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DRAFT REPORT OF THE INTERNATIONAL LAW COMMISSION ON THE WORK OF ITS FIFTY-THIRD SESSION

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CHAPTER …

INTERNATIONAL LIABILITY FOR INJURIOUS CONSEQUENCES ARISING OUT OF ACTS NOT PROHIBITED BY INTERNATIONAL LAW (PREVENTION OF TRANSBOUNDARY HARM FROM HAZARDOUS ACTIVITIES)

Addendum

2. The text of the articles, adopted by the Commission at its fifty-third session, with commentaries thereto are reproduced below:

PREVENTION OF TRANSBOUNDARY HARM FROM HAZARDOUS ACTIVITIES

General commentary

(1) The articles deal with the concept of prevention in the context of authorization and regulation of hazardous activities which pose a significant risk of transboundary harm. Prevention in this sense, as a procedure or as a duty, deals with the phase prior to the situation where significant harm or damage might actually occur, requiring States concerned to invoke remedial or compensatory measures, which often involve issues concerning liability.

(2) The concept of prevention has assumed great significance and topicality. The emphasis upon the duty to prevent as opposed to the obligation to repair, remedy or compensate has several important aspects. Prevention should be a preferred policy because compensation in case of harm often cannot restore the situation prevailing prior to the event or accident. Discharge of the duty of prevention or due diligence is all the more required as knowledge regarding the operation of hazardous activities, materials used and the process of managing them and the risks involved is steadily growing. From a legal point of view, the enhanced ability to trace the chain of causation, i.e. the physical link between the cause (activity) and the effect (harm), and even the several intermediate links in such a chain of causation, makes it also imperative for operators of hazardous activities to take all steps necessary to prevent harm. In any event, prevention as a policy is better than cure.

(3) Prevention of transboundary harm arising from hazardous activities is an objective well emphasized by principle 2 of the Rio Declaration[1] and confirmed by the International Court of Justice in its advisory opinion of 8 July 1996 on the *Legality of the Use by a State of Nuclear Weapons in Armed Conflict*[2] as now forming part of the corpus of international law.

(4) The issue of prevention, therefore, has rightly been stressed by the Experts Group on Environmental Law of the World Commission on Environment and Development. Article 10 recommended by the Group in respect of transboundary natural resources and environmental

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[1] *Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992* (United Nations publication, Sales No. E.93.I.8 and corrigenda), vol. I: *Resolutions adopted by the Conference*, resolution 1, annex I.

[2] Advisory opinion of 8 July 1996, *I.C.J. Reports 1996*, p. 15, para. 29; see also A/51/218, annex.

interferences thus reads: "States shall, without prejudice to the principles laid down in articles 11 and 12, prevent or abate any transboundary environmental interference or a significant risk thereof which causes substantial harm - i.e. harm which is not minor or insignificant."[3] It must be further noted that the well-established principle of prevention was highlighted in the arbitral award in the *Trail Smelter* case and was reiterated not only in principle 21 of the Stockholm Declaration and principle 2 of the Rio Declaration but also in General Assembly resolution 2995 (XXVII) of 15 December 1972 on cooperation between States in the field of the environment. This principle is also reflected in principle 3 of the 1978 draft United Nations Environment Programme (UNEP) Principles of Conduct in the Field of the Environment for the Guidance of States in the Conservation and Harmonious Utilization of Natural Resources Shared by Two or More States, which provided that States must "avoid to the maximum extent possible and ... reduce to the minimum extent possible the adverse environmental effects beyond its jurisdiction of the utilization of a shared natural resource so as to protect the environment, in particular when such utilization might: (a) cause damage to the environment which could have repercussions on the utilization of the resource by another sharing State; (b) threaten the conservation of a shared renewable resource; (c) endanger the health of the population of another State."[4]

(5) Prevention of transboundary harm to the environment, persons and property has been accepted as an important principle in many multilateral treaties concerning protection of the environment, nuclear accidents, space objects, international watercourses, management of hazardous wastes and prevention of marine pollution.[5]

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[3] *Environmental Protection and Sustainable Development - Legal Principles and Recommendations*, adopted by the Experts Group on Environmental Law of the World Commission on Environment and Development (Graham and Trotman/Martinus Nijhoff, 1986), p. 75. It was also noted that the duty not to cause substantial harm could be deduced from the non-treaty-based practice of States, and from the statements made by States individually and/or collectively. See J.G. Lammers, *Pollution of International Watercourses* (Martinus Nijhoff, The Hague, 1984), pp. 346-347, 374-376.

[4] *International Legal Materials*, vol. 17 (1978), p. 1098. For a mention of other sources where the principle of prevention is reflected, see *Environmental Protection and Sustainable Development - Legal Principles and Recommendations*, ibid., pp. 75-80.

[5] For a collection of treaties arranged according to the area or sector of the environment covered and protection offered against particular threats, see E. Brown Weiss, D.B. Magraw and P.C. Szasz, *International Environmental Law: Basic Instruments and References*

PREVENTION OF TRANSBOUNDARY HARM FROM HAZARDOUS ACTIVITIES

PREAMBLE

The States Parties,

Having in mind Article 13, paragraph 1 (a) of the Charter of the United Nations, which provides that the General Assembly shall initiate studies and make recommendations for the purpose of encouraging the progressive development of international law and its codification,

Bearing in mind the principle of permanent sovereignty of States over the natural resources within their territory or otherwise under their jurisdiction or control,

Bearing also in mind that the freedom of States to carry on or permit activities in their territory or otherwise under their jurisdiction or control is not unlimited,

Recalling the Rio Declaration on Environment and Development of 13 June 1992,

Recognizing the importance of promoting international cooperation,

Have agreed as follows:

Article 1

Scope

The present articles apply to activities not prohibited by international law which involve a risk of causing significant transboundary harm through their physical consequences.

Commentary

(1) Article 1 limits the scope of the articles to activities not prohibited by international law and which involve a risk of causing significant transboundary harm through their physical

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(Transnational Pubs. Inc. 1992); P. Sands, *Principles of International Environmental Law*, vol. 1 (Frameworks, Standards and Implementation), (Manchester Press 1995); see also F.L. Morrison and R. Wolfrum (eds.), *International, Regional and National Environmental Law* (Kluwer Law International, 2000); A. Boyle and D. Freestone (eds.), *International Law and Sustainable Development*; Past Achievements and Future Challenges (Oxford University Press, 1999); P.W. Birnie and A. Boyle, *International Law and the Environment* (Oxford University Press, 2002) (forthcoming), 2nd ed., L. Boisson de Chazournes, R. Desgagné, C. Romano (eds.) Protection internationale de l'environnement, *Recueil d'instruments juridiques*, Paris, Pedone, 1998; M. Prieur, St. Doumbe-Bille (eds.), *Recueil francophone des instruments internationaux de protection de l'environnement,* AUPELF/EDICEF, 1998; C. Dommen, Ph. Cullet, *Droit international de l'environnement*, Textes de base et références, Kluwer Law International, 1998.

consequences. Subparagraph (*c*) of article 2 further limits the scope of the articles to those activities carried out in the territory or otherwise under the jurisdiction or control of a State.

(2) Any activity which involves the risk of causing significant transboundary harm through the physical consequences is within the scope of the articles. Different types of activities could be envisaged under this category. As the title of the proposed articles indicates any hazardous and by inference any ultra hazardous activity which involves a risk of significant transboundary harm is covered. Thus any activity with risk of inherent danger or even an exceptionally high level of danger is clearly envisaged within the scope of the articles. In this connection, it may be noted that an ultra hazardous activity is perceived to be an activity with a danger that is rarely expected to materialize but it might assume, on that rare occasion grave (more than significant, serious or substantial) proportions.

(3) Suggestions have been made at different stages of the evolution of the present articles to specify a list of activities in an annex to the present articles with an option to make additions or deletions to such a list in the future as appropriate. States could also be given the option to add or delete items to the list which they may include in any national legislation aimed at implementing the obligations of prevention.

(4) It is however felt that specification of a list of activities in an annex to the articles is not without problems and functionally not essential. Any such list of activities is likely to be under inclusion and could become quickly dated from time to time in the light of fast evolving technology. Further, except for certain ultra hazardous activities which are mostly the subject of special regulation, e.g., in the nuclear field or in the context of activities in outer space, the risk that flows from an activity is primarily a function of the particular application, the specific context and the manner of operation. It is felt that a generic list could not capture these elements.

(5) It may be further noted that it is always open to States to specify activities coming within the scope of the articles in any regional or bilateral agreements or to do so in their national legislation regulating such activities and implementing obligations of prevention.[6] In any case, the scope of the articles is clarified by the four different criteria noted in the article.

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[6] For example, various conventions deal with the type of activities which come under their scope: annex I to the 1991 Convention on Environmental Impact Assessment in a Transboundary Context, (E/ECE/1250), reprinted in *International Legal Materials*, vol. 30 (1991), p. 800, where a number of activities such as the crude oil refineries, thermal power

(6) The first criterion to define the scope of the articles refers to "activities not prohibited by international law". This was originally intended to separate the topic of international liability from the topic of State responsibility.[7] The employment of this criterion is also intended to allow a State likely to be affected by an activity involving the risk of causing significant transboundary harm to demand from the State of origin compliance with obligations of prevention irrespective of whether the activity is or is not prohibited.[8] In addition, an invocation of these articles by a State likely to be affected is not a bar to a later claim by that State that the activity in question is a prohibited activity. Equally, it is to be understood that non-fulfilment of the duty of prevention or at any event, the minimization of risk under the articles would not give rise to the implication

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stations, installations to produce enriched nuclear fuels, etc., are identified as possibly dangerous to the environment and requiring environmental impact assessment under the Convention. Annex II to the 1993 Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment, where activities such as the installations or sites for the partial or complete disposal of solid, liquid or gaseous wastes by incineration on land or at sea, installations or sites for thermal degradation of solid, gaseous or liquid wastes under reduced oxygen supply, etc., have been identified as dangerous activities. This Convention also has a list of dangerous substances in annex I, *European Treaty Series*, No. 150; the 1992 Convention on the Transboundary Effects of Industrial Accidents, *International Legal Materials*, vol. 31 (1992), p. 1333; the 1974 Convention for the Prevention of Marine Pollution from Land-based Sources, UNEP, *Selected Multilateral Treaties in the Field of the Environment*, Ref. Series 3, 1983, p. 430; and the 1992 Convention on the Protection of Marine Environment of the Baltic Sea Area, [IMO 1] LDC.2/Circ.303; the Protocol to the 1976 Convention for the Protection of the Mediterranean Sea against Pollution, ibid.; and the 1976 Convention on the Protection of the Rhine against Chemical Pollution, United Nations, *Treaty Series*, vol. 1124, p. 375.

[7] The Commission concluded that "[it] fully recognizes the importance, not only of questions of responsibility for internationally wrongful acts, but also of questions concerning the obligation to make good any harmful consequences arising out of certain lawful activities, especially those which, because of their nature, present certain risks … [T]he latter category of questions cannot be treated jointly with the former." *Official Records of the General Assembly, Thirty-Second Session, Supplement No. 10* (A/32/10), para. 17. The Special Rapporteur on State responsibility described the issues falling under the topic of liability as "questions relating to the responsibility arising out of the performance of certain lawful activities … [o]wing to the entirely different basis of the so-called responsibility for risk." See Second Report on State Responsibility, *Yearbook ... 1970*, vol. II, p. 178, document A/CN.4/SER.A/1970/Add.1.

[8] See the Preliminary Report of Mr. Robert Q. Quentin Baxter, *Yearbook ... 1978*. vol. II (Part One), p. 247, doc. A/CN.4/334, para. 14, p. 251.

that the activity itself is prohibited.[9] However, in such a case State responsibility could be engaged to implement the obligations, including any civil responsibility or duty of the operator.[10] The articles are primarily concerned with the management of risk and emphasize the duty of cooperation and consultation among all States concerned. States likely to be affected are given the right of engagement with the State of origin in designing and, where appropriate, in the implementation of the system of management of risk commonly shared between or among them. The right thus envisaged in favour of the States likely to be affected however does not give them the right to veto the activity or project itself.[11]

(7) The second criterion, found in the definition of the State of origin in article 2, subparagraph (d), is that the activities to which preventive measures are applicable "are planned or are carried out" in the territory or otherwise under the jurisdiction or control of a State. Three concepts are used in this criterion: "territory", "jurisdiction" and "control". Even though the

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[9] See P.S. Rao, the Second Report on Prevention of Transboundary Damage from Hazardous Activities, doc. A/CN.4/501, paras. 35-37. See also Karl Zemanek, "State Responsibility and Liability", in W. Lang, H. Neuhold, K. Zemanek (eds.), *Environmental Protection and International Law* (1991), p. 197; see also M.B. Akehurst "International Liability for Injurious Consequences Arising out of Acts not Prohibited by International Law", XVI *Netherlands Yearbook of International Law* 3-16 (1985), Alan E. Boyle, "State Responsibility and International Liability for Injurious Consequences of Acts not Prohibited by International Law: A necessary distinction?" 39 *International and Comparative Law Quarterly* 1-25 (1990).

[10] See I. Brownlie, *System of the Law of Nations: State Responsibility*, Part I (1983), p. 50; A. Rosas, "State Responsibility and Liability under Civil Liability Regimes", in O. Bring and Said Mahmoudi (eds.), *Current International Law Issues: Nordic Perspectives (Essays in honour of Jerzy Sztucki)*. P.M. Dupuy, *La responsabilité internationale des États pour les dommages d'origine techologique et industrielle*, Paris, Pedone, 1977, p. 319, Fouad Bitar "Les mouvements transfrontaliers de déchets dangereux selon la Convention de Bâle", *Etude des régimes de responsabilité*, Paris, Pedone, 1997, pp. 79-137. However, different standards of liability, burden of proof and remedies apply to State responsibility and liability. See also Teresa A. Berwick, "Responsibility and Liability for Environmental Damage: A Roadmap for International Environmental Regimes", *Georgetown International Environmental Review*, pp. 257-267 (1998), P.M. Dupuy, "Où en est le droit international de l'environnement à la fin du siècle?" in *Revue générale de droit international public,* 1997-4, pp. 873-903; and "A propos des mésaventures de la responsabilité internationale des États dans ses rapports avec la protection internationale de l'environnement", in *Les Hommes et l'environnement*, see note 46 below.

[11] On the nature of the duty of engagement and the attainment of a balance of interests involved, see P.S. Rao, First Report on prevention of transboundary damage from hazardous activities, doc. A/CN.4/487, paras. 43, 44, 54 and 55 (d), pp. 16-17, 19 and 21.

expression "jurisdiction or control of a State" is a more commonly used formula in some instruments[12] the Commission finds it useful to mention also the concept of "territory" in order to emphasize the importance of the territorial link, when such a link exists, between activities under these articles and a State.

