Draft articles on the law of the non-navigational uses of international watercourses and commentaries thereto and resolution on transboundary confined groundwater

1994

Text adopted by the International Law Commission at its forty-sixth session, in 1994, and submitted to the General Assembly as a part of the Commission's report covering the work of that session (at para. 222). The report, which also contains commentaries on the draft articles, appears in *Yearbook of the International Law Commission, 1994*, vol. II, Part Two.

fined groundwater to the General Assembly. It recommends the elaboration of a convention by the Assembly or by an international conference of plenipotentiaries on the basis of the draft articles.

C. Tribute to the Special Rapporteur, Mr. Robert Rosenstock

220. At its 2356th meeting, on 24 June 1994, the Commission, after adopting the text of the articles on the law of the non-navigational uses of international watercourses and the resolution on transboundary confined groundwater, adopted the following resolution by acclamation:

The International Law Commission,

Having adopted the draft articles on the law of the non-navigational uses of international watercourses and the resolution on transboundary confined groundwater,

Expresses its deep appreciation and warm congratulations to the Special Rapporteur, Mr. Robert Rosenstock, for the outstanding contribution he has made to the preparation of the draft by his tireless efforts and devoted work and for the results achieved in the elaboration of draft articles on the law of the non-navigational uses of international watercourses and the resolution on transboundary confined groundwater.

221. The Commission also expressed its deep appreciation to the previous Special Rapporteurs, Messrs. Richard D. Kearney, Stephen M. Schwebel, Jens Evensen and Stephen C. McCaffrey, for their outstanding contribution to the work on the topic.

D. Draft articles on the law of the non-navigational uses of international watercourses and commentaries thereto and resolution on transboundary confined groundwater

222. The text of, and the commentaries to, draft articles 1 to 33 and the resolution as adopted by the Commission at its forty-sixth session are reproduced below.

DRAFT ARTICLES ON THE LAW OF THE NON-NAVIGATIONAL USES OF INTERNATIONAL WATERCOURSES

PART ONE

INTRODUCTION

Article 1. Scope of the present articles

1. The present articles apply to uses of international watercourses and of their waters for purposes other than navigation and to measures of conservation and management related to the uses of those watercourses and their waters.

2. The use of international watercourses for navigation is not within the scope of the present articles except in so far as other uses affect navigation or are affected by navigation.

Commentary

(1) In *paragraph 1*, the term "uses" derives from the title of the topic. It is intended to be interpreted in its broad sense, to cover all but navigational uses of an international watercourse, as indicated by the phrase "for purposes other than navigation".

(2) Questions have been raised from time to time as to whether the expression "international watercourse" refers only to the channel itself or includes also the waters contained in that channel. In order to remove any doubt, the phrase "and of their waters" is added to the expression "international watercourses" in paragraph 1. The phrase "international watercourses and of their waters" is used in paragraph 1 to indicate that the articles apply both to uses of the watercourse itself and to uses of its waters, to the extent that there may be any difference between the two. References in subsequent articles to an international watercourse should be read as including the waters thereof. Finally, the present articles would apply to uses not only of waters actually contained in the watercourse, but also of those diverted therefrom.

(3) The reference to "measures of conservation and management, related to the uses of" international watercourses is meant to embrace not only measures taken to deal with degradation of water quality, notably uses resulting in pollution, but also those aimed at solving other watercourse problems, such as those relating to living resources, flood control, erosion, sedimentation and salt water intrusion. It will be recalled that the questionnaire addressed to States on this topic[171] inquired whether problems such as these should be considered and that the replies were, on the whole, that they should be, the specific problems just noted being named. Also included in the expression "measures of conservation and management" are the various forms of cooperation, whether or not institutionalized, concerning the utilization, development, conservation and management of international watercourses, and promotion of the optimal utilization thereof.

(4) *Paragraph 2* recognizes that the exclusion of navigational uses from the scope of the present articles cannot be complete. As both the replies of States to the Commission's questionnaire and the facts of the uses of water indicate, the impact of navigation on other uses of water and that of other uses on navigation must be addressed in the present articles. Navigation requirements affect the quantity and quality of water available for other uses. Navigation may and often does pollute watercourses and requires that certain levels of water be maintained; it further requires passages through and around barriers in the watercourse. The interrelationships between navigational and non-navigational uses of watercourses are so numerous that, on any watercourse where navigation takes place or is to be instituted, navigational requirements and effects and the requirements and effects of other water projects cannot be separated by the

[171] The final text of the questionnaire, as communicated to Member States, is reproduced in *Yearbook ... 1976*, vol. II (Part One), p. 150, document A/CN.4/294 and Add.1, para. 6; see also *Yearbook ... 1984*, vol. II (Part Two), pp. 82-83, para. 262.

engineers and administrators charged with development of the watercourse. Paragraph 2 of article 1 has been drafted accordingly. It has been negatively cast, however, to emphasize that navigational uses are not within the scope of the present articles except in so far as other uses of waters affect navigation or are affected by navigation.

(5) According to one member, in the absence of a homogeneous criterion for identification, the uses of an international watercourse for non-navigational purposes could be identifiable in terms of three criteria: their nature (industrial, economic or private), the technical character of the works or the means utilized and the linkage of initiating such undertakings to the jurisdiction or control of a watercourse State.

Article 2. Use of terms

For the purposes of the present articles:

(*a*) "International watercourse" means a watercourse, parts of which are situated in different States;

(*b*) "Watercourse" means a system of surface waters and groundwaters constituting by virtue of their physical relationship a unitary whole and normally flowing into a common terminus;

(*c*) "Watercourse State" means a State in whose territory part of an international watercourse is situated.

Commentary

(1) Article 2 defines certain terms that are used throughout the draft articles. Other terms that are used only in one article are defined in the article in which they are employed.

(2) *Subparagraph (*a*)* defines the term "international watercourse", which is used in the title of the topic and throughout the draft articles. The focus in this paragraph is on the adjective "international", since the term "watercourse" is defined in subparagraph (*b*). Subparagraph (*a*) provides that, in order to be regarded as an "international" watercourse, parts of the watercourse in question must be situated in different States. As stated below in the commentary to subparagraph (*c*) of the present article, whether parts of a watercourse are situated in different States "depends on physical factors whose existence can be established by simple observation in the vast majority of cases". The most common examples would be a river or stream that forms or crosses a boundary, or a lake through which a boundary passes. The word "situated" is not intended to imply that the water in question is static. As will appear from the definition of "watercourse" in subparagraph (*b*), while the channel, lake bed or aquifer containing the water is itself stationary, the water it contains is in constant motion.

(3) *Subparagraph (*b*)* defines the term "watercourse". While this word is not used in the draft articles except in conjunction with another term (such as "international watercourse", "watercourse State", "watercourse agreements"), it is defined separately for purposes of clarity and precision. Since the expression "international watercourse" is defined in subparagraph (*a*) as a "watercourse" having certain geographical characteristics, a clear understanding of the meaning of the term "watercourse" is necessary."

(4) The term "watercourse" is defined as a "system of surface waters and groundwaters". The term "underground waters" used on first reading was replaced by the term "groundwaters" to establish uniformity throughout the commentary and to better reflect contemporary usage. The phrase "groundwaters" refers to the hydrologic system composed of a number of different components through which water flows, both on and under the surface of the land. These components include rivers, lakes, aquifers, glaciers, reservoirs and canals. So long as these components are interrelated with one another, they form part of the watercourse. This idea is expressed in the phrase, "constituting by virtue of their physical relationship a unitary whole". Thus, water may move from a stream into the ground under the stream bed, spreading beyond the banks of the stream, then reemerge in the stream, flow into a lake which empties into a river, be diverted into a canal and carried to a reservoir, and so on. Because the surface and groundwaters form a system, and constitute by virtue of their physical relationship a unitary whole, human intervention at one point in the system may have effects elsewhere within it. It also follows from the unity of the system that the term "watercourse" does not include "confined" groundwater, meaning that which is unrelated to any surface water. Some members of the Commission, however, believed that such groundwater should be included within the term "watercourse", provided that the aquifer in which it is contained is intersected by a boundary. It was also suggested that confined groundwater could be the subject of separate study by the Commission with a view to the preparation of draft articles.

(5) Certain members of the Commission expressed doubts about the inclusion of canals among the components of a watercourse because, in their view, the draft had been elaborated on the assumption that a "watercourse" was a natural phenomenon.

(6) Subparagraph (*b*) also requires that in order to constitute a "watercourse" for the purposes of the present articles, the system of surface and ground waters must normally flow into a "common terminus". The phrase "flowing into a common terminus" is modified by the word "normally". This represents a compromise aimed not at enlarging the geographic scope of the draft articles but at bridging the gap between, on the one hand, those who urged simple deletion of the phrase "common terminus" on the grounds, *inter alia*, that it is hydrologically wrong and misleading and would exclude certain important waters and, on the other hand, those who urged retention of the notion of common terminus in order to suggest some limit to the geographic scope of the articles. Thus, for example, the fact that two different drainage basins were connected by a canal would not make them part of a single "watercourse" for the purpose of the present articles. Nor does it mean for example that the Danube and the Rhine form a single system

merely because, at certain times of the year, water flows from the Danube as groundwater into the Rhine via Lake Constance. As a matter of common sense and practical judgement, the Danube and the Rhine remain separate unitary wholes. The phrase as modified by the word "normally" is intended to reflect modern hydrological knowledge as to the complexity of the movement of water as well as such specific cases as the Rio Grande, the Irawaddy, the Mekong and the Nile. While all the named rivers are "a system of surface and groundwaters constituting by virtue of their physical relationship a unitary whole", they flow to the sea in whole or in part via groundwater, a series of distributaries which may be as much as 300 kilometres removed from each other (deltas) or empty at certain times of the year into lakes and at other times into the sea.

(7) As already indicated, the definition of "watercourse State" which was formerly contained in article 3 has been moved, without change, to subparagraph (*c*) of article 2. This change was made in order to present together, in a single article on use of terms, definitions of expressions that appear throughout the present articles.

(8) The concept of a watercourse or river system is not a novel one. The expression has long been used in international agreements to refer to a river, its tributaries and related canals. The Treaty of Versailles contains a number of references to "river systems". For example, in declaring various rivers to be "international", the Treaty refers to

> All navigable parts of these river systems . . . together with lateral canals or channels constructed either to duplicate or to improve naturally navigable sections of the specified river systems, or to connect two naturally navigable sections of the same river.[172]

While the article in question is concerned with navigational uses, there is no doubt that equitable utilization could be affected, or significant harm caused, through the same system of waters by virtue of their very interconnectedness. In the *River Oder* case, PCIJ held that the international regime of the River Oder extended, under the Treaty of Versailles, to

> all navigable parts of these river systems . . . together with lateral canals or channels constructed either to duplicate or to improve naturally navigable sections of the specified river systems.[173]

(9) Provisions similar to those of the Treaty of Versailles may be found in the 1921 Convention establishing the definitive Statute of the Danube. That agreement refers in article 1 to the "internationalized river system", which article 2 defines to include "[a]ny lateral canals or waterways which may be constructed".

(10) More recently, the 1950 Convention between the Union of Soviet Socialist Republics and Hungary refers in articles 1 and 2 to "the water systems of the Tisza river basin".[174] A series of treaties between Yugoslavia and its neighbours,[175] concluded in the mid-1950s, include within their scope, *inter alia*, "watercourses and water systems" and, in particular, "groundwater".[176] Two of those treaties contain a broad definition of the expression "water system", which includes "all watercourses (surface or underground, natural or artificial)".[177]

(11) The Indus Waters Treaty 1960 between India and Pakistan also utilizes the system concept. In the preamble of that agreement, the parties declare that they are "desirous of attaining the most complete and satisfactory utilization of the waters of the Indus system of rivers".[178] The Treaty applies to named rivers, their tributaries and any connecting lakes,[179] and defines the term "tributary" broadly.[180]

(12) Among more modern treaties, the Agreement on the Action Plan for the Environmentally Sound Management of the Common Zambezi River System, and the Action Plan annexed thereto,[181] are noteworthy for their holistic approach to international water resources management. For example, the Action Plan states its objective as being to overcome certain enumerated problems "and thus to promote the development, and implementation of environmentally sound water resources management in the whole river system".[182] A number of other treaties further demonstrate that States recognize in their practice the importance of dealing with international watercourse systems in their entirety.[183] International

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[172] Treaty of Versailles, article 331. See also, for example, article 362, which refers to "the Rhine river system".

[173] *Territorial Jurisdiction of the International Commission of the River Oder, Judgment No. 16, 1929, P.C.I.J., Series A, No. 23.*

[174] Convention between the USSR and Hungary concerning measures to prevent floods and to regulate the water regime on the Soviet-Hungarian frontier in the area of the frontier River Tisza, 9 June 1950, *Legislative Texts*, No. 227, p. 827.

[175] *Legislative Texts*, Nos. 228 (with Hungary), 128 (with Albania) and 161 (with Bulgaria). See also the 1964 Agreement between Poland and the USSR concerning the use of water resources in frontier waters (United Nations, *Treaty Series*, vol. 552, p. 175), art. 2, para. 3; the 1972 Convention between Italy and Switzerland concerning the protection of frontier waters against pollution (RGDIP, vol. LXXIX (1975), p. 265); and the Agreement concerning frontier rivers of 16 September 1971 between Finland and Sweden (United Nations, *Treaty Series*, vol. 825, p. 191), chap. 3, art. 1.

[176] *Legislative Texts*, Nos. 228, 128 and 161.

[177] Ibid., Nos. 128 and 228, art. 1, para. 3.

[178] Indus Waters Treaty 1960 of 19 September 1960 between India and Pakistan (United Nations, *Treaty Series*, vol. 419, p. 125).

[179] Ibid., art. 1, paras. 3 and 8.

[180] Ibid., para. 2.

[181] UNEP, Agreement on the Action Plan for the Environmentally Sound Management of the Common Zambezi River System, Final Act, Harare, 26-28 May 1987 (United Nations, 1987), reprinted in ILM, vol. XXVII, No. 5 (September 1988), p. 1109.

[182] Ibid., Action Plan, para. 15.

[183] These agreements include the Act regarding Navigation and Economic Cooperation between the States of the Niger Basin. See also the Convention creating the Niger Basin Authority; the Convention and Statutes relating to the development of the Chad Basin; the Convention relating to the creation of the Gambia River Basin Development Organization; the Treaty on the River Plate Basin ; the Treaty relating to cooperative development of the water resources of the Columbia River Basin, of 17 January 1961, between Canada and the United States of America (United Nations, *Treaty Series*, vol. 542, p. 244) and the 1944 Exchange of notes relating to a study of the use of the waters of the Columbia River Basin (Ibid., vol. 109, p. 191). It is interesting to note that at least one of the States through whose territory the Columbia River flows has used the term "system" in referring to international watercourses. See "Legal aspects of the use of systems of international waters with reference to the Columbia-Kootenay river system under customary international law and the Treaty of 1909", Memorandum of the [United States] State Department, 85th Congress, Second Session, document No. 118 (Washington, D.C., 1958), p. 89.

organizations and experts have reached similar conclusions.[184]

(13) *Subparagraph* (c) defines the expression "watercourse States", which will be used throughout the present articles.

(14) The definition set out in subparagraph (*c*) is one which relies on a geographical criterion, namely whether "part of an international watercourse", as that expression is defined in this article, is situated in the State in question. Whether this criterion is satisfied depends on physical factors whose existence can be established by simple observation in the vast majority of cases.

Article 3. Watercourse agreements

1. Watercourse States may enter into one or more agreements, hereinafter referred to as "watercourse agreements", which apply and adjust the provisions of the present articles to the characteristics and uses of a particular international watercourse or part thereof.

2. Where a watercourse agreement is concluded between two or more watercourse States, it shall define the waters to which it applies. Such an agreement may be entered into with respect to an entire international watercourse or with respect to any part thereof or a particular project, programme or use, provided that the agreement does not adversely affect, to a significant extent, the use by one or more other watercourse States of the waters of the watercourse.

3. Where a watercourse State considers that adjustment or application of the provisions of the present articles is required because of the characteristics and uses of a particular international watercourse, watercourse States shall consult with a view to negotiating in good faith for the purpose of concluding a watercourse agreement or agreements.

Commentary

(1) The diversity characterizing individual watercourses and the consequent difficulty in drafting general principles that will apply universally to various watercourses throughout the world have been recognized by the Commission from the early stages of its consideration of the topic. Some States and scholars have viewed this pervasive diversity as an effective barrier to the progressive development and codification of the law on the topic on a universal plane. But it is clear that the General Assembly, aware of the diversity of watercourses, has nevertheless assumed that the subject is one suitable for the Commission's mandate.

(2) During the course of its work on the present topic, the Commission has developed a promising solution to the problem of the diversity of international watercourses and the human needs they serve: that of a framework agreement, which will provide for the States parties the general principles and rules governing the non-navigational uses of international watercourses, in the absence of specific agreement among the States concerned, and provide guidelines for the negotiation of future agreements. This approach recognizes that optimal utilization, protection and development of a specific international watercourse are best achieved through an agreement tailored to the characteristics of that watercourse and to the needs of the States concerned. It also takes into account the difficulty, as revealed by the historical record, of reaching such agreements relating to individual watercourses without the benefit of general legal principles concerning the uses of such watercourses. It contemplates that these principles will be set forth in the framework agreement. This approach has been broadly endorsed both in the Commission and in the Sixth Committee of the General Assembly.[185]

(3) There are precedents for such framework agreements in the field of international watercourses. Early il-

[184] The work of ECE follows this general approach. See, for example, the Declaration of Policy on the Rational Use of Water, adopted by ECE in 1984 (ECE, *Two Decades of Cooperation on Water*, document ECE/ENVWA/2 (1988), p. 15), and other instruments contained in that publication. A number of meetings held under United Nations auspices have adopted recommendations urging that international watercourses should be dealt with as a unitary whole. See, for example, the recommendations adopted at the United Nations Interregional Meeting on River and Lake Basin Development with Emphasis on the Africa Region (*River and Lake Basin Development*, Natural Resources/Water Series No. 20 (United Nations publication, Sales No. E.90.II.A.10), pp. 18 *et seq.*). The New York resolution, adopted in 1958 by ILA, contains the "principle of international law" that "A system of rivers and lakes in a drainage basin should be treated as an integrated whole (and not piecemeal)" (ILA, *Report of the Forty-eighth Conference, New York, 1958* (London, 1959), annex II, p. 99, "Agreed principles of international law", principle 1). The Helsinki Rules on the Uses of the Waters of International Rivers (hereinafter referred to as the "Helsinki Rules"), adopted by ILA in 1966, employ in commentary (*a*) to article II the expression "system of waters" in defining the term "international drainage basin" (ILA, *Report of the Fifty-second Conference, Helsinki, 1966* (London, 1967), pp. 484 *et seq.*; reproduced in part in A/CN.4/274, pp. 357 *et seq.*, para. 405). See also article 1 (Watershed extending upon the territory of two or more States) of the Salzburg resolution adopted by the Institute of International Law, at its Salzburg session in 1961, entitled "Utilization of non-maritime international waters (except for navigation)" (*Annuaire de l'Institut de droit international* (Basel), vol. 49, part II (1961), pp. 381-384), and the Athens resolution adopted by the Institute of International Law, at its Athens session in 1979, entitled "The pollution of rivers and lakes and international law" (ibid., vol. 58, part II (1980), p. 196). A private group of legal experts, the Inter-American Bar Association, adopted a resolution in 1957 dealing with "every watercourse or system or rivers or lakes . . . which may traverse or divide the territory of two or more States . . . referred to hereinafter as a 'system of international waters' " (Inter-American Bar Association, *Proceedings of the Tenth Conference held at Buenos Aires from 14 to 21 November 1957* (2 volumes) (Buenos Aires, 1958), pp. 82-83; reproduced in A/5409, p. 208, para. 1092.). The need to regulate and develop an international watercourse as a whole has also been recognized by such individual experts as H. A. Smith, in *The Economic Uses of International Rivers* (London, P. S. King and sons, 1931), pp. 150-151; J. L. Brierly, in *The Law of Nations*, 6th ed., H. Waldock, ed. (Oxford, Clarendon Press, 1963), p. 231; and J. G. Lammers, in *Pollution of International Watercourses* (The Hague, Martinus Nijhoff, 1984), pp. 19-20.

