping the information confidential is also provided. In case of refusal of the request for information, each Party undertakes to ensure that any person concerned has access to a review procedure before a court of law or another independent and impartial body, (Article 14, para.1). Public participation in the development of national pollutant release is recognized under Article 13 of the Protocol.

301 The "*Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in a Transboundary Context*" was adopted at Kiev on 21/05/2003 and entered into force on 11/07/2010.

302 Pursuant to Article 2, paragraph 6, of the 2003 "Protocol on PRTRs" of 21/05/2003, "… 'Pollutant' means a substance or a group of substances that may be harmful to the environment or to human health on account of its properties and of its introduction into the environment."

While Article 10, paragraph 1(b), of the "*Stockholm Convention on Persistent Organic Pollutants*"[303] of 22/05/2001 provides that "each Party shall promote and facilitate provision to the public of all available information on persistent organic pollutants", paragraph 2 of the same Article requires each Party to ensure that "the public has access to the public information referred to in paragraph 1 and that the information is kept up-to-date". Consequently, as an additional element the provision of updated information was pointed out in this Convention.[304]

Pursuant to Article XVI (Procedural Rights) of the "*African Convention on the Conservation of Nature and Natural Resources (Revised Version)*"[305] of 11/07/2003 the Parties are required to adopt the legislative and regulatory measures necessary to ensure timely and appropriate (a) dissemination of environmental information; (b) access of the public to environmental information, and (c) participation of the public in decision- making with a potentially significant environmental impact.

On the other hand, various environmental protection conventions provide provisions to allow specialized inter-governmental bodies or agencies, as well as national and international non-governmental organizations (NGOs), to participate in the meetings of the Conference of Parties as observers.

For example, Article XI, paragraph 7, of the "*Convention on International Trade in Endangered Species*" (CITES) of 03/03/1973[306]; Article 11/5 of the "*Montreal Protocol on Substances that Deplete the Ozone Layer*" of 16/09/1987[307], and Article 23, paragraph 5, of the "*Convention on Biological Diversity*" of 05/06/1992. It is clear that such relatively liberalized procedures do not only provide transparency of the operation of the convention system, but also facilitate speedy and broader dissemination of information. The "*Convention on the Conservation of Antarctic*

303 The "*Stockholm Convention on Persistent Organic Pollutants*" adopted at Stockholm on 22/05/2001, opened to signature on 23/05/2001.

304 On the differences between the "Rotterdam Convention" of 10/09/1998 and the "Stockholm Convention" of 23/05/2001, see, Barrios (n 298) 755-756.

305 Gemalmaz, 'Introduction to International Environmental Law: Part II' (n 6) 780.

306 Article XI, paragraph 7, of the "*Convention on International Trade in Endangered Species*" of 03/03/1973 reads as follows: "7. Any body or agency technically qualified in protection, conservation or management of wild fauna and flora, in the following categories, which has informed the Secretariat of its desire to be represented at meetings of the Conference by observers, shall be admitted unless at least one-third of the Parties present object: (a) international agencies or bodies, either governmental or non-governmental, and national governmental agencies and bodies; and (b) national non-governmental agencies or bodies which have been approved for this purpose by the State in which they are located. Once admitted, these observers shall have the right to participate but not to vote"; For further information see, Gemalmaz, 'Introduction to International Environmental Law: Part II' (n 6) 789-790.

307 Article 11, paragraph 5, of the "Montreal Protocol on Substances that Deplete the Ozone Layer" reads as follows: "The United Nations, its specialized agencies and the International Atomic Energy Agency, as well as any State not party to this Protocol, may be represented at meetings of the Parties as observers. Any body or agency, whether national or international, governmental or non-governmental, qualified in fields relating to the protection of the ozone layer which has informed the secretariat of its wish to be represented at a meeting of the Parties as an observer may be admitted unless at least one third of the Parties present object. The admission and participation of observers shall be subject to the rules of procedure adopted by the Parties".

Marine Living Resources"[308] (CCAMLR) of 20/05/1980 is also significant as it encourages the Commission and the Scientific Committee to develop cooperative working relationships, not only with inter-governmental but also non-governmental organizations, (Article XXIII/3). Moreover, these two organs may also invite such organizations to send observers to their meetings, (Article XXIII/4). In accordance with the latter provision an umbrella environmental NGO incorporating a number of NGOs with Antarctic interests, namely, the ASOC, was granted observer status in 1988.[309] However, for instance, the "*Convention on the Conservation and Management of Pollock Resources in the Central Bering Sea*"[310] of 16/06/1994 does not provide procedures for participation of NGOs.

In this context the "*Convention concerning the Protection of the Alps*"[311] of 07/11/1991 is also noteworthy. Although the obligation concerning publication of information could be applied in accordance with national laws regarding confidentiality (Article 4/5), the Contracting Parties undertake to establish an appropriate program of public information on the results of research and observations as well as on measures taken, (Article 4/4). Furthermore, the Convention contains explicit provisions with respect to NGOs. For example, the Parties agree to collaborate with governmental and non-governmental international organizations for the efficacious application of the Convention, (Article 4/3). The Alpine Conference, which is the main organ established by the Convention, may admit observers from NGOs active in this field. Moreover, transfrontier associations of territorial collectives in the Alpine region may be represented at meetings of the Alpine Conference by observers, (Article 5/5).[312] In the "*Protocol for the Implementation of the 1991 Alpine Convention on Soil Protection*"[313] of 16/10/1998, Article 25 (Evaluation of the effectiveness of the provisions), paragraph 2, states that non-governmental organizations active in this field may be consulted. Pursuant to Article 19/2 of the 1998 Protocol the Parties undertake to ensure that the national results of research and systematic observation are integrated in a joint permanent observation and information system and that they are made accessible to the public under the existing institutional framework. Article

308 The "*Convention on the Conservation of Antarctic Marine Living Resources*" (CCAMLR) adopted at Canberra on 20/05/1980 and entered into force on 07/04/1982; *reproduced in*, 19 ILM 841 (1980).