(8) The use of the term "territory" in article 1 stems from concerns about a possible uncertainty in contemporary international law as to the extent to which a State may exercise extraterritorial jurisdiction in respect of certain activities. For the purposes of these articles, territorial jurisdiction is the dominant criterion. Consequently, when an activity covered by the present articles occurs within the territory of a State, that State must comply with the obligations of prevention. "Territory" is, therefore, taken as conclusive evidence of jurisdiction. Consequently, in cases of competing jurisdictions over an activity covered by these articles, the territorially based jurisdiction prevails. The Commission, however, is mindful of situations where a State, under international law, has to yield jurisdiction within its territory to another State. The prime example of such a situation is innocent passage of a foreign ship through the territorial sea. In such situations, if the activity leading to significant transboundary harm emanates from the foreign ship, the flag State and not the territorial State must comply with the provisions of the present articles.

(9) The concept of "territory" for the purposes of these articles is narrow and therefore the concepts of "jurisdiction" and "control" are also used. The expression "jurisdiction" of a State is intended to cover, in addition to the activities being undertaken within the territory of a State, activities over which, under international law, a State is authorized to exercise its competence and authority. The Commission is aware that questions involving the determination of jurisdiction are complex and sometimes constitute the core of a dispute. This article certainly does not presume to resolve all the questions of conflicts of jurisdiction.

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[12] See, for example, principle 21 of the Stockholm Declaration, *Report of the United Nations Conference on the Human Environment, Stockholm, 5-16 June 1972* (United Nations publication, Sales No. E.73.II.A.14 and Corr.), chap. I; the United Nations Convention on the Law of the Sea of 10 December 1982, *Official Records of the Third United Nations Conference on the Law of the Sea*, vol. XVII (United Nations publication, Sales No. E.84.V.3), document A/CONF.62/122, art. 194, para. 2; principle 2 of the Rio Declaration (see note 1 above), and article 3 of the *United Nations Convention on Biological Diversity* of 5 June 1992, *International Legal Materials*, vol. 31 (1992), p. 1808.

(10) Sometimes, because of the location of the activity, there is no territorial link between a State and the activity such as, for example, activities taking place in outer space or on the high seas. The most common example is the jurisdiction of the flag State over a ship. The 1958 Geneva Conventions on the Law of the Sea and the 1982 United Nations Convention on the Law of the Sea have covered many jurisdictional capacities of the flag State.

(11) Activities may also be undertaken in places where more than one State is authorized, under international law, to exercise particular jurisdictions that are not incompatible. The most common areas where there are functional mixed jurisdictions are the navigation and passage through the territorial sea, contiguous zone and exclusive economic zones. In such circumstance, the State which is authorized to exercise jurisdiction over the activity covered by this topic must, of course, comply with the provisions of these articles.

(12) In cases of concurrent jurisdiction by more than one State over the activities covered by these articles, States shall individually and, when appropriate, jointly comply with the provisions of these articles.

(13) The function of the concept of "control" in international law is to attach certain legal consequences to a State whose jurisdiction over certain activities or events is not recognized by international law; it covers situations in which a State is exercising de facto jurisdiction, even though it lacks jurisdiction *de jure*, such as in cases of intervention, occupation and unlawful annexation which have not been recognized in international law. Reference may be made, in this respect, to the advisory opinion by the International Court of Justice in *Legal Consequences for States of the Continued Presence of South Africa in Namibia (South West Africa) notwithstanding Security Council Resolution 276 (1970)* case.[13] In that case, the Court, after holding South Africa responsible for having created and maintained a situation which the Court declared illegal and finding South Africa under an obligation to withdraw its administration from Namibia, nevertheless attached certain legal consequences to the de facto control of South Africa over Namibia. The Court held:

> "The fact that South Africa no longer has any title to administer the Territory does not release it from its obligations and responsibilities under international law towards other

[13] *I.C.J. Reports 1971*, p. 16.

> States in respect of the exercise of its powers in relation to this Territory. Physical control of a territory, and not sovereignty or legitimacy of title, is the basis of State liability for acts affecting other States."[14]

(14) The concept of control may also be used in cases of intervention to attribute certain obligations to a State which exercises control as opposed to jurisdiction. Intervention here refers to a short-time effective control by a State over events or activities which are under the jurisdiction of another State. It is the view of the Commission that in such cases, if the jurisdictional State demonstrates that it had been effectively ousted from the exercise of its jurisdiction over the activities covered by these articles, the controlling State would be held responsible to comply with the obligations imposed by these articles.

(15) The third criterion is that activities covered in these articles must involve a "risk of causing significant transboundary harm". The term is defined in article 2 (see the commentary to article 2). The words "transboundary harm" are intended to exclude activities which cause harm only in the territory of the State within which the activity is undertaken without any harm to any other State. For discussion of the term "significant", see the commentary to article 2.

(16) As to the element of "risk", this is by definition concerned with future possibilities, and thus implies some element of assessment or appreciation of risk. The mere fact that harm eventually results from an activity does not mean that the activity involved a risk, if no properly informed observer was or could have been aware of that risk at the time the activity was carried out. On the other hand, an activity may involve a risk of causing significant transboundary harm even though those responsible for carrying out the activity underestimated the risk or were even unaware of it. The notion of risk is thus to be taken objectively, as denoting an appreciation of possible harm resulting from an activity which a properly informed observer had or ought to have had.

(17) In this context, it should be stressed that these articles as a whole have a continuing operation and effect, i.e., unless otherwise stated, they apply to activities as carried out from time to time. Thus it is possible that an activity which in its inception did not involve any risk (in the sense explained in paragraph (16)), might come to do so as a result of some event or development. For example, a perfectly safe reservoir may become dangerous as a result of an

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[14] Ibid., para. 118.

earthquake, in which case the continued operation of the reservoir would be an activity involving risk. Or developments in scientific knowledge might reveal an inherent weakness in a structure or materials which carry a risk of failure or collapse, in which case again the present articles might come to apply to the activity concerned in accordance with their terms.

(18) The fourth criterion is that the significant transboundary harm must have been caused by the "physical consequences" of such activities. It was agreed by the Commission that in order to bring this topic within a manageable scope, it should exclude transboundary harm which may be caused by State policies in monetary, socio-economic or similar fields. The Commission feels that the most effective way of limiting the scope of these articles, is by requiring that these activities should have transboundary physical consequences which, in turn, result in significant harm.

(19) The physical link must connect the activity with its transboundary effects. This implies a connection of a very specific type - a consequence which does or may arise out of the very nature of the activity or situation in question, in response to a natural law. That implies that the activities covered in these articles must themselves have a physical quality, and the consequences must flow from that quality, not from an intervening policy decision. Thus, the stockpiling of weapons does not entail the consequence that the weapons stockpiled will be put to a belligerent use. Yet this stockpiling may be characterized as an activity which, because of the explosive or incendiary properties of the materials stored, entails an inherent risk of disastrous misadventure.

Article 2

Use of terms

For the purposes of the present articles:

(*a*) "risk of causing significant transboundary harm" includes risks taking the form of a high probability of causing significant transboundary harm and a low probability of causing disastrous transboundary harm;

(*b*) "harm" means harm caused to persons, property or the environment;

(*c*) "transboundary harm" means harm caused in the territory of or in other places under the jurisdiction or control of a State other than the State of origin, whether or not the States concerned share a common border;

(*d*) "State of origin" means the State in the territory or otherwise under the jurisdiction or control of which the activities referred to in article 1 are planned or are carried out;

(*e*) "State likely to be affected" means the State or States in the territory of which there is the risk of significant transboundary harm or which have jurisdiction or control over any other place where there is such a risk;

(*f*) "States concerned" means the State of origin and the State likely to be affected.

Commentary

(1) Subparagraph (*a*) defines the concept of "risk of causing significant transboundary harm" as encompassing a low probability of causing disastrous transboundary harm and a high probability of causing significant transboundary harm. The Commission feels that instead of defining separately the concept of "risk" and then "harm", it is more appropriate to define the expression of "risk of causing significant transboundary harm" because of the interrelationship between "risk" and "harm" and the relationship between them and the adjective "significant".

(2) For the purposes of these articles, "risk of causing significant transboundary harm" refers to the combined effect of the probability of occurrence of an accident and the magnitude of its injurious impact. It is, therefore, the combined effect of "risk" and "harm" which sets the threshold. In this respect inspiration is drawn from the Code of Conduct on Accidental Pollution of Transboundary Inland Waters,[15] adopted by the Economic Commission for Europe in 1990. Under article I, paragraph (f), of the Code of Conduct, "'risk' means the combined effect of the probability of occurrence of an undesirable event and its magnitude". It is the view of the Commission that a definition based on the combined effect of "risk" and "harm" is more appropriate for these articles, and that the combined effect should reach a level that is deemed significant. The obligations of prevention imposed on States are thus not only reasonable but also sufficiently limited so as not to impose such obligations in respect of virtually any activity. The purpose is to strike a balance between the interests of the States concerned.

[15] E/ECE/1225-ECE/ENVWA/16.

(3) The definition in the preceding paragraph allows for a spectrum of relationships between "risk" and "harm", all of which would reach the level of "significant". The definition identifies two poles within which the activities under these articles fall. One pole is where there is a low probability of causing disastrous harm. This is normally the characteristic of ultra-hazardous activities. The other pole is where there is a high probability of causing significant harm. This includes activities which have a high probability of causing harm which, while not disastrous, is still significant. But it would exclude activities where there is a very low probability of causing significant transboundary harm. The word "includes" is intended to highlight the intention that the definition is providing a spectrum within which the activities under these articles will fall.

(4) As regards the meaning of the word "significant", the Commission is aware that it is not without ambiguity and that a determination has to be made in each specific case. It involves more factual considerations than legal determination. It is to be understood that "significant" is something more than "detectable" but need not be at the level of "serious" or "substantial". The harm must lead to a real detrimental effect on matters such as, for example, human health, industry, property, environment or agriculture in other States. Such detrimental effects must be susceptible of being measured by factual and objective standards.

(5) The ecological unity of the planet does not correspond to political boundaries. In carrying out lawful activities within their own territories States have impacts on each other. These mutual impacts, so long as they have not reached the level of "significant", are considered tolerable.

(6) The idea of a threshold is reflected in the *Trail Smelter* award, which used the words "serious consequences",[16] as well as the tribunal in the *Lake Lanoux* arbitration, which relied on the concept "seriously" (*gravement*).[17] A number of conventions have also used "significant",

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[16] *Trail Smelter* case; United Nations, *Reports of International Arbitral Awards*, vol. 3, p. 1965.

[17] *Lake Lanoux Arbitration (France v. Spain)*, ibid., vol. 12, p. 281.

"serious" or "substantial" as the threshold.[18] "Significant" has also been used in other legal instruments and domestic law.[19]

(7) The term "significant", while determined by factual and objective criteria, also involves a value determination which depends on the circumstances of a particular case and the period in which such determination is made. For instance, a particular deprivation at a particular time might not be considered "significant" because at that specific time scientific knowledge or human appreciation for a particular resource had not reached a point at which much value was ascribed to that particular resource. But some time later that view might change and the same harm might then be considered "significant".

(8) Subparagraph (b) is self-explanatory in that "harm" for the purpose of the present articles would cover harm caused to persons, property or the environment.

(9) Subparagraph (c) defines "transboundary harm" as meaning harm caused in the territory of or in other places under the jurisdiction or control of a State other than the State of origin, whether or not the States concerned share a common border. This definition includes, in

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[18] See, for example, article 4 (2) of the Convention on the Regulation of Antarctic Mineral Resource Activities of 2 June 1988, *International Legal Materials*, vol. 27 (1988), p. 868; articles 2 (1) and (2) of the Convention on Environmental Impact Assessment in a Transboundary Context of 25 February 1991 (see note 6 above); article I (b) of the Code of Conduct on Accidental Pollution of Transboundary Inland Waters (see note 15 above); and article 7 of the 1997 United Nations Convention on the Non-navigational Uses of International Watercourses (see General Assembly resolution 51/229, annex).

[19] See, for example, paragraphs 1 and 2 of General Assembly resolution 2995 (XXVII) of 15 December 1972 concerning cooperation between States in the field of the environment; Recommendation of the Council of the Organization for Economic Cooperation and Development (OECD) on Principles concerning Transfrontier Pollution, 1974, para. 6, OECD, Non-Discrimination in Relation to Transfrontier Pollution: Leading OECD Documents, p. 35, reproduced also in *International Legal Materials*, vol. 14, p. 246; the Helsinki Rules on the Uses of the Waters of International Rivers, art. 10, *International Law Association, Report of the Fifty-second Conference*, Helsinki, 1966, p. 496; and article 5 of the draft Convention on industrial and agricultural uses of international rivers and lakes, prepared by the Inter-American Juridical Committee in 1965, Organization of American States, Rios y Lagos Internacionales, p. 132 (4th ed. 1971); see also the 1980 Memorandum of Intent Concerning Transboundary Air Pollution between the United States and Canada, 32 U.S.T., p. 2541, T.I.A.S. No. 9856; and the 1983 Mexico-United States Agreement to Cooperate in the Solution of Environmental Problems in the Border Area, article 7, in *International Legal Materials*, vol. 22, p. 1025 (1983). The United States has also used the word "significant" in its domestic law dealing with environmental issues. See the *American Law Institute, Restatement of the Law*, Section 601, Reporter's Note 3, pp. 111-112.

addition to a typical scenario of an activity within a State with injurious effects on another State, activities conducted under the jurisdiction or control of a State, for example, on the high seas, with effects on the territory of another State or in places under its jurisdiction or control. It includes, for example, injurious impacts on ships or platforms of other States on the high seas as well. It will also include activities conducted in the territory of a State with injurious consequences on, for example, the ships or platforms of another State on the high seas. The Commission cannot forecast all the possible future forms of "transboundary harm". However, it makes clear that the intention is to be able to draw a line and clearly distinguish a State under whose jurisdiction and control an activity covered by these articles is conducted from a State which has suffered the injurious impact.

(10) In subparagraph (*d*), the term "State of origin" is introduced to refer to the State in the territory or otherwise under the jurisdiction or control of which the activities referred to in article 1 are carried out (see commentary to article 1, paragraphs (7)-(14)).

(11) In subparagraph (*e*), the term "State likely to be affected" is defined to mean the State on whose territory or in other places under whose jurisdiction or control there is the risk of significant transboundary harm. There may be more than one such State likely to be affected in relation to any given activity.

(12) In subparagraph (*f*), the term "States concerned" refers to both the State of origin and the State likely to be affected to which some of the articles refer together.

Article 3

Prevention

The State of origin shall take all appropriate measures to prevent significant transboundary harm or at any event to minimize the risk thereof.

Commentary

(1) Article 3 is based on the fundamental principle *sic utere tuo ut alienum non laedas*, which is reflected in principle 21 of the Stockholm Declaration,[20] reading:

> "States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own natural resources

[20] See note 12 above.

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."

(2) However, the limitations on the freedom of States reflected in principle 21 are made more specific in article 3 and subsequent articles.