[185] See, in this regard, the conclusions contained in paragraphs (2) and (4) of the commentary to article 3 as provisionally adopted by the Commission at its thirty-second session (*Yearbook . . . 1980*, vol. II (Part Two), pp. 112-113), and in the reports of the Commission on its thirty-sixth session (*Yearbook . . . 1984*, vol. II (Part Two), para. 285) and its thirty-eighth session (*Yearbook . . . 1986*, vol. II (Part Two), para. 242).

lustrations are the Convention relating to the development of hydraulic power affecting more than one State, in particular article 4 , and the Treaty of the River Plate Basin.

(4) *Paragraph 1* of article 3 makes specific provision for the framework agreement approach, under which the present articles may be tailored to fit the requirements of specific international watercourses. This paragraph thus defines "watercourse agreements" as those which "apply and adjust the provisions of the present articles to the characteristics and uses of a particular international watercourse or part thereof". The phrase "apply and adjust" is intended to indicate that, while the Commission contemplates that agreements relating to specific international watercourses will take due account of the provisions of the present articles, the latter are essentially residual in character. The States whose territories include a particular international watercourse will thus remain free not only to apply the provisions of the present articles, but also to adjust them to the special characteristics and uses of that watercourse or of part thereof.

(5) *Paragraph 2* further clarifies the nature and subject-matter of "watercourse agreements", as that expression is used in the present articles, as well as the conditions under which such agreements may be entered into. The first sentence of the paragraph, in providing that such an agreement "shall define the waters to which it applies", emphasizes the unquestioned freedom of watercourse States to define the scope of the agreements they conclude. It recognizes that watercourse States may confine their agreement to the main stem of a river forming or traversing an international boundary, include within it the waters of an entire drainage basin, or take some intermediate approach. The requirement to define the waters also serves the purpose of affording other potentially concerned States notice of the precise subject-matter of the agreement. The opening phrase of the paragraph emphasizes that there is no obligation to enter into such specific agreements.

(6) The second sentence of paragraph 2 deals with the subject-matter of watercourse or system agreements. The language is permissive, affording watercourse States a wide degree of latitude, but a proviso is included to protect the rights of watercourse States that are not parties to the agreement in question. The sentence begins by providing that such an agreement "may be entered into with respect to an entire international watercourse". Indeed, technical experts consider that the most efficient and beneficial way of dealing with a watercourse is to deal with it as a whole, including all watercourse States as parties to the agreement. Examples of treaties following this approach are those relating to the Amazon, the Plate, the Niger and Chad basins.[186] Moreover, some issues arising out of the pollution of international watercourses necessitate cooperative action throughout an entire watercourse. An example of instruments responding to the need for unified treatment of such problems is the Convention for the Protection of the Rhine against Chemical Pollution (Bonn, 1976).[187]

(7) However, system States must be free to conclude system agreements "with respect to any part" of an international watercourse or a particular project, programme or use, provided that the use by one or more other system States of the waters of the international watercourse system is not, to a significant extent, affected adversely.

(8) Of the 200 largest international river basins, 52 are multi-State basins, among which are many of the world's most important river basins: the Amazon, the Chad, the Congo, the Danube, the Elbe, the Ganges, the Mekong, the Niger, the Nile, the Rhine, the Volta and the Zambezi basins.[188] In dealing with multi-State systems, States have often resorted to agreements regulating only a portion of the watercourse, which are effective between only some of the States situated on it.

(9) The *Systematic Index of International Water Resources Treaties, Declarations, Acts and Cases by Basin*, published by FAO,[189] indicates that a very large number of watercourse treaties in force are limited to a part of the watercourse system.

(10) There is often a need for subsystem agreements and for agreements covering limited areas. The differences between the subsystems of some international watercourses, such as the Indus, the Plate and the Niger, are as marked as those between separate drainage basins. Agreements concerning subsystems are likely to be more readily attainable than agreements covering an entire international watercourse, particularly if a considerable number of States are involved. Moreover, there will always be problems whose solution is of interest to only some of the States whose territories are bordered or traversed by a particular international watercourse.

(11) There does not appear to be any sound reason for excluding either subsystem or localized agreements from the application of the framework agreement. A major purpose of the present articles is to facilitate the negotiation of agreements concerning international watercourses, and this purpose encompasses all agreements, whether basin-wide or localized, whether general in nature or dealing with a specific problem. The framework agreement, it is to be hoped, will provide watercourse States with firm common ground as a basis for negotiations—which is what watercourse negotiations lack most at the present time. No advantage is seen in confining the application of the present articles to single agreements embracing an entire international watercourse.

(12) At the same time, if a watercourse agreement is concerned with only part of the watercourse or only a particular project, programme or use relating thereto, it must be subject to the proviso that the use, by one or more other watercourse States not parties to the agreement, of the waters of the watercourse is not, to a significant extent, adversely affected by the agreement.

[186] See the discussion of these agreements in the first report of the second Special Rapporteur, Mr. Schwebel (*Yearbook . . . 1979*, vol. II (Part One), pp. 167-168, document A/CN.4/320, paras. 93-98).

[187] Ibid., pp. 168-169, para. 100.

[188] Ibid., pp. 170-171, para. 108 (table).

[189] FAO, Legislative study No. 15 (Rome), 1978.

Otherwise, a few States of a multi-State international watercourse could appropriate a disproportionate amount of its benefits for themselves or unduly prejudice the use of its waters by watercourse States not parties to the agreement in question. Such results would run counter to fundamental principles which will be shown to govern the non-navigational uses of international watercourses, such as the right of all watercourse States to use an international watercourse in an equitable and reasonable manner and the obligation not to use a watercourse in such a way as to injure other watercourse States.[190]

(13) In order to fall within the proviso, however, the adverse effect of a watercourse agreement on watercourse States not parties to the agreement must be "significant". If those States are not adversely affected "to a significant extent", other watercourse States may freely enter into such a limited watercourse agreement. Because of the dual meaning of the term "appreciable" as both "measurable" and "significant", it was decided to use the latter term throughout the text. This is not intended to raise the applicable standard.

(14) The expression "to a significant extent" is intended to require that the effect is one that can be established by objective evidence (provided the evidence can be secured). There must moreover be a real impairment of use. Situations for example such as were involved in the *Lake Lanoux* case[191] (see paras. (19) and (20) below), in which Spain insisted upon delivery of Lake Lanoux water through the original system, are among those sought to be excluded. The arbitral tribunal found that in that case:

> ... thanks to the restitution effected by the devices described above, none of the guaranteed users will suffer in his enjoyment of the waters ...; at the lowest water level, the volume of the surplus waters of the Carol, at the boundary, will at no time suffer a diminution; ....[192]

The Tribunal continued by pointing out that Spain might have claimed that the proposed diversionary works:

> ... would bring about an ultimate pollution of the waters of the Carol or that the returned waters would have a chemical composition or a temperature or some other characteristic which could injure Spanish interests ... Neither in the *dossier* nor in the pleadings in this case is there any trace of such an allegation.[193]

In the absence of any assertion that Spanish interests were affected in a tangible way, the tribunal held that Spain could not require maintenance of the natural flow of the waters. It should be noted that the French proposal relied upon by the tribunal was arrived at only after a long-drawn-out series of negotiations beginning in 1917, which led to, *inter alia*, the establishment of a mixed commission of engineers in 1949 and the presentation in 1950 of a French proposal (later replaced by the plan on which the tribunal pronounced) which would have significantly affected the use and enjoyment of the waters in question by Spain.[194]

(15) At the same time, the term "significant" is not used in the sense of "substantial". What are to be avoided are localized agreements, or agreements concerning a particular project, programme or use, which have a significant adverse effect upon third watercourse States. While such an effect must be capable of being established by objective evidence and not be trivial in nature, it need not rise to the level of being substantial.

(16) *Paragraph 3* of article 3 addresses the situation in which one or more watercourse States consider that adjustment or application of the provisions of the present articles to a particular international watercourse is required because of the characteristics and uses of that watercourse. In that event, it requires that other watercourse States enter into consultations with the State or States in question with a view to negotiating, in good faith, an agreement or agreements concerning the watercourse.

(17) Moreover, watercourse States are not under an obligation to conclude an agreement before using the waters of the international watercourse. To require conclusion of an agreement as a pre-condition of use would be to afford watercourse States the power to veto a use by other watercourse States of the waters of the international watercourse by simply refusing to reach agreement. Such a result is not supported by the terms or the intent of article 3. Nor does it find support in State practice or international judicial decisions (indeed, the *Lake Lanoux* arbitral award negates it).

(18) Even with these qualifications, the Commission is of the view that the considerations set forth in the preceding paragraphs, especially paragraph (12), import the necessity of the obligation set out in paragraph 3 of article 3. Furthermore, the existence of a principle of law requiring consultations among States in dealing with fresh water resources is explicitly supported by the arbitral award in the *Lake Lanoux* case.

(19) That case involved a proposal by the French Government to carry out certain works for the utilization of the waters of Lake Lanoux, waters which flowed into the Carol River and on to the territory of Spain. Consultations and negotiations over the proposed diversion of waters from Lake Lanoux took place between the Governments of France and Spain intermittently from 1917 until 1956. Finally, France decided upon a plan of diversion which entailed the full restoration of the diverted waters before the Spanish border. Spain nevertheless feared that the proposed works would adversely affect Spanish rights and interests, contrary to the Treaty on boundaries between Spain and France from the valley of Andorra to the Mediterranean (with additional act) of 26 May 1866 (Treaty of Bayonne).[195] Spain claimed that,

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[190] The second sentence of paragraph 2 is based on the assumption, well founded in logic as well as in State practice, that less than all watercourse States would conclude an agreement that purported to apply to an entire international watercourse. If such an agreement were concluded, however, its implementation would have to be consistent with paragraph 2 of article 3 for the reasons stated in paragraph (12) of the commentary.

[191] Original French text of the award in UNRIAA, vol. XII (Sales No. 63.V.3), pp. 281 *et seq.*; partial translations in A/5409, pp. 194 *et seq.*, paras. 1055-1068; and ILR, *1957* (London), vol. 24 (1961), pp. 101 *et seq.*

[192] ILR, *1957*..., p. 123, para. 6 (first subparagraph) of the arbitral award.

[193] Ibid., para. 6 (third subparagraph) of the arbitral award.

[194] Ibid., pp. 105-108. See the discussion of this arbitration in the previous Special Rapporteur's second report, *Yearbook ... 1986*, vol. II (Part One), pp. 116 *et seq.*, document A/CN.4/399 and Add.1 and 2, paras. 111-124.

[195] United Nations, *Treaty Series*, vol. 1288, p. 305.

under the Treaty of Bayonne and the Additional Act, such works could not be undertaken without the previous agreement of France and Spain. Spain asked the arbitral tribunal to declare that France would be in breach of the Treaty and of the Additional Act if it implemented the diversion scheme without Spain's agreement, while France maintained that it could legally proceed without such agreement.

(20) It is important to note that the obligation of States to negotiate the apportionment of the waters of an international watercourse was uncontested, and was acknowledged by France not merely by reason of the provisions of the Treaty of Bayonne and the Additional Act, but as a principle to be derived from authorities. Moreover, while the arbitral tribunal based some of its reasoning relating to the obligation to negotiate on the provisions of the Treaty and the Additional Act, it by no means confined itself to interpreting those provisions. In holding against the Spanish contention that Spain's agreement was a pre-condition of France's proceeding, the tribunal addressed the question of the obligation to negotiate as follows:

> In effect, in order to appreciate in its essence the necessity for prior agreement, one must envisage the hypothesis in which the interested States cannot reach agreement. In such case, it must be admitted that the State which is normally competent has lost its right to act alone as a result of the unconditional and arbitrary opposition of another State. This amounts to admitting a "right of assent", a "right of veto", which at the discretion of one State paralyses the exercise of the territorial jurisdiction of another.
>
> That is why international practice prefers to resort to less extreme solutions by confining itself to obliging the States to seek, by preliminary negotiations, terms for an agreement, without subordinating the exercise of their competences to the conclusion of such an agreement. Thus one speaks, although often inaccurately, of the "obligation of negotiating an agreement". In reality, the engagements thus undertaken by States take very diverse forms and have a scope which varies according to the manner in which they are defined and according to the procedures intended for their execution; but the reality of the obligations thus undertaken is incontestable and sanctions can be applied in the event, for example, of an unjustified breaking off of the discussions, abnormal delays, disregard of the agreed procedures, systematic refusals to take into consideration adverse proposals or interests, and, more generally, in cases of violation of the rules of good faith . . .
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> . . .
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> . . . In fact, States are today perfectly conscious of the importance of the conflicting interests brought into play by the industrial use of international rivers, and of the necessity to reconcile them by mutual concessions. The only way to arrive at such compromises of interests is to conclude agreements on an increasingly comprehensive basis. International practice reflects the conviction that States ought to strive to conclude such agreements; there would thus appear to be an obligation to accept in good faith all communications and contacts which could, by a broad comparison of interests and by reciprocal good will, provide States with the best conditions for concluding agreements. . . .[196]

[196] ILR, *1957* . . . (see footnote 191 above), p. 128, para. 11 (second and third subparagraphs) and pp. 129-130, para. 13 (first subparagraph) of the arbitral award. The obligation to negotiate has also been addressed by ICJ in cases concerning fisheries and maritime delimitation. See, for example, the *Fisheries Jurisdiction* cases (*United Kingdom* v. *Iceland*) (*Federal Republic of Germany* v. *Iceland*), *Merits, Judgment, I.C.J. Reports 1974*, pp. 3 and 175; the *North Sea Continental Shelf* cases (*Federal Republic of Germany* v. *Denmark*) (*Federal Republic of Germany* v. *Netherlands*), *Judgment, I.C.J. Reports 1969*, p. 3; the case concerning the *Continental Shelf (Tunisia/Libyan Arab Jamahiriya), Judgment, I.C.J. Reports 1982*, p. 18, at pp. 59-60, paras. 70-71; and the case concerning *Delimitation of the Maritime Boundary in the Gulf of Maine Area, Judgment, I.C.J. Reports 1984*, p. 246, at pp. 339-340, para. 230.

(21) For these reasons, paragraph 3 of article 3 requires watercourse States to enter into consultations, at the instance of one or more of them, with a view to negotiating, in good faith, one or more agreements which would apply or adjust the provisions of the present articles to the characteristics and uses of the international watercourse in question.

Article 4. Parties to watercourse agreements

1. Every watercourse State is entitled to participate in the negotiation of and to become a party to any watercourse agreement that applies to the entire international watercourse, as well as to participate in any relevant consultations.

2. A watercourse State whose use of an international watercourse may be affected to a significant extent by the implementation of a proposed watercourse agreement that applies only to a part of the watercourse or to a particular project, programme or use is entitled to participate in consultations on, and in the negotiation of, such an agreement, to the extent that its use is thereby affected, and to become a party thereto.

Commentary

(1) The purpose of article 4 is to identify the watercourse States that are entitled to participate in consultations and negotiations relating to agreements concerning part or all of an international watercourse, and to become parties to such agreements.

(2) *Paragraph 1* is self-explanatory. When an agreement deals with an entire international watercourse, there is no reasonable basis for excluding a watercourse State from participation in its negotiation, from becoming a party thereto, or from participating in any relevant consultations. It is true that there may be basin-wide agreements that are of little interest to one or more watercourse States. But, since the provisions of these agreements are intended to be applicable throughout the watercourse, the purpose of the agreements would be stultified if every watercourse State were not given the opportunity to participate.

(3) *Paragraph 2* is concerned with agreements that deal with only part of the watercourse. It provides that any watercourse State whose use of the watercourse may be significantly affected by the implementation of an agreement applying to only a part of the watercourse or to a particular project, programme or use is entitled to participate in consultations and negotiations relating to such a proposed agreement, to the extent that its use is thereby affected, and is further entitled to become a party to the agreement. The rationale is that, if the use of water by a State can be affected significantly by the implementation of treaty provisions dealing with part or aspects of a watercourse, the scope of the agreement necessarily extends to the territory of that State.

(4) Because water in a watercourse is in continuous movement, the consequences of action taken under an agreement with respect to water in a particular territory

may produce effects beyond that territory. For example, States A and B, whose common border is the River Styx, agree that each may divert 40 per cent of the river flow for domestic consumption, manufacturing and irrigation purposes at a point 25 miles upstream from State C, through which the Styx flows upon leaving States A and B. The total amount of water available to State C from the river, including return flow in States A and B, will be reduced as a result of the diversion by 25 per cent from what would have been available without diversion.

(5) The question is not whether States A and B are legally entitled to enter into such an agreement. It is whether a set of draft articles that are to provide general principles for the guidance of States in concluding agreements on the use of fresh water should ensure that State C has the opportunity to join in consultations and negotiations, as a prospective party, with regard to proposed action by States A and B that would substantially reduce the amount of water that flowed through the territory of State C.

(6) The right is formulated as a qualified one. It must appear that there will be a significant effect upon the use of water by a State in order for it to be entitled to participate in consultations and negotiations relating to the agreement, and to become a party thereto. If a watercourse State would not be affected by an agreement regarding a part or an aspect of the watercourse, the physical unity of the watercourse does not of itself require that the State have these rights. The participation of one or more watercourse States whose interests were not directly concerned in the matters under discussion would mean the introduction of unrelated interests into the process of consultation and negotiation.

(7) The meaning of the term "significant" is explained in paragraphs (14) and (15) of the commentary to article 3 above. As indicated therein, it is not used in the sense of "substantial". A requirement that a State's use must be substantially affected before it would be entitled to participate in consultations and negotiations would impose too heavy a burden upon the third State. The exact extent to which the use of water may be affected by proposed action is likely to be far from clear at the outset of negotiations. The decision in the *Lake Lanoux* case[197] illustrates the extent to which plans may be modified as a result of negotiations and the extent to which such modification may favour or harm a third State. That State should be required to establish only that its use may be affected to a significant extent.

(8) The right of a watercourse State to participate in consultations and negotiations concerning a limited watercourse agreement is further qualified. The State is so entitled only "to the extent that its use is thereby affected", that is to say, to the extent that implementation of the agreement would affect its use of the watercourse. The watercourse State is not entitled to participate in consultations or negotiations concerning elements of the agreement whose implementation would not affect its use of the waters, for the reasons given in paragraph (6) of the present commentary. The right of the watercourse State to become a party to the agreement is not similarly qualified, because of the technical problem of a State becoming a party to a part of an agreement. This matter would most appropriately be dealt with on a case-by-case basis: in some instances, the State concerned might become a party to the elements of the agreement affecting it via a protocol; in others, it might be appropriate for it to become a full party to the agreement proper. The most suitable solution in each case will depend entirely on the nature of the agreement, the elements of it that affect the State in question and the nature of the effects involved.