309 Stuart B. Kaye, 'Legal Approaches to Polar Fisheries Regimes: A Comparative Analysis of the Convention for the Conservation of Antarctic Marine Living Resources and the Bering Sea Doughnut Hole Convention' (1995) 26 (1) Cal. W. Int'l L. J. 75, 87.

310 The "*Convention on the Conservation and Management of Pollock Resources in the Central Bering Sea*" was adopted at Washington D.C., on 16/06/1994 and entered into force on 08/12/1995; *reproduced in*, 23 ILM 67 (1995); in (1995) 10 Int'l J. Marine & Coastal L. 127; Further see, Kaye (n 309) 109; Gemalmaz, 'Introduction to International Environmental Law: Part 1' (n 6) 272.

311 The "*Convention concerning the Protection of the Alps*" was adopted at Salzburg on 07/11/1991 and entered into force on 06/03/1995.

312 For further information see, Gemalmaz, 'Introduction to International Environmental Law: Part II' (n 6) 795-797.

313 The "*Protocol for the Implementation of the 1991 Alpine Convention on Soil Protection*" was adopted at Bled on 16/10/1998 and entered into force 18/12/2002. English translation of the Soil Conservation Protocol is published in OJ of the European Union, 22/12/2005, L 337/29-35; For further information see, Gemalmaz, 'Introduction to International Environmental Law: Part 1I' (n 6) 798.

22 requires the Parties to promote, *inter alia*, the information of the public concerning objectives, measures and implementation of the Protocol.

In accordance with Article 13, paragraph 1, of the "*Framework Convention on the Protection and Sustainable Development of the Carpathians*"[314] of 22/05/2003, the Parties undertake to pursue policies aiming at improving access of the public to information on the protection and sustainable development of the Carpathians. Paragraph 2 of the same Article requires the Parties to pursue policies guaranteeing public participation in decision-making with respect to protection and sustainable development of the Carpathians. Furthermore, the Conference of the Parties, a main organ established by the Convention, is empowered, *inter alia*, to seek cooperation of competent bodies or agencies, whether national or international, governmental or non-governmental, as appropriate, while it makes decisions necessary to promote the effective implementation of the Convention, (Article 15/2, i). Moreover, the Parties may decide to admit observers at the sessions of the Conference, including the observers, among others, from any national, intergovernmental or non-governmental organization, the activities of which are related to the Convention. In that connection, such observers admitted may present any information or report relevant to the objectives of the Convention, (Article 15/5).[315]

Apart from environmental instruments, it may be added that the provisions on access to information have been incorporated into different subject-matter conventions. In this context one may refer to, for instance, Articles 10 and 13 of the "*United Nations Convention against Corruption*" of 31/10/2003.[316]

314 The "*Framework Convention on the Protection and Sustainable Development of the Carpathians*" was adopted on 22/05/2003 and entered into force on 04/01/2006.

315 For further information see, Gemalmaz, 'Introduction to International Environmental Law: Part II' (n 6) 799-801.

316 The UN "*Convention against Corruption*" was adopted by the UN General Assembly Resolution 58/4 of 31/10/2003 and entered into force on 14/12/2005. "*Article 10 – Public Reporting* – Taking into account the need to combat corruption, each State Party shall, in accordance with the fundamental principles of its domestic law, take such measures as may be necessary to enhance transparency in its public administration, including with regard to its organization, functioning and decision-making processes, where appropriate. Such measures may include, inter alia: *(a)* Adopting procedures or regulations allowing members of the general public to obtain, where appropriate, information on the organization, functioning and decision-making processes of its public administration and, with due regard for the protection of privacy and personal data, on decisions and legal acts that concern members of the public; *(b)* Simplifying administrative procedures, where appropriate, in order to facilitate public access to the competent decision-making authorities; and *(c)* Publishing information, which may include periodic reports on the risks of corruption in its public administration"; Further see, "*Article 13 – Participation of Society - 1.* Each State Party shall take appropriate measures, within its means and in accordance with fundamental principles of its domestic law, to promote the active participation of individuals and groups outside the public sector, such as civil society, non-governmental organizations and community-based organizations, in the prevention of and the fight against corruption and to raise public awareness regarding the existence, causes and gravity of and the threat posed by corruption. This participation should be strengthened by such measures as: *(a)* Enhancing the transparency of and promoting the contribution of the public to decision-making processes; *(b)* Ensuring that the public has effective access to information; *(c)* Undertaking public information activities that contribute to nontolerance of corruption, as well as public education programmes, including school and university curricula; *(d)* Respecting, promoting and protecting the freedom to seek, receive, publish and disseminate information concerning corruption. That freedom may be subject to certain restrictions, but these shall only be such as are provided for by law and are necessary: (i) For respect of the rights or reputations of others; (ii) For the protection of national security or *ordre public* or of public health or morals. *2.* Each State Party shall take appropriate measures to ensure that the relevant anti-corruption bodies referred to in this Convention are known to the public and shall provide access to such bodies, where appropriate, for the reporting, including anonymously, of any incidents that may be considered to constitute an offence established in accordance with

ii. The OSPAR Convention

a) The OSPAR Convention of 22/09/1992

The "OSPAR Convention" of 22/09/1992 provides for a right of access to information. Article 9 (Access to information), paragraph 1, of the OSPAR Convention provides that "the Contracting Parties shall ensure that their competent authorities are required to make available the information described in paragraph 2 of this Article to any natural or legal person, in response to any reasonable request, without that person's having to prove an interest, without unreasonable charges, as soon as possible and at the latest within two months." Article 9, paragraph 2, of the Convention is as follows: "The information referred to in paragraph 1 of this Article is any available information in written, visual, aural or data-base form on the state of the maritime area, on activities or measures adversely affecting or likely to affect it and on activities or measures introduced in accordance with the Convention." But it must be noted that in paragraph 3 of the same Article a series of grounds are listed, *inter alia*, "commercial and industrial confidentiality, including intellectual property…", in order to reserve the right of Contracting Parties to refuse to provide for a request for such information.[317]