(3) This article, together with article 4, provides the basic foundation for the articles on prevention. The articles set out the more specific obligations of States to prevent significant transboundary harm or at any event to minimize the risk thereof. The article thus emphasizes the primary duty of the State of origin to prevent significant transboundary harm; and only in case this is not fully possible it should exert its best efforts to minimize the risk thereof. The phrase "at any event" is intended to express priority in favour of the duty of prevention. The word "minimize" should be understood in this context as meaning to pursue the aim of reducing to the lowest point the possibility of harm.

(4) The present article is in the nature of a statement of principle. It provides that States shall take all appropriate measures to prevent significant transboundary harm or at any event minimize the risk thereof. The phrase "all appropriate measures" refers to all those specific actions and steps that are specified in the articles on prevention and minimization of transboundary harm. Article 3 is complementary to articles 9 and 10 and together they constitute a harmonious ensemble. In addition, it imposes an obligation on the State of origin to adopt and implement national legislation incorporating accepted international standards. These standards would constitute a necessary reference point to determine whether measures adopted are suitable.

(5) As a general principle, the obligation in article 3 to prevent significant transboundary harm or minimize the risk thereof applies only to activities which involve a risk of causing significant transboundary harm, as those terms are defined in article 2. In general, in the context of prevention, a State of origin does not bear the risk of unforeseeable consequences to States likely to be affected by activities within the scope of these articles. On the other hand the obligation to "take all appropriate measures" to prevent harm, or to minimize the risk thereof, cannot be confined to activities which are already properly appreciated as involving such a risk. The obligation extends to taking appropriate measures to identify activities which involve such a risk, and this obligation is of a continuing character.

(6) This article, then, sets up the principle of prevention that concerns every State in relation to activities covered by article 1. The modalities whereby the State of origin may discharge the obligations of prevention which have been established include, for example, legislative, administrative or other action necessary for enforcing the laws, administrative decisions and policies which the State of origin has adopted. (See article 5 and the commentary thereto.)

(7) The obligation of the State of origin to take preventive or minimization measures is one of due diligence. It is the conduct of the State of origin that will determine whether the State has complied with its obligation under the present articles. The duty of due diligence involved however is not intended to guarantee that the risk of significant harm be totally eliminated, if it is not possible to do so. In that eventuality, the State of origin is required, as noted above, to exert its best possible efforts to minimize the risk. In this sense it does not guarantee that the harm would not occur.[21]

(8) An obligation of due diligence as the standard basis for the protection of the environment from harm can be deduced from a number of international conventions[22] as well as from the resolutions and reports of international conferences and organizations.[23] The obligation of due diligence was discussed in a dispute which arose in 1986 between Germany and Switzerland

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[21] For a similar observation in the commentary to article 7 on the law of the non-navigational uses of international watercourses adopted by the International Law Commission on second reading, see *Yearbook ... 1994*, vol. II (Part Two), p. 103, paragraph (4) of the commentary to draft article 7.

[22] See, for example, article 194, paragraph 1, of the United Nations Convention on the Law of the Sea (see note 12 above); articles I, II and VII (2) of the Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter, *International Legal Materials*, vol. 11 (1972), p. 1294; article 2 of the Vienna Convention for the Protection of the Ozone Layer, ibid., vol. 26, p. 1529; article 7, paragraph 5, of the Convention on the Regulation of Antarctic Mineral Resources Activities (see note 18 above); article 2, paragraph 1, of the Convention on Environmental Impact Assessment in a Transboundary Context, (see note 6 above); and article 2, paragraph 1, of the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes, *International Legal Materials*, vol. 31 (1992), p. 1312.

[23] See principle 21 of the World Charter for Nature, General Assembly resolution 37/7 of 28 October 1982; principle VI of the Draft Principles relating to weather modification prepared by the World Health Organization (WHO) and the United Nations Environment Programme (UNEP), in *Digest of United States Practice in International Law*, 1978, p. 1205.

relating to the pollution of the Rhine by Sandoz. The Swiss Government acknowledged responsibility for lack of due diligence in preventing the accident through adequate regulation of its pharmaceutical industries.[24]

(9) In the *Alabama* case (*United States of America v. United Kingdom of Great Britain and Northern Ireland*), the Tribunal examined two different definitions of due diligence submitted by the parties. The United States defined due diligence as:

> "[A] diligence proportioned to the magnitude of the subject and to the dignity and strength of the power which is to exercise it; a diligence which shall, by the use of active vigilance, and of all the other means in the power of the neutral, through all stages of the transaction, prevent its soil from being violated; a diligence that shall in like manner deter designing men from committing acts of war upon the soil of the neutral against its will."[25]

(10) The United Kingdom defined due diligence as "such care as Governments ordinarily employ in their domestic concerns".[26] The tribunal seemed to have been persuaded by the broader definition of the standard of due diligence presented by the United States and expressed concern about the "national standard" of due diligence presented by the United Kingdom. The tribunal stated that "[the] British case seemed also to narrow the international duties of a Government to the exercise of the restraining powers conferred upon it by municipal law, and to overlook the obligation of the neutral to amend its laws when they were insufficient".[27]

(11) The extent and the standard of the obligation of due diligence was also elaborated on by Lord Atkin in the case of *Donoghue v. Stevenson* as follows:

> "The rule that you are to love your neighbour becomes, in law, you must not injure your neighbour; and the lawyer's question 'who is my neighbour?' receives a

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[24] See *The New York Times*, 11 November 1986, p. A 1; 12 November 1986, p. A 8; 13 November 1986, p. A 3. See also Alexander Kiss, '"Tchernobâle' ou la pollution accidentelle du Rhin par les produits chimiques", in *Annuaire français de droit international*, vol. 33, 1987, pp. 719-727.

[25] *The Geneva Arbitration (The Alabama case)* in J.B. Moore, *History and Digest of the International Arbitrations to which the United States has been a Party*, vol. I, 1898, pp. 572-573.

[26] Ibid., p. 612.

[27] Ibid., p. 613.

restricted reply. You must take reasonable care to avoid acts or omissions which you can reasonably foresee would be likely to injure your neighbour. Who, then, in law, is my neighbour? The answer seems to be: persons who are so closely and directly affected by my act that I ought reasonably to have them in contemplation as being so affected when I am directing my mind to the acts and omissions which are called into question."[28]

(12) In the context of the present articles, due diligence is manifested in reasonable efforts by a State to inform itself of factual and legal components that relate foreseeably to a contemplated procedure and to take appropriate measures in timely fashion, to address them. Thus States are under an obligation to take unilateral measures to prevent significant transboundary harm or at any event to minimize the risk thereof arising out of activities within the scope of article 1. Such measures include, first, formulating policies designed to prevent significant transboundary harm or to minimize the risk thereof and, second, implementing those policies. Such policies are expressed in legislation and administrative regulations and implemented through various enforcement mechanisms.

(13) The standard of due diligence against which the conduct of State of origin should be examined is that which is generally considered to be appropriate and proportional to the degree of risk of transboundary harm in the particular instance. For example, activities which may be considered ultra-hazardous require a much higher standard of care in designing policies and a much higher degree of vigour on the part of the State to enforce them. Issues such as the size of the operation; its location; special climate conditions; materials used in the activity; and whether the conclusions drawn from the application of these factors in a specific case are reasonable, are among the factors to be considered in determining the due diligence requirement in each instance. What would be considered a reasonable standard of care or due diligence may change with time; what might be considered an appropriate and reasonable procedure, standard or rule at one point in time may not be considered as such at some point in the future. Hence, due diligence in ensuring safety requires a State to keep abreast of technological changes and scientific developments.

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[28] [1932] A.C., p. 580 (H.L.(Sc)).

(14) It is also necessary in this connection to note principle 11 of the Rio Declaration on Environment and Development which states:

> "States shall enact effective environmental legislation. Environmental standards, management objectives and priorities should reflect the environmental and developmental context to which they apply. Standards applied by some countries may be inappropriate and of unwarranted economic and social cost to other countries, in particular developing countries."[29]

(15) Similar language is found in principle 23 of the Stockholm Declaration. That principle, however, specifies that such domestic standards are "[w]ithout prejudice to such criteria as may be agreed upon by the international community".[30] The economic level of States is one of the factors to be taken into account in determining whether a State has complied with its obligation of due diligence. But a State's economic level cannot be used to dispense the State from its obligation under the present articles.

(16) Article 3 imposes on the State a duty to take all necessary measures to prevent significant transboundary harm or at any event to minimize the risk thereof. This could involve, *inter alia*, taking such measures as are appropriate by way of abundant caution, even if full scientific certainty does not exist, to avoid or prevent serious or irreversible damage. This is well articulated in principle 15 of the Rio Declaration and is subject to the capacity of States concerned (see commentary to article 10 (c)). It is realized that a more optimum and efficient implementation of the duty of prevention would require upgrading the input of technology in the activity as well as the allocation of adequate financial and manpower resources with necessary training for the management and monitoring of the activity.

(17) The operator of the activity is expected to bear the costs of prevention to the extent that he is responsible for the operation. The State of origin is also expected to undertake the necessary expenditure to put in place the administrative, financial and monitoring mechanisms referred to in article 5.

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[29] See note 1 above.

[30] See note 12 above.

(18) States are engaged in continuously evolving mutually beneficial schemes in the areas of capacity-building, transfer of technology and financial resources. Such efforts are recognized to be in the common interest of all States in developing uniform international standards regulating and implementing the duty of prevention.

(19) The main elements of the obligation of due diligence involved in the duty of prevention could be thus stated: the degree of care in question is that expected of a good Government. It should possess a legal system and sufficient resources to maintain an adequate administrative apparatus to control and monitor the activities. It is however understood that the degree of care expected of a State with a well-developed economy and human and material resources and with highly evolved systems and structures of governance is different from States which are not so well placed.[31] Even in the latter case, a minimal degree of vigilance, employment of infrastructure and monitoring of hazardous activities in the territory of the State, which is a natural attribute of any Government, is expected.[32]

(20) The required degree of care is proportional to the degree of hazard involved. The degree of harm itself should be foreseeable and the State must know or should have known the given activity has the risk of significant harm. The higher the degree of inadmissible harm, the greater would be the duty of care required to prevent it.

(21) Further, the State of origin is required to shoulder a greater degree of burden of proof in case of any need to prove that it complied with the relevant obligations than the States which complained about the lack of such compliance.

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[31] Note principle 11 of the Rio Declaration, according to which standards applied by some countries may be inappropriate and of unwarranted economic and social costs to other countries, in particular to developing countries. (See note 1 above); see also R. Lefeber, *Transboundary Environmental Interference and the Origin of State Liability* (The Hague, Kluwer, 1996), p. 65; A.C. Kiss and St. Dooumbe-Bille. "La Conférence des Nations Unies sur l'environnement et le développement" (Rio de Janeiro, 3-14 June 1992), in *Annuaire français de droit international,* 1992, pp. 823-843; M. Kamto, "Les nouveaux principes du droit international de l'environnement", in *Revue Juridique de l'Environnement* (France) 1/1993, pp. 11-21.

[32] See the observation of Max Huber in *The Spanish Zone of Morocco Claims (Great Britain/Spain)*, case (United Nations, *Reports of International Arbitral Awards)*, vol. II, p. 644.

Article 4

Cooperation

States concerned shall cooperate in good faith and, as necessary, seek the assistance of one or more competent international organizations in preventing significant transboundary harm or at any event in minimizing the risk thereof.

Commentary

(1) The principle of cooperation between States is essential in designing and implementing effective policies to prevent significant transboundary harm or at any event to minimize the risk thereof. The requirement of cooperation of States extends to all phases of planning and of implementation. Principle 24 of the Stockholm Declaration and principle 7 of the Rio Declaration recognize cooperation as an essential element in any effective planning for the protection of the environment. More specific forms of cooperation have been stipulated in subsequent articles. They envisage the participation of the State likely to be affected in any preventive action, which is indispensable to enhance the effectiveness of any such action. The latter State may know better than anybody else, for instance, which features of the activity in question may be more damaging to it, or which zones of its territory close to the border may be more affected by the transboundary effects of the activity, such as a specially vulnerable ecosystem.

(2) The article requires States concerned to cooperate in good faith. Paragraph 2 of Article 2 of the Charter of the United Nations provides that all Members "shall fulfill in good faith the obligations assumed by them in accordance with the present Charter". The 1969 Vienna Convention on the Law of Treaties and the 1978 Convention on Succession of States in Respect of Treaties declare in their preambles that the principle of good faith is universally recognized. In addition, article 26 and article 31, paragraph 1, of the Vienna Convention on the Law of Treaties acknowledge the essential place of this principle in the structure of treaties. The decision of the International Court of Justice in the *Nuclear Tests* case touches upon the scope of the application of good faith. In that case, the Court proclaimed that "[o]ne of the basic principles governing the creation and performance of legal obligations, whatever their source, is

the principle of good faith".[33] This dictum of the Court implies that good faith applies also to unilateral acts.[34] Indeed the principle of good faith covers "the entire structure of international relations".[35]

(3) The arbitration tribunal established in 1985 between Canada and France on disputes concerning filtering with the Gulf of St. Lawrence *La Bretagne*, held that the principle of good faith was among the elements that afforded a sufficient guarantee against any risk of a party exercising its rights abusively.[36]

(4) The words "States concerned" refer to the State of origin and the State or States likely to be affected. While other States in a position to contribute to the goals of these articles are encouraged to cooperate, no legal obligations are imposed upon them to do so.

(5) The article provides that States shall "as necessary" seek the assistance of one or more international organizations in performing their preventive obligations as set out in these articles. States shall do so only when it is deemed necessary. The words "as necessary" are intended to take account of a number of possibilities: First, assistance from international organizations may not be necessary in every case. For example, the State of origin or the States likely to be affected may, themselves, be technologically advanced and have the necessary technical capability. Second, the term "international organization" is intended to refer to organizations that are competent and in a position to assist in such matters. Third, even if there are competent international organizations, they could extend necessary assistance only in accordance with their constitutions. In any case, the article does not purport to create any obligation for international organizations to respond to requests for assistance independent of its own constitutional requirements.

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[33] *Nuclear Tests* case (*Australia v. France*), *Judgment of 20 December 1974, I.C.J. Reports 1974*, p. 268.

[34] See M. Virally, review Essay of E. Zoller, *La bonne foi en droit international public*, 1977, in *American Journal of International Law*, vol. 77, p. 130.

[35] See R. Rosenstock, "The Declaration of Principles of International Law Concerning Friendly Relations: A Survey", *American Journal of International Law*, vol. 65, p. 734; see more generally, Robert Kolb, "La bonne foi en droit international public", *Contribution à l'étude, des principes généraux de droit*, Paris, PUF, 2000, 756 p.

[36] *International Law Reports*, vol. 82, p. 614.