(9) Paragraph 2 should not, however, be interpreted as suggesting that an agreement dealing with an entire watercourse or with a part or an aspect thereof should exclude decision-making with regard to some or all aspects of the use of the watercourse through procedures in which all watercourse States participate. For most, if not all, watercourses, the establishment of procedures for coordinating activities throughout the system is highly desirable and perhaps necessary, and those procedures may well include requirements for full participation by all watercourse States in decisions dealing with only a part of the watercourse. However, such procedures must be adopted for each watercourse by the watercourse States, on the basis of the special needs and circumstances of the watercourse. Paragraph 2 is confined to providing that, as a matter of general principle, a watercourse State does have the right to participate in consultations and negotiations concerning a limited agreement which may affect that State's interests in the watercourse, and to become a party to such an agreement.

PART TWO

GENERAL PRINCIPLES

Article 5. Equitable and reasonable utilization and participation

1. Watercourse States shall in their respective territories utilize an international watercourse in an equitable and reasonable manner. In particular, an international watercourse shall be used and developed by watercourse States with a view to attaining optimal utilization thereof and benefits therefrom consistent with adequate protection of the watercourse.

2. Watercourse States shall participate in the use, development and protection of an international watercourse in an equitable and reasonable manner. Such participation includes both the right to utilize the watercourse and the duty to cooperate in the protection and development thereof, as provided in the present articles.

Commentary

(1) Article 5 sets out the fundamental rights and duties of States with regard to the utilization of international watercourses for purposes other than navigation. One of

[197] See footnote 191 above.

the most basic of these is the well-established rule of equitable utilization, which is laid down and elaborated upon in paragraph 1. The principle of equitable participation, which complements the rule of equitable utilization, is set out in paragraph 2.

(2) *Paragraph 1* states the basic rule of equitable utilization. Although cast in terms of an obligation, the rule also expresses the correlative entitlement, namely that a watercourse State has the right, within its territory, to a reasonable and equitable share, or portion, of the uses and benefits of an international watercourse. Thus a watercourse State has both the right to utilize an international watercourse in an equitable and reasonable manner and the obligation not to exceed its right to equitable utilization or, in somewhat different terms, not to deprive other watercourse States of their right to equitable utilization.

(3) The second sentence of paragraph 1 elaborates upon the concept of equitable utilization, providing that watercourse States shall if they choose to use and develop an international watercourse do so with a view to attaining optimal utilization thereof and benefits therefrom consistent with adequate protection of the watercourse. The expression "with a view to" indicates that the attainment of optimal utilization and benefits is the objective to be sought by watercourse States in utilizing an international watercourse. Attaining optimal utilization and benefits does not mean achieving the "maximum" use, the most technologically efficient use, or the most monetarily valuable use much less short-term gain at the cost of long-term loss. Nor does it imply that the State capable of making the most efficient use of a watercourse—whether economically, in terms of avoiding waste, or in any other sense—should have a superior claim to the use thereof. Rather, it implies attaining maximum possible benefits for all watercourse States and achieving the greatest possible satisfaction of all their needs, while minimizing the detriment to, or unmet needs of, each. It should also be mentioned that, in line with the principle of sustainability,

> Water resources development and management should be planned in an integrated manner, taking into account long-term planning needs as well as those with narrower horizons, that is to say, they should incorporate environmental, economic and social considerations based on the principle of sustainability; include the requirements of all users as well as those relating to prevention and mitigation of water-related hazards; and constitute an integral part of the socio-economic development planning process.[198]

(4) This goal must not be pursued blindly, however. The concluding phrase of the second sentence emphasizes that efforts to attain optimal utilization and benefits must be consistent with adequate protection of the international watercourse. The expression "adequate protection" is meant to cover not only measures such as those relating to conservation, security and water-related disease, but also measures of "control" in the technical, hydrological sense of the term, such as those taken to regulate flow, to control floods, pollution and erosion, to mitigate drought and to control saline intrusion. In view of the fact that any of these measures or works may limit to some degree the uses that otherwise might be made of the waters by one or more of the watercourse States, the second sentence speaks of attaining optimal utilization and benefits "consistent with" adequate protection. It should be added that, while primarily referring to measures undertaken by individual States, the expression "adequate protection" does not exclude cooperative measures, works or activities undertaken by States jointly.

(5) *Paragraph 2* embodies the concept of equitable participation. The core of this concept is cooperation between watercourse States through participation, on an equitable and reasonable basis, in measures, works and activities aimed at attaining optimal utilization of an international watercourse, consistent with adequate protection thereof. Thus the principle of equitable participation flows from, and is bound up with, the rule of equitable utilization set out in paragraph 1. It recognizes that, as concluded by technical experts in the field, cooperative action by watercourse States is necessary to produce maximum benefits for each of them, while helping to maintain an equitable allocation of uses and affording adequate protection to the watercourse States and the international watercourse itself. In short, the attainment of optimal utilization and benefits entails cooperation between watercourse States through their participation in the protection and development of the watercourse. Thus watercourse States have a right to the cooperation of other watercourse States with regard to such matters as flood-control measures, pollution-abatement programmes, drought-mitigation planning, erosion control, disease vector control, river regulation (training), the safeguarding of hydraulic works and environmental protection, as appropriate under the circumstances. Of course, for greatest effectiveness, the details of such cooperative efforts should be provided for in one or more watercourse agreements. But the obligation and correlative right provided for in paragraph 2 are not dependent on a specific agreement for their implementation.

(6) The second sentence of paragraph 2 emphasizes the affirmative nature of equitable participation by providing that it includes not only "the right to utilize the watercourse", but also the duty to cooperate actively with other watercourse States "in the protection and development" of the watercourse. This duty to cooperate is linked to article 8 on the general obligation to cooperate in relation to the use, development and protection of international watercourses.[199] While not stated expressly in paragraph 2, the right to utilize an international watercourse referred to in the second sentence carries with it an implicit right to the cooperation of other watercourse States in maintaining an equitable allocation of the uses and benefits of the watercourse. The latter right is elaborated in greater detail in article 8.

[198] *Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992* (A/CONF.151/26/Rev.1 (Vol. I, Vol.I/Corr.1, Vol. II, Vol. III and Vol. III/Corr.1)) (United Nations publication, Sales No. E.93.I.8 and corrigenda), Vol. I: *Resolutions adopted by the Conference*, resolution 1, annex II, Agenda 21, para. 18.16.

[199] See *Yearbook ... 1987*, vol. II (Part Two), paras. 95-99; see also the third report of the previous Special Rapporteur, ibid., vol. II (Part One), p. 15, document A/CN.4/406 and Add.1 and 2, para. 59.

(7) In the light of the foregoing explanations of the provisions of article 5, the following paragraphs provide a brief discussion of the concept of equitable utilization and a summary of representative examples of support for the doctrine.

(8) There is no doubt that a watercourse State is entitled to make use of the waters of an international watercourse within its territory. This right is an attribute of sovereignty and is enjoyed by every State whose territory is traversed or bordered by an international watercourse. Indeed, the principle of the sovereign equality of States results in every watercourse State having rights to the use of the watercourse that are qualitatively equal to, and correlative with, those of other watercourse States.[200] This fundamental principle of "equality of right" does not, however, mean that each watercourse State is entitled to an equal share of the uses and benefits of the watercourse. Nor does it mean that the water itself is divided into identical portions. Rather, each watercourse State is entitled to use and benefit from the watercourse in an equitable manner. The scope of a State's rights of equitable utilization depends on the facts and circumstances of each individual case, and specifically on a weighing of all relevant factors, as provided in article 6.

(9) In many cases, the quality and quantity of water in an international watercourse will be sufficient to satisfy the needs of all watercourse States. But where the quantity or quality of the water is such that all the reasonable and beneficial uses of all watercourse States cannot be fully realized, a "conflict of uses" results. In such a case, international practice recognizes that some adjustments or accommodations are required in order to preserve each watercourse State's equality of right. These adjustments or accommodations are to be arrived at on the basis of equity,[201] and can best be achieved on the basis of specific watercourse agreements.

(10) A survey of all available evidence of the general practice of States, accepted as law, in respect of the non-navigational uses of international watercourses—including treaty provisions, positions taken by States in specific disputes, decisions of international courts and tribunals, statements of law prepared by intergovernmental and non-governmental bodies, the views of learned commentators and decisions of municipal courts in cognate cases—reveals that there is overwhelming support for the doctrine of equitable utilization as a general rule of law for the determination of the rights and obligations of States in this field.[202]

(11) The basic principles underlying the doctrine of equitable utilization are reflected, explicitly or implicitly, in numerous international agreements between States in all parts of the world.[203] While the language and approaches of these agreements vary considerably,[204] their unifying theme is the recognition of rights of the parties to the use and benefits of the international watercourse or watercourses in question that are equal in principle and correlative in their application. This is true of treaty provisions relating to both contiguous[205] and successive[206] watercourses.

(12) A number of modern agreements, rather than stating a general guiding principle or specifying the respective rights of the parties, go beyond the principle of equitable utilization by providing for integrated river-basin management.[207] These instruments reflect a determination to achieve optimal utilization and benefits through organizations competent to deal with an entire international watercourse.

(13) A review of the manner in which States have resolved actual controversies pertaining to the non-

[200] See, for example, comment (*a*) to article IV of the Helsinki Rules (footnote 184 above).

[201] See, for example, article 3 of the Salzburg resolution (ibid.), which reads:

"*Article 3*

"If the States are in disagreement over the scope of their rights of utilization, settlement will take place on the basis of equity, taking particular account of their respective needs, as well as of other pertinent circumstances."

[202] See, for example, the authorities surveyed in the previous Special Rapporteur's second report (footnote 194 above), paras. 75-168.

[203] See, for example, the agreements surveyed in the third report of the second Special Rapporteur, Mr. Schwebel (*Yearbook... 1982*, vol. II (Part One), pp. 76-82, document A/CN.4/348, paras. 49-72); the authorities discussed in the previous Special Rapporteur's second report and the agreements listed in annexes I and II to chapter II therein (footnote 194 above).

[204] See the examples referred to in the previous Special Rapporteur's second report (footnote 194 above).

[205] The expression "contiguous watercourse" is used here to mean a river, lake or other watercourse which flows between or is located in, and is thus "contiguous" to, the territories of two or more States. Such watercourses are sometimes referred to as "frontier" or "boundary" waters. The previous Special Rapporteur's second report contains an illustrative list of treaty provisions relating to contiguous watercourses, arranged by region, which recognize the equality of the rights of the riparian States in the use of the waters in question (ibid.), chap. II, annex I.

[206] The expression "successive watercourse" is used here to mean a watercourse which flows (successively) from one State to another State or States. According to J. Lipper, "all of the numerous treaties dealing with successive rivers have one common element—the recognition of the shared rights of the signatory States to utilize the waters of an international river" ("Equitable utilization", *The Law of International Drainage Basins*, A. H. Garretson, R. D. Hayton and C. J. Olmstead, eds. (Dobbs Ferry, N.Y., Oceana Publications, 1967), p. 33). The previous Special Rapporteur's second report contains an illustrative list of treaty provisions relating to successive watercourses which apportion the waters, limit the freedom of action of the upstream State, provide for sharing of the benefits of the waters, or in some other way equitably apportion the benefits, or recognize the correlative rights of the States concerned (see footnote 194 above).

[207] See especially the recent agreements concerning African river basins, including: the Agreement for the establishment of the Organization for the Management and Development of the Kagera River Basin; the Convention relating to the status of the Senegal River and the Convention establishing the Organization for the Development of the Senegal River; discussed in the previous Special Rapporteur's third report (footnote 199 above, paras. 21 *et seq.*); the Act regarding Navigation and Economic Cooperation between the States of the Niger Basin and the Agreement concerning the Niger River Commission and the Navigation and Transport on the River Niger; the Convention between Gambia and Senegal for the integrated development of the Gambia River Basin (*Cahiers de l'Afrique équatoriale* (Paris), 6 March 1965), as well as the 1968 Agreement on the integrated development of the Gambia River Basin (Senegalo-Gambian Permanent Secretariat, *Senegalo-Gambian Agreements, 1965-1976* (Banjul), No.3) and the 1976 Convention on the establishment of the Coordinating Committee for the Gambia River Basin project (ibid., No. 23); and the Convention and Statutes relating to the development of the Chad Basin. See also the Treaty of the River Plate Basin.

navigational uses of international watercourses reveals a general acceptance of the entitlement of every watercourse State to utilize and benefit from an international watercourse in a reasonable and equitable manner.[208] While some States have, on occasion, asserted the doctrine of absolute sovereignty, these same States have generally resolved the controversies in the context of which such assertions were made by entering into agreements that actually apportioned the water or recognized the rights of other watercourse States.[209]

(14) A number of intergovernmental and non-governmental bodies have adopted declarations, statements of principles, and recommendations concerning the non-navigational uses of international watercourses. These instruments provide additional support for the rules contained in article 5. Only a few representative examples will be referred to here.[210]

(15) An early example of such an instrument is the Declaration of Montevideo concerning the industrial and agricultural use of international rivers, adopted by the Seventh International Conference of American States at its fifth plenary session on 24 December 1933, which includes the following provisions:

...

2. The States have the exclusive right to exploit, for industrial or agricultural purposes, the margin which is under their jurisdiction of the waters of international rivers. This right, however, is conditioned in its exercise upon the necessity of not injuring the equal right due to the neighbouring State over the margin under its jurisdiction.

...

4. The same principles shall be applied to successive rivers as those established in articles 2 and 3, with regard to contiguous rivers."[211]

(16) Another Latin American instrument, the Act of Asunción on the use of international rivers, adopted by the Ministers of Foreign Affairs of the River Plate Basin States (Argentina, Bolivia, Brazil, Paraguay and Uruguay) at their Fourth Meeting, from 1 to 3 June 1971, contains the Declaration of Asunción on the Use of International Rivers, paragraphs 1 and 2 of which provide:

1. In contiguous international rivers, which are under dual sovereignty, there must be a prior bilateral agreement between the riparian States before any use is made of the waters.

2. In successive international rivers, where there is no dual sovereignty, each State may use the waters in accordance with its needs provided that it causes no appreciable damage to any other State of the Basin.[212]

(17) The United Nations Conference on the Human Environment, held in 1972, adopted the Declaration on the Human Environment (Stockholm Declaration), 1971, principle 21 of which provides:

Principle 21

States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.[213]

The Conference also adopted an Action Plan for the Human Environment, recommendation 51 of which provides:

It is recommended that Governments concerned consider the creation of river-basin commissions or other appropriate machinery for cooperation between interested States for water resources common to more than one jurisdiction.

...

(*b*) The following principles should be considered by the States concerned when appropriate:

...

(ii) The basic objective of all water resource use and development activities from the environmental point of view is to ensure the best use of water and to avoid its pollution in each country;

(iii) The net benefits of hydrologic regions common to more than one national jurisdiction are to be shared equitably by the nations affected;[214]

...

(18) The Mar del Plata Action Plan, adopted by the United Nations Water Conference, contains a number of recommendations and resolutions concerning the management and utilization of water resources. Recommendation 7 calls upon States to frame "effective legislation ... to promote the efficient and equitable use and protection of water and water-related ecosystems".[215] With regard to "international co-operation", the Action Plan provides, in recommendations 90 and 91:

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[208] See generally the survey contained in the previous Special Rapporteur's second report (footnote 194 above), paras. 78-89.

[209] A well-known example is the controversy between the United States of America and Mexico over the waters of the Rio Grande. This dispute produced the "Harmon Doctrine" of absolute sovereignty but was ultimately resolved by the 1906 Convention concerning the Equitable Distribution of the Waters of the Rio Grande for Irrigation Purposes (C. Parry, ed., *The Consolidated Treaty Series* (Dobbs Ferry, New York, Oceana Publications, 1980), vol. 201 (1906), p. 225; reproduced in *Legislative Texts*, p. 232, No. 75). See the previous Special Rapporteur's discussion of this dispute and its resolution in his second report ((footnote 194 above), paras. 79-87), where he concluded that "the 'Harmon Doctrine' is not, and probably never has been, actually followed by the State that formulated it [the United States]" (ibid., para. 87).

See also the examples of the practice of other States discussed in the same report (ibid., paras. 88-91).

[210] See generally the collection of such instruments in the report by the Secretary-General on "Legal problems relating to the utilization and use of international rivers" and the supplement thereto (A/5409 and A/CN.4/274). See also the representative examples of such instruments discussed by the previous Special Rapporteur in his second report ((footnote 194 above), paras. 134-155).

[211] Carnegie Foundation for International Peace, *The International Conferences of American States, First Supplement, 1933-1940* (Washington, D.C., 1940), p. 88. See the reservations by Venezuela and Mexico and the declaration by the United States of America, ibid., pp. 105-106. All these texts are reproduced in A/5409, p. 212, annex I.A.

[212] Original Spanish text in OAS, *Ríos y Lagos Internacionales (Utilización para fines agrícolas e industriales)*, 4th ed. rev. (OEA/Ser.I/VI, CIJ-75 Rev.2) (Washington, D.C., 1971), pp. 183-186; reproduced in part in A/CN.4/274, pp. 322-324, para. 326.

[213] *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 corrigendum), part one, chap. I.

[214] Ibid., chap. II, sect. B.

[215] *Report of the United Nations Water Conference, Mar del Plata, 14-25 March 1977* (United Nations publication, Sales No. E.77.II.A.12 and corrigendum), part one, chap. I, p. 11.

90. It is necessary for States to cooperate in the case of shared water resources in recognition of the growing economic, environmental and physical interdependencies across international frontiers. Such cooperation, in accordance with the Charter of the United Nations and principles of international law, must be exercised on the basis of the equality, sovereignty and territorial integrity of all States, and taking due account of the principle expressed, *inter alia*, in principle 21 of the Declaration of the United Nations Conference on the Human Environment.

91. In relation to the use, management and development of shared water resources, national policies should take into consideration the right of each State sharing the resources to equitably utilize such resources as the means to promote bonds of solidarity and cooperation.[216]

(19) In a report submitted in 1971 to the Committee on Natural Resources of the Economic and Social Council, the Secretary-General recognized that: "Multiple, often conflicting uses and much greater total demand have made imperative an integrated approach to river basin development in recognition of the growing economic as well as physical interdependencies across national frontiers."[217] The report went on to note that international water resources, which were defined as water in a natural hydrological system shared by two or more countries, offered "a unique kind of opportunity for the promotion of international amity. The optimum beneficial use of such waters calls for practical measures of international association where all parties can benefit in a tangible and visible way through cooperative action."[218]

(20) The Asian-African Legal Consultative Committee in 1972 created a Standing Sub-Committee on international rivers. In 1973, the Sub-Committee recommended to the plenum that it consider the Sub-Committee's report at an opportune time at a future session. The revised draft propositions submitted by the Sub-Committee's Rapporteur follow closely the Helsinki Rules,[219] which are discussed below. Proposition III provides in part:

1. Each basin State is entitled, within its territory, to a reasonable and equitable share in the beneficial uses of the waters of an international drainage basin.