For the main part, the content of Article 9 of the OSPAR Convention, including exceptions provided in paragraph 3 of the same Article, appears to be taken from Directive 90/313/EEC.[318] As one commentator observed, "effectively, this means that access will depend on national policy and the political culture with respect to disclosure of information held by the authorities".[319]

b) The OSPAR Arbitral Tribunal of 03/07/2003 in the Mox Plant case

Concerning the application of Article 9 of the OSPAR Convention one may refer to the arbitration tribunal award issued on 03/07/2003 in the "*Mox Plant* (*Ireland v. United Kingdom*)" case.[320] The tribunal concluded by a two to one majority that the information requested by Ireland did not fall within Article 9 of the OSPAR

this Convention".

317 For the exceptions for the release of information under Article 9, para.3, of the "OSPAR Convention" of 1992, cf Article.4, paras 3-4, of the "Aarhus Convention" of 1998, which is examined below.

318 Hey - IJIsra – Nollkaemper (n 207) 47 (The authors added that "in view of the role of NGOs as watchdogs over the implementation of the Convention this may become an important provision") *ibid*.

319 Fayette (n 207) 264.

320 "*Mox Plant* (*Ireland v. United Kingdom*)", Arbitral Tribunal Award of 03/07/2003; available at <http://www.pca-cpa.org/upload/files/OSPAR%20Award.pdf>; reproduced in, 42 ILM 1187 (2003); Analysis of the case, see, Fitzmaurice (n 43) 544-558; Ted L. McDorman, 'Access to Information under Article 9 of the OSPAR Convention (Ireland v. United Kingdom)' (2004) 98 (2) AJIL 330; Yuval Shany, 'The First Mox Plant Award: The Need to Harmonize Competing Environmental Regimes and Dispute Settlement Procedures' (2004) 17 (4) Leiden JIL 815; Volker Röben, 'The Order of the UNCLOS Annex VII Arbitral Tribunal to Suspend Proceedings in the Case of the MOX Plant at Sellafield: How Much Jurisdictional Subsidiarity?' (2004) 73 Nordic J. Int'l L. 223, 233-235.

Convention and that the United Kingdom was not in breach of that Article.[321]

Regarding the background to the case, on 30/07/1999, Ireland requested the full copy of the PA Consulting Group Report (PA was hired by British Fuels plc (BNFL) to carry out the detailed assessment; the public version of the PA Report of 27/12/1997 was redacted on the grounds of 'commercial confidentiality' under the UK Environmental Information regulations of 1992) on the basis of Directive 80/836 of the Euiratom and the EC Directive 90/313/EEC "Freedom of access to environmental information". The request was refused by the Department for the Environment, Transport and the Regions on the grounds of not prejudicing commercial interests of the enterprise by disclosing commercially confidential information. On 22/05/1991 Ireland again requested full information. In Spring 2001, BNFL prepared a new confidential document setting out the economic justification for the Mox plant, and, further, it appointed the consulting firm Arthur D. Little ("ADL"), to analyze the business case and to report on the resp onses to the public consultation exercise on it. On 31/10/2001, a decision was adopted approving the manufacture of the Mox at Sellafield. Greenpeace challenged the decision but failed.[322]

Ireland's application to the ITLOS for provisional measures against commissioning of the plant also failed. Indeed, on 09/11/2001, Ireland separately instituted proceedings against the UK under UNCLOS of 1982 and requested provisional measures, the case which is also cited as "*Mox Plant* (*Ireland v. UK*)". The case before the ITLOS is examined in this study below. Consequently, these two proceedings should be distinguished.

On 14/06/2001 Ireland, invoking Article 32 of the OSPAR Convention, requested the establishment of an arbitral tribunal to determine whether the UK's refusal to publish in full two reports concerning the economic justification for the Mox plant was consistent with its obligations under Article 9 of the Convention.

The Ospar Arbitral Tribunal Award of 2003 was the first award rendered under the arbitration clause of the OSPAR Convention. Ireland argued that the UK's provision of two reports on the economic justification of the Mox plant was only partly compatible with the obligation that emanates from Article 9 of the OSPAR Convention since it prevents a proper review of the issue, (Award, para.42).[323] It is significant to note that, in addition to the OSPAR Convention, with regard to "applicable international regulations" as provided for in Article 9(2) of the OSPAR Convention, Ireland also relied on the Rio Declaration of 1992 and on the Aarhus Convention of 1998.

The UK argued that the tribunal was without jurisdiction, that Ireland's claims were inadmissible, that Article 9(1) of the OSPAR Convention did not create a direct right

321 "*Mox Plant*" (n 320) para 185.

322 Fitzmaurice (n 43) 544-546.

323 In its final submission, Ireland requested the Tribunal to order and declare: (i) that the UK had breached its obligations under Article 9 of the OSPAR Convention by refusing to make available information deleted from the PA Report and ADL Report as requested by Ireland; (ii) that, as a consequence of the aforesaid breach of the OSPAR Convention, the UK should provide Ireland with a complete copy of both the PA and the ADL Report, alternatively a copy of the PA Report and the ADL Report ,which included all such information upon the release of which the arbitration tribunal would decide if commercial confidentiality within the meaning of Article 9(3) of the OSPAR Convention would be affected; and (iii) that the UK pay Ireland's costs of the proceedings, "*Mox Plant*" (n 320) para 42.

for any person or State to receive information, that the information requested did not fall within Article 9(2) of the Convention, and that, even if none of those grounds were considered valid by the tribunal, Ireland's request for information could be refused on the basis of commercial confidentiality, (paras.43, 44, 78).[324]

The majority of the arbitrators (Lord Mutsill, who was nominated by the United Kingdom, and M. Reisman, who was jointly nominated by the other two arbitrators) construed Article 9 of the OSPAR Convention obligation narrowly and refused Ireland's request to receive information on the economic viability of the Mox plant. According to the majority of arbitral tribunal the information sought by Ireland could not be viewed as information whose disclosure was mandated by the OSPAR Convention, because the redacted parts dealt with business information and not with environmental information on the state of the maritime area. Furthermore, it was not shown that the requested information pertained to activities which were likely adversely to affect the maritime area, (Award, paras.170-175, 179).