(6) Requests for assistance from international organizations may be made by one or more States concerned. The principle of cooperation means that it is preferable that such requests be made by all States concerned. The fact, however, that all States concerned do not seek necessary assistance does not free individual States from the obligation to seek assistance. Of course, the response and type of involvement of an international organization in cases in which the request has been lodged by only one State will depend, for instance, on the nature of the request, the type of assistance involved and the place where the international organization would have to perform such assistance.

Article 5

Implementation

States concerned shall take the necessary legislative, administrative or other action including the establishment of suitable monitoring mechanisms to implement the provisions of the present articles.

Commentary

(1) This article states what might be thought to be the obvious, viz., that by virtue of becoming a party to the present articles, States would be required to take the necessary measures of implementation, whether of a legislative, administrative or other character. Article 5 has been included here to emphasize the continuing character of the obligations, which require action to be taken from time to time to prevent transboundary harm or at any event to minimize the risk thereof arising from activities to which the articles apply.[37]

(2) The measures referred to in this article include, for example, hearings to be granted to persons concerned and the establishment of quasi-judicial procedures. The use of the term "other action" is intended to cover the variety of ways and means by which States could implement the present articles. Article 5 mentions some measures expressly only in order to give guidance to States; it is left entirely up to them to decide upon necessary and appropriate

[37] This article is similar to paragraph 2 of article 2 of the Convention on Environmental Impact Assessment in a Transboundary Context, which reads: "Each Party shall take the necessary legal, administrative or other measures to implement the provisions of this Convention, including, with respect to proposed activities listed in appendix I that are likely to cause significant adverse transboundary impact, the establishment of an environmental impact assessment procedure that permits public participation and preparation of the environmental impact assessment documentation described in appendix II" (see note 6 above).

measures. Reference is made to "suitable monitoring mechanisms" in order to highlight the measures of inspection which States generally adopt in respect of hazardous activities.

(3) To say that States must take the necessary measures does not mean that they must themselves get involved in operational issues relating to the activities to which article 1 applies. Where these activities are conducted by private persons or enterprises, the obligation of the State is limited to establishing the appropriate regulatory framework and applying it in accordance with these articles. The application of that regulatory framework in the given case will then be a matter of ordinary administration or, in the case of disputes, for the relevant courts or tribunals, aided by the principle of non-discrimination contained in article 15.

(4) "States" concerned in this context includes not only the State of origin and the States likely to be affected, but also other States which could foresee that they also might become States concerned.

Article 6

Authorization

1. The State of origin shall require its prior authorization for:

(*a*) any activity within the scope of2 the present articles carried out in its territory or otherwise under its jurisdiction or control;

(*b*) any major change in an activity referred to in subparagraph (*a*);

(*c*) any plan to change an activity which may transform it into one falling within the scope of the present articles.

2. The requirement of authorization established by a State shall be made applicable in respect of all pre-existing activities within the scope of the present articles. Authorizations already issued by the State for pre-existing activities shall be reviewed in order to comply with the present articles.

3. In case of a failure to conform to the requirements of the authorization, the State of origin shall take such actions as appropriate, including where necessary terminating the authorization.

Commentary

(1) This article sets forth the fundamental principle that the prior authorization of a State is required for activities which involve a risk of causing significant transboundary harm undertaken

in their territory or otherwise under their jurisdiction or control. The word "authorization" means granting permission by governmental authorities to conduct an activity covered by these articles. States are free to choose the form of such authorization.

(2) The requirement of authorization noted in article 6 (1) (a) obliges a State to ascertain whether activities with a possible risk of significant transboundary harm are taking place in its territory or otherwise under its jurisdiction or control and that the State should take the measures indicated in these articles. It also requires the State to take a responsible and active role in regulating such activities. The Tribunal in the *Trail Smelter* arbitration held that Canada had "the duty ... to see to it that this conduct should be in conformity with the obligation of the Dominion under international law as herein determined".[38] The Tribunal held that, in particular, "the Trail Smelter shall be required to refrain from causing any damage through fumes in the State of Washington".[39] Article 6 (1) (a) is compatible with this requirement.

(3) The International Court of Justice in the *Corfu Channel* case held that a State has an obligation "not to allow knowingly its territory to be used for acts contrary to the rights of other States".[40]

(4) The words "in its territory or otherwise under its jurisdiction or control" are taken from article 2. The expression "any activity within the scope of the present articles" introduces all the requirements specified in article 1 for an activity to fall within the scope of these articles.

(5) Article 6 (1) (b) makes the requirement of prior authorization applicable also for a major change planned in an activity already within the scope of article 1 where that change may increase the risk or alter the nature or the scope of the risk. Some examples of major changes are: building of additional production capacities, large-scale employment of new technology in an existing activity, re-routing of motorways, express roads or an airport runway changing the direction of takeoff and landing. Changing investment and production (volume and type), physical structure or emissions and changes bringing existing activities to levels higher than

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[38] Op. cit. (see note 16 above), pp. 1965-1966.

[39] Ibid., p. 1966.

[40] *Corfu Channel* case, *Judgment of 9 April, 1949, I.C.J. Reports 1949*, p. 4, at p. 22.

the allowed threshold could also be considered as part of a major change.[41] Similarly article 6 (1) (c) contemplates a situation where a change is proposed in the conduct of an activity that is otherwise innocuous, where the change would transform that activity into one which involves a risk of causing significant transboundary harm. The implementation of such a change would also require State authorization.

(6) Paragraph 2 of article 6 emphasizes that the requirement of authorization should be made applicable to all the pre-existing activities falling within the scope of the present articles, once a State adopts the regime contained in these articles. It might be unreasonable to require States when they assume the obligations under these articles to apply them immediately in respect of existing activities. A suitable period of time might be needed in that case for the operator of the activity to comply with the authorization requirements. The decision as to whether the activity should be stopped pending authorization or should continue while the operator goes through the process of obtaining authorization is left to the State of origin. In case the authorization is denied by the State of origin, it is assumed that the State of origin will stop the activity.

(7) The adjustment envisaged in paragraph 2 generally occurs whenever new legislative and administrative requirements are put in place because of safety standards or new international standards or obligations which the State has accepted and needed to enforce.

(8) Paragraph 3 of article 6 notes the consequences of the failure of an operator to comply with the requirement of authorization. The State of origin, which has the main responsibility to monitor these activities, is given the necessary flexibility to ensure that the operator complies with the requirements involved. As appropriate, State of origin may terminate the authorization, and prohibit the activity from taking place altogether.

Article 7

Assessment of risk

> Any decision in respect of the authorization of an activity within the scope of the present articles shall, in particular, be based on an assessment of the possible transboundary harm caused by that activity, including any environmental impact assessment.

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[41] See *Current Policies, Strategies and Aspects of Environmental Impact Assessment in a Transboundary Context* (United Nations publication, Sales No. E.96.II.E.11), p. 48.

Commentary

(1) Under article 7, a State of origin, before granting authorization to operators to undertake activities referred to in article 1, should ensure that an assessment is undertaken of the risk of the activity causing significant transboundary harm. This assessment enables the State to determine the extent and the nature of the risk involved in an activity and consequently the type of preventive measures it should take.

(2) Although the assessment of risk in the *Trail Smelter* case may not directly relate to liability for risk, it nevertheless emphasized the importance of an assessment of the consequences of an activity causing significant risk. The tribunal in that case indicated that the study undertaken by well-established and known scientists was "probably the most thorough [one] ever made of any area subject to atmospheric pollution by industrial smoke".[42]

(3) The requirement of article 7 is fully consonant with principle 17 of the Rio Declaration on Environment and Development, which provides also for assessment of risk of activities that are likely to have a significant adverse impact on the environment:

> "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."[43]

Requirement of assessment of adverse effects of activities has been incorporated in various forms in many international agreements.[44] The most notable is the Convention on

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[42] Op. cit., see note 16 above, pp. 1973-1974.

[43] See note 1 above.

[44] See, for example, articles 205 and 206 of the United Nations Convention on the Law of the Sea (see note 12 above); article 4 of the Convention on the Regulation of Antarctic Mineral Resources Activities (see note 18 above); article 8 of the Protocol on Environmental Protection to the Antarctic Treaty of 4 October 1991, *International Legal Materials*, vol. 30, p. 1461; article 14 (1) (a) and (b) of the United Nations Convention on Biological Diversity of 5 June 1992 (see note 12 above); article 4 of the 1992 Convention on the Transboundary Effects of Industrial Accidents; article 14 of the ASEAN Agreement on the Conservation of Nature and Natural Resources of 9 July 1985, UNEP, *Selected Multilateral Treaties in the Field of Environment*, vol. 2, p. 343; Noumea Convention for the Protection of the Natural Resources and Environment of the South-Pacific Region of 25 November 1986, *International Legal Materials*, vol. 26 (1986), p. 38; article XI of the Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution of 24 April 1978, United Nations, *Treaty Series*, vol. 1140, p. 133; and the Jeddah Regional Convention for the Conservation of the Regional Environment of the Red Sea and Gulf of Aden of 14 February 1982, UNEP, op. cit.,

Environmental Impact Assessment in a Transboundary Context of 25 February 1991 which is devoted entirely to the procedure to conduct and the substance of impact assessment.[45]

(4) The practice of requiring a statement on environmental impact assessment (EIA) has become very prevalent in order to assess whether a particular activity has the potential of causing significant transboundary harm. The legal obligation to conduct an environmental impact assessment under national law was first developed in the United States of America in the 1970s. Later, Canada and Europe adopted the same approach and essentially regulated it by guidelines. In 1985, a European Community directive required member States to conform to a minimum requirement of EIA. Since then many other countries have also made EIA a necessary obligation under their national law before authorization is granted for developmental but hazardous industrial activities.[46] According to one United Nations study, the EIA has already shown its

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p. 144. In some treaties, the requirement of impact assessment is implied. For example, the two multilateral treaties regarding communication systems require their signatories to use their communications installations in ways that will not interfere with the facilities of other States parties. Article 10, paragraph 2, of the 1927 International Radiotelegraph Convention requires the parties to the Convention to operate stations in such a manner as not to interfere with the radioelectric communications of other contracting States or of persons authorized by those Governments. League of Nations, *Treaty Series*, vol. LXXXIV, p. 97. The 1936 International Convention concerning the Use of Broadcasting in the Cause of Peace prohibits the broadcasting to another State of material designed to incite the population to act in a manner incompatible with the internal order of security of that State. Ibid., vol. CLXXXVI, p. 301.

[45] See note 6 above.

[46] For a survey of various North American and European legal and administrative systems of EIA policies, plans and programmes, see *Application of Environmental Impact Assessment Principles to Policies, Plans and Programmes* (United Nations publication, Sales No. E.92.II.E.28), pp. 42-43; approximately 70 developing countries have EIA legislation of some kind. Other countries either are in the process of drafting new and additional EIA legislation or are planning to do so. See M. Yeater and L. Kurukulasuriya, *Environmental Impact Assessment Legislation in Developing Countries*, in Sun Lin and Lal Kurukulasuriya (eds.), *UNEP's New Way Forward: Environmental Law and Sustainable Development* (UNEP, 1995), p. 259; G.J. Martin "Le concept de risque et la protection de l'environnement: évolution parallèle ou fertilisation croisée?" in *Les Hommes et l'environnement, en hommage à Alexandre Kiss*, Paris, Frison-Roche, 1998, pp. 451-460.

value for implementing and strengthening sustainable development, as it combines the precautionary principle with the principle of preventing environmental damage and also allows for public participation.[47]

(5) The question of who should conduct the assessment is left to States. Such assessment is normally conducted by operators observing certain guidelines set by the States. These matters would have to be resolved by the States themselves through their domestic laws or applicable international instruments. However, it is presumed that a State of origin will designate an authority, whether or not governmental, to evaluate the assessment on behalf of the Government and will accept responsibility for the conclusions reached by that authority.

(6) The article does not specify what the content of the risk assessment should be. Obviously the assessment of risk of an activity can only be meaningfully prepared if it relates the risk to the possible harm to which the risk could lead. Most existing international conventions and legal instruments do not specify the content of assessment. There are exceptions, such as the Convention on Environmental Impact Assessment in a Transboundary Context, which provides in detail the content of such assessment.[48] The 1981 study of the legal aspects concerning the environment related to offshore mining and drilling within the limits of national jurisdiction, prepared by the Working Group of Experts on Environmental Law of UNEP,[49] also provides, in its conclusion No. 8, in detail the content of assessment for offshore mining and drilling.

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[47] See *Current Policies, Strategies and Aspects of* …, see note 41 above.

[48] Article 4 of the Convention provides that the environmental impact assessment of a State party should contain, at a minimum, the information described in appendix II to the Convention. Appendix II ("Content of the environmental impact assessment documentation") lists nine items as follows: (a) A description of the proposed activity and its purpose; (b) A description, where appropriate, of reasonable alternatives (for example, location or technological) to the proposed activity and also the no-action alternative; (c) A description of the environment likely to be significantly affected by the proposed activity and its alternatives; (d) A description of the potential environmental impact of the proposed activity and its alternatives and an estimation of its significance; (e) A description of mitigation measures to keep adverse environmental impact to a minimum; (f) An explicit indication of predictive methods and underlying assumptions as well as the relevant environmental data used; (g) An identification of gaps in knowledge and uncertainties encountered in compiling the required information; (h) Where appropriate, an outline for monitoring and management programmes and any plans for post-project analysis; and (i) A non-technical summary including a visual presentation as appropriate (maps, graphs, etc.), see note 6 above.

[49] See UNEP/GC.9/5/Add.5, annex III.

(7) The specifics of what ought to be the content of assessment is left to the domestic laws of the State conducting such assessment.[50] For the purposes of article 7, however, such an assessment should contain an evaluation of the possible transboundary harmful impact of the activity. Under the terms of article 8, the State of origin will have to transmit the risk assessment to the States likely to be affected by that activity. In order for those States to evaluate the risk to which they might be exposed, they need to know what possible harmful effects that activity might have on them.

(8) The assessment should include the effects of the activity not only on persons and property, but also on the environment of other States. The importance of the protection of the environment, independently of any harm to individual human beings or property is clearly recognized.

(9) This article does not oblige the State of origin to require risk assessment for any activity being undertaken within their territory or otherwise under their jurisdiction or control. Activities involving a risk of causing significant transboundary harm have some general characteristics which are identifiable and could provide some indication to States as to which activities might fall within the terms of these articles. For example, the type of the source of energy used in manufacturing, the location of the activity and its proximity to the border area, etc. could all give an indication of whether the activity might fall within the scope of these articles. There are certain substances that are listed in some conventions as dangerous or hazardous and their use in any activity may in itself be an indication that those activities might involve a risk of significant transboundary harm.[51] There are also certain conventions that list the

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[50] For the format of EIA adopted in most legislations, see M. Yeater and L. Kurukulasuriya, see note 46, p. 260.