2. What is a reasonable and equitable share is to be determined by the interested basin States by considering all the relevant factors in each particular case.[220]

(21) International non-governmental organizations have reached similar conclusions. At its Salzburg session, in 1961, the Institute of International Law adopted a resolution concerning the non-navigational uses of international watercourses.[221] This resolution provides in part for the right of each watercourse State to utilize the waters of a river that traverse or border its territory and for dispute settlement on the basis of equity should disagreements arise.

(22) ILA has prepared a number of drafts relating to the topic of the non-navigational uses of international watercourses.[222] Perhaps the most notable of these for present purposes is that entitled "Helsinki Rules on the Uses of the Waters of International Rivers", adopted by ILA at its Fifty-second Conference.[223] Chapter 2 of the Helsinki Rules, entitled "Equitable utilization of the waters of an international drainage basin", contains the following provision:

Article IV

Each basin State is entitled, within its territory, to a reasonable and equitable share in the beneficial uses of the waters of an international drainage basin.

(23) Decisions of international courts and tribunals lend further support to the principle that a State may not allow its territory to be used in such a manner as to cause injury to other States.[224] In the context of the non-navigational uses of international watercourses, this is another way of saying that watercourse States have equal and correlative rights to the uses and benefits of the watercourse. An instructive parallel can be found in the decisions of municipal courts in cases involving competing claims in federal States.[225]

(24) The foregoing survey of legal materials, although of necessity brief, reflects the tendency of practice and doctrine on this subject. It is recognized that all the sources referred to are not of the same legal value. However, the survey does provide an indication of the wide-ranging and consistent support for the rules contained in article 5. Indeed, the rule of equitable and reasonable utilization rests on sound foundations and provides a basis for the duty of States to participate in the use, development and protection of an international watercourse in an equitable and reasonable manner.

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[216] Ibid., p. 53.

[217] Document E/C.7/2/Add.6, para. 1.

[218] Ibid., para. 3.

[219] See footnote 184 above.

[220] The next paragraph of proposition III contains a non-exhaustive list of 10 "relevant factors which are to be considered" in determining what constitutes a reasonable and equitable share. See Asian-African Legal Consultative Committee, *Report of the Fourteenth Session held at New Delhi* (10-18 January 1973) (New Delhi), pp. 7-14; text reproduced in A/CN.4/274, pp. 339-340, para. 367. The Committee's work on the law of international rivers was suspended in 1973, following the Commission's decision to take up the topic. However, in response to urgent requests, the topic was again placed on the Committee's agenda at its twenty-third session, held at Tokyo in May 1983, in order to monitor progress in the work of the Commission. See the statements made by the Committee's observers at the Commission's thirty-sixth session (*Yearbook ... 1984*, vol. I, 1869th meeting, para. 42) and thirty-seventh session (*Yearbook ... 1985*, vol. I, 1903rd meeting, para. 21).

[221] See footnote 184 above. The resolution, which was based on the final report of the Rapporteur, J. Andrassy, submitted at the Institute's Neuchâtel session in 1959 (*Annuaire de l'Institut de droit international, 1959* (Basel), vol. 48, part I, pp. 319 *et seq.*), was adopted by 50 votes to none, with one abstention.

[222] The first of these drafts was the resolution adopted by ILA at its Forty-seventh Conference (ILA, *Report of the Forty-seventh Conference, Dubrovnik, 1956* (London, 1957)) and among the more recent was the resolution on the law of international groundwater resources which it adopted at its Sixty-second Conference (hereinafter the "Seoul Rules"). See part II of the report of the Committee on International Water Resources Law, entitled "The law of international ground-water resources" (ILA, *Report of the Sixty-second Conference, Seoul, 1986* (London, 1987), pp. 238 *et seq.*).

[223] See footnote 184 above.

[224] See the discussion of international judicial decisions and arbitral awards, including the following cases: *River Oder*; the *Diversion of Water from the Meuse*; the *Corfu Channel*; the *Lake Lanoux*; the *Trail Smelter*; and other arbitral awards concerning international watercourses in the previous Special Rapporteur's second report (footnote 194 above), paras. 100-133.

[225] See the decisions of municipal courts discussed in the previous Special Rapporteur's second report (ibid.), paras. 164-168.

Article 6. Factors relevant to equitable and reasonable utilization

1. Utilization of an international watercourse in an equitable and reasonable manner within the meaning of article 5 requires taking into account all relevant factors and circumstances, including:

(*a*) Geographic, hydrographic, hydrological, climatic, ecological and other factors of a natural character;

(*b*) The social and economic needs of the watercourse States concerned;

(*c*) The population dependent on the watercourse in each watercourse State;

(*d*) The effects of the use or uses of the watercourse in one watercourse State on other watercourse States;

(*e*) Existing and potential uses of the watercourse;

(*f*) Conservation, protection, development and economy of use of the water resources of the watercourse and the costs of measures taken to that effect;

(*g*) The availability of alternatives, of corresponding value, to a particular planned or existing use.

2. In the application of article 5 or paragraph 1 of this article, watercourse States concerned shall, when the need arises, enter into consultations in a spirit of cooperation.

Commentary

(1) The purpose of article 6 is to provide for the manner in which States are to implement the rule of equitable and reasonable utilization contained in article 5. The latter rule is necessarily general and flexible, and requires for its proper application that States take into account concrete factors pertaining to the international watercourse in question, as well as to the needs and uses of the watercourse States concerned. What is an equitable and reasonable utilization in a specific case will therefore depend on a weighing of all relevant factors and circumstances. This process of assessment is to be performed, in the first instance at least, by each watercourse State, in order to assure compliance with the rule of equitable and reasonable utilization laid down in article 5.

(2) *Paragraph 1* of article 6 provides that "utilization of an international watercourse in an equitable and reasonable manner within the meaning of article 5 requires taking into account all relevant factors and circumstances", and sets forth an indicative list of such factors and circumstances. This provision means that, in order to assure that their conduct is in conformity with the obligation of equitable utilization contained in article 5, watercourse States must take into account, in an ongoing manner, all factors that are relevant to ensuring that the equal and correlative rights of other watercourse States are respected. However, article 6 does not exclude the possibility of technical commissions, joint bodies or third parties also being involved in such assessments, in accordance with any arrangements or agreements accepted by the States concerned.

(3) The list of factors contained in paragraph 1 is indicative, not exhaustive. The wide diversity of international watercourses and of the human needs they serve make it impossible to compile an exhaustive list of factors that may be relevant in individual cases. Some of the factors listed may be relevant in a particular case while others may not be, and still other factors may be relevant which are not contained in the list. 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.

(4) *Paragraph 1* (a) contains a list of natural or physical factors. These factors are likely to influence certain important characteristics of the international watercourse itself, such as quantity and quality of water, rate of flow, and periodic fluctuations in flow. They also determine the physical relation of the watercourse to each watercourse State. "Geographic" factors include the extent of the international watercourse in the territory of each watercourse State; "hydrographic" factors relate generally to the measurement, description and mapping of the waters of the watercourse; and "hydrological" factors relate, *inter alia*, to the properties of the water, including water flow, and to its distribution, including the contribution of water to the watercourse by each watercourse State. *Paragraph 1* (b) concerns the water-related social and economic needs of watercourse States. *Paragraph 1* (c) is intended to note the importance of account being taken of both the size of the population dependent on the watercourse and the degree or extent of their dependency. *Paragraph 1* (d) relates to whether uses of an international watercourse by one watercourse State will have effects on other watercourse States, and in particular whether such uses interfere with uses by other watercourse States. *Paragraph 1* (e) refers to both existing and potential uses of the international watercourse in order to emphasize that neither is given priority, while recognizing that one or both factors may be relevant in a given case. *Paragraph 1* (f) sets out a number of factors relating to measures that may be taken by watercourse States with regard to an international watercourse. The term "conservation" is used in the same sense as in article 1; the term "protection" is used in the same sense as in article 5; the term "development" refers generally to projects or programmes undertaken by watercourse States to obtain benefits from a watercourse or to increase the benefits that may be obtained therefrom; and the expression "economy of use" refers to the avoidance of unnecessary waste of water. Finally, *paragraph 1* (g) relates to whether there are available alternatives to a particular planned or existing use, and whether those alternatives are of a value that corresponds to that of the planned or existing use in question. The subparagraph calls for an inquiry as to whether there exist alternative means of satisfying the needs that are or would be met by an existing or planned use. The alternatives may thus take the form not only of other sources of water supply, but also of other means—not involving the use of water—of meeting the needs in question, such as alternative sources of energy or means of transport. The term "corresponding" is used in its broad sense to indi-

cate general equivalence in value. The expression "corresponding value" is thus intended to convey the idea of generally comparable feasibility, practicability and cost-effectiveness.

(5) *Paragraph 2* anticipates the possibility that, for a variety of reasons, the need may arise for watercourse States to consult with each other with regard to the application of article 5 or paragraph 1 of article 6. Examples of situations giving rise to such a need include natural conditions, such as a reduction in the quantity of water, as well as those relating to the needs of watercourse States, such as increased domestic, agricultural or industrial needs. The paragraph provides that watercourse States are under an obligation to "enter into consultations in a spirit of co-operation". As indicated above, in paragraph (6) of the commentary to article 5, article 8 spells out in greater detail the nature of the general obligation of watercourse States to cooperate. This paragraph enjoins States to enter into consultations, in a spirit of cooperation, concerning the use, development or protection of an international watercourse, in order to respond to the conditions that have given rise to the need for consultations. Under the terms of this provision, the obligation to enter into consultations is triggered by the fact that a need for such consultations has arisen. While this implies an objective standard, the requirement that watercourse States enter into consultations "in a spirit of cooperation" indicates that a request by one watercourse State to enter into consultations may not be ignored by other watercourse States.

(6) Several efforts have been made at the international level to compile lists of factors to be used in giving the principle of equitable utilization concrete meaning in individual cases. Article IV of the Helsinki Rules[226] deals with equitable utilization (see para. (22) of the commentary to art. 5 above), and article V concerns the manner in which "a reasonable and equitable share" is to be determined, reading:

Article V

1. What is a reasonable and equitable share within the meaning of Article IV is to be determined in the light of all the relevant factors in each particular case.

2. Relevant factors which are to be considered include, but are not limited to:

(*a*) the geography of the basin, including in particular the extent of the drainage area in the territory of each basin State;

(*b*) the hydrology of the basin, including in particular the contribution of water by each basin State;

(*c*) the climate affecting the basin;

(*d*) the past utilization of the waters of the basin, including in particular existing utilization;

(*e*) the economic and social needs of each basin State;

(*f*) the population dependent on the waters of the basin in each basin State;

(*g*) the comparative costs of alternative means of satisfying the economic and social needs of each basin State;

(*h*) the availability of other resources;

(*i*) the avoidance of unnecessary waste in the utilization of waters of the basin;

(*j*) the practicability of compensation to one or more of the co-basin States as a means of adjusting conflicts among uses; and

(*k*) the degree to which the needs of a basin State may be satisfied, without causing substantial injury to a co-basin State.

3. The weight to be given to each factor is to be determined by its importance in comparison with that of other relevant factors. In determining what is a reasonable and equitable share, all relevant factors are to be considered together and a conclusion reached on the basis of the whole.

(7) In 1958, the United States Department of State issued a Memorandum on "Legal aspects of the use of systems of international waters". The Memorandum, which was prepared in connection with discussions between the United States and Canada concerning proposed diversions by Canada from certain boundary rivers, also contains an illustration of factors to be taken into account in the use of an international watercourse in a just and reasonable manner.[227]

(8) Finally, in 1973, the Rapporteur of the Asian-African Legal Consultative Committee's Sub-Committee on international rivers submitted a set of revised draft propositions. In proposition III, paragraphs 1 and 2 deal with equitable utilization (see para. (20) of the commentary to art. 5 above), and paragraph 3 deals with the matter of relevant factors.[228]

(9) The Commission is of the view that an indicative list of factors is necessary to provide guidance for States in the application of the rule of equitable and reasonable utilization set forth in article 5. An attempt has been made to confine the factors to a limited, non-exhaustive list of general considerations that will be applicable in many specific cases. Nevertheless, it perhaps bears repeating that the weight to be accorded to individual factors, as well as their very relevance, will vary with the circumstances.

Article 7. Obligation not to cause significant harm

1. Watercourse States shall exercise due diligence to utilize an international watercourse in such a way as not to cause significant harm to other watercourse States.

2. Where, despite the exercise of due diligence, significant harm is caused to another watercourse State, the State whose use causes the harm shall, in the absence of agreement to such use, consult with the State suffering such harm over:

(*a*) The extent to which such use is equitable and reasonable taking into account the factors listed in article 6;

(*b*) The question of ad hoc adjustments to its utilization, designed to eliminate or mitigate any such harm caused and, where appropriate, the question of compensation.

[226] See footnote 184 above.

[227] See footnote 183 above.

[228] See footnote 220 above.

Commentary

(1) The Commission, in this article, is setting forth a process aimed at avoiding significant harm as far as possible while reaching an equitable result in each concrete case. Optimal use of finite water resources of an international watercourse is considered in light of the interests of each watercourse State concerned. This is in accord with emphasis throughout the articles generally and in part three in particular on consultations and negotiations concerning planned measures.

(2) The approach of the Commission was based on three conclusions: (*a*) that article 5 alone did not provide sufficient guidance for States in cases where harm was a factor; (*b*) that States must exercise due diligence to utilize a watercourse in such a way as not to cause significant harm; and (*c*) that the fact that an activity involves significant harm would not of itself necessarily constitute a basis for barring it. In certain circumstances "equitable and reasonable utilization" of an international watercourse may still involve significant harm to another watercourse State. Generally, in such instances, the principle of equitable and reasonable utilization remains the guiding criterion in balancing the interests at stake.

(3) *Paragraph 1* sets forth the general obligation for watercourse States to exercise due diligence in their utilization of an international watercourse in such a way as not to cause significant harm to other watercourse States.

(4) "Due diligence" has been defined to mean: "a diligence proportioned to the magnitude of the subject and to the dignity and strength of the power which is to exercise it"; and "such care as governments ordinarily employ in their domestic concerns".[229] The obligation of due diligence contained in article 7 sets the threshold for lawful State activity. It is not intended to guarantee that in utilizing an international watercourse significant harm would not occur.[230] It is an obligation of conduct, not an obligation of result. What the obligation entails is that a watercourse State whose use causes significant harm can be deemed to have breached its obligation to exercise due diligence so as not to cause significant harm only when it has intentionally or negligently caused the event which had to be prevented or has intentionally or negligently not prevented others in its territory from causing that event or has abstained from abating it.[231] Therefore, "[t]he State may be responsible ... for not enacting necessary legislation, for not enforcing its laws ..., or for not preventing or terminating an illegal activity, or for not punishing the person responsible for it".[232]

(5) An obligation of due diligence, as an objective standard, can be deduced from treaties governing the utilization of international watercourses. For example, the Indus Waters Treaty 1960 between India and Pakistan provides in article IV, paragraph (10), that:

> Each party declares its intention to prevent, *as far as practicable*, undue pollution of the waters of the Rivers which might affect adversely uses similar in nature to those to which the waters were put on the Effective Date, and agrees to take all reasonable measures to ensure that, before any sewage or industrial waste is allowed to flow into the Rivers, it will be treated, where necessary, in such a manner as not materially to affect those uses: Provided that the criterion of reasonableness shall be the customary practice to similar situations on the Rivers.[233]

(6) An obligation of due diligence can also be deduced from various multilateral conventions. Article 194, paragraph 1, of the United Nations Convention on the Law of the Sea provides that

> 1. States shall take ... all measures ... that are necessary to prevent, reduce and control pollution of the marine environment from any source, using for this purpose the *best practicable means** at their disposal and in accordance with their capabilities ....

Under article 1 of the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, the Contracting States are obliged "... to take all *practical steps** to prevent the pollution of the sea by the dumping of waste and other matter ...". Article 2 of the Vienna Convention for the Protection of the Ozone Layer obliges the Parties to "take *all appropriate measures** ... to protect human health and the environment against adverse effects resulting or likely to result from human activities which modify or are likely to modify the ozone layer". Article 7, paragraph 5, of the Convention on the Regulation of Antarctic Mineral Resource Activities provides that "[e]ach party shall exert *appropriate efforts*,* consistent with the Charter of the United Nations, to the end that no one engages in any Antarctic mineral resource activities contrary to the objectives and principles of this Convention". The Convention on Environmental Impact Assessment in a Transboundary Context also provides in article 2, paragraph 2, that

> 2. Each Party shall take the necessary legal, administrative or other measures to implement the provisions of this Convention, including, with respect to proposed activities ... that are likely to cause significant adverse transboundary impact, the establishment of an environmental impact assessment procedure that permits public participation and preparation of the environmental impact assessment documentation ....

Furthermore, the Convention on the Protection and Use of Transboundary Watercourses and International Lakes provides in article 2, paragraph 1, that "The Parties shall take all *appropriate** measures to prevent, control and reduce any transboundary impact".

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[229] The Geneva Arbitration (The "*Alabama*" case) (United States of America *v.* Great Britain), decision of 14 September 1872 (J. B. Moore, *History and Digest of the International Arbitrations to which the United States has been a Party*, vol. I), pp. 572-573 and 612 respectively.

[230] See generally P. M. Dupuy, *La responsabilité internationale des États pour les dommages d'origine technologique et industrielle* (Paris, Pedone, 1976) and "La responsabilité internationale des États pour les dommages causés par les pollutions transfrontières", in OECD, *Aspects juridiques de la pollution transfrontière* (Paris, 1977), p. 369; C. B. Bourne, "The International Law Commission's draft articles on the law of international watercourses: Principles and planned measures", *Colorado Journal of International Environmental Law and Policy* (Boulder), vol. 3, No. 1 (Winter 1992), pp. 65-92; and P. K. Wouters, "Allocation of the non-navigational uses of international watercourses: Efforts at codification and the experience of Canada and the United States", *The Canadian Yearbook of International Law* (Vancouver), vol. XXX (1992), pp. 43 *et seq.*

[231] Lammers, op. cit. (footnote 184 above), p. 348.

[232] *Restatement of the Law, Third, Foreign Relations Law of the United States*, vol. 2 (St. Paul, Minn., American Law Institute Publishers, 1987), section 601, comment (*d*), p. 105.

[233] See footnote 178 above.

(7) The obligation of due diligence contained in article 7 was recently dealt with in a dispute between Germany and Switzerland over the latter's failure to require a pharmaceutical company to take certain safety measures and the resulting pollution of the Rhine River. The Swiss Government acknowledged its lack of due diligence in preventing the accident through adequate regulation of its own pharmaceutical industries.[234]

(8) A watercourse State can be deemed to have violated its due diligence obligation only if it knew or ought to have known that the particular use of an international watercourse would cause significant harm to other watercourse States.[235]

(9) As observed by ICJ in the *Corfu Channel* case:

> . . . it cannot be concluded from the mere fact of control exercised by a State over its territory and waters that that State necessarily knew, or ought to have known, of any unlawful act perpetuated therein, nor yet that it necessarily knew, or should have known, the authors. This fact, by itself and apart from other circumstances, neither involves *prima facie* responsibility nor shifts the burden of proof.[236]

(10) *Paragraph 2* deals with a situation where, despite the exercise of due diligence in the utilization of an international watercourse, a use still causes significant harm to other watercourse States. In that circumstance, the provisions of paragraph 2 require that, unless there is an agreement to such use, the State whose use causes the harm consult with the watercourse States which are suffering the harm. The subject-matter of the consultations is stipulated in paragraphs 2 (*a*) and 2 (*b*).