In view of the majority, Article 9(2) of the OSPAR Convention provides for a limited right of access to environmental information. Moreover, Ireland failed to prove that the operation of the Mox plant would, in all likelihood, be harmful to the environment. In his dissent Mr. Griffith (nominated by Ireland) argued that the text of Article 9(2) of the Convention should be broadly construed, so as to cover an economic cost-benefit analysis of the activities at the Mox plant. He also argued that application of the precautionary principle should have put the burden of proof as to the likelihood of harm as a result of the operation of the Mox plant on the UK. Consequently, he was of the view that the requirements of Article 9(2) of the OSPAR Convention had been met and that the tribunal should have examined whether the UK could have invoked any of the grounds for non-disclosure listed in Article 9(3) of the Convention.

Furthermore, the Tribunal held that the only applicable law was the OSPAR Convention itself. Consequently, it dismissed the Irish contention that other treaties needed to be taken into account in assessing the UK's actions (Award, paras.80-86). The Tribunal also did not accept the Irish argument that, even without an explicit consent of the parties to the dispute, the Tribunal was required to consider customary law and evolving international law and practice in interpreting the OSPAR Convention, (paras.98-104). The Tribunal found that in this case it had not been authorized to apply "evolving international law and practice", thus it could not do so, (paras.100-101).[325]

324 In its final submission, the UK requested the Tribunal: (i) to adjudge and declare that it lacked jurisdiction over the claims brought against the UK by Ireland and/or that those were inadmissible; (ii) to dismiss the claims brought against the UK by Ireland; (iii) to reject Ireland's request that the UK pay Ireland's costs, and instead to order Ireland to pay the UK's costs, *ibid* para 44.

325 However, in his Dissenting Opinion Dr. Griffith argued, *ibid*, that the OSPAR Convention was *lex specialis* as between the Parties and was to be interpreted within the general context of other relevant rules and principles of international law. As to the Aarhus Convention, since it had come into force, it was not correct to describe it as *lege ferende*. Moreover, the UK signed this Convention; consequently, it is bound by Article 18 of the Vienna Convention on the Law of Treaties which imposes an obligation to refrain from acts that would defeat its object and purpose. In order to support the latter argument he referred to the ICJ's "(*Qatar v. Bahrain*)" Judgment of 16/03/2001, in which the ICJ accepted the principle that treaties that have not been ratified treaties may possess an evidentiary value that helps to establish the view and intentions of signatories. Fitzmaurice (n 43) 555.

Further see, "*Maritime Delimitation and Territorial Questions between Qatar and Bahrain* (*Qatar v. Bahrain*)" Judgment of 16/03/2001, [2001] ICJ Rep 40 (In this case Qatar argued that "Great Britain has always recognized Qatar's title to Zubarah. Thus it maintains that, even though it was not ratified, the Anglo-Ottoman Convention of 29 July 1913 accurately reflected the common view of the Ottoman Imperial Government and the British Government 'as to the territorial situation at the

> The majority members of the arbitral tribunal also accepted the approach that the OSPAR Convention contained a "self-contained dispute resolution mechanism". The tribunal made a textual analysis of Article 9(1) of the Convention (Award, para.139) and compared the text of that provision with EC Directive 90/313 of 07/06/1990. The tribunal took the view that each text of the EC Directive and the OSPAR Convention created independent legal obligations and remedies, (paras.141-142). According to the Tribunal, while a breach of the EC Directive could be pursued only within a domestic legal system, Article 32 of the Convention did not exempt Article 9(1) from international litigation, and there was nothing in the Convention indicating that a breach of Article 9(1) gave arise only a municipal remedy, (para.143). With respect to the international law of state responsibility, the Tribunal stated that international legal responsibility could arise in case competent national authorities act in a way inconsistent with international legal obligations (paras.144-146).
>
> In view of the Tribunal, other rules of international law on the right of access to environmental information could only be considered in the context of the interpretation of the OSPAR Convention in accordance with Article 31, paragraph 3 (c), of the Vienna Convention on the Law of Treaties.

Shany commented that this award is problematic from an environmentalist perspective. "The approach taken by the majority is hardly consistent with the trend of expanding the right of access to environmental information found in modern international law and European law instruments. It is also hard to reconcile the award with the precautionary principle (Rio Declaration, Principle 15; OSPAR Convention, Art.2/2, a), as application of this principle should arguably have shifted the burden of proof to the party engaged in the contested marine-related activity (the author also referred to Griffith's Dissention Opinion (para.92), who suggested that application of the precautionary principle should have lowered the threshold of evidence needed to demonstrate environmental harm)…" [326]

According to McDorman, this OSPAR arbitration case either did not seem to reach the correct conclusion or other results were not able to be reached. "Rather, what should be inferred is that in international environmental litigation, hard law and international legal obligations matter more than environmental aspirations and atmospherics". The author argues that one may note the "apparent narrowness of the law applied and the strictness of the textual interpretation. It is likely that few will defend the decision".[327]

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time and the status of the Al-Thani Rulers as having governed in the past and as still governing, the entire Peninsula'...", *ibid* 66, para 80. The Court found that both Parties agreed that the 1913 Anglo-Ottoman Convention was never ratified; they differed on the other hand as to its value as evidence of Qatar's sovereignty over the peninsula, *ibid* 68, para88. The Court observed that "*signed but unratified treaties may constitute an accurate expression of the understanding of the parties at the time of signature*. In the circumstances of this case the Court came to the conclusion that the Anglo-Ottoman *Convention did represent evidence* of the views of Great Britain and the Ottoman Empire as to the factual extent of the authority of the Al-Thani Ruler in Qatar up to 1913", *ibid* 68, para 89). (Emphasis added).