[51] For example, the 1974 Convention for the Prevention of Marine Pollution from Land-based Sources provides in article 4 an obligation for the parties to eliminate or restrict the pollution of the environment by certain substances and the list of those substances is annexed to the Convention, UNEP, *Selected Multilateral Treaties in the Field of the Environment*, Ref. Series 3, 1983, p. 430. Similarly, the 1992 Convention on the Protection of the Marine Environment of the Baltic Sea Area provides a list of hazardous substances in annex I and of noxious substances and materials in annex II, deposits of which are either prohibited or strictly limited, [IMO 1] LDC.2/Circ. 303; see also the Protocol to the 1976 Convention for the Protection of the Mediterranean Sea against Pollution, ibid.; and the 1976 Convention for the Protection of the Rhine against Chemical Pollution, United Nations, *Treaty Series*, vol. 1124, p. 375.

activities that are presumed to be harmful and that might signal that those activities might fall within the scope of these articles.[52]

Article 8

Notification and information

1. If the assessment referred to in article 7 indicates a risk of causing significant transboundary harm, the State of origin shall provide the State likely to be affected with timely notification of the risk and the assessment and shall transmit to it the available technical and all other relevant information on which the assessment is based.

2. The State of origin shall not take any decision on authorization of the activity pending the receipt, within a period not exceeding six months, of the response from the State likely to be affected.

Commentary

(1) Article 8 deals with a situation in which the assessment undertaken by a State of origin, in accordance with article 7, indicates that the activity planned does indeed pose a risk of causing significant transboundary harm. This article, together with articles 9, 11, 12 and 13, provides for a set of procedures essential to balancing the interests of all the States concerned by giving them a reasonable opportunity to find a way to undertake the activity with satisfactory and reasonable measures designed to prevent or minimize transboundary harm.

(2) Article 8 calls on the State of origin to notify States likely to be affected by the planned activity. The activities here include both those that are planned by the State itself and those planned by private entities. The requirement of notification is an indispensable part of any system designed to prevent transboundary harm or at any event to minimize the risk thereof.

(3) The obligation to notify other States of the risk of significant harm to which they are exposed is reflected in the *Corfu Channel* case, where the International Court of Justice characterized the duty to warn as based on "elementary considerations of humanity".[53] This principle is recognized in the context of the use of international watercourses and in that context is embodied in a number of international agreements, decisions of international courts and

[52] See note 6 above.

[53] Op. cit., see note 40 above, p. 22.

tribunals, declarations and resolutions adopted by intergovernmental organizations, conferences and meetings, and studies by intergovernmental and international non-governmental organizations.[54]

(4) In addition to the utilization of international watercourses, the principle of notification has also been recognized in respect of other activities with transboundary effects, for example, article 3 of the Convention on Environmental Impact Assessment in a Transboundary Context[55] and articles 3 and 10 of the Convention on the Transboundary Effects of Industrial Accidents.[56] Principle 19 of the Rio Declaration on Environment and Development speaks of timely notification:

> "States shall provide prior and timely notification and relevant information to potentially affected States on activities that may have a significant adverse transboundary environmental effect and shall consult with those States at an early stage and in good faith."[57]

(5) The procedure for notification has been established by a number of OECD resolutions. For example, in respect of certain chemical substances, OECD resolution C (71) 73 of 18 May 1971 stipulates that each member State is to receive notification prior to the proposed measures in each other member State regarding substances which have an adverse impact on man or the environment where such measures could have significant effects on the economics and trade of the other States.[58] OECD resolution C (74) 224 of 14 November 1974 on the

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[54] For treaties dealing with prior notification and exchange of information in respect of watercourses, see paragraph (6) of the commentary to article 12 "Notification concerning planned measures with possible adverse effects", of the draft articles on the law of the non-navigational uses of international watercourses, *Official Records of the General Assembly, Forty-ninth Session, Supplement No. 10* (A/49/10), chap. III.D, part III.

[55] Article 3 (2) of the Convention provides for a system of notification which reads: the notification shall contain, *inter alia*: (a) information on the proposed activity, including any available information on its possible transboundary impact; (b) the nature of the possible decision; and (c) an indication of a reasonable time within which a response under paragraph 3 of this article is required, taking into account the nature of the proposed activity, and may include the information set out in paragraph 5 of this article. See note 22 above.

[56] *International Legal Materials*, vol. 31 (1992), p. 1333.

[57] See note 1 above.

[58] OECD, *OECD and the Environment*, 1986, p. 89, para. 4 of the annex.

"Principles concerning transfrontier pollution" in its "Principle of information and consultation" requires notification and consultation prior to undertaking an activity which may create a risk of significant transboundary pollution.[59] The principle of notification is well established in the case of environmental emergencies.[60]

(6) Where assessment reveals the risk of causing significant transboundary harm, in accordance with paragraph 1, the State which plans to undertake such activity has the obligation to notify the States which may be affected. The notification shall be accompanied by available technical information on which the assessment is based. The reference to "available" technical and other relevant information is intended to indicate that the obligation of the State of origin is limited to transmitting the technical and other information which was developed in relation to the activity. This information is generally revealed during the assessment of the activity in accordance with article 7. Paragraph 1 assumes that technical information resulting from the assessment includes not only what might be called raw data, namely fact sheets, statistics, etc., but also the analysis of the information which was used by the State of origin itself to make the determination regarding the risk of transboundary harm. The reference to the available data includes also other data which might become available later after transmitting the data which was initially available to the States likely to be affected.

(7) States are free to decide how they wish to inform the States that are likely to be affected. As a general rule, it is assumed that States will directly contact the other States through diplomatic channels. In the absence of diplomatic relations, States may give notification to the other States through a third State.

(8) Paragraph 1 also addresses the situation where the State of origin, despite all its efforts and diligence, is unable to identify all the States which may be affected prior to authorizing the activity and gains that knowledge only after the activity is undertaken. In accordance with this paragraph, the State of origin, in such cases, is under an obligation to notify the other States likely to be affected as soon as the information comes to its knowledge and it has had an opportunity, within a reasonable time, to determine the States concerned.

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[59] Ibid., p. 142.

[60] See commentary to article 17, paragraph (1) below.

(9) Paragraph 2 addresses the need for the States concerned to respond within a period not exceeding six months. It is generally a period of time that should allow the States concerned to evaluate the data involved and arrive at their own conclusion. This is a requirement that is conditioned by cooperation and good faith.

Article 9

Consultations on preventive measures

1. The States concerned shall enter into consultations, at the request of any of them, with a view to achieving acceptable solutions regarding measures to be adopted in order to prevent significant transboundary harm or at any event to minimize the risk thereof. The States concerned shall agree, at the commencement of such consultations, on a reasonable time frame for the consultations.

2. The States concerned shall seek solutions based on an equitable balance of interests in the light of article 10.

3. If the consultations referred to in paragraph 1 fail to produce an agreed solution, the State of origin shall nevertheless take into account the interests of the State likely to be affected in case it decides to authorize the activity to be pursued, without prejudice to the rights of any State likely to be affected.

Commentary

(1) Article 9 requires the States concerned, that is, the State of origin and the States that are likely to be affected, to enter into consultations in order to agree on the measures to prevent significant transboundary harm, or at any event to minimize the risk thereof. Depending upon the time at which article 9 is invoked, consultations may be prior to authorization and commencement of an activity or during its performance.

(2) There is need to maintain a balance between two equally important considerations in this article. First, the article deals with activities that are not prohibited by international law and that, normally, are important to the economic development of the State of origin. Second, it would be unfair to other States to allow those activities to be conducted without consulting them and taking appropriate preventive measures. Therefore, the article does not provide a mere formality which the State of origin has to go through with no real intention of reaching a solution acceptable to the other States, nor does it provide a right of veto for the States that are likely to be affected. To maintain a balance, the article relies on the manner in which, and purpose for which, the parties enter into consultations. The parties must enter into consultations in good

faith and must take into account each other's legitimate interests. The parties consult each other with a view to arriving at an acceptable solution regarding the measures to be adopted to prevent significant transboundary harm, or at any event to minimize the risk thereof.

(3) The principle of good faith is an integral part of any requirement of consultations and negotiations. The obligation to consult and negotiate genuinely and in good faith was recognized in the *Lake Lanoux* award where the 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. The rules of reason and good faith are applicable to procedural rights and duties relative to the sharing of the use of international rivers."[61]

(4) With regard to this particular point about good faith, the judgment of the International Court of Justice in the *Fisheries Jurisdiction (United Kingdom v. Iceland)* case is also relevant. There the Court stated that "[t]he task [of the parties] will be to conduct their negotiations on the basis that each must in good faith pay reasonable regard to the legal rights of the other".[62] The Commission also finds the decision of the Court in the *North Sea Continental Shelf* cases (*Federal Republic of Germany v. Denmark* and *Federal Republic of Germany v. Netherlands*)[63] on the manner in which negotiations should be conducted relevant to this article. In those cases the Court ruled as follows:

> "(a) [T]he parties are 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 as a sort of prior condition for the automatic application of a certain method of delimitation in the absence of agreement; they are under an obligation so to conduct themselves that the negotiations are meaningful, which will not be the case when either of them insists upon its own position without contemplating any modification of it."[64]

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[61] Op. cit., see note 17 above.

[62] *Fisheries Jurisdiction (United Kingdom v. Iceland)* case, Merits, Judgment of 25 July 1974, *I.C.J. Reports 1974*, para. 78.

[63] *North Sea Continental Shelf* cases (*Federal Republic of Germany v. Denmark*; and *Federal Republic of Germany v. Netherlands*), Judgment of 20 February 1969, *I.C.J. Reports 1969*, p. 3, especially paras. 85 and 87.

[64] Ibid, para. 85.

Even though the Court in this judgment speaks of "negotiations", it is believed that the good faith requirement in the conduct of the parties during the course of consultation or negotiations is the same.

(5) The purpose of consultations is for the parties to find acceptable solutions regarding measures to be adopted in order to prevent significant transboundary harm, or at any event to minimize the risk thereof. The words "acceptable solutions", regarding the adoption of preventive measures, refers to those measures that are accepted by the parties within the guidelines specified in paragraph 2. Generally, the consent of the parties on measures of prevention will be expressed by means of some form of an agreement.

(6) The parties should obviously aim, first, at selecting those measures which may avoid any risk of causing significant transboundary harm or, if that is not possible, which minimize the risk of such harm. Under the terms of article 4, the parties are required, moreover, to cooperate in the implementation of such measures. This requirement, again, stems from the assumption that the obligation of due diligence, the core base of the provisions intended to prevent significant transboundary harm, or at any event to minimize the risk thereof, is of a continuous nature affecting every stage related to the conduct of the activity.

(7) Article 9 may be invoked whenever there is a question about the need to take preventive measures. Such questions obviously may arise as a result of article 8, because a notification to other States has been made by the State of origin that an activity it intends to undertake may pose a risk of causing significant transboundary harm, or in the course of the exchange of information under article 12 or in the context of article 11 on procedures in the absence of notification.

(8) Article 9 has a broad scope of application. It is to apply to all issues related to preventive measures. For example, when parties notify under article 8 or exchange information under article 12 and there are ambiguities in those communications, a request for consultations may be made simply in order to clarify those ambiguities.

(9) Paragraph 2 provides guidance for States when consulting each other on preventive measures. The parties shall seek solutions based on an equitable balance of interests in the light of article 10. Neither paragraph 2 of this article nor article 10 precludes the parties from taking account of other factors which they perceive as relevant in achieving an equitable balance of interests.

(10) Paragraph 3 deals with the possibility that, despite all efforts by the parties, they cannot reach an agreement on acceptable preventive measures. As explained in paragraph (3) above, the

article maintains a balance between the two considerations, one of which is to deny the States likely to be affected a right of veto. In this context, the *Lake Lanoux* award may be recalled where the tribunal noted that, in certain situations, the party that was likely to be affected might, in violation of good faith, paralyse genuine negotiation efforts.[65] To take account of this possibility, the article provides that the State of origin is permitted to go ahead with the activity, for the absence of such an alternative would, in effect, create a right of veto for the States likely to be affected. The State of origin, while permitted to go ahead with the activity, is still obligated, as measure of self-regulation, to take into account the interests of the States likely to be affected. As a result of consultations, the State of origin is aware of the concerns of the States likely to be affected and is in even a better position to seriously take them into account in carrying out the activity.

(11) The last part of paragraph 3 also preserves the rights of States likely to be affected. This is intended to have a broad scope so as to include such rights as the States likely to be affected have under any rule of international law, general principles of law, domestic law, including the right to seek the appointment of an independent and impartial fact-finding commission referred to in article 19.

Article 10

Factors involved in an equitable balance of interests

In order to achieve an equitable balance of interests as referred to in paragraph 2 of article 9, the States concerned shall take into account all relevant factors and circumstances, including:

(*a*) the degree of risk of significant transboundary harm and of the availability of means of preventing such harm, or minimizing the risk thereof or repairing the harm;

(*b*) the importance of the activity, taking into account its overall advantages of a social, economic and technical character for the State of origin in relation to the potential harm for the State likely to be affected;

(*c*) the risk of significant harm to the environment and the availability of means of preventing such harm, or minimizing the risk thereof or restoring the environment;

(*d*) the degree to which the State of origin and, as appropriate, the State likely to be affected are prepared to contribute to the costs of prevention;

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[65] Op. cit., see note 17 above, p. 128.

(*e*) the economic viability of the activity in relation to the costs of prevention and to the possibility of carrying out the activity elsewhere or by other means or replacing it with an alternative activity;

(*f*) the standards of prevention which the State likely to be affected applies to the same or comparable activities and the standards applied in comparable regional or international practice.

Commentary

(1) The purpose of this article is to provide some guidance for States which are engaged in consultations seeking to achieve an equitable balance of interests. In reaching an equitable balance of interests, the facts have to be established and all the relevant factors and circumstances weighed. This article draws its inspiration from article 6 of the 1997 Convention on the Law of the Non-navigational Uses of International Watercourses.

(2) The main clause of the article provides that in order "to achieve an equitable balance of interests as referred to in paragraph 2 of article 9, the States concerned shall take into account all relevant factors and circumstances". The article proceeds to set forth a non-exhaustive list of such factors and circumstances. The wide diversity of types of activities which is covered by these articles, and the different situations and circumstances in which they will be conducted, make it impossible to compile an exhaustive list of factors relevant to all individual cases. Some of the factors may be relevant in a particular case, while others may not, and still other factors not contained in the list may prove relevant. No priority or weight is assigned to the factors and circumstances listed, since some of them may be more important in certain cases while others may deserve to be accorded greater weight in other cases. In general, the factors and circumstances indicated will allow the parties to compare the costs and benefits which may be involved in a particular case.

(3) Subparagraph (*a*) compares the degree of risk of significant transboundary harm to the availability of means of preventing such harm or minimizing the risk thereof and the possibility of repairing the harm. For example, the degree of risk of harm may be high, but there may be measures that can prevent the harm or reduce that risk, or there may be possibilities for repairing the harm. The comparisons here are both quantitative and qualitative.