(11) The words "in the absence of agreement to such use" reflect the fact that where the watercourse States concerned have already agreed to such use, the obligations contained in paragraphs 2 (*a*) and 2 (*b*) do not arise. In the absence of such agreement, however, the watercourse State suffering significant harm may invoke the provisions in paragraphs 2 (*a*) and 2 (*b*) thereof.

(12) The process of reaching agreement on uses of watercourses has been dealt with by a commentator as follows:

> Frequently, when a State contemplates a use which is expected to cause serious and lasting injury to the interests of another State in the river, development has not been undertaken until there has been agreement between the States. Such agreements do not follow any particular pattern but resolve immediate problems on an equitable basis.[237]

This process is reflected and strengthened by article 12 and the other articles relating to notification, exchange of information, and the like, contained in part three of the draft.

(13) The process called for by paragraph 2 is in several respects analogous to the process followed by ICJ in the *Fisheries Jurisdiction* case (United Kingdom *v.* Iceland).[238] In that case, the Court found the existence of competing rights on the part of the United Kingdom and Iceland. The Court laid down certain general criteria to be applied, analogous to article 6 of the present draft, and went on to state:

> The most appropriate method for the solution of the dispute is clearly that of negotiation. Its objective should be the delimitation of the rights and interests of the Parties, ...
>
> The obligation to negotiate thus flows from the very nature of the respective rights of the Parties; . . . [and] corresponds to the Principles and provisions of the Charter of the United Nations concerning peaceful settlement of disputes . . . .
>
> The task before . . . [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 [to] . . . the facts of the particular situation, and having regard to the interests of other States [with] . . . established . . . rights . . . .[239]

(14) *Subparagraph* (a) of paragraph 2 obliges the parties to consult in order to determine whether the use of the watercourse has been equitable and reasonable taking into account, *inter alia*, the non-exhaustive list of factors referred to in article 6. The burden of proof for establishing that a particular use is equitable and reasonable lies with the State whose use of the watercourse is causing significant harm.[240] A use which causes significant harm to human health and safety is understood to be inherently inequitable and unreasonable. In the view of several members of the Commission it was also important to recognize that it is, at the least, highly unlikely that any other form of extreme harm could be balanced by the benefits derived from the activity.

(15) Where, as in the *Fisheries Jurisdiction* case,[241] there is a conflict of uses due in the case of watercourses, for example, to the quantity or quality of the water, it may be that all reasonable and beneficial uses cannot be realized to their full extent.

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[234] For a full discussion of this situation, see R. Pisillo-Mazzeschi, "Forms of international responsibility for environmental harm", in *International Responsibility for Environmental Harm*, F. Francioni and T. Scovazzi, eds. (London, Graham and Trotman, 1991), pp. 15-36, in particular p. 31. See also J. Barron, "After Chernobyl: Liability for nuclear accidents under international law", *Columbia Journal of Transnational Law* (New York), vol. 25, No. 3 (1987), pp. 647 *et seq.*

[235] Lammers, op. cit. (footnote 184 above), p. 349.

[236] *Merits, Judgment, I.C.J. Reports 1949*, p. 18.

[237] C. Eagleton, C. J. Olmstead and J. M. Sweeney, "Research project on the law and uses of international rivers" (New York University School of Law, 1959) as quoted in Whiteman, *Digest* (1964), vol. 3, p. 932.

[238] See footnote 196 above. It is recognized that the process called for by paragraph 2 of article 7 is one of "consultation". The reference by analogy to the process used in the *Fisheries Jurisdiction* case with its reference to "negotiation" is not intended to put a gloss on the term used in paragraph 2.

[239] *Fisheries Jurisdiction* . . . (ibid.), pp. 31-33, paras. 73, 75 and 78. See also the Salzburg resolution (footnote 184 above); Bourne, loc. cit. (footnote 230 above); and Wouters, op. cit. (ibid.), pp. 80-86.

[240] "The plaintiff state starts with the presumptive rule in its favour that every State is bound to use the waters of rivers flowing within its territory in such a manner as will not cause substantial injury to a co-riparian State. Having proved such substantial injury, the burden then will be upon the defendant State to establish an appropriate defence, except in those cases where damage results from extra-hazardous pollution and liability is strict. This burden falls on the defendant State by implication from its exclusive sovereign jurisdiction over waters flowing within its territory."

The Law of International Drainage Basins (see footnote 206 above), p. 113.

[241] See footnote 196 above.

(16) The decision of the Court in the *Donauversinkung* case is also instructive where it states:

> The interests of the States in question must be weighed in an equitable manner against one 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.[242]

(17) *Subparagraph (b)* of paragraph 2 requires the States to consult to see whether ad hoc adjustments should be made to the utilization that is causing significant harm in order to eliminate or reduce the harm; and whether compensation should be paid to those suffering the harm.

(18) The consultations must be conducted in the light of the particular circumstances and would include, in addition to the factors relevant in subparagraph (*a*), such factors as the extent to which adjustments are economically viable, the extent to which the injured State would also derive benefits from the activity in question[243] such as a share of hydroelectric power being generated, flood control, improved navigation, and so forth. In this connection the payment of compensation is expressly recognized as a means of balancing the equities in appropriate cases.[244]

(19) The concept of a balancing of interests is expressed in paragraph (9) of the commentary to article 5 above, which reads as follows:

> . . .where the quantity or quality of the water is such that all the reasonable and beneficial uses of all watercourse States cannot be fully realized, a "conflict of uses" results. In such a case, international practice recognizes that some adjustments or accommodations are required in order to preserve each watercourse State's equality of right. These adjustments or accommodations are to be arrived at on the basis of equity, and can best be achieved on the basis of specific watercourse agreements.

(20) This concept is reflected in recommendation 51 adopted by the Stockholm Conference on the Human Environment (1972) which commends the principle that "the net benefits of hydrologic regions common to more than one national jurisdiction are to be shared equitably by the nations concerned".[245]

(21) If consultations do not lead to a solution, the dispute settlement procedures contained in article 33 of the present articles will apply. These procedures have been added by the Commission on second reading in the recognition of the complexity of the issues and the inherent vagueness of the criteria to be applied. The situation is well described by the *Lake Lanoux* Tribunal which stated:

> It is for each State to evaluate in a reasonable manner and in good faith the situations and rules which will involve it in controversies; its evaluation may be in contradiction with that of other States; in that case, should a dispute arise the Parties normally seek to resolve it by negotiation or, alternatively, by submitting to the authority of a third party.[246]

(22) Some members of the Commission indicated that they did not deem it useful to include any provisions along the lines of article 7 whether as presently drafted or as drafted in the text adopted on first reading in 1991.[247] Others believed that it was essential for the Commission to address the matter either as done in the 1991 text or the present text. The latter view prevailed.

(23) Some members expressed their reservations with regard to the article, indicating preference for the text adopted on first reading.

Article 8. General obligation to cooperate

Watercourse States shall cooperate on the basis of sovereign equality, territorial integrity and mutual benefit in order to attain optimal utilization and adequate protection of an international watercourse.

Commentary

(1) Article 8 lays down the general obligation of watercourse States to cooperate with each other in order to fulfil the obligations and attain the objectives set forth in the draft articles. Cooperation between watercourse States with regard to their utilization of an international watercourse is an important basis for the attainment and maintenance of an equitable allocation of the uses and benefits of the watercourse and for the smooth functioning of the procedural rules contained in part three of the draft.

(2) Article 8 indicates both the basis and the objectives of cooperation. With regard to the basis of cooperation,

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[242] *Streitsache des Landes Württemberg und des Landes Preussen gegen das Land Baden (Württemberg and Prussia* v. *Baden), betreffend die Donauversinkung*, German Staatsgerichtshof, 18 June 1927, *Entscheidungen des Reichsgerichts in Zivilsachen* (Berlin), vol. 116, appendix, pp. 18 *et seq.*, See also *Annual Digest of Public International Law Cases, 1927 and 1928*, A. McNair and H. Lauterpacht, eds. (London, Longmans, 1931), vol. 4, p. 131; see also *Kansas* v. *Colorado* (1907), *United States Reports*, vol. 206 (1921), p. 100, and *Washington* v. *Oregon* (1936), ibid., vol. 297 (1936), p. 517, and ILA, *Report of the Sixty-second Conference* (footnote 222 above), pp. 275-278, article 1 of the "Complementary Rules Applicable to International Water Resources" states: a basin State shall refrain from and prevent acts or omissions within its territory that will cause substantial injury to any co-basin State, provided that the application of the principle of equitable utilization as set forth in article IV of the Helsinki Rules (see footnote 184 above) does not justify an exception in a particular case. Such an exception shall be determined in accordance with article V of the Helsinki Rules.

[243] See *Donauversinkung* case (footnote 242 above).

[244] See Treaty between Canada and the United States relating to cooperative development of the water resources of the Columbia River Basin (footnote 183 above), Agreement between the United Arab Republic and Sudan for the full utilization of the Nile Waters (1959) (United Nations, *Treaty Series*, vol. 453, p. 51) and the Exchange of Notes between His Majesty's Government in the United Kingdom and the Egyptian Government in regard to the use of the waters of the River Nile for irrigation purposes (League of Nations, *Treaty Series*, vol. XCIII, p. 44). See also the Agreement between the Austrian Federal Government and the Bavarian State Government concerning the diversion of water in the Rissbach, Durrach and Walchen Districts, reached on 29 June 1948 and concluded on 16 October 1950 (*Legislative Texts*, p. 469, No. 136), the 1954 Convention between Austria and Yugoslavia concerning water economy questions relating to the Drava (United Nations, *Treaty Series*, vol. 227, p. 111). See further the Agreement (with Final Protocol) regulating the withdrawal of water from Lake Constance between Austria, the Federal Republic of Germany and Switzerland (1966) and article 4 of the Salzburg resolution (see footnote 184 above).

[245] See footnote 213 above.

[246] UNRIAA (see footnote 191 above), pp. 310-311.

[247] See footnote 165 above.

the article refers to the most fundamental principles upon which cooperation between watercourse States is founded. Other relevant principles include those of good faith and good-neighbourliness. As to the objectives of cooperation, the Commission considered whether these should be set forth in some detail. It came to the conclusion that a general formulation would be more appropriate, especially in view of the wide diversity of international watercourses and the uses thereof, and the needs of watercourse States. This formulation, expressed in the phrase "in order to attain optimal utilization and adequate protection of an international watercourse", is derived from the second sentence of paragraph 1 of article 5.

(3) A wide variety of international instruments call for cooperation between the parties with regard to their utilization of the relevant international watercourses.[248] An example of an international instrument incorporating such an obligation is the Agreement of 17 July 1964 between Poland and the Union of Soviet Socialist Republics concerning the use of water resources in frontier waters.[249] Paragraph 3 of article 3 states that the purpose of the Agreement is to ensure cooperation between the parties in economic, scientific and technical activities relating to the use of water resources in frontier waters. Articles 7 and 8 of the Agreement provide for cooperation with regard, *inter alia*, to water projects and the regular exchange of data and information.

(4) The importance of cooperation in relation to the utilization of international watercourses and other common natural resources has been emphasized repeatedly in declarations and resolutions adopted by intergovernmental organizations, conferences and meetings, as well as in article 3 of the Charter of Economic Rights and Duties of States.[250] For example, the General Assembly addressed the subject in resolution 2995 (XXVII) on cooperation between States in the field of the environment, and resolution 3129 (XXVIII) on cooperation in the field of the environment concerning natural resources shared by two or more States. The former provides, in the third paragraph of the preamble, that

> in exercising their sovereignty over their natural resources, States must seek, through effective bilateral and multilateral cooperation or through regional machinery, to preserve and improve the environment.

The subject of cooperation in the utilization of common water resources and in the field of environmental protection was also addressed in the Stockholm Declaration, principle 24 of which provides:

Principle 24

> International matters concerning the protection and improvement of the environment should be handled in a cooperative spirit by all countries, big and small, on an equal footing. Cooperation through multilateral or bilateral arrangements or other appropriate means is essential to effectively control, prevent, reduce and eliminate adverse environmental effects resulting from activities conducted in all spheres, in such a way that due account is taken of the sovereignty and interests of all States.[251]

The Mar del Plata Action Plan, adopted by the United Nations Water Conference,[252] contains a number of recommendations relating to regional and international cooperation with regard to the use and development of international watercourses. For example, recommendation 90 provides that cooperation between States in the case of international watercourses

> in accordance with the Charter of the United Nations and principles of international law, must be exercised on the basis of the equality, sovereignty and territorial integrity of all States, and taking due account of the principle expressed, *inter alia*, in principle 21 of the Declaration of the United Nations Conference on the Human Environment.[253]

In 1987, ECE adopted a set of principles regarding cooperation in the field of transboundary waters,[254] principle 2 of which provides:

Cooperation

> 2. Transboundary effects of natural phenomena and human activities on transboundary waters are best regulated by the concerted efforts of the countries immediately concerned. Therefore, cooperation should be established as practical as possible among riparian countries leading to a constant and comprehensive exchange of

[248] A survey of international agreements, decisions of international courts and tribunals, declarations and resolutions adopted by intergovernmental organizations, conferences and meetings, and studies by intergovernmental and non-governmental organizations relating to the principle of cooperation is contained in the previous Special Rapporteur's third report (see footnote 199 above), paras. 43-58.

[249] See footnote 175 above. Other examples of international watercourse agreements providing for cooperation between the parties are: the Convention concerning the protection of the waters of Lake Geneva against pollution, of 16 November 1962 between France and Switzerland (United Nations, *Treaty Series*, vol. 922, p. 49) (arts. 1-4); the Agreement between the United States of America and Mexico on cooperation for the protection and improvement of the environment in the border area, of 14 August 1983, a framework agreement encompassing boundary water resources (ILM, vol. XXII, No. 5 (September 1983), p. 1025) (art. 1 and annex I); the Act regarding Navigation and Economic Cooperation between the States of the Niger Basin (art. 4); the Convention relating to the Status of the Senegal River, and Convention establishing the Organization for the Development of the Senegal River; the Convention and Statutes relating to the development of the Chad Basin (art. 1 of the Statutes); the Indus Waters Treaty 1960 (see footnote 178 above) (arts. VII and VIII). More generally, article 197 of the United Nations Convention on the Law of the Sea, entitled "Cooperation on a global or regional basis", requires States to cooperate "in formulating and elaborating international rules, standards and recommended practices and procedures consistent with this Convention, for the protection and preservation of the marine environment, taking into account characteristic regional features".

[250] See General Assembly resolution 3281 (XXIX).

[251] See footnote 213 above. See also recommendation 51 of the Action Plan for the Human Environment (chap. II, sect. B), which provides for cooperation with regard specifically to international watercourses.

[252] See footnote 215 above.

[253] Principle 21 of the Declaration on the Human Environment is reproduced in paragraph (17) of the commentary to article 5 above. See also recommendation 84 of the Mar del Plata Action Plan (ibid.) and the resolutions contained in the Action Plan on "Technical cooperation among developing countries in the water sector", "River commissions" and "Institutional arrangements for international cooperation in the water sector".

[254] ECE annual report (28 April 1986-10 April 1987), *Official Records of the Economic and Social Council, 1987, Supplement No. 13* (E/1987/33-E/ECE/1148), chap. IV, decision I (42). The preamble to the principles states:

> "... The following principles address only issues regarding control and prevention of transboundary water pollution, as well as flood management in transboundary waters, including general issues in this field ...".

information, regular consultations and decisions concerning issues of mutual interest: objectives, standards and norms, monitoring, planning, research and development programmes and concrete measures, including the implementation and surveillance of such measures.

(5) Numerous studies by intergovernmental and international non-governmental organizations have also recognized the importance of cooperation between States in the use and development of international watercourses.[255] An instrument expressly recognizing the importance of cooperation between States to the effectiveness of procedural and other rules concerning international watercourses is the Rules on Water Pollution in an International Drainage Basin (Montreal Rules), adopted by ILA in 1982.[256] Article 4 of the Montreal Rules provides: "In order to give effect to the provisions of these articles, States shall cooperate with the other States concerned." A forceful statement of the importance of cooperation with regard to international water resources, owing to the physical properties of water, is found in principle XII of the European Water Charter, adopted by the Committee of Ministers of the Council of Europe in 1967,[257] which declares: "Water knows no frontiers; as a common resource it demands international cooperation". Finally, the resolution on the pollution of rivers and lakes and international law adopted by the Institute of International Law at its Athens session, in 1979,[258] provides in article IV (*b*) that in order to prevent water pollution, States shall use as a means "at the international level, cooperation in good faith with the other States concerned".[259]

(6) In conclusion, cooperation between watercourse States is important to the equitable and reasonable utilization of international watercourses. It also forms the basis for the regular exchange of data and information under article 9, as well as for the other parts of the draft.

Article 9. Regular exchange of data and information

1. Pursuant to article 8, watercourse States shall on a regular basis exchange readily available data and information on the condition of the watercourse, in particular that of a hydrological, meteorological, hydrogeological and ecological nature, as well as related forecasts.

2. If a watercourse State is requested by another watercourse State to provide data or information that is not readily available, it shall employ its best efforts to comply with the request but may condition its compliance upon payment by the requesting State of the reasonable costs of collecting and, where appropriate, processing such data or information.

3. Watercourse States shall employ their best efforts to collect and, where appropriate, to process data and information in a manner which facilitates its utilization by the other watercourse States to which it is communicated.

Commentary

(1) Article 9 sets forth the general minimum requirements for the exchange between watercourse States of the data and information necessary to ensure the equitable and reasonable utilization of an international watercourse. Watercourse States require data and information concerning the condition of the watercourse in order to apply article 6, which calls for watercourse States to take into account "all relevant factors and circumstances" in implementing the obligation of equitable utilization laid down in article 5. The rules contained in article 9 are, of course, residual: they apply in the absence of particularized regulation of the subject in an agreement of the kind envisaged in article 3, that is to say one relating to a specific international watercourse. Indeed, the need is clear for watercourse States to conclude such agreements among themselves in order to provide, *inter alia*, for the collection and exchange of data and information in the light of the characteristics of the international watercourse involved, as well as of their special requirements and circumstances. The smooth and effective functioning of the regime envisaged in article 9 is dependent upon cooperation between watercourse States. The rules in this article thus constitute a specific application of the general obligation to cooperate laid down in article 8, as reflected in the opening phrase of paragraph 1.

(2) The requirement of *paragraph 1* that data and information be exchanged on a regular basis is designed to ensure that watercourse States will have the facts necessary to enable them to comply with their obligations under articles 5, 6 and 7. The data and information may be transmitted directly or indirectly. In many cases, watercourse States have established joint bodies entrusted, *inter alia*, with the collection, processing and dissemination of data and information of the kind referred to in paragraph 1.[260] But the States concerned are, of course,

[255] See generally the studies referred to and excerpted in A/5409, pp. 199-210, paras. 1069-1098 and A/CN.4/274, pp. 338-351 and 356-362, paras. 364-381 and 399-409 respectively.

[256] *Report of the Sixtieth Conference, Montreal, 1982* (London, 1983), pp. 13 and 535 *et seq.*

[257] Adopted on 28 April 1967 by the Consultative Assembly of the Council of Europe (recommendation 493 (1967)), and on 26 May 1967 by the Committee of Ministers of the Council of Europe (resolution (67) 10); text reproduced in A/CN.4/274, para. 373.