326 Shany (n 320) 821.

327 McDorman (n 320) 338. But as another way of looking at the case, the author added that one may ask whether the OSPAR arbitration will encourage or discourage international third-party arbitral settlement of international environmental

In the view of M. Fitzmaurice, the most interesting part of the Award concerns the applicable law that was taken into consideration in rendering the Award. The Tribunal relied on Article 31 of the 1969 Vienna Convention on Treaties. "The approach adopted by the Tribunal was restrictive, it took into consideration only the law in force between the parties. Although possibly conservative, a cautious assessment of applicable law is very much a feature of the decision-making of international courts and tribunals."[328]

iii. The Aarhus Convention of 25/06/1998

For the application of Principle 10 of the "Rio Declaration", the UN Economic Commission for Europe adopted the "*Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters*" ("Aarhus Convention")[329] on 25/06/1998. The Aarhus Convention is based on three pillars: (1) access to environmental information, (2) public participation in environmental decision-making, and (3) the establishment of judicial and administrative mechanisms to redress environmental grievances.[330]

Article 1 of the "Aarhus Convention" states that "in order to contribute to the protection of the right of every person of present and future generations to live in an

disputes. According to him a better perspective is that most states will be heartened by the OSPAR arbitration. "The tribunal resolved the issue before it in accordance with the constitutive instrument, which is precisely what international third-party arbitration is supposed to accomplish. Moreover, by maintaining a litigational approach to international environmental law, the tribunal's award will encourage states to make greater use of international arbitration in the future, for the award emphasizes the predictable rather than opening up new, and inherently unpredictable, territory", *ibid* 338-339.

328 Fitzmaurice (n 43) 556-557 (The author added that "the evidentiary value of Article 18 of the Vienna Convention is rather unclear. It is an intermediary measure not to defeat the object and purpose of a treaty during the grey period between its signing and its entry into force. The signing of a treaty does not impose on a state any obligation to ratify. It is a very weak obligation that does not even oblige states to follow the treaty provisions during the interim period. Evidentiary value of public statements made by a state after signing a treaty but before ratification (which may never follow), is also controversial. For example, in the *North Sea Continental Shelf* cases, both the Netherlands and Denmark contended that the Federal Republic of Germany, by conduct and by public statements and proclamations, unilaterally assumed the obligations of the 1958 Convention on the Continental Shelf; or had manifested its acceptance of the conventional regime. The ICJ rejected these contentions" *ibid* 557).

329 The "*Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters*" ("Aarhus Convention") (ECE/CEP/43) was adopted on 25/06/1998 and entered into force on 30/10/2001; *reproduced in*, 38 ILM 15 (1999).

330 Philippe Sands (n 108) 858-859; Stephen Tromans, *Nuclear Law* (2nd Edition, Hart Publishing 2010) 154-155; Jonas Ebbesson, 'The Notion of Public Participation in International Environmental Law' (1997) 8 1 YBIEL 51; Sean T. McAllister, 'The Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters' (1998) 10 Colo. J. Int'l Envtl. L. & Pol'y 187, 189; Maria Lee and Carolyn Abbot, 'The Usual Suspect? Public Participation Under the Aarhus Convention' (2003) 66 (1) Modern L. Rev. 80; Veit Koester, 'Review of Compliance under the Aarhus Convention, a Rather Unique Compliance Mechanism' (2005) 2 (1) JEEPL 31; Fiona Marshall, 'Two Years in the Life: The Pioneering Aarhus Convention Compliance Committee 2004-2006' (2006) (8) 1 Int'l Comm. L. Rev. 123, 125-126; Carine Nadal, 'Pursuing Substantive Environmental Justice: The Aarhus Convention as a 'Pillar' of Empowerment' (2008) 10 (1) Envtl. L. Rev. 28; Jerzy Jendroska, 'Public participation in the preparation of plans and programmes: some reflections on the scope of obligations under Article 7 of the Aarhus Convention' (2009) 6 (4) JEEPL 495; Jonas Ebbesson, '*Public Participation and Privatisation in Environmental Matters: An Assessment of the Aarhus Convention*' (2011) 4 (2) Erasmus L. Rev. 71 (Discussion on the Aarhus Convention see, *ibid* 74-78); Marianne Dellinger, '*Ten Years of the Aarhus Convention: How Procedural Democracy is Paving the Way for Substantive Change in National and International Environmental Law*' (2012) 23 (2) Colo. J. Int'l Envtl. L. & Pol'y 309; Elana Fasoli and Alistair McGlone, 'The Non-Compliance Mechanism Under the Aarhus Convention as 'Soft' Enforcement of International Environmental Law: Not So Soft After All!' (2018) 65 (1) Neth. Int. L. Rev. 27.

environment adequate to his or her health and well-being, each Party shall guarantee the rights of access to information, public participation in decision-making, and access to justice in environmental matters in accordance with the provisions of this Convention."[331] In addition to Article 1 of the Convention, several paragraphs of the preamble contain some human rights elements.[332] Furthermore, Article 3, paragraph 9, of the Convention reads as follows: "Within the scope of the relevant provisions of this Convention, the public shall have access to information, have the possibility to participate in decision-making and have access to justice in environmental matters without discrimination as to citizenship, nationality or domicile and, in the case of a legal person, without discrimination as to where it has its registered seat or an effective centre of its activities."