(4) Subparagraph (*b*) compares the importance of the activity in terms of its social, economic and technical advantages for the State of origin and the potential harm to the States likely to be affected. The Commission in this context recalls the decision in the *Donauversinkung* case where the court stated that:

> "The interests of the States in question must be weighed in an equitable manner one against another. One must consider not only the absolute injury caused to the neighbouring State, but also the relation of the advantage gained by the one to the injury caused to the other."[66]

In more recent times, States have negotiated what might be seen as equitable solutions to transboundary disputes; agreements concerning French potassium emissions into the Rhine, pollution of U.S.-Mexican boundary waters, and North American and European acid rain all display elements of this kind.[67]

(5) Subparagraph (*c*) compares, in the same fashion as subparagraph (*a*), the risk of significant harm to the environment and the availability of means of preventing such harm, or minimizing the risk thereof and the possibility of restoring the environment. It is necessary to emphasize the particular importance of protection of the environment. Principle 15 of the Rio Declaration is relevant to this subparagraph. Requiring that the precautionary approach be widely applied to States according to their capabilities, principle 15 states: "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."[68]

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[66] *Wurttemburg and Prussia v. Baden* (*Donauversinkung* case) (1927) in Entscheidungen des Reichsgerichts in Zivilsachen (Berlin, de Gruyter), vol. 116, Appendix, pp. 18-45 (1927), in *Annual Digest of Public International Law Cases*, (1927-1928) (London, 1931), p. 131. See also *Kansas v. Colorado* (1907) 206 US 100. *Washington v. Oregon* (1936) 297 US 517.

[67] See the 1976 Convention for the Protection of the Rhine from Pollution by Chlorides, *International Legal Materials*, vol. 16 (1977), p. 265, with 1991 Protocol. 1973 Agreement on the Permanent and Definitive Solution of the International Problem of the Salinity of the Colorado River, *International Legal Materials*, vol. 12 (1973), p. 1105. 1979 Convention on Long-range Transboundary Air Pollution, *International Legal Materials*, vol. 18 (1979), p. 1442. 1991 Agreement between the United States and Canada on Air Quality, *International Legal Materials*, vol. 30 (1991), p. 678. See also A. Boyle and D. Freestone, see note 5 above, p. 80; and I. Romy, Les pollutions transfrontières des eaux: "l'exemple du Rhin", Payot, Lausanne, 1990.

[68] See note 1 above.

(6) The precautionary principle was first affirmed in the "pan-European" Bergen Declaration adopted on 15 May 1990 by the member States of the United Nations Economic Commission for Europe. It stated that "Environmental measures must anticipate, prevent and attack the causes of environmental 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."[69] The precautionary principle was recommended by the UNEP Governing Council in order to promote the prevention and elimination of marine pollution, which is increasingly becoming a threat to the marine environment and a cause of human suffering.[70]

(7) The principle of precaution has also been incorporated or referred to in various other conventions: article 4, paragraph 3 of the 1991 Bamako Convention on the Ban of the Import and the Control of Transboundary Movement of Hazardous Wastes within Africa,[71] article 3, paragraph 3 of the United Nations Framework Convention on Climate Change;[72] article 130 r (174 in the consolidated version) added to the Rome Treaty establishing the European Economic Community by the Maastricht Treaty on European Union;[73] and article 2 of the 1985 Vienna Convention for the Protection of the Ozone Layer.[74] It may be noted that previous treaties apply the precautionary principle in a very general sense without making any explicit reference to it.

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[69] "Report of the Economic Commission for Europe on the Bergen Conference (8-16 May 1990)", A/CONF.151/PC/10, annex I, para. 7.

[70] Governing Council decision 15/27 (1989); see *Official Records of the General Assembly, Forty-fourth Session, Supplement No.25* (A/44/25), annex I. See also P. Sands, op. cit., see number 5 above, p. 210.

[71] *International Legal Materials*, vol. 30 (1991), p. 775.

[72] Ibid., vol. 31 (1992), p. 848.

[73] Ibid., vol. 31 (1992), p. 247.

[74] Ibid., vol. 26 (1987), p. 1529.

(8) According to the Rio Declaration, the precautionary principle constitutes a very general rule of conduct of prudence. It implies the need for States to review their obligations of prevention in a continuous manner to keep abreast with the advances in scientific knowledge.[75] The International Court of Justice in its judgment of 25 September 1997 in the *Gabčikovo-Nagymaros Project* case invited the Parties to "look afresh at the effects on the environment of the operation of the Gabčikovo power plant", built on the Danube pursuant to a 1977 treaty, in the light of the new requirements of environmental protection.[76]

(9) States should consider suitable means to restore, as far as possible, the situation existing prior to the occurrence of harm. It is considered that this should be highlighted as a factor to be taken into account by States concerned which should adopt environmentally friendly measures.

(10) Subparagraph (*d*) provides that one of the elements determining the choice of preventive measures is the willingness of the State of origin and States likely to be affected to contribute to the cost of prevention. For example, if the States likely to be affected are prepared to contribute to the expense of preventive measures, it may be reasonable, taking into account other factors, to expect the State of origin to take more costly but more effective preventive measures. This however should not underplay the cost-effective measures the State of origin is obliged to take in the first instance to take appropriate measures as required under article 3.

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[75] On the principle of precaution generally see D. Freestone and Hey (eds.), *The Precautionary Principle and International Law: The Challenge of Implementation* (1996), p. 274; J. Cameron, "The status of the Precautionary Principle in International Law" in O'Riodan and Cameron (eds.), *Interpreting the Precautionary Principle* (1994) pp. 262-289; H. Hohmann, *Precautionary Legal Duties and Principles of Modern International Environmental Law: The Precautionary Principle: International Environmental Law between Exploitation and Protection* (1994). P. Martin-Bidou, "Le principe de précaution en droit international de l'environnement", in *Revue générale de droit international public*, 1999-3, pp. 631-665; E. Zaccai and J.N. Missa (ed.), Le principe de précaution, Significations et conséquences, Edition de l'Université de Bruxelles, 2000, pp. 117-142.

[76] *I.C.J. Reports 1997*, pp. 77-78, para. 140. However in this case the Court could not accept Hungary's claim that it was entitled to terminate the Treaty on the grounds of "ecological state of necessity" arising from risks to the environment that had not been detected at the time of its conclusion. It stated that other means could be used to remedy the vague "peril", see paras. 49-58 of the judgment, ibid., pp. 39-46.

(11) These considerations are in line with the basic policy and content of the so-called polluter-pays principle. This principle was initiated first by the Council of OECD in 1972.[77] The polluter-pays principle was given cognizance at the global level when it was adopted as principle 16 of the Rio Declaration. It noted:

> "National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment."[78]

This is essentially an economic principle and conceived as the most efficient means of allocating the cost of pollution prevention and control measures so as to encourage the rational use of scarce environmental resources. It also encourages internalization of the cost of publicly mandated technical measures in preference to inefficiencies and competitive distortions in governmental subsidies.[79] This principle is widely applied within the European Community, subject of course to such variations of its application as agreed to between two or more neighbouring States.[80] Its precise application in the implementation of duties of prevention and even more so for issues of liability is however contested.[81]

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[77] OECD, Environment Directive on equal right of access and non-discrimination in relation to transfrontier pollution, 1986, cited in "Survey of liability regimes relevant to the topic of international liability for injurious consequences arising out of acts not prohibited by international law", A/CN.4/471, para. 102.

[78] See note 1 above.

[79] See H. Smets, "Polluter-Pays Principle in the Early 1990s", in L. Campiglio et al. *The Environment After Rio: International Law and Economics* (Graham and Trotman, 1994), p. 134; S.E. Gaines, "The Polluter-Pays Principle: Free Market Equity to Environmental Ethos", *Texas International Law Journal*, vol. 26 (1991), p. 470; "Survey of liability regimes", ibid., para. 113; Report of the Secretary-General, "Rio Declaration on Environment and Development: application and implementation", E/CN.17/1997/8, paras. 87-90.

[80] See Smets, ibid., pp. 141-144; I. Brownlie, "State Responsibility and International Pollution: A Practical Perspective" in D.B. Magraw *International Law and Pollution*, (University of Pennsylvania Press, 1986). Also D.B. Magraw, "Legal Treatment of Developing Countries: Differential, Contextual and Absolute Norms", *Colorado Journal of International Environmental Law and Policy*, vol. 1 (1990), p. 83.

[81] Alexander Kiss, "The Rio Declaration on Environment and Development", in L. Campiglio et al., ibid., p. 61; P. Sands, "International Law in the Field of Sustainable Development:

(12) The expression "as appropriate" indicates that the State of origin and the States likely to be affected are not put on the same level as regards the contribution to the costs of prevention. States concerned frequently embark on negotiations concerning the distribution of costs for preventive measures. In so doing, they proceed from the basic principle derived from article 3 according to which these costs are to be assumed by the operator or the State of origin. These negotiations mostly occur in cases where there is no agreement on the amount of the preventive measures and where the affected State contributes to the costs of preventive measures in order to ensure a higher degree of protection that it desires over and above what is essential for the State of origin to ensure. This link between the distribution of costs and the amount of preventive measures is in particular reflected in subparagraph (*d*).

(13) Subparagraph (*e*) introduces a number of factors that must be compared and taken into account. The economic viability of the activity must be compared to the costs of prevention. The cost of the preventive measures should not be so high as to make the activity economically non-viable. The economic viability of the activity should also be assessed in terms of the possibility of changing the location, or conducting it by other means, or replacing it with an alternative activity. The words "carrying out the activity ... by other means" intend to take into account, for example, a situation in which one type of chemical substance used in the activity, which might be the source of transboundary harm, could be replaced by another chemical substance; or mechanical equipment in the plant or the factory could be replaced by different equipment. The words "replacing [the activity] with an alternative activity" are intended to take account of the possibility that the same or comparable results may be reached by another activity with no risk, or much lower risk, of significant transboundary harm.

(14) Subparagraph (*f*) compares the standard of prevention demanded of the State of origin to that applied to the same or comparable activity in the State likely to be affected. The rationale is that, in general, it might be unreasonable to demand that the State of origin comply with a much higher standard of prevention than would be operative in the States likely to be affected. This factor, however, is not in itself conclusive. There may be situations in which the State of origin would be expected to apply standards of prevention to the activity that are higher than those

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Emerging Legal Principles", in Winfield Lang (ed.), *Sustainable Development and International Law* (London Graham and Trotman/Martinus Nijhoff, 1995), p. 66; E. Brown Weiss, "Environmental Equity: The Imperative for the 21st Century" in Winfield Lang (ed.), ibid., p. 21; Survey of Liability Regimes, op. cit. (note 77 above), para. 114.

applied in the States likely to be affected, i.e., where the State of origin is a highly developed State and applies domestically established environmental law regulations. These regulations may be substantially higher than those applied in States likely to be affected which the State of origin, because of its stage of development, will apply in accordance with its own standards, laws and regulations.

(15) States should also take into account the standards of prevention applied to the same or comparable activities in other regions or, if they exist, the international standards of prevention applicable for similar activities. This is particularly relevant when, for example, the States concerned do not have any standard of prevention for such activities, or they wish to improve their existing standards.

Article 11

Procedures in the absence of notification

1. If a State has reasonable grounds to believe that an activity planned or carried out in the State of origin may involve a risk of causing significant transboundary harm to it, it may request the State of origin to apply the provision of article 8. The request shall be accompanied by a documented explanation setting forth its grounds.

2. In the event that the State of origin nevertheless finds that it is not under an obligation to provide a notification under article 8, it shall so inform the requesting State within a reasonable time, providing a documented explanation setting forth the reasons for such finding. If this finding does not satisfy that State, at its request, the two States shall promptly enter into consultations in the manner indicated in article 9.

3. During the course of the consultations, the State of origin shall, if so requested by the other State, arrange to introduce appropriate and feasible measures to minimize the risk and, where appropriate, to suspend the activity in question for a reasonable period.

Commentary

(1) Article 11 addresses the situation in which a State, although it has received no notification about an activity in accordance with article 8, becomes aware that an activity is being carried out in the State of origin, either by the State itself or by a private entity, and believes, on reasonable grounds, that the activity carries a risk of causing it significant harm.

(2) The expression “a State” is not intended to exclude the possibility that more than one State could entertain the belief that a planned activity could adversely affect them in a

significant way. The words "apply the provision of article 8" should not be taken as suggesting that the State which intends to authorize or has authorized an activity has necessarily failed to comply with its obligations under article 8. In other words, the State of origin may have made an assessment of the potential of the planned activity for causing significant transboundary harm and concluded in good faith that no such effects would result therefrom. Paragraph 1 allows a State to request that the State of origin of the activity take a "second look" at its assessment and conclusion, and does not prejudge the question whether the State of origin initially complied with its obligations under article 8.

(3) State likely to be affected could make such a request, however, only upon satisfaction of two conditions. The first is that the requesting State must have "reasonable grounds to believe" that the activity in question may involve a risk of causing significant transboundary harm. The second is that the requesting State must provide a "documented explanation setting forth its grounds". These conditions are intended to require that the requesting State have more than a vague and unsubstantiated apprehension. A serious and substantiated belief is necessary, particularly in view of the possibility that the State of origin may be required to suspend implementation of its plans under paragraph 3 of article 11.

(4) The first sentence of paragraph 2 deals with the case in which the planning State concludes, after taking a "second look" as described in paragraph (2) of the present commentary, that it is not under an obligation to provide a notification under article 8. In such a situation, paragraph 2 seeks to maintain a fair balance between the interests of the States concerned by requiring the State of origin to provide the same kind of justification for its finding as was required of the requesting State under paragraph 1. The second sentence of paragraph 2 deals with the case in which the finding of the State of origin does not satisfy the requesting State. It requires that, in such a situation, the State of origin promptly enters into consultations with the other State (or States), at the request of the latter. The consultations are to be conducted in the manner indicated in paragraphs 1 and 2 of article 9. In other words, their purpose is to achieve "acceptable solutions" regarding measures to be adopted in order to prevent significant transboundary harm or at any event to minimize the risk thereof, and that the solutions to be sought should be "based on an equitable balance of interests". These phrases are discussed in the commentary to article 9.

(5) Paragraph 3 requires the State of origin to introduce appropriate and feasible measures to minimize the risk, and where appropriate, to suspend the activity in question for a reasonable period, if it is requested to do so by the other State during the course of consultations. States concerned could also agree otherwise.

(6) Similar provisions have been provided for in other legal instruments. Article 18 of the Convention on the Law of the Non-navigational Uses of International Watercourses,[82] and article 3, paragraph 7, of the Convention on Environmental Impact Assessment in a Transboundary Context[83] also contemplate a procedure by which a State likely to be affected by an activity can initiate consultations with the State of origin.

Article 12

Exchange of information

> While the activity is being carried out, the States concerned shall exchange in a timely manner all available information concerning that activity relevant to preventing significant transboundary harm or at any event minimizing the risk thereof. Such an exchange of information shall continue until such time as States concerned consider it appropriate even after the activity is terminated.