[258] See footnote 184 above.

[259] Article VII of the resolution provides that, "in carrying out their duty to cooperate, States bordering the same hydrographic basin shall, as far as practicable, especially through agreements, resort to the following ways of cooperation", including providing data concerning pollution, giving advance notification of potentially polluting activities, and consulting on actual or potential transboundary pollution problems.

[260] For illustrative lists of such bodies and discussions thereof, see A/CN.4/274, pp. 351 *et seq.*, paras. 382-398; *Experiences in the Development and Management of International River and Lake Basins*, Proceedings of the United Nations Interregional Meeting of International River Organizations, Dakar, 5-14 May 1981, Natural Resources/Water Series No. 10 (United Nations publication, Sales No. 82.II.A.17), part three; N. Ely and A. Wolman, "Administration", in *The Law of International Drainage Basins* (see footnote 206 above), pp. 125-133; *Management of International Water Resources: Institutional and Legal Aspects*, Natural Resources/Water Series No. 1 (United Nations publication, Sales No. E.75.II.A.2), annex IV; and T. Parnall and A. E. Utton, "The Senegal Valley Authority: A unique experiment in international river basin planning", *Indiana Law Journal* (Bloomington), vol. 51 (1975-1976), pp. 254 *et seq.*

(*Continued on next page.*)

free to utilize for this purpose any mutually acceptable method.

(3) The Commission recognizes that circumstances such as an armed conflict or the absence of diplomatic relations may raise serious obstacles to the direct exchange of data and information, as well as to a number of the procedures provided for in articles 11 to 19. The Commission decided that this problem would be best dealt with through a general saving clause specifically providing for indiwrect procedures, which has taken the form of article 30.

(4) In requiring the "regular" exchange of data and information, article 9 provides for an ongoing and systematic process, as distinct from the ad hoc provision of information concerning planned measures envisaged in part three of the draft.

(5) Paragraph 1 requires that watercourse States exchange data and information that is "readily available".[261] This expression is used to indicate that, as a matter of general legal duty, a watercourse State is obligated to provide only such information as is readily at its disposal, for example that which it has already collected for its own use or is easily accessible.[262] In a specific case, whether data and information was "readily" available would depend upon an objective evaluation of such factors as the effort and cost its provision would entail, taking into account the human, technical, financial and other relevant resources of the requested watercourse State. The terms "readily", as used in paragraphs 1 and 2, are thus terms of art having a meaning corresponding roughly to the expression "in the light of all the relevant circumstances" or to the word "feasible", rather than, for example, "rationally" or "logically".

(6) In the absence of agreement to the contrary, watercourse States are not required to process the data and information to be exchanged. Under *paragraph 3* of article 9, however, they are to employ their best efforts to provide the information in a form that is usable by the States receiving it.

(7) Examples of instruments which employ the term "available" in reference to information to be provided are the Indus Waters Treaty 1960 between India and Pakistan[263] and the 1986 Convention on Early Notification of a Nuclear Accident.[264]

(8) Watercourse States are required to exchange data and information concerning the "condition" of the international watercourse. This term, which also appears in article 11, has its usual meaning, referring generally to the current state or characteristics of the watercourse. As indicated by the words "in particular", the kinds of data and information mentioned, while by no means comprising an exhaustive list, are those regarded as being the most important for the purpose of equitable utilization. Although article 9 does not mention the exchange of samples, the Commission recognizes that this may indeed be of great practical value in some circumstances and should be effected as appropriate.

(9) The data and information transmitted to other watercourse States should include indications of effects upon the condition of the watercourse of present uses thereof within the State transmitting the information. Possible effects of planned uses are dealt with in articles 11 to 19.

(10) Paragraph 1 of article 9 requires the regular exchange of, *inter alia*, data and information of an "ecological" nature. The Commission regarded this term as being preferable to "environmental", since it relates more specifically to the living resources of the watercourse itself. The term "environmental" was thought to be susceptible of a broader interpretation, which would result in the imposition of too great a burden upon watercourse States.

(11) Watercourse States are required by paragraph 1 to exchange not only data and information on the present condition of the watercourse, but also related forecasts. The latter requirement is, like the former, subject to the qualification that such forecasts be "readily available". Thus watercourse States are not required to undertake special efforts in order to fulfil this obligation. The forecasts envisaged would relate to such matters as weather patterns and the possible effects thereof upon water levels and flows; foreseeable ice conditions; possible long-

(*Footnote 260 continued.*)

Notable among these administrative mechanisms are: in Africa: the Lake Chad Basin Commission, the Niger Basin Authority (formerly River Niger Commission), the Permanent Joint Technical Commission for Nile Waters (Egypt and Sudan) and the Organization for the Management and Development of the Kagera River Basin; in America: the Intergovernmental Coordinating Committee of the River Plate Basin, the International Joint Commission (Canada and United States of America) and the International Boundary and Water Commission (United States of America and Mexico); in Asia: The Committee for Coordination of Investigations of the Lower Mekong Basin, the Permanent Indus Commission (India and Pakistan), the Joint Rivers Commission (India and Bangladesh) and the Helmand River Delta Commission (Afghanistan and Iran); in Europe: the Danube Commission, the International Commission for the Protection of the Moselle against Pollution, the International Commission for the Protection of the Rhine against Pollution and the Joint Finnish-Soviet Commission on the Utilization of Frontier Watercourses.

[261] Article XXIX, paragraph 1, of the Helsinki Rules (see footnote 184 above) employs the expression "relevant and reasonably available".

[262] See the commentary to article XXIX, paragraph 1, of the Helsinki Rules (ibid.), which states:

> "The reference to 'relevant and reasonably available information' makes it clear that the basin State in question cannot be called upon to furnish information which is not pertinent and cannot be put to the expense and trouble of securing statistics and other data which are not already at hand or readily obtainable. The provision of the article is not intended to prejudge the question whether a basin State may justifiably call upon another to furnish information which is not 'reasonably available' if the first State is willing to bear the cost of securing the desired information." (P. 519.)

[263] See footnote 178 above. Article VII, paragraph 2, of the Treaty provides that a party planning to construct engineering works which would affect the other party materially

> "shall notify the other Party of its plans and shall supply such data relating to the work *as may be available** and as would enable the other Party to inform itself of the nature, magnitude and effect of the work".

See article XXIX, paragraph 1, of the Helsinki Rules and the commentary thereto (footnotes 184 and 262 above).

[264] Article 2 (*b*) of the Convention requires the provision of "available information relevant to minimizing the radiological consequences".

term effects of present use; and the condition or movement of living resources.

(12) The requirement in paragraph 1 applies even in the relatively rare instances in which no watercourse State is presently using or planning to use the watercourse. If data and information concerning the condition of the watercourse is "readily available", the Commission believed that requiring the exchange of such data and information would not be excessively burdensome. In fact, the exchange of data and information concerning such watercourses might assist watercourse States in planning for the future and in meeting development or other needs.

(13) *Paragraph 2* concerns requests for data or information that is not reasonably available to the watercourse State from which it is sought. In such cases, the State in question is to employ its "best efforts" to comply with the request, that is to say it is to act in good faith and in a spirit of cooperation in endeavouring to provide the data or information sought by the requesting watercourse State.

(14) For data and information to be of practical value to watercourse States, it must be in a form which allows them to use it. *Paragraph 3* therefore requires watercourse States to use their "best efforts to collect and, where appropriate, to process data and information in a manner which facilitates its utilization". The meaning of the expression "best efforts" is explained in paragraph (13) above. The expression "where appropriate" is used in order to provide a measure of flexibility, which is necessary for several reasons. In some cases, it may not be necessary to process data and information in order to render it usable by another State. In other cases, such processing may be necessary in order to ensure that the material is usable by other States, but this may entail undue burdens for the State providing the material.

(15) The need for the regular collection and exchange of a broad range of data and information relating to international watercourses has been recognized in a large number of international agreements, declarations and resolutions adopted by intergovernmental organizations, conferences and meetings, and studies by intergovernmental and international non-governmental organizations.[265] An example of agreements containing general provisions on the regular exchange of data and information is the 1964 Agreement between Poland and the USSR concerning the use of water resources in frontier waters,[266] article 8, paragraph 1, of which provides:

> 1. The Contracting Parties shall establish principles of cooperation governing the regular exchange of hydrological, hydrometeorological and hydrogeological information and forecasts relating to frontier waters and shall determine the scope, programmes and methods of carrying out measurements and observation and of processing their results and also the places and times at which the work is to be done.

Other examples of agreements containing provisions on the exchange of data and information are the Indus Waters Treaty 1960 between India and Pakistan[267] (art. VI), the Treaty relating to the utilization of the waters of the Colorado and Tijuana Rivers, and of the Rio Grande (Rio Bravo) from Fort Quitman, Texas, to the Gulf of Mexico between the United States of America and Mexico, of 3 February 1944[268] (art. 9 (*j*)), the Agreement of 25 November 1964 concerning the Niger River Commission and the Navigation and Transport on the River Niger (art. 2 (*c*)) and the Agreement of 16 September 1971 between Finland and Sweden concerning frontier rivers[269] (chap. 9, art. 3).

(16) The regular exchange of data and information is particularly important for the effective protection of international watercourses, preservation of water quality and prevention of pollution. This is recognized in a number of international agreements, declarations and resolutions, and studies.[270] For example, principle 11 (*a*) of the principles regarding cooperation in the field of transboundary waters adopted by ECE in 1987.[271]

(17) In summary, the regular exchange by watercourse States of data and information concerning the condition of the watercourse provides those States with the material necessary to comply with their obligations under articles 5 to 7, as well as for their own planning purposes. While article 9 concerns the exchange of data and information on a regular basis, the articles in part three, which follows, deal with the provision of information on an ad hoc basis, namely with regard to planned measures.

Article 10. Relationship between different kinds of uses

1. In the absence of agreement or custom to the contrary, no use of an international watercourse enjoys inherent priority over other uses.

2. In the event of a conflict between uses of an international watercourse, it shall be resolved with reference to the principles and factors set out in articles 5 to 7, with special regard being given to the requirements of vital human needs.

Commentary

(1) Article 10 sets forth the general principle that no use of an international watercourse enjoys inherent prior-

[265] A survey of the relevant provisions of these instruments is contained in the previous Special Rapporteur's fourth report, *Yearbook ... 1988*, vol. II (Part One), pp. 205 *et seq.*, document A/CN.4/412 and Add.1 and 2, paras. 15-26. See also article 3 of the Charter of Economic Rights and Duties of States (footnote 250 above).

[266] See footnote 175 above.

[267] See footnote 178 above.

[268] United Nations, *Treaty Series*, vol. 3, p. 313.

[269] See footnote 175 above.

[270] See the examples cited in the previous Special Rapporteur's fourth report (footnote 265 above).

[271] See footnote 254 above. The principles are limited by their preamble to flood management and the prevention and control of pollution.

ity over other uses. The article also addresses the situation in which there is a conflict between different uses of an international watercourse.

(2) Since States, through agreement or practice, often give priority to a specific use or class of uses, *paragraph 1* is couched in terms of a residual rule. Thus, the opening clause of the paragraph preserves any priority established by "agreement or custom" between the watercourse States concerned. The term "agreement" is used in its broad sense and would include, for example, an arrangement or *modus vivendi* that had been arrived at by watercourse States. Furthermore, it is not limited to "watercourse agreements" since it is possible that certain uses, such as navigation, could be addressed in other kinds of agreements such as treaties of amity. The word "custom" applies to situations in which there may be no "agreement" between watercourse States but where, by tradition or in practice, they have given priority to a particular use. The reference to an "inherent priority" likewise indicates that nothing in the nature of a particular type or category of uses gives it a presumptive or intrinsic priority over other uses, leaving watercourse States free to decide to accord priority to a specific use in relation to a particular international watercourse. This applies equally to navigational uses which, according to article 1, paragraph 2, fall within the scope of the present articles "in so far as other uses affect navigation or are affected by navigation".

(3) *Paragraph 2* deals with the situation in which different uses of an international watercourse conflict, or interfere, with each other but where no applicable priorities have been established by custom or agreement. In such a case, paragraph 2 indicates that the situation is to be resolved by reference to the principles and factors contained in articles 5 to 7, "with special regard being given to the requirements of vital human needs". Within the meaning of the article, therefore, a "conflict" between uses could only arise where no system of priorities governing those uses, or other means of accommodating them, had been established by agreement or custom as between the watercourse States concerned. It bears emphasis that the paragraph refers to a "conflict" between uses of an international watercourse, and not a conflict or dispute between watercourse States.[272]

(4) The principles and factors to be applied in resolving a conflict between uses of an international watercourse under paragraph 2 are those contained in articles 5, 6 and 7. The factors to be taken into account under article 6 are those that are relevant to the international watercourse in question. However, in deciding upon the manner in which such a conflict is to be resolved, watercourse States are to have "special regard ... to the requirements of vital human needs". That is, special attention is to be paid to providing sufficient water to sustain human life, including both drinking water and water required for the production of food in order to prevent starvation. This criterion is an accentuated form of the factor contained in article 6, paragraph 1 (*b*), which refers to the "social and economic needs of the watercourse States concerned". Since paragraph 2 includes a reference to article 6, the latter factor is, in any event, one of those to be taken into account by the watercourse States concerned in arriving at a resolution of a conflict between uses.

(5) While navigational uses may have enjoyed a general priority earlier in this century,[273] States recognized the need for greater flexibility as other kinds of uses began to rival navigation in economic and social importance. A resolution adopted by the Inter-American Economic and Social Council at its fourth annual session, in 1966, exemplifies this shift in attitude in its recognition of the importance of taking into account the variety of potential uses of a watercourse. The resolution recommends that member countries promote, for the common good, the economic utilization of the hydrographic basins and streams of the region of which they are a part, for "transportation, the production of electric power, irrigation works, and other uses, and particularly in order to control and prevent damage such as periodically occurs as the result of ... floods".[274] In the same year, ILA also concluded that no individual use enjoys general priority. Article VI of the Helsinki Rules provides that: "A use or category of uses is not entitled to any inherent preference over any other use or category of uses."[275] The importance of preserving sufficient flexibility to ensure a supply of fresh water adequate to meet human needs in the next century was recently emphasized in the "Delft Declaration", adopted at a symposium held in Delft, the Netherlands, 3-5 June 1991, under the sponsorship of UNDP, the Declaration notes that by the year 2000 nearly half the world's population will be living in cities. It refers to the "daunting" challenge to satisfy the water needs of "exploding" metropolitan areas given the equally increasing need for water for irrigated agriculture and the problems arising from urban and industrial pollution. The water experts at the symposium concluded that in order to satisfy human water needs in a sustainable way, advanced measures have to be taken to protect and conserve the water and environmental resources.[276] Such measures would often be impossible if a particular use enjoyed inherent priority. The absence of such a priority among uses will facilitate the implementation of measures designed to ensure that "vital human needs" are satisfied.

[272] See also paragraph (9) of the commentary to article 5.

[273] Illustrative of this position is article 10, paragraph 1, of the Convention and Statute on the Regime of Navigable Waterways of International Concern. Other examples may be found in the Declaration of Montevideo (see footnote 211 above); and rule II (4), of the resolution on international regulations regarding the use of international watercourses (Madrid resolution) (on which article 5 of the Declaration of Montevideo was based) adopted by the Institute of International Law at its Madrid session, in 1911 *(Annuaire de l'Institut de droit international, 1911* (Paris), vol. 24, p. 366), reproduced in A/5409, p. 200, para. 1072.

[274] Resolution 24-M/66, "Control and economic utilization of hydrographic basins and streams in Latin America" (sole operative paragraph), reproduced in A/CN.4/274, p. 351, para. 380.

[275] See Helsinki Rules (footnote 184 above), p. 491.

[276] The Delft Declaration is annexed to a UNDP press release, Geneva, 10 June 1991.

PART THREE

PLANNED MEASURES

Article 11. Information concerning planned measures

Watercourse States shall exchange information and consult each other on the possible effects of planned measures on the condition of an international watercourse.

Commentary

(1) Article 11 introduces the articles of part three of the draft and provides a bridge between part two, which includes article 9 on the regular exchange of data and information, and part three, which deals with the provision of information concerning planned measures.

(2) Article 11 lays down a general obligation of watercourse States to provide each other with information concerning the possible effects upon the condition of the international watercourse of measures they might plan to undertake. The article also requires that watercourse States consult with each other on the effects of such measures.

(3) The expression "possible effects" includes all potential effects of planned measures, whether adverse or beneficial. Article 11 thus goes beyond article 12 and subsequent articles, which concern planned measures that may have a significant adverse effect upon other watercourse States. Indeed, watercourse States have an interest in being informed of possible positive as well as negative effects of planned measures. In addition, requiring the exchange of information and consultation with regard to all possible effects avoids problems inherent in unilateral assessments of the actual nature of such effects.

(4) The term "measures" is to be taken in its broad sense, that is to say as including new projects or programmes of a major or minor nature, as well as changes in existing uses of an international watercourse.

(5) Illustrations of instruments and decisions which lay down a requirement similar to that contained in article 11 are provided in the commentary to article 12.

Article 12. Notification concerning planned measures with possible adverse effects

Before a watercourse State implements or permits the implementation of planned measures which may have a significant adverse effect upon other watercourse States, it shall provide those States with timely notification thereof. Such notification shall be accompanied by available technical data and information in order to enable the notified States to evaluate the possible effects of the planned measures.

Commentary

(1) Article 12 introduces a set of articles on planned measures that may have a significant adverse effect upon other watercourse States. These articles establish a procedural framework designed to assist watercourse States in maintaining an equitable balance between their respective uses of an international watercourse. It is envisaged that this set of procedures will thus help to avoid disputes relating to new uses of watercourses.

(2) The procedures provided for in articles 12 to 19 are triggered by the criterion that measures planned by a watercourse State may have "a significant adverse effect" upon other watercourse States.[277] The threshold established by this standard is intended to be lower than that of "significant harm" under article 7. Thus a "significant adverse effect" may not rise to the level of "significant harm" within the meaning of article 7. "Significant harm" is not an appropriate standard for the setting in motion of the procedures under articles 12 to 19, since use of that standard would mean that the procedures would be engaged only where implementation of the new measures might result in a conduct covered by article 7. Thus a watercourse State providing a notification of planned measures would be put in the position of admitting that the measures it was planning might cause significant harm to other watercourse States in conduct covered by article 7. The standard of a "significant adverse effect" is employed to avoid such a situation.

(3) The phrase "implements or permits the implementation of" is intended to make clear that article 12 covers not only measures planned by the State, but also those planned by private entities. The word "permit" is employed in its broad sense, that is to say as meaning both "allow" and "authorize". Thus, in the case of measures planned by a private entity, the watercourse State in question is under an obligation not to authorize the entity to implement the measures—and otherwise not to allow it to go forward with their implementation—before notifying other watercourse States as provided in article 12. References in subsequent articles to "implementation" of planned measures[278] are to be understood as including permitting the implementation thereof.

(4) The term "timely" is intended to require notification sufficiently early in the planning stages to permit meaningful consultations and negotiations under subsequent articles, if such prove necessary. An example of a treaty containing a requirement of this kind is the Agreement (with Final Protocol) regulating the withdrawal of water from Lake Constance, of 30 April 1966, between Austria, the Federal Republic of Germany and Switzerland, article 7 of which provides that "riparian States

[277] The "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", adopted by the Governing Council of UNEP in 1978 (decision 6/14 of 19 May 1978), define the expression "significantly affect" as referring to "any appreciable effects on a shared natural resource and [excluding] *de minimis* effects" (UNEP, *Environmental Law: Guidelines and Principles*, No. 2, *Shared Natural Resources* (Nairobi, 1978)).