The provisions of "Article 4 – Access to environmental information", "Article 5 – Collection and dissemination of environmental information", "Article 6 – Public participation in decisions on specific activities", "Article 7 – Public participation concerning plans, programmes and policies relating to the environment"[333], "Article 8 – Public participation during the preparation of executive regulations and/or generally applicable legally binding normative instruments", and "Article 9 – Access to justice" may be of particular note here.

Under the Aarhus Convention, requests for environmental information can be refused if the public authority does not hold the requested information; if the request is manifestly unreasonable or formulated in too general a manner, or if the request concerns materials in the course of completion or concerns international communications of public authorities, (Article 4, para.3, a-c). Furthermore, the release of information is not required if it would have an adverse effect on (1) the confidentiality of the public proceedings, (2) international relations, (3) national defense, (4) public security, (5) the fair administration of justice, (6) intellectual property rights, or (7) confidential commercial information, (Article 4, para.4).[334] Although the provision in Article 4, para.4 that these exceptions should be narrowly construed amounts to a positive norm in drawing a framework for the exceptions, some of these grounds for refusal may nevertheless be considered as "vague"[335] and open to abuse of exception clause, notwithstanding a counter-balance provision in Article 5 of the Convention for the issuance of periodic reports by the public authorities

331 With regard to the phrase "present and future generations" in Article 1 of the Convention it is commented that "arguably the Convention also extends participation rights and equal treatment temporally to future generations. On the basis of Article 1, which guarantees in theory the procedural rights of present generations, not only is the substantive right of future generations to live in a healthy environment protected but also the rights of participation in decision-making, which are a precondition for the enjoyment of the former"; See, Nadal (n 330) 32.

332 Ebbesson (n 330) 74.

333 Jendroska (n 330) 496, 515 (The author argues that neither the scope of application of Article 7 nor the obligation as to the required framework of public participation are clearly determined).

334 Cf., Article 9, para 3, of the "OSPAR Convention" examined above.

335 Cf., McAllister, (n 330) 192.

on proposed and existing activities that may significantly affect the environment. Similarly, with regard to public participation in environmental decision-making, in Article 6, para.11, of the Convention it is stated that "Each Party shall, within the framework of its national law, apply, to the extent feasible and appropriate, provisions of this article to decisions on whether to permit the deliberate release of genetically modified organisms into the environment". The phrase "to the extent feasible and appropriate" in this paragraph seems to have the potential to devaluate a strict compliance duty upon the Contracting Parties by providing an excessive flexibility or a wide margin of appreciation to the public authorities concerned.

As regards to access to justice, Article 9, para.1, of the Aarhus Convention indicates that when a request for information under Article 4 has been ignored, wrongfully refused, whether in part or in full, inadequately answered, or otherwise not dealt with in accordance with the provisions of that Article, the person concerned has been provided access to a review procedure before a court of law or another independent and impartial body established by law.[336] This norm has two aspects; on the one hand, it imposes a duty upon the Parties to provide access to justice, and on the other hand, it recognizes an individual right for such access. The importance of Article 9 also emanates from the provision in paragraph 3 of the same Article in which members of the public are allowed access to administrative or judicial procedures to challenge acts and omissions by private persons and public authorities which contravene national environmental laws.

Furthermore, pursuant to Article 9, para.4, of the Aarhus Convention, the procedures provided in paragraphs 1 to 3 of the same Article shall "provide adequate and effective remedies, including *injunctive relief* as appropriate, and be fair, equitable, timely and not prohibitively expensive. Decisions under this article shall be given or recorded in writing. Decisions of courts, and whenever possible of other bodies, shall be publicly accessible". (Emphasis added). In so far as it relates to the subject-matter of the present study, attention may be drawn also to the phrase "including injunctive relief" which appeared in Article 9, para.4, of the Convention, without ignoring the question regarding what such injunctive relief would be. Although Article 9/4 of the Convention is cited in many studies, the part of the provision concerning "injunctive relief" seems not to have received enough attraction, possibly because of the difficulty of suggesting such injunction or a general suggestion that this may be a dead letter. However, national judicial organs in particular, and especially administrative courts, have power to order injunction relief if the requested party can satisfy the court for such a measure.

Pursuant to Article 15 of the Aarhus Convention, a Meeting of the Parties was required to establish, on a consensus basis, optional arrangements of a non-confrontational, non-judicial and consultative nature for reviewing compliance with the provisions of this

336 But note that Article 9, para 2, of the "Aarhus Convention" provides two requirements, i.e. "a sufficient interest" and "impairment of a right", which, in the view of the present author, has weakened the effect of the right to access to justice.

Convention. In its first meeting held in October 2002, by a Decision 1/7 the Meeting of the Parties established the Aarhus Convention Compliance Committee, and Annex to Decision 1/7 sets out the structure and functions of the Compliance Committee and the procedures for the review of compliance. The Committee's main functions include considering submissions by Parties, referral by the secretariat, and communications from the public, (Annex to Decision 1/7, para.13). The most significant aspect of the compliance mechanism[337] is the possibility for members of the public to make a communication to the Committee concerning a Party's compliance.[338] The regime that applies to a communication from the public is quite similar to the individual application procedure provided under international human rights convention systems, including the requirement of exhaustion of available domestic remedies as well as its exceptions, (Annex to Decision 1/7, paras.20-21). However, the compliance procedure is not a redress procedure for violations of individual rights. The Committee may only make recommendations to the Party concerned on specific measures to address the matter raised by the public, (Annex to Decision 1/7, para.36/b, iii). The Committee, even in a recommendatory form, has not been empowered to indicate interim measures of any kind.