Commentary

(1) Article 12 deals with steps to be taken after an activity has been undertaken. The purpose of all these steps is the same as previous articles, viz., to prevent significant transboundary harm or at any event to minimize the risk thereof.

(2) Article 12 requires the State of origin and the likely affected States to exchange information regarding the activity after it has been undertaken. The phrase "concerning that activity" after the words "all available information", is intended to emphasize the link between the information and the activity and not any information. The duty of prevention based on the concept of due diligence is not a one-time effort but requires continuous effort. This means that due diligence is not terminated after granting authorization for the activity and undertaking the activity; it continues in respect of monitoring the implementation of the activity as long as the activity continues.

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[82] See note 18 above.

[83] See note 6 above.

(3) The information that is required to be exchanged, under article 12, is whatever would be useful, in the particular instance, for the purpose of prevention of risk of significant harm. Normally such information comes to the knowledge of the State of origin. However, when the State that is likely to be affected has any information which might be useful for prevention purposes, it should make it available to the State of origin.

(4) The requirement of exchange of information is fairly common in conventions designed to prevent or reduce environmental and transboundary harm. These conventions provide for various ways of gathering and exchanging information, either between the parties or through providing the information to an international organization which makes it available to other States.[84] In the context of these articles, where the activities are most likely to involve a few States, the exchange of information is effected between the States directly concerned. Where the information might affect a large number of States, relevant information may be exchanged through other avenues, such as for example, competent international organizations.

(5) Article 12 requires that such information should be exchanged in a timely manner. This means that when the State becomes aware of such information, it should inform the other States quickly so that there will be enough time for the States concerned to consult on appropriate preventive measures or the States likely to be affected will have sufficient time to take proper actions.

(6) There is no requirement in the article as to the frequency of exchange of information. The requirement of article 12 comes into operation only when States have any information which is relevant to preventing transboundary harm or at any rate to minimize the risk thereof.

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[84] For example, article 10 of the Convention on the Protection of Marine Pollution from Land-based Sources, *International Legal Materials*, vol. 13 (1974), p. 352; article 4 of the Vienna Convention for the Protection of the Ozone Layer, ibid., vol. 26, p. 1529; and article 200 of the United Nations Convention on the Law of the Sea (see note 12 above), speak of individual or joint research by the States parties on prevention or reduction of pollution and of transmitting to each other directly or through a competent international organization the information so obtained. The Convention on Long-Range Transboundary Air Pollution provides for research and exchange of information regarding the impact of activities undertaken by the States parties, *International Legal Materials*, vol. 18 (1979), p. 1442. Examples are found in other conventions such as article VI, para. 1 (iii), of the Code of Conduct on Accidental Pollution of Transboundary Inland Waters (see note 15 above); article 17 of the United Nations Convention on Biological Diversity (see note 12 above); and article 13 of the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (see note 22 above).

(7) The second sentence of article 12 is designed to ensure exchange of information under this provision not only while an activity is "carried out", but even after it ceases to exist, if the activity leaves behind by-products or materials associated with the activity which require monitoring to avoid the risk of significant transboundary harm. An example in this regard is nuclear activity which leaves behind nuclear waste even after the activity is terminated. But it is a recognition of the fact that the consequences of certain activities even after they are terminated continue to pose a significant risk of transboundary harm. Under these circumstances, the obligations of the State of origin do not end with the termination of the activity.

Article 13

Information to the public

States concerned shall, by such means as are appropriate, provide the public likely to be affected by an activity within the scope of the present articles with relevant information relating to that activity, the risk involved and the harm which might result and ascertain their views.

Commentary

(1) Article 13 requires States, whenever possible and by such means as are appropriate, to provide the public likely to be affected, whether their own or that of other States, with information relating to the risk and harm that might result from an activity subject to authorization and to ascertain their views thereon. The article therefore requires States (a) to provide information to the public regarding the activity and the risk and the harm it involves, and (b) to ascertain the views of the public. It is, of course, clear that the purpose of providing information to the public is in order to allow its members to inform themselves and then to ascertain their views. Without that second step, the purpose of the article would be defeated.

(2) The content of the information to be provided to the public includes information about the activity itself as well as the nature and the scope of risk and harm that it entails. Such information is contained in the documents accompanying the notification which is effected in accordance with article 8 or in the assessment which may be carried out by the requesting State under article 11.

(3) This article is inspired by new trends in international law, in general, and environmental law, in particular, of seeking to involve, in the decision-making processes, individuals whose lives, health, property and environment might be affected by providing them with a chance to present their views and be heard by those responsible for making the ultimate decisions.

(4) Principle 10 of the Rio Declaration on Environment and Development provides for public involvement in decision-making processes as follows:

> "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."[85]

(5) A number of other recent international legal agreements dealing with environmental issues have required States to provide the public with information and to give it an opportunity to participate in decision-making processes. Article VII, paragraphs 1 and 2, of the Code of Conduct on Accidental Pollution of Transboundary Inland Waters is relevant in that context:

> "1. In order to promote informed decision-making by central, regional or local authorities in proceedings concerning accidental pollution of transboundary inland waters, countries should facilitate participation of the public likely to be affected in hearings and preliminary inquiries and the making of objections in respect of proposed decisions, as well as recourse to and standing in administrative and judicial proceedings.
>
> "2. Countries of incident should take all appropriate measures to provide physical and legal persons exposed to a significant risk of accidental pollution of transboundary inland waters with sufficient information to enable them to exercise the rights accorded to them by national law in accordance with the objectives of this Code."[86]

Article 16 of the Convention on the Protection and Use of Transboundary Watercourses and International Lakes;[87] article 3, paragraph 8, of the Convention on Environmental Impact Assessment in a Transboundary Context;[88] article 17 of the Convention on the Protection of the

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[85] See note 1 above.

[86] See note 15 above.

[87] See note 22 above.

[88] See note 6 above.

Marine Environment of the Baltic Sea Area;[89] and article 6 of the United Nations Framework Convention on Climate Change;[90] the two 1992 Helsinki Conventions on the Protection and Use of Transboundary Watercourses and International Lakes[91] (article 16) and on the Transboundary Effects of Industrial Accidents (article 9 and annex VIII);[92] the European Council directives 90/313 on freedom of access to information on the environment[93] and 96/82 on the control of major accident hazards involving dangerous substances;[94] article 12 of the Convention on the Law of the Non-navigational Uses of International Watercourses;[95] OECD Council recommendation C (74) 224 of 14 November 1974 on Principles concerning transfrontier pollution[96] all provide for information to the public.

(6) There are many modalities for participation in decision-making processes. Reviewing data and information on the basis of which decisions will be based and having an opportunity to confirm or challenge the accuracy of the facts, the analysis and the policy considerations either through administrative tribunals, courts, or groups of concerned citizens is one way of participation in decision-making. This form of public involvement enhances the efforts to prevent transboundary and environmental harm.

(7) The obligation contained in article 13 is circumscribed by the phrase "by such means as are appropriate", which is intended to leave the ways in which such information could be provided to the States, their domestic law requirements and the State policy as to, for example, whether such information should be provided through media, non-governmental organizations,

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[89] See note 51 above.

[90] *International Legal Materials*, vol. 31 (1992), p. 851.

[91] See note 22 above.

[92] See note 6 above.

[93] *Official Journal of the European Communities*, Series L, No. 158 (23 June 1990), p. 56.

[94] Ibid., No. 10 (14 January 1997), p. 13.

[95] See note 18 above.

[96] See note 59 above.

public agencies and local authorities. In the case of the public beyond a State's borders, information may be provided, as appropriate, through the good offices of the State concerned, if direct communication is not feasible or practical.

(8) Further, the State that might be affected, after receiving notification and information from the State of origin, shall, by such means as are appropriate, inform those parts of its own public likely to be affected before responding to the notification.

(9) "Public" includes individuals, interest groups (non-governmental organizations) and independent experts. General "public" however refers to individuals who are not organized into groups or affiliated to specific groups. Public participation could be encouraged by holding public meetings or hearings. The public should be given the opportunity for consultation and their participation should be facilitated by providing them with necessary information on the proposed policy, plan or programme under consideration. It must however be understood that requirements of confidentiality may affect the extent of public participation in the assessment process. It is also common that the public is not involved or only minimally involved in efforts to determine the scope of a policy, plan or programme. Public participation in the review of a draft document or EIA would be useful in obtaining information regarding concerns related to the proposed action, additional alternatives and potential environmental impact.[97]

(10) Apart from the desirability of encouraging public participation in national decision-making on vital issues regarding development and the tolerance levels of harm in order to enhance the legitimacy of and compliance with the decisions taken, it is suggested that, given the development of human rights law, public participation could also be viewed as a growing right under national law as well as international law. However, it has also been noted that, "while norm specification is likely to continue in this, as in most areas of international law, the future emphasis needs to be on monitoring, and especially on the unresolved problem of enforcing compliance with the norms that already exist."[98]

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[97] *Application of Environmental Impact Assessment Principle* …, (note 46 above), pp. 4 and 8.

[98] See T.M. Franck "Fairness in the International Legal and Institutional System: General Course on Public International Law", pp. 9-498, *Recueil des cours* … 1993-III, vol. 240, p. 110. See also Donna Craig and Diana Ponce Nava, "Indigenous Peoples' Rights and Environmental Law", in Sun Lin and Lal Kurukulasuriya, op. cit. (note 46 above), pp. 115-146.

Article 14

National security and industrial secrets

Data and information vital to the national security of the State of origin or to the protection of industrial secrets or concerning intellectual property may be withheld, but the State of origin shall cooperate in good faith with the State likely to be affected in providing as much information as possible under the circumstances.

Commentary

(1) Article 14 is intended to create a narrow exception to the obligation of States to provide information in accordance with articles 8, 12 and 13. States are not obligated to disclose information that is vital to their national security or is considered an industrial secret or information protected by intellectual property rights. This type of clause is not unusual in treaties which require exchange of information. Article 31 of the Convention on the Law of the Non-navigational Uses of International Watercourses[99] also provides for a similar exception to the requirement of disclosure of information vital to national defence or security.

(2) Article 14 includes industrial secrets and information protected by intellectual property in addition to national security. Although industrial secrets are a part of the "intellectual property rights", both terms are used to give sufficient coverage to protected rights. In the context of these articles, it is highly probable that some of the activities which come within the scope of article 1 might involve the use of sophisticated technology involving certain types of information which are protected even under the domestic law. Normally, domestic laws of States determine the information that is considered an industrial secret and provide protection for them. This type of safeguard clause is not unusual in legal instruments dealing with exchange of information relating to industrial activities. For example, article 8 of the Convention on the Protection and Use of Transboundary Watercourses and International Lakes[100] and article 2, paragraph 8, of the Convention on Environmental Impact Assessment in a Transboundary Context[101] provide for similar protection of industrial and commercial secrecy.

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[99] See note 18 above.

[100] See note 22 above.

[101] See note 6 above.

(3) Article 14 recognizes the need for balance between the legitimate interests of the State of origin and the States that are likely to be affected. It therefore requires the State of origin that is withholding information on the grounds of security or industrial secrecy to cooperate in good faith with the other States in providing as much information as possible under the circumstances. The words "as much information as possible" include, for example, the general description of the risk and the type and the extent of harm to which a State may be exposed. The words "under the circumstances" refer to the conditions invoked for withholding the information. Article 14 essentially encourages and relies on the good faith cooperation of the parties.

Article 15

Non-discrimination

> Unless the States concerned have agreed otherwise for the protection of the interests of persons, natural or juridical, who may be or are exposed to the risk of significant transboundary harm as a result of an activity within the scope of the present articles, a State shall not discriminate on the basis of nationality or residence or place where the injury might occur, in granting to such persons, in accordance with its legal system, access to judicial or other procedures to seek protection or other appropriate redress.

Commentary

(1) This article sets out the basic principle that the State of origin is to grant access to its judicial and other procedures without discrimination on the basis of nationality, residence or the place where the injury might occur. The content of this article is based on article 32 of the 1997 United Nations Convention on the Law of Non-navigational Uses of International Watercourses.[102]

(2) Article 15 contains two basic elements, namely, non-discrimination on the basis of nationality or residence and non-discrimination on the basis of where the injury might occur. The rule set forth obliges States to ensure that any person, whatever his nationality or place of residence, who might suffer significant transboundary harm as a result of activities referred to in article 1 should, regardless of where the harm might occur, receive the same treatment as that afforded by the State of origin to its nationals in case of possible domestic harm. This obligation

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[102] See note 18 above.

does not intend to affect the existing practice in some States of requiring that non-residents or aliens post a bond, as a condition of utilizing the court system, to cover court costs or other fees. Such a practice is not "discriminatory" under the article, and is taken into account by the phrase "in accordance with its legal system".

(3) Article 15 also provides that the State of origin may not discriminate on the basis of the place where the damage might occur. In other words, if significant harm may be caused in State A as a result of an activity referred to in article 1 in State B, State B may not bar an action on the grounds that the harm would occur outside its jurisdiction. This provision is also intended to cover damage likely to occur to persons without identity papers or passports, as well as indigenous people or kinship groups.

(4) This rule is residual, as indicated by the phrase "unless the States concerned have agreed otherwise". Accordingly, States concerned may agree on the best means of providing protection or redress to persons who may suffer a significant harm, for example through a bilateral agreement. States concerned are encouraged under the present articles to agree on a special regime dealing with activities with the risk of significant transboundary harm. In such arrangements, States may also provide for ways and means of protecting the interests of the persons concerned in case of significant transboundary harm. The phrase "for the protection of the interest of persons" has been used to make it clear that the article is not intended to suggest that States can decide by mutual agreement to discriminate in granting access to their judicial or other procedures or a right to compensation. The purpose of the inter-State agreement should always be the protection of the interests of the victims of the harm.

(5) Precedents for the obligation contained in this article may be found in international agreements and in recommendations of international organizations. For example, the Convention on the Protection of the Environment between Denmark, Finland, Norway and Sweden of 19 February 1974 in its article 3 provides as follows:

> "Any person who is affected or may be affected by a nuisance caused by environmentally harmful activities in another Contracting State shall have the right to bring before the appropriate Court or Administrative Authority of that State the question of the permissibility of such activities, including the question of measures to prevent damage, and to appeal against the decision of the Court of the Administrative Authority to the same extent and on the same terms as a legal entity of the State in which the activities are being carried out.

"The provisions of the first paragraph of this article shall be equally applicable in the case of proceedings concerning compensation for damage caused by environmentally harmful activities. The question of compensation shall not be judged by rules which are less favourable to the injured party than the rules of compensation of the State in which the activities are being carried out."[103]

(6) The Council of the Organization for Economic Cooperation and Development (OECD) has adopted a recommendation on implementation of a regime of equal right of access and non-discrimination in relation to transfrontier pollution. Paragraph 4 (*a*) of that recommendation provides as follows:

"Countries of origin should ensure that any person who has suffered transfrontier pollution damage or is exposed to a significant risk of transfrontier pollution shall at least receive equivalent treatment to that afforded in the country of origin in cases of domestic pollution and in comparable circumstances, to persons of equivalent condition or status ..."[104]

Article 16

Emergency preparedness

The State of origin shall develop contingency plans for responding to emergencies, in cooperation, where appropriate, with the State likely to be affected and competent international organizations.