[278] See article 15, paragraph 2, article 16, paragraph 1, and article 19, paragraph 1, above.

shall, before authorizing [certain specified] withdrawals of water, afford one another in good time an opportunity to express their views".

(5) The reference to "available" technical data and information is intended to indicate that the notifying State is generally not required to conduct additional research at the request of a potentially affected State, but must only provide such relevant data and information as has been developed in relation to the planned measures and is readily accessible. (The meaning of the term "available" is also discussed in paragraphs (5) to (7) of the commentary to article 9.) If a notified State requests data or information that is not readily available, but is accessible only to the notifying State, it would generally be appropriate for the former to offer to indemnify the latter for expenses incurred in producing the requested material. As provided in article 31, the notifying State is not required to divulge data or information that is vital to its national defence or national security. Examples of instruments which employ the term "available" in reference to information to be provided are given in paragraph (7) of the commentary to article 9.

(6) The principle of notification of planned measures is embodied in a number of international agreements, decisions of international courts and tribunals, declarations and resolutions adopted by intergovernmental organizations, conferences and meetings, and studies by intergovernmental and international non-governmental organizations.[279] An example of a treaty containing such a provision is the Convention between Austria and Yugoslavia concerning water economy questions relating to the Drava (art. 4).[280] Other similar agreements include the Treaty of Bayonne and the Additional Act[281] (art. XI of the Act), the Convention relating to the Status of the Senegal River (art. 4), the Convention on the Protection of the Waters of Lake Constance against Pollution (art. 1, para. 3), the Indus Waters Treaty 1960 between India and Pakistan[282] (art. VII, para. 2) and the Convention relating to the development of hydraulic power affecting more than one State (art. 4).

(7) A number of agreements provide for notification and exchange of information concerning new projects or uses through an institutional mechanism established to facilitate the management of a watercourse. An example is the 1975 Statute of the Uruguay River,[283] adopted by Uruguay and Argentina, which contains detailed provisions on notification requirements, the content of the notification, the period for reply, and procedures applicable in the event that the parties fail to agree on the proposed project.[284] Other agreements providing for notification of planned measures through a joint body include the treaty regime governing the Niger River[285] and the Treaty on the River Plate and its maritime outlet of 19 November 1973 between Argentina and Uruguay[286] (art. 17).

(8) The subject of notification concerning planned measures was dealt with extensively by the arbitral tribunal in the *Lake Lanoux* case.[287] Relevant conclusions reached by the tribunal in its award include the following: (*a*) at least in the factual context of the case, international law does not require prior agreement between the upper and lower riparian States concerning a proposed new use, and "international practice prefers to resort to less extreme solutions, limiting itself to requiring States to seek the terms of an agreement by preliminary negotiations without making the exercise of their competence conditional on the conclusion of this agreement";[288] (*b*) under then current trends in international practice concerning hydroelectric development, "consideration must be given to all interests, whatever their nature, which may be affected by the works undertaken, even if they do not amount to a right";[289] (*c*) "the upper riparian State, under the rules of good faith, has an obligation to take into consideration the various interests concerned, to seek to give them every satisfaction compatible with the pursuit of its own interests and to show that it has, in this matter, a real desire to reconcile the interests of the other riparian with its own";[290] (*d*) there is an "intimate connection between the obligation to take adverse interests into account in the course of negotiations and the obligation to give a reasonable place to such interests in the solution adopted".[291] France had, in fact, consulted with Spain prior to the initiation of the diversion project at issue in that case, in response to Spain's claim that it was entitled to prior notification under article 11 of the Additional Act.[292]

(9) The need for prior notification of planned measures has been recognized in a number of declarations and resolutions adopted by intergovernmental organizations, conferences and meetings. Recommendation 51 of the Action Plan for the Human Environment adopted by the United Nations Conference on the Human Environment

[279] A survey of these authorities is contained in the previous Special Rapporteur's third report (see footnote 199 above), paras. 63-87 and annex II.

[280] See footnote 244 above.

[281] See footnote 195 above. The relevant provisions of the Additional Act are reproduced in ILR, *1957* (footnote 191 above), pp. 102-105 and p. 138; summarized in A/5409, pp. 170-171, paras. 895-902. The interpretation of this Act and of the Boundary Treaty of the same date was the subject of the *Lake Lanoux* arbitration judgement (ibid.).

[282] See footnote 178 above.

[283] See articles 7 to 12 of the Statute (Uruguay, Ministry for External Relations, *Actos Internacionales Uruguay-Argentina 1830-1980* (Montevideo, 1981), p. 593).

[284] See also chapter XV (art. 60) of the Statute, which provides for judicial settlement of disputes, and chapter XIV (arts. 58 and 59), which provides for a conciliation procedure.

[285] See article 4 of the Act regarding Navigation and Economic Cooperation between the States of the Niger Basin and article 12 of the Agreement concerning the Niger River Commission and the navigation and transport on the River Niger.

[286] Entered into force on 12 February 1974 (Institute for Latin American Integration, *Derecho de la Integración* (Buenos Aires), vol. VII, No. 15 (March 1974), p. 225); ILM, vol. XIII, No. 3 (May 1974), p. 251), summarized in A/CN.4/274, pp. 298 *et seq.*, paras. 115-130.

[287] See footnote 191 above.

[288] Paragraph 11 (third subparagraph) of the award (A/5409, p. 197, para. 1065).

[289] Paragraph 22 (second subparagraph) of the award (ibid., p. 198, para. 1068).

[290] Paragraph 22 (third subparagraph) of the award (ibid.).

[291] Paragraph 24 (penultimate subparagraph) of the award (ibid.).

[292] See footnote 195 above.

in 1972[293] contains the following principle, in subparagraph (*b*) (i), relating to notification of planned new uses:

> Nations agree that when major water resource activities are contemplated that may have a significant environmental effect on another country, the other country should be notified well in advance of the activity envisaged.

(10) The Seventh International Conference of American States had previously adopted the Declaration of Montevideo,[294] which provides not only for advance notice of planned works, but also for prior consent with regard to potentially injurious modifications.[295] Examples of similar provisions are the "Principle of information and consultation" annexed to the "Principles concerning transfrontier pollution" adopted by the OECD Council in 1974,[296] and the recommendations on "regional cooperation" adopted by the United Nations Water Conference in 1977.[297]

(11) Provisions on notification concerning planned measures may be found in a number of studies by intergovernmental and international non-governmental organizations.[298]

(12) Provisions on prior notification of planned measures are contained, for example, in the revised draft convention on the industrial and agricultural use of international rivers and lakes prepared by the Inter-American Juridical Committee in 1965[299] (especially arts. 8 and 9); the revised draft propositions submitted to the Asian-African Legal Consultative Committee in 1973 by its sub-committee on the law of international rivers[300] (especially proposition IV, para. 2, and proposition X); the resolution on "Utilization of non-maritime international waters (except for navigation)" adopted by ILA in 1961[301] (arts. 4-9); the resolution on the use of international rivers adopted by the Inter-American Bar Association at its Tenth Conference in 1957[302] (para. I.3); the Helsinki Rules adopted by ILA in 1966[303] (art. XXIX); the articles on "Regulation of the flow of water of international watercourses" adopted by the ILA in 1980[304] (arts. 7 and 8); the Rules on Water Pollution in an International Drainage Basin, approved by the ILA in 1982[305] (arts. 5 and 6: see also art. 3); and the "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", adopted by the Governing Council of UNEP in 1978[306] (principles 6 and 7).

(13) The foregoing survey of authorities is illustrative only, but it reveals the importance that States and expert bodies attach to the principle of prior notification of planned measures. Procedures to be followed subsequent to a notification under article 12 are dealt with in articles 13 to 17.

Article 13. Period for reply to notification

Unless otherwise agreed:

(*a*) A watercourse State providing a notification under article 12 shall allow the notified States a period of six months within which to study and evaluate the possible effects of the planned measures and to communicate the findings to it;

(*b*) This period shall, at the request of a notified State for which the evaluation of the planned measure poses special difficulty, be extended for a period not exceeding six months.

Commentary

(1) The provision of a notification under article 12 has two effects, which are dealt with in articles 13 and 14. The first effect, provided for in article 13, is that the period for reply to the notification begins to run. The second effect, dealt with in article 14, is that the obligations specified in that article arise for the notifying State.

(2) A full understanding of the effect of article 13 requires that brief reference be made to the provisions of several subsequent articles. *Subparagraph (a)* affords the notified State or States a period of six months for study and evaluation of the possible effects of the planned

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[293] See footnotes 213 and 214 above.

[294] See footnote 211 above.

[295] See paragraphs 6 to 8 of the Declaration. Paragraph 9 of the Declaration provides for the resolution of any remaining differences through diplomatic channels, conciliation and ultimately any procedures under conventions in effect in America. It may be noted that Bolivia and Chile recognized that the Declaration embodied obligations applicable to the Lauca River dispute between them (see OAS Council, documents OEA/Ser.G/VI C/INF.47 (15 and 20 April 1962) and OEA/Ser.G/VI C/INF.50 (19 April 1962)).

[296] Recommendation C(74)224 adopted on 14 November 1974 (OECD, *OECD and the Environment* (Paris, 1986), p. 142).

[297] See especially recommendation 86 (*g*) (footnote 215 above).

[298] The relevant provisions are reproduced *in extenso* in the previous Special Rapporteur's third report (see footnote 199 above), pp. 32 *et seq.*, paras. 81-87.

[299] *Report of the Inter-American Juridical Committee on the work accomplished during its 1965 meeting* (OEA/SER.I/VI.1 CIJ-83) (Washington, D.C., Panamerican Union, 1966), pp. 7-10; text reproduced in part in A/CN.4/274, pp. 349-351, para. 379.

[300] Asian-African Legal Consultative Committee, *Report of the Fourteenth Session held in New Delhi* (see footnote 220 above), pp. 99 *et seq.*

[301] See footnote 184 above.

[302] Inter-American Bar Association, *Proceedings of the Tenth Conference* (ibid.), pp. 82-83.

[303] See footnote 184 above.

[304] For the texts of the articles, with introduction and comments by the Rapporteur, E. J. Manner, see ILA, *Report of the Fifty-ninth Conference, Belgrade, 1980* (London, 1982), pp. 362 *et seq.* The term "regulation" is defined in article 1 as:

> "continuing measures intended for controlling, moderating, increasing or otherwise modifying the flow of the waters in an international watercourse for any purpose; such measures may include storing, releasing and diverting of water by means such as dams, reservoirs, barrages and canals."

[305] See footnote 256 above. ILA has prepared other studies that are of present relevance. See, for example, the Rules of International Law Applicable to Transfrontier Pollution, also adopted at the Montreal Conference in 1982 (art. 3, para. 1).

[306] See footnote 277 above.

measures. *Subparagraph (b)* recognizes that in exceptional cases, a notified State may need additional time to reply. A notified State seeking such an extension must cite the "special difficulty" which requires the extension. During the period for reply to notification, article 14 requires that the notifying State, *inter alia*, not proceed with the implementation of its plans without the consent of the notified State. In any event, paragraph 1 of article 15 requires the notified State to reply as early as possible, out of good-faith consideration for the interest of the notifying State in proceeding with its plans. Of course, the notified State may reply after the period applicable has elapsed, but such a reply could not operate to prevent the notifying State from proceeding with the implementation of its plans, in view of the provisions of article 16. The latter article allows the notifying State to proceed to implementation if it receives no reply within the six-month period.

(3) The Commission considered the possibility of using a general standard for the determination of the period for reply, such as "a reasonable period of time",[307] rather than a fixed period such as six months.[308] It concluded, however, that a fixed period, while necessarily somewhat arbitrary, would ultimately be in the interests of both the notifying and the notified States. While a general standard would be more flexible and adaptable to different situations, its inherent uncertainty could at the same time lead to disputes between the States concerned. All these considerations demonstrate the need for watercourse States to agree upon a period of time that is appropriate to the case concerned, in the light of all relevant facts and circumstances. Indeed, the opening clause of article 13, "unless otherwise agreed", is intended to emphasize that, in each case, States are expected and encouraged to agree upon an appropriate period. The six-month period for reply as well as the six-month extension of the period of reply provided for in article 13 are thus residual, and apply only in the absence of agreement between the States concerned upon another period.

Article 14. Obligations of the notifying State during the period for reply

During the period referred to in article 13, the notifying State shall cooperate with the notified States by providing them, on request, with any additional data and information that is available and necessary for an accurate evaluation, and shall not implement or permit the implementation of the planned measures without the consent of the notified States.

Commentary

(1) As its title indicates, article 14 deals with the obligations of the notifying State during the period specified in article 13 for reply to a notification made pursuant to article 12. There are two obligations. The first is an obligation of cooperation, which takes the specific form of a duty to provide the notified State or States, at their request, "with any additional data and information that is available and necessary for an accurate evaluation" of the possible effects of the planned measures. Such data and information would be "additional" to that which had already been provided under article 12. The meaning of the term "available" is discussed in paragraph (5) of the commentary to article 12.

(2) The second obligation of the notifying State under article 14 is not to "implement or permit the implementation of the planned measures without the consent of the notified States". The expression "implement or permit the implementation of" is discussed in paragraph (3) of the commentary to article 12, and bears the same meaning as in that article. It perhaps goes without saying that this second obligation is a necessary element of the procedures provided for in part three of the draft, since these procedures are designed to maintain a state of affairs characterized by the expression "equitable utilization" within the meaning of article 5. If the notifying State were to proceed with implementation before the notified State had had an opportunity to evaluate the possible effects of the planned measures and inform the notifying State of its findings, the notifying State would not have at its disposal all the information it would need to be in a position to comply with articles 5 to 7. The duty not to proceed with implementation is thus intended to assist watercourse States in ensuring that any measures they plan will not be inconsistent with their obligations under articles 5 and 7.

Article 15. Reply to notification

1. The notified States shall communicate their findings to the notifying State as early as possible.

2. If a notified State finds that implementation of the planned measures would be inconsistent with the provisions of articles 5 or 7, it shall communicate this finding to the notifying State within the period applicable pursuant to article 13, together with a documented explanation setting forth the reasons for the finding.

Commentary

(1) Article 15 deals with the obligations of the notified State or States with regard to their response to the notification provided under article 12. As with article 14, there are two obligations. The first, laid down in *paragraph 1*, is to communicate their findings concerning possible effects of the planned measures to the notifying State "as early as possible". As explained in paragraph (2) of the commentary to article 13, this communication must be made within the six-month period provided for in article 13, or in the case where a notified State has requested an extension of time, due to special circumstances, within the period of such extension, that is to say six months, in order for a notified State to have the right to request a further suspension of implementation under

[307] Instruments using this kind of standard include the Salzburg resolution (see footnote 184 above), article 6, and the Helsinki Rules (ibid.), article XXIX, para. 3.

[308] An instrument stipulating a six-month period is the 1975 Statute of the Uruguay River (see footnote 283 above), art. 8.

paragraph 3 of article 17. If a notified State completed its evaluation in less than six months, or in less than the additional six months where an extension was requested, however, paragraph 1 of article 15 would call for it to inform the notifying State immediately of its findings. A finding that the planned measures would be consistent with articles 5 and 7 would conclude the procedures under part three of the draft, and the notifying State could proceed without delay to implement its plans. Even if a contrary finding were made, however, early communication of that finding to the notifying State would result in bringing to a speedier conclusion the applicable procedures under article 17.

(2) *Paragraph 2* deals with the second obligation of the notified States. This obligation arises, however, only for a notified State which "finds that implementation of the planned measures would be inconsistent with the provisions of articles 5 or 7". In other words, the obligation is triggered by a finding that implementation of the plans would result in a breach of the obligations under article 5, or article 7. (As noted in paragraph (3) of the commentary to article 12, the term "implementation" applies to measures planned by private parties as well as to those planned by the State itself.) Paragraph 2 of article 15 requires a notified State which has made such a finding to provide the notifying State, within the period specified in article 13, with an explanation of the finding. The explanation must be "documented"—that is to say it must be supported by an indication of the factual or other bases for the finding—and must set forth the reasons for the notified State's conclusion that implementation of the planned measures would violate articles 5 or 7.[309] The word "would" was used rather than a term such as "might" in order to indicate that the notified State must conclude that a violation of articles 5 or 7 is more than a mere possibility. The reason for the strictness of these requirements is that a communication of the kind described in paragraph 2 permits a notified State to request, pursuant to paragraph 3 of article 17, further suspension of the implementation of the planned measures in question. This effect of the communication justifies the requirement of paragraph 2 that the notified State demonstrate its good faith by showing that it has made a serious and considered assessment of the effects of the planned measures.

Article 16. Absence of reply to notification

1. If, within the period applicable pursuant to article 13, the notifying State receives no communication under paragraph 2 of article 15, it may, subject to its obligations under articles 5 and 7, proceed with the implementation of the planned measures, in accordance with the notification and any other data and information provided to the notified States.

2. Any claim to compensation by a notified State which has failed to reply may be offset by the costs incurred by the notifying State for action undertaken after the expiration of the time for a reply which would not have been undertaken if the notified State had objected within the period applicable pursuant to article 13.

Commentary

(1) *Paragraph 1* deals with cases in which the notifying State, during the required period applicable in article 13, receives no communication under paragraph 2 of article 15—that is to say one which states that the planned measures would be inconsistent with the provisions of articles 5 or 7, and provides an explanation for such finding. In such a case, the notifying State may implement or permit the implementation of the planned measures, subject to two conditions. The first is that the plans be implemented "in accordance with the notification and any other data and information provided to the notified States" under articles 12 and 14. The reason for this condition is that the silence of a notified State with regard to the planned measures can be regarded as tacit consent only in relation to matters which were brought to its attention. The second condition is that implementation of the planned measures be consistent with the obligations of the notifying State under articles 5 and 7.

(2) The idea underlying article 16 is that, if a notified State does not provide a response under paragraph 2 of article 15 within the required period, it is, *inter alia,* precluded from claiming the benefits of the protective regime established in part three of the draft. The notifying State may then proceed with the implementation of its plans, subject to the conditions referred to in paragraph (1) of the present commentary. Permitting the notifying State to proceed in such cases is an important aspect of the balance which the present articles seek to strike between the interests of notifying and notified States.

(3) The purpose of *paragraph 2* is to avoid the consequences of a failure to reply on the part of a notified State from falling entirely on the notifying State. The effect of the paragraph is to establish that the costs incurred by the notifying State in proceeding with its plans in reliance on the absence of a reply from the notified State can be used as a set off against any claims by a notified State. It was decided that to authorize expressly counter claims by a notifying State (that is to say claims in excess of those put forward by the notified State) could prove excessively onerous in some cases. In the highly unlikely event there are several notified States who failed to reply but who assert injury, the set off shall be allocated among them pro rata on the basis on the ratio of their respective claims to each other.

Article 17. Consultations and negotiations concerning planned measures

1. If a communication is made under paragraph 2 of article 15, the notifying State and the State making the communication shall enter into consultations

[309] A similar requirement is contained in article 11 of the Statute of the Uruguay River (ibid.), which provides that the communication of the notified party shall state which aspects of the works or of the mode of operation may cause appreciable harm to the regime of the river or the quality of its waters, the technical grounds for that conclusion and suggested changes in the project or the mode of operation.

and, if necessary, negotiations with a view to arriving at an equitable resolution of the situation.