Notwithstanding the normative shortcomings of the Aarhus Convention, this instrument is extremely important in environmental policy-making.[339] One of the indicators of this significance may also be derived from the environmental human rights cases under the ECHR or I-ACHR. In such cases both the European and the Inter-American Courts of Human Rights explicitly refer to the Aarhus Convention.[340] Furthermore, some important steps have been taken within the European Community environmental law for the implementation of the Aarhus Convention.[341]

iv. Access to environmental information within the EU Directives

On 07/05/1990 the Council of the European Communities adopted Regulation 1210/90 establishing the European Environment Agency (EEA) together with an environmental information network.[342] The objective of Regulation 1210/90 was to establish the EEA and to coordinate the Community of the environmental information

337 Koester (n 330) 31-32; Further see, Ebbesson (n 330) 75-76; Fasoli & McGlone (n 330) (The authors conclude that the Aarhus Convention Compliance Committee has become an enforcement mechanism capable of generating decisions with legal effect, rather than a "soft remedy").

338 Marshall (n 330) 127-132.

339 Jendroska (n 330) 500-501 (According to the author the Convention provides "a framework in which members of the public have more power where they have particularized interests with respect to matters which directly affect their lives and well-being, and progressively less direct power and influence as matters become more abstract and general").

340 For example, see, "*Taşkın and Others v. Turkey*" (n 269) para 99; *Vasile Gheorghe Tatar and Paul Tatar v. Romania* App. No.67021/01, (ECtHR, Decision Admissible 05/07/2007) para43; Also see, under the I-ACHR system, "*Case of Raxcaco-Reyes v. Guatemala*", Inter-American Court of Human Rights, Judgment of 15/09/2005 (Merits, Reparations and Costs), par.81.

341 Aine Ryall, 'Implementation of the Aarhus Convention through Community Environmental Law' (2004) 6 (4) Envtl. L. Rev. 274.

342 The Council Regulation 1210/90 of 7 May 1990 on the "*Establishment of the European Environment Agency and the European Environment Information and Observation Network*"; OJ, L 1210/1 (1990).

network (Article 1). The EEA was empowered to gather, process and analyze data on the environment, (Article 2). Pursuant to Article 3 the EEA furnishes information which might be directly used in the implementation of the environmental policy of the Community. The same Article also provides a list of priority areas on which the EEA must focus its information collection activities.[343]

The Council of the European Communities (EC) adopted Directive 90/313/EEC on the "*Freedom of Access to Information on the Environment*"[344] on 07/06/1990. It became applicable after 01/01/1993. In Article 2 of this Directive 90/313/EEC the term "information relating to the environment" was defined as any available information in written, visual, aural or data-base form on the state of water, air, soil, fauna, flora, land and natural sites, and on activities, including those which give rise to nuisance such as noise, or measures adversely affecting, or likely so to affect, these, and on activities or measures designed to protect these, including administrative measures and environmental management programs. According to Article 1 of the same Directive the purpose is to ensure freedom of access to and dissemination of information on the environment held by public authorities. Pursuant to Article 3/1, public authorities are required to make available information relating to the environment to any person upon request without the requirement of proving a legal interest or explanation. But such a request for information may be dismissed on the ground of confidentiality (Articles 3/2 and 3/3). Such information may be made available to either natural or legal persons (Article 3). The term "legal persons" includes associations involving environmental matters with the condition that such entities must be considered legal persons under their domestic law. The rejection of the request for information may be subjected to a judicial or administrative review (Article 4). This obligation is primarily imposed on public authorities (Article 2/b), but pursuant to Article 6 the mentioned obligation may extend to cover private undertakings charged with statutory duties to provide public services and goods.[345] (*Cf.*, Article 9 of the OSPAR Convention of 1992 and Article 9 of the Aarus Convention). Since the right to appeal is granted in Article 4 of Directive 90/313, it does not require a right of appeal under national law. In order to implement the Directive, Member States must enact necessary laws and regulations. It may be added that it is an established case-law that a Directive confers directly enforceable rights if the provisions are sufficiently clear, precise, and unconditional in that it leaves no discretion to Member States concerning its implementation.[346] But the provisions of

343 Dietrich Gorny, 'The European Environment Agency and the Freedom of Environmental Information Directive: Potential Cornerstones of EC Environmental Law' (1991) 14 B. C. Int'l & Comp. L. Rev. 279, 283-294.

344 Directive 90/313/EEC of 07/06/1990 on the "*Freedom of Access to Information on the Environment*"; OJ, L 158/56, (23/06/1990).

345 Stefan Weber, 'Environmental Information and the European Convention on Human Rights' (1991) 12 (5) HRLJ 177, 183; Also see, Gorny (n 343) 294-299; Douglas-Scott (n 271) (As the author noted, Article 6 of the European Council Directive 85/337 provides that any demand for authorization of a public or private project which could have an effect on the environment should be made public and that member States shall ensure that the public have an opportunity to express an opinion before the project is initiated, *ibid* 120-121).

346 Kramer (n 270) 41-42 (The author argues that for the "direct effect" of individual provisions of Community law the

Directive 90/313 suggest that they only partially fulfill the requirements for direct effect since the content of Directive 90/313 seems conditional due to the fact that Member States are required to provide implementing regulations.[347]

Article 15 of Council Directive 96/61/EC "*concerning integrated pollution prevention and control*" of 24/09/1996[348] regulates access to information and public participation in the permit procedure without prejudice to the Council Directive 90/313/EEC of 07/06/1990. Furthermore, Article 16 of Directive 96/61/EC requires Member States to exchange information and to report to the Commission on the implementation of this Directive and its effectiveness.

Article 255, paragraph 1, of the Treaty of Amsterdam[349] of 02/10/1997 provided that "Any Union citizen and any natural or legal person residing or having a registered office in a member state, shall have a right of access to European Parliament, Council and Commission documents". Pursuant to this Article the Regulation 1049/2001/EC on *Public access to European Parliament, Council and Commission documents* was adopted on 30/05/2001 and entered into force on 03/12/2001.[350]

The Directive 2003/4/EC of the European Parliament and of the Council on *Public Access to Environmental Information* was adopted on 28/01/2003.[351] This new Directive updates the previous Directive 90/313/EEC of 1990.