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[103] United Nations, *Treaty Series*, vol. 1092, p. 279, reprinted in *International Legal Materials*, vol. XIII (1974), p. 591. Similar provisions may be found in article 2, paragraph 6, of the ECE Convention on Environmental Impact Assessment in a Transboundary Context (see note 6 above); the Guidelines on responsibility and liability regarding transboundary water pollution, part II.E.8, prepared by the ECE Task Force on responsibility and liability regarding transboundary water pollution, document ENVWA/R.45, 20 November 1990; and the Draft ECE Charter on environmental rights and obligations, paragraph 6, prepared at a meeting of experts on environmental law, 25 February-1 March 1991, document ENVWA/R.38, annex I.

[104] OECD document C (77) 28 (Final), annex, in OECD, *OECD and the Environment*, 1986, p. 150. This is also the main thrust of principle 14 of the draft principles of conduct in the field of the environment for the guidance of States in the conservation and harmonious utilization of natural resources shared by two or more States, approved in decision 6/14 of the Governing Council of the United Nations Environment Programme (UNEP) of 19 May 1978 (see *Official Records of the General Assembly, Thirty-third Session, Supplement No. 25* (A/33/25), annex I). A discussion of the principle of equal access may be found in Van Hoogstraten, *Environmental Policy and Law*, vol. 2 (1976), p. 77.

Commentary

(1) This article contains an obligation that calls for anticipatory rather than responsive action. The text of article 16 is based on article 28, paragraph 4 of the 1997 Convention on the Law of the Non-navigational Uses of International Watercourses which reads:

> "When necessary, watercourse States shall jointly develop contingency plans for responding to emergencies, in cooperation, where appropriate, with other potentially affected States and competent international organizations."[105]

The need for the development of contingency plans for responding to possible emergencies is well recognized.[106] It is suggested that the duty to prevent environmental disasters obligates States to enact safety measures and procedures to minimize the likelihood of major environmental accidents, such as nuclear reactor accidents, toxic chemical spills, oil spills or forest fires. Where necessary, specific safety or contingency measures are open to States to negotiate and agree in matters concerning management of risk of significant transboundary harm, such safety measures could include: (a) adoption of safety standards for the location and operation of industrial and nuclear plants and vehicles; (b) maintenance of equipment and facilities to ensure ongoing compliance with safety measures; (c) monitoring of facilities, vehicles or conditions to detect dangers; and (d) training of workers and monitoring of their performance to ensure compliance with safety standards. Such contingency plans should include establishment of early warning systems.

(2) While States of origin bear the primary responsibility for developing contingency plans, in many cases it will be appropriate to prepare them in cooperation with other States likely to be affected and competent international organizations. For example, the contingency plans may necessitate the involvement of other States, as well as international organizations with

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[105] See note 18 above. Another example is article 199 of the 1982 United Nations Convention on the Law of the Sea which provides that "… States shall jointly develop and promote contingency plans for responding to pollution incidents in the marine environment".

[106] See E. Brown Weiss, "Environmental Disasters in International Law" in *Anuario Jurídico Interamericano*, 1986 (O.A.S., Washington, D.C., 1987), pp. 141-169. The 1983 Resolution of the European Council on Environmental Law concerning "Principles Concerning International Cooperation in Environmental Emergencies Linked to Technological Development" expressly calls for limits on siting of all hazardous installations, for the adoption of safety standards to reduce risk of emergencies, and for monitoring and emergency planning, *Environmental Policy and Law*, vol. 12 (1984), p. 68.

competence in the particular field.[107] In addition, the coordination of response efforts might be most effectively handled by a competent international organization set up by the States concerned.

(3) Development of contingency plans are also better achieved through establishment of common or joint commissions composed of members representing all States concerned. National points of contact would also have to be established to review matters and employ the latest means of communication to suit early warnings.[108] Contingency plans to respond to marine pollution disasters are well-known. Article 199 of the Law of the Sea Convention requires States to develop such plans.[109] The obligation to develop contingency plans is also found in certain bilateral and multilateral agreements concerned with forest fires, nuclear accidents and other environmental catastrophes.[110] The 1986 Convention for the Protection of the Natural Resources and Environment of the South Pacific Region provides in article 15 that the "Parties shall develop and promote individual contingency plans and jointed contingency plans for responding to incidents …"[111]

Article 17

Notification of an emergency

The State of origin shall, without delay and by the most expeditious means, at its disposal, notify the State likely to be affected by an emergency concerning an activity within the scope of the present articles and provide it with all relevant and available information.

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[107] For a review of various contingency plans established by several international organizations and bodies such as UNEP, FAO, UN Disaster Relief Coordinator, UNHCR, UNICEF, WHO, IAEA and ICRC, see B.G. Ramcharan, *The International Law and Practice of Early Warning and Preventive Diplomacy: the Emerging Global Watch* (Kluwer Academic Pub. 1991), Ch. 7 (The Practice of Early Warning; Environment, Basic Needs and Disaster Preparedness), pp. 143-168.

[108] For establishment of joint commissions see for example the Indus Waters Treaty, United Nations, *Treaty Series*, vol. 419, p. 125 and the Convention on the Protection of Rhine against Chemical Pollution, United Nations, *Treaty Series*, vol. 1124, p. 375.

[109] See note 12 above.

[110] For a mention of these agreements see E. Brown Weiss, op. cit. (see note 106 above), p. 148.

[111] *International Legal Materials*, vol. 26, (1987), p. 38

Commentary

(1) This article deals with the obligations of States of origin in responding to an actual emergency situation. The provision is based on article 28, paragraph 2 of the 1997 Convention of the Law of the Non-navigational Uses of International Watercourses which reads:

> "A watercourse State shall, without delay and by the most expeditious means available notify other potentially affected States and competent international organizations of any emergency originating within its territory."[112]

Similar obligations are also contained for example, in Principle 18 of the Rio Declaration on Environment and Development;[113] the 1986 Convention on Early Notification of a Nuclear Accident;[114] article 198 of the 1982 United Nations Convention on the Law of the Sea;[115] article 3 of the 1994 Convention on Biological Diversity;[116] article 5 (1) (c) of the International Convention on Oil Pollution Preparedness, Response and Cooperation[117] and a number of other agreements concerning international watercourses.[118]

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[112] See note 18 above.

[113] See note 1 above.

[114] *International Legal Materials*, vol. 25 (1986), p. 1370. Article 5 of this Convention provides for detailed data to be notified to the States likely to be affected: (a) the time, exact location where appropriate, and the nature of the nuclear accident; (b) the facility or activity involved; (c) the assumed or established cause and the foreseeable development of the nuclear accident relevant to the transboundary release of the radioactive materials; (d) the general characteristics of the radioactive release, includes, as far as is practicable and appropriate, the nature, probable physical and chemical form and the quantity, composition and effective height of the radioactive release; (e) information on current and forecast meteorological and hydrological conditions, necessary for forecasting the transboundary release of the radioactive materials; (f) the results of environmental monitoring relevant to the transboundary release of the radioactive materials; (g) the off-site protective measures taken or planned; and (h) the predicted behaviour over time of the radioactive release.

[115] See note 12 above.

[116] Ibid.

[117] *International Legal Materials*, vol. 30 (1990), p. 735.

[118] See, e.g. the 1976 Convention on the protection of the Rhine against chemical pollution, art. 11, United Nations, *Treaty Series*, vol. 1124, p. 375; the 1978 Agreement between Canada and the United States on Great Lakes Water Quality (*Treaties and Other International Acts*

(2) According to this article, the seriousness of harm involved together with the suddenness of emergency's occurrence justifies the measures required. However, suddenness does not denote that the situation needs to be wholly unexpected. Early warning systems established or forecasting of severe weather disturbances could indicate that the emergency is imminent. This may give States concerned some time to react and take reasonable, feasible and practical measures to avoid or at any event mitigate ill-effects of such emergencies. The words "without delay" mean immediately upon learning of the emergency and the phrase "by the most expeditious means at its disposal" indicates that the most rapid means of communication to which a State has recourse is to be utilized.

(3) Emergencies could result from natural causes or human conduct. Measures to be taken in this regard are without prejudice to any claims of liability whose examination is outside the scope of the present articles. It is however understood that an emergency caused by natural causes does not entail liability on the part of the State of origin.

Article 18

Relationship to other rules of international law

The present articles are without prejudice to any obligation incurred by States under relevant treaties or rules of customary international law.

Commentary

(1) Article 18 intends to make it clear that the present articles are without prejudice to the existence, operation or effect of any obligation of States under international law relating to an act or omission to which these articles might otherwise, i.e., in the absence of such an obligation, be thought to apply. It follows that no inference is to be drawn from the fact that an activity falls within the apparent scope of these articles, as to the existence or non-existence of any other rule of international law, including any other primary rule, as to the activity in question or its actual or potential transboundary effects. The reference in article 18 to any obligation of States covers both treaty obligations and obligations under customary international law. It is equally intended to extend both to rules having a particular application, whether to a given region or a specified

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Series, No. 9257); and the 1977 Convention Concerning Accidental Pollution of Lake Geneva (1977 Official Collection of Swiss Laws, p. 2204), reproduced in Ruester, Simma and Bock, *International Protection of the Environment*, vol. XXV (1981), p. 285.

activity, and to rules which are universal or general in scope. This article does not intend to resolve all questions of future conflict of overlap between treaties and obligations under the present articles and customary international law.

Article 19

Settlement of disputes

1. Any dispute concerning the interpretation or application of the present articles shall be settled expeditiously through peaceful means of settlement chosen by mutual agreement of the parties to the dispute, including negotiations, mediation, conciliation, arbitration or judicial settlement.

2. Failing an agreement on the means for the peaceful settlement of the dispute within a period of six months, the parties to the dispute shall, at the request of any of them, have recourse to the establishment of an impartial fact-finding commission.

3. The Fact-finding Commission shall be composed of one member nominated by each party to the dispute and in addition a member not having the nationality of any of the parties to the dispute chosen by the nominated members who shall serve as Chairperson.

4. If more than one State is involved on one side of the dispute and those States do not agree on a common member of the Commission and each of them nominates a member, the other party to the dispute has the right to nominate an equal number of members of the Commission.

5. If the members nominated by the parties to the dispute are unable to agree on a Chairperson within three months of the request for the establishment of the Commission, any party to the dispute may request the Secretary-General of the United Nations to appoint the Chairperson who shall not have the nationality of any of the parties to the dispute. If one of the parties to the dispute fails to nominate a member within three months of the initial request pursuant to paragraph 2, any other party to the dispute may request the Secretary-General of the United Nations to appoint a person who shall not have the nationality of any of the parties to the dispute. The person so appointed shall constitute a single-member Commission.

6. The Commission shall adopt its report by a majority vote, unless it is a single-member Commission, and shall submit that report to the parties to the dispute setting forth its findings and recommendations, which the parties to the dispute shall consider in good faith.

Commentary

(1) Article 19 provides a basic rule for the settlement of disputes arising from the interpretation or application of the regime of prevention set out in the present articles. The rule is residual in nature and applies where the States concerned do not have an applicable agreement for the settlement of such disputes.

(2) It is assumed that the application of this article would come into play only after States concerned have exhausted all the means of persuasion at their disposal through appropriate consultation and negotiations. These could take place as a result of the obligations imposed by the present articles or otherwise in the normal course of inter-State relations.

(3) Failing any agreement through consultation and negotiation, the States concerned are urged to continue to exert efforts to settle their dispute, through other peaceful means of settlement to which they may resort by mutual agreement, including mediation, conciliation, arbitration or judicial settlement. These are means of peaceful settlement of disputes set forth in Article 33 of the Charter of the United Nations, in the second paragraph of the relevant section of the Friendly Relations Declaration[119] and in paragraph 5 of section I of the Manila Declaration,[120] which are open to States as free choices to be mutually agreed upon.[121]

(4) If the States concerned are unable to reach an agreement on any of the means of peaceful settlement of disputes within a period of six months, paragraph 2 of article 19 obliges States, at the request of one of them, to have recourse to the appointment of an impartial fact-finding commission. Paragraphs 3, 4, and 5 of article 19 elaborate the compulsory procedure for the appointment of the fact-finding commission. This compulsory procedure is useful and necessary to help States to resolve their disputes expeditiously on the basis of an objective identification and evaluation of facts. Lack of proper appreciation of the correct and relevant facts is often at the root of differences or disputes among States.

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[119] Declaration on Principles of International Law concerning Friendly Relations and Cooperation among States in accordance with the Charter of the United Nations, General Assembly resolution 2625 (XXV), annex.

[120] Manila Declaration on the Peaceful Settlement of International Disputes, General Assembly resolution 37/10, annex.

[121] For an analysis of the various means of peaceful settlement of disputes and references to relevant international instruments, see *Handbook on the Peaceful Settlement of Disputes between States* (United Nations publication, Sales No. E.92.V.7).

(5) Inquiry or resort to impartial fact-finding commissions is a well-known method incorporated in a number of bilateral or multilateral treaties, including the Covenant of the League of Nations, the Charter of the United Nations and the constituent instruments of certain specialized agencies and other international organizations within the United Nations system. Its potential to contribute to the prevention of international disputes is recognized by General Assembly resolution 1967 (XVIII) of 16 December 1963 on the "Question of methods of fact-finding".[122]

(6) By virtue of the mandate to investigate the facts and to clarify the questions in dispute, such commissions usually have the competence to arrange for hearings of the parties, the examination of witnesses or on-site visits.

(7) The report of the Commission usually should identify or clarify "facts". Insofar as they involve no assessment or evaluation, they are generally beyond further contention. States concerned are still free to give such weight as they deem appropriate to these "facts" in arriving at a resolution of the dispute. However, article 19 requires States concerned to give the report of the fact-finding commission a good-faith consideration at the least.

(8) The requirement of "good faith" was elaborated by the International Court of Justice in the *North Sea Continental Shelf* case between Denmark and the Federal Republic of Germany. In implementing this principle, the Court stated that the parties to the dispute "are under an obligation to conduct themselves so that the negotiations are meaningful, which will not be the case when either of them insist upon its own position without contemplating any modification of it".[123]

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[122] Ibid., p. 25. See also the Declaration on Fact-Finding in the Field of the Maintenance of International Peace and Security, General Assembly resolution 46/59, annex.

[123] *I.C.J. Reports 1969,* p. 3, at p. 47, para. 85. See also the *Case concerning the Gabcikovo-Nagymaros Project (Hungary/Slovakia)*, *I.C.J. Reports 1997*, para. 141.