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directive's provisions must be precise and unconditional. In deciding whether a provision in a directive is sufficiently precise or clear, consideration has to be given to whether it formulates a sufficiently clear position, i.e., makes conditions and consequences of the facts of the matter clear. In order to have a direct effect, a Community provision must also be unconditional. It must not require additional rulings or measures to be adopted by the Member States in its field of application in order to be effective. The author on pp.42-48 provides a long list of examples of Community environmental directives on various areas with direct effect. The author concluded that "provisions of Community environment directives that are precise and unconditional have direct effect. They are valid in the legal system of Member States even if the Member States have not, or not correctly, incorporated the Community provisions in national law. All state agencies have to respect provisions of directly applicable Community environment legislation. If necessary, they must set aside and not apply incompatible national law", *ibid* 55-56).

347 Gorny (n 343) 298.

348 The Council Directive 96/61/EC "*concerning integrated pollution prevention and control*" of 24/09/1996; reproduced in (1997) 9 (1) J. Envtl. L. 206-218 (For the purposes of this Directive 'pollution' means the direct or indirect introduction as a result of human activity, of substances, vibrations, heat or noise into the air, water or land which may be harmful to human health or the quality of the environment, result in damage to material property, or impair or interfere with amenities and other legitimate uses of the environment (Article 2, paragraph 2).

349 The "Treaty of Amsterdam Amending the Treaty on European Union, the Treaties Establishing the European Communities and Related Acts" was signed on 02/10/1997 and entered into force on 01/05/1999; OJ, C 340, (10/11/1997). Article 255, paragraph 2, of the Treaty provided that a new legally binding regime on access to documents should be in place by May 2001.

350 Regulation 1049/2001/EC of the European Parliament and of the Council of 30/05/2001 regarding "*Public access to European Parliament, Council and Commission documents*"; OJ, L 145/43, (31/05/2001). It draws a general legal framework for the public's access to documents of the EC institutions and bodies. In accordance with Article 2, paragraph 3, and Article 3, paragraph (a), of the 2001 Regulation, it is applicable to "all documents held by an Institution", i.e., the European Parliament, Council and Commission.

351 Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on "*Public Access to Environmental Information and Repealing Directive 90/313/EEC*"; OJ L 041/26, (14/02/2003); Also see, the Directive 2003/35/EC of the European Parliament and of the Council of 26 May 2003 "*Providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment and amending with regard to public participation and access to justice Council Directives 85/337/EEC and 96/61/EC*"; OJ L 156/17 (25/06/2003). Directive 2003/35/EC amended a number of existing environmental directives with a view to strengthening participation rights and improving access to justice. The Council Directive 96/61/EC "*concerning integrated pollution prevention and control*" of 24/09/1996, reproduced in (1997) 9 (1) J. Envtl. L. 206-218; Also see, Tromans (n 330) 430-432.

On 17/02/2005, the EC acceded to the Aarhus Convention.[352] Almost all Member States of the EC had already been become a party of that Convention. After the EC's accession to the Aarhus Convention, a new legislation on the right of access to environmental information applicable to the Community's institutions and bodies, namely Regulation 1367/2006 of 06/09/2006 on the *Application of the Aarhus Convention to Community Institutions and Bodies* was issued.[353] It entered into force on 28/06/2007. Different from the general Regulation 1049/2001/EC of 30/05/2001, the Regulation 1367/2006 of 06/09/2006 specifically applies to access to environmental information. The 2006 Regulation uses the term "information", which is "documents" in the 2001 Regulation. Furthermore, the new Regulation of 2006 also extends the scope of the right to access to environmental information by placing all institutions and bodies of the EC under the obligation to provide such information, (Articles 2/c and 3).

With regard to exceptions to the general rule of access to documents, while the 2001 Regulation is strict both in terms and application, the 2006 Regulation concerning access to environmental information provides some changes on this issue. As one commentator observed, "first, it adds a discretionary exception ('may refuse') 'where disclosure of the information would adversely affect the protection of the environment to which the information relates' in its Article 6 (2). Second, its Article 6 (1) adds an 'exception to the exception' of Article 4 (2), 1st and 3rd indents (except investigations), of the Transparency Regulation (of 2001) by stating that in the case of emissions into the environment a public interest in disclosure will always be deemed to exist. Furthermore, the Aarhus Regulation (of 2006), in its Article 6 (2), in fine stresses that all the exceptions of the Transparency Regulation are to be interpreted restrictively, taking into account the public interest in disclosure and adds that consideration should be given to whether the information sought relates to information on emissions".[354]

It is generally argued that the most difficult parts of implementing the Aarhus Convention, both on the Community level as well as on the Member States level, are the obligations resulting from Article 9 of the Convention, which are subsumed under the term 'access to justice'. This notion may result in different violations, such as the impairment of the right of access to information (Art.9/1), the impairment of the

352 *Council Decision 2005/370/EC of 17/02/2005* on the conclusion, on behalf of the European Community, of the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters; OJ L 124/1, (17/05/2005).

353 Regulation (EC) 1367/2006 of the European Parliament and of the Council of 6 September 2006 on the *Application to the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters to Community Institutions and Bodies*; OJ L 264/13, (25/09/2006).

354 Sofia de Abreu Ferreira, 'The Fundamental Right of Access to Environmental Information in the EC: A Critical Analysis of WWF-EPO v. Council' (2007) 19 (3) J. Envtl. L. 399, 405; For the legal background of access to justice on environmental matters in the EU Member States and in particular the practice and outcome of the NGOs participation in the period between 1996 and 2001, see, Miriam Dross, 'Access to Justice in Environmental Matters' (2003) 11 (4) Tilburg Foreign L. Rev. 720, 724-736.

right to public participation (Art.9/2) and access to justice where acts and omissions of public authorities or of private persons breach law relating to the environment (Art.9/3).[355]

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