2. The consultations and negotiations shall be conducted on the basis that each State must in good faith pay reasonable regard to the rights and legitimate interests of the other State.

3. During the course of the consultations and negotiations, the notifying State shall, if so requested by the notified State at the time it makes the communication, refrain from implementing or permitting the implementation of the planned measures for a period not exceeding six months.

Commentary

(1) Article 17 deals with cases in which there has been a communication under paragraph 2 of article 15, that is to say one containing a finding by the notified State that "implementation of the planned measures would be inconsistent with the provisions of articles 5 or 7".

(2) *Paragraph 1* of article 17 calls for the notifying State to enter into consultations and, if necessary, negotiations with the State making a communication under paragraph 2 of article 15 "with a view to arriving at an equitable resolution of the situation". Some members saw a distinction between consultations and negotiations. The term "if necessary" was therefore used to underscore the fact that consultations, if undertaken, could sometimes resolve the issues and therefore would not always have to be followed by negotiations. The "situation" referred to is that produced by the good-faith finding of the notified State that implementation of the planned measures would be inconsistent with the obligations of the notifying State under articles 5 and 7. The "equitable resolution" referred to in paragraph 1 could include, for example, modification of the plans so as to eliminate their potentially harmful aspects, adjustment of other uses being made by either of the States, or the provision by the notifying State of monetary or another form of compensation acceptable to the notified State. Consultations and negotiations have been required in similar circumstances in a number of international agreements[310] and decisions of international courts and tribunals.[311] The need for such consultations and negotiations has also been recognized in a variety of resolutions and studies by intergovernmental[312] and international non-governmental organizations.[313]

(3) *Paragraph 2* concerns the manner in which the consultations and negotiations provided for in paragraph 1 are to be conducted. The language employed is inspired chiefly by the judgment of ICJ in the *Fisheries Jurisdiction* (United Kingdom *v.* Iceland) case[314] and by the award of the arbitral tribunal in the *Lake Lanoux* case.[315] The manner in which consultations and negotiations are to be conducted was also addressed by ICJ in the *North Sea Continental Shelf* cases.[316] The expression "legitimate" interests is employed in article 3 of the Charter of Economic Rights and Duties of States[317] and is used in paragraph 2 of the present article in order to provide some limitation of the scope of the term "interests".

(4) *Paragraph 3* requires the notifying State to suspend implementation of the planned measures for a further period of six months, but only if requested to do so by the notified State when the latter makes a communication under paragraph 2 of article 15. Implementation of the measures during a reasonable period of consultations and negotiations would not be consistent with the requirements of good faith laid down in paragraph 2 of article 17 and referred to in the *Lake Lanoux* arbitral award.[318] By the same token, however, consultations and negotiations should not further suspend implementation for more than a reasonable period of time. This period should be the subject of agreement by the States concerned, who are in the best position to decide upon a length of time that is appropriate under the circumstances. In the event that they are not able to reach agreement, however, paragraph 3 sets a period of six months. After this period has expired, the notifying State may proceed with implementation of its plans, subject always to its obligations under articles 5 and 7.

Article 18. Procedures in the absence of notification

1. If a watercourse State has serious reason to believe that another watercourse State is planning

[310] See, for example, the 1954 Convention between Austria and Yugoslavia concerning water economy questions relating to the Drava (see footnote 244 above), art. 4; the Convention on the Protection of the Waters of Lake Constance against Pollution, art. 1, para. 3; the 1964 Agreement between Poland and the USSR concerning the use of water resources in frontier waters (see footnote 175 above), art. 6; the Agreement concerning the Niger River Commission and the navigation and transport on the River Niger, art. 12; and the 1981 Convention between Hungary and the USSR Concerning Water Economy Questions in Frontier Waters (referred to in *Environmental Protection and Sustainable Development: Legal Principles and Recommendations* (London, Graham and Trotman, 1987), p. 106), arts. 3-5.

[311] See especially the *Lake Lanoux* arbitral award (footnote 191 above). Of general relevance in this regard are several decisions of ICJ in cases involving the law of the sea, such as the *North Sea Continental Shelf* cases (footnote 196 above), especially pp. 46-48, paras. 85 and 87; and the *Fisheries Jurisdiction* case (United Kingdom *v.* Iceland) (ibid.), especially pp. 30-31, para. 71, and p. 33, para. 78.

[312] See, for example, article 3 of the Charter of Economic Rights and Duties of States (footnote 250 above); General Assembly resolution 3129 (XXVIII) on cooperation in the field of the environment concerning natural resources shared by two or more States; the "principle of information and consultation" contained in the annex to the 1974 OECD "Principles concerning transfrontier pollution" (see footnote 296 above), p. 142; and "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", adopted by the Governing Council of UNEP in 1978 (see footnote 277 above), principles 5, 6 and 7.

[313] See, for example, the Salzburg resolution adopted in 1961 (footnote 184 above), art. 6, and the Athens resolution in 1979 (ibid.), art. VII; and the Helsinki Rules adopted by ILA in 1966 (ibid.), art. VIII, and the Montreal Rules in 1982 (see footnote 256 above), art. 6.

[314] See footnote 196 above.

[315] See footnote 191 above.

[316] See footnote 196 above. See, in particular, paragraphs 85 and 87 of the judgment.

[317] See footnote 250 above.

[318] See footnote 191 above.

measures that may have a significant adverse effect upon it, the former State may request the latter to apply the provisions of article 12. The request shall be accompanied by a documented explanation setting forth its reasons.

2. In the event that the State planning the measures nevertheless finds that it is not under an obligation to provide a notification under article 12, it shall so inform the other State, providing a documented explanation setting forth the reasons for such finding. If this finding does not satisfy the other State, the two States shall, at the request of that other State, promptly enter into consultations and negotiations in the manner indicated in paragraphs 1 and 2 of article 17.

3. During the course of the consultations and negotiations, the State planning the measures shall, if so requested by the other State at the time it requests the initiation of consultations and negotiations, refrain from implementing or permitting the implementation of those measures for a period not exceeding six months.

Commentary

(1) Article 18 addresses the situation in which a watercourse State is aware that measures are being planned by another State (or by private parties in that State) and believes that they may have a significant adverse effect upon it, but has received no notification thereof. In such a case, article 18 allows the first State to seek the benefits of the protective regime provided for under articles 12 *et seq.*

(2) *Paragraph 1* allows "a watercourse State" in the position described above to request the State planning the measures in question "to apply the provisions of article 12". The expression "a watercourse State" is not intended to exclude the possibility that more than one State may believe measures are being planned by another State. The words "apply the provisions of article 12" should not be taken as suggesting that the State planning the measures has necessarily failed to comply with its obligations under article 12. In other words, that State may have made an assessment of the potential of the planned measures for causing significant adverse effects upon other watercourse States and concluded in good faith that no such effects would result therefrom. Paragraph 1 allows a watercourse State to request that the State planning measures take a "second look" at its assessment and conclusion, and does not prejudge the question whether the planning State initially complied with its obligations under article 12. In order for the first State to be entitled to make such a request, however, two conditions must be satisfied. The first is that the requesting State must have "serious reason to believe" that measures are being planned which may have a significant adverse effect upon it. The second is that the requesting State must provide a "documented explanation setting forth its reasons". 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 planning State may be required to suspend implementation of its plans under paragraph 3 of article 18.

(3) 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 12. In such a situation, paragraph 2 seeks to maintain a fair balance between the interests of the States concerned by requiring the planning State 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 planning State does not satisfy the requesting State. It requires that, in such a situation, the planning State promptly enter into consultations and negotiations with the other State (or States), at the request of the latter. The consultations and negotiations are to be conducted in the manner indicated in paragraphs 1 and 2 of article 17. In other words, their purpose is to achieve "an equitable resolution of the situation", and they are to be conducted "on the basis that each State must in good faith pay reasonable regard to the rights and legitimate interests of the other State". These phrases are discussed in the commentary to article 17.

(4) *Paragraph 3* requires the planning State to refrain from implementing the planned measures for a period of six months, in order to allow consultations and negotiations to be held, if it is requested to do so by the other State at the time the latter requests consultations and negotiations under paragraph 2. This provision is similar to that contained in paragraph 3 of article 17, but in the case of article 18 the period starts to run from the time of the request for consultations under paragraph 2.

Article 19. Urgent implementation of planned measures

1. In the event that the implementation of planned measures is of the utmost urgency in order to protect public health, public safety or other equally important interests, the State planning the measures may, subject to articles 5 and 7, immediately proceed to implementation, notwithstanding the provisions of article 14 and paragraph 3 of article 17.

2. In such cases, a formal declaration of the urgency of the measures shall be communicated to the other watercourse States referred to in article 12 together with the relevant data and information.

3. The State planning the measures shall, at the request of any of the States referred to in paragraph 2, promptly enter into consultations and negotiations with it in the manner indicated in paragraphs 1 and 2 of article 17.

Commentary

(1) Article 19 deals with planned measures whose implementation is of the utmost urgency "in order to protect public health, public safety or other equally impor-

tant interests''. It does not deal with emergency situations, which will be addressed in article 28. Article 19 concerns highly exceptional cases in which interests of overriding importance require that planned measures be implemented immediately, without awaiting the expiry of the periods allowed for reply to notification and for consultations and negotiations. Provisions of this kind have been included in a number of international agreements.[319] In formulating the article, the Commission has endeavoured to guard against possibilities of abuse of the exception it establishes.

(2) *Paragraph 1* refers to the kinds of interests that must be involved in order for a State to be entitled to proceed to implementation under article 19. The interests in question are those of the highest order of importance, such as protecting the population from the danger of flooding or issues of vital national security. Paragraph 1 also contains a waiver of the waiting periods provided for under article 14 and paragraph 3 of article 17. The right of the State to proceed to implementation is, however, subject to its obligations under paragraphs 2 and 3 of article 19.

(3) *Paragraph 2* requires a State proceeding to immediate implementation under article 19 to provide the ''other watercourse States referred to in article 12'' with a formal declaration of the urgency of the measures, together with the relevant data and information. These requirements are intended to provide for a demonstration of the good faith of the State proceeding to implementation, and to ensure that the other States are informed as fully as possible of the possible effects of the measures. The ''other watercourse States'' are those upon which the measures ''may have a significant adverse effect'' (art. 12).

(4) *Paragraph 3* requires that the State proceeding to immediate implementation enter promptly into consultations and negotiations with the other States, if and when requested to do so by those States. The requirement that the consultations and negotiations be conducted in the manner indicated in paragraphs 1 and 2 of article 17 is the same as that contained in paragraph 2 of article 18, and is discussed in the commentary to that provision.

PART FOUR

PROTECTION, PRESERVATION AND MANAGEMENT

Article 20. Protection and preservation of ecosystems

Watercourse States shall, individually or jointly, protect and preserve the ecosystems of international watercourses.

Commentary

(1) Article 20 introduces part four of the draft articles by laying down a general obligation to protect and preserve the ecosystems of international watercourses. In view of the general nature of the obligation contained in this article, the Commission was of the view that it should precede the other more specific articles in part four.

(2) Like article 192 of the United Nations Convention on the Law of the Sea,[320] article 20 contains obligations of both protection and preservation. These obligations relate to the ''ecosystems of international watercourses'', an expression used by the Commission because it is more precise than the concept of the ''environment'' of a watercourse. The latter term could be interpreted quite broadly, to apply to areas ''surrounding'' the watercourses that have minimal bearing on the protection and preservation of the watercourse itself. Furthermore, the term ''environment'' of a watercourse might be construed to refer only to areas outside the watercourse, which is of course not the intention of the Commission. For these reasons, the Commission preferred to utilize the term ''ecosystem'' which is believed to have a more precise scientific and legal meaning.[321] Generally, that term refers to an ecological unit consisting of living and non-living components that are interdependent and function as a community.[322] ''In ecosystems, everything depends on everything else and nothing is really wasted.''[323] Thus, ''[a]n external impact affecting one component of an ecosystem causes reactions among other components and may disturb the equilibrium of the entire ecosystem''.[324] Since ''[e]cosystems support life on earth'',[325] such an ''external impact'', or interference, may impair or destroy the ability of an ecosystem to function as a life-support system. It goes without saying that serious interferences can be, and often are, brought about by human conduct. Human interferences may irreversibly disturb the equilibrium of freshwater ecosystems, in particular, rendering them incapable of supporting human and other forms of life. As observed in the medium-term plan of the United Nations for the period 1992-1997:

[319] See, for example, the Agreement of 10 April 1922 between Denmark and Germany for the settlement of questions relating to watercourses and dikes on the German-Danish frontier (League of Nations, *Treaty Series*, vol. X, p. 200) (art. 29 *in fine*); and the Convention on the Protection of the Waters of Lake Constance against Pollution (art. 1, para. 3).

[320] Article 192, entitled ''General obligation'', provides: ''States have the obligation to protect and preserve the marine environment.''

[321] Reference may be made generally in this connection to the ongoing work of ECE in this field: see ''Ecosystems approach to water management'' (ENVWA/WP.3/R.7/Rev.1), and the case studies on the Oulujoki River (Finland), Lake Mjosa (Norway), the Lower Rhine River (Netherlands), and the Ivankovskoye Reservoir (USSR) (ENVWA/WP.3/R.11 and Add.1 and 2).

[322] ''An ecosystem is commonly defined as a spatial unit of Nature in which living organisms and the non-living environment interact adaptively.'' (ENVWA/WP.3/R.7/Rev.1, para. 9.) The Expert Group on Environmental Law of the World Commission on Environment and Development, in the comment to article 3 of the principles for environmental protection and sustainable development, defines ''ecosystems'' as ''systems of plants, animals and micro-organisms together with the non-living components of their environment''. *Environmental Protection* . . . (footnote 310 above), p. 45.

[323] ''Ecosystems approach . . .'' (see footnote 321 above), para. 9.

[324] Ibid., para. 11.

[325] Ibid., para. 9.

Interactions between freshwater ecosystems on the one hand and human activities on the other are becoming more complex and incompatible as socio-economic development proceeds. Water basin development activities can have negative impacts too, leading to unsustainable development, particularly where these water resources are shared by two or more States.[326]

The obligation to protect and preserve the ecosystems of international watercourses addresses this problem, which is already acute in some parts of the world and which will become so in others as increasing human populations place ever greater demands on finite water resources.[327]

(3) The obligation to "protect" the ecosystems of international watercourses is a specific application of the requirement contained in article 5 that watercourse States are to use and develop an international watercourse in a manner that is consistent with adequate protection thereof. In essence, it requires that watercourse States shield the ecosystems of international watercourses from harm or damage. It thus includes the duty to protect those ecosystems from a significant threat of harm.[328] The obligation to "preserve" the ecosystems of international watercourses, while similar to that of protection, applies in particular to freshwater ecosystems that are in a pristine or unspoiled condition. It requires that these ecosystems be protected in such a way as to maintain them as much as possible in their natural state. Together, protection and preservation of aquatic ecosystems help to ensure their continued viability as life support systems, thus providing an essential basis for sustainable development.[329]

(4) In requiring that watercourse States act "individually or jointly", article 20 recognizes that in some cases it will be necessary and appropriate that watercourse States cooperate, on an equitable basis, to protect and preserve the ecosystems of international watercourses. The requirement of article 20 that watercourse States act "individually or jointly" is therefore to be understood as meaning that joint, cooperative action is to be taken where appropriate, and that such action is to be taken on an equitable basis. For example, joint action would usually be appropriate in the case of contiguous watercourses or those being managed and developed as a unit. What constitutes action on an equitable basis will, of course, vary with the circumstances.[330] Among the factors to be taken into account in this connection are the extent to which the watercourse States concerned have contributed to the problem and the extent to which they will benefit from its solution. Of course, the duty to participate equitably in the protection and preservation of the ecosystems of an international watercourse is not to be regarded as implying an obligation to repair or tolerate harm that has resulted from another watercourse State's breach of its obligations under the draft articles.[331] But the general obligation of equitable participation demands that the contributions of watercourse States to joint protection and preservation efforts be at least proportional to the measure in which they have contributed to the threat or harm to the ecosystems in question. Finally, it will be recalled that paragraph 1 of article 194 of the United Nations Convention on the Law of the Sea also requires that measures be taken "individually or jointly", in that case with regard to pollution of the marine environment.

(5) There is ample precedent for the obligation contained in article 20 in the practice of States and the work of international organizations. Illustrations of these authorities are provided in the following paragraphs.[332]

(6) Provisions concerning the protection of the ecosystems of international watercourses may be found in a number of agreements. For example, in the 1975 Statute of the Uruguay River, Argentina and Uruguay agree to coordinate, through a commission established under the agreement, "appropriate measures to prevent the alteration of the ecological balance, and to control impurities and other harmful elements in the river and its catchment area".[333] The parties further undertake to "agree on measures to regulate fishing activities in the river with a view to the conservation and preservation of living resources",[334] and "to protect and preserve the aquatic environment . . .".[335] Similarly, reference can be made to the 1978 Convention relating to the status of the River Gambia; the 1963 Act regarding Navigation and Economic Cooperation between the States of the Niger Basin; and to the 1978 Agreement on Great Lakes Water Quality between Canada and the United States.[336]

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[326] Medium-term plan for the period 1992-1997, as revised by the General Assembly at its forty-seventh session (*Official Records of the General Assembly, Forty-seventh Session, Supplement No. 6* (A/47/6/Rev.1)), vol. I, major programme IV, International economic cooperation for development programme 16 (Environment), p. 221, para. 16.25.

[327] See, for example, "Water: the finite resource", *IUCN Bulletin*, vol. 21, No. 1 (March, 1990), p. 14.

[328] The obligation to protect the ecosystems of international watercourses is thus a general application of the principle of precautionary action, discussed in the Vienna Convention for the Protection of the Ozone Layer.

[329] The following observation contained in the medium-term plan for the period 1992-1997 (see footnote 326 above) is relevant in this connection:

"The maintenance of biological diversity, which encompasses all species of plants, animals and micro-organisms and the ecosystems of which they are part, is a major element in achieving sustainable development." (P. 187, para. 16.8.)

[330] See generally the commentaries to articles 5 and 6 above. For example, paragraph (1) of the commentary to article 6, referring to the obligation of equitable and reasonable utilization laid down in article 5, states as follows:

"The latter rule is necessarily general and flexible, and requires for its proper application that States take into account concrete factors pertaining to the international watercourse in question, as well as to the needs and uses of the watercourse States concerned. What is equitable and reasonable utilization in a specific case will therefore depend on a weighing of all relevant factors and circumstances."

[331] Thus, for example, State A would be under no obligation to repair appreciable harm it had suffered solely as a result of the conduct of State B.

[332] For more extensive surveys of relevant authorities, see the fourth report of the previous Special Rapporteur (footnote 265 above), paras. 28-86; and the third report of the second Special Rapporteur (footnote 203 above), paras. 243-336.

[333] Statute of the Uruguay River (see footnote 283 above), art. 36.

[334] Ibid., art. 37.

[335] Ibid., art. 41.

[336] Article II (*United States Treaties and Other International Agreements, 1978-79*, vol. 30, part 2 (United States Government Printing Office, Washington, D.C., 1980), No. 9257, p. 1383).

(7) A number of early agreements had as their object the protection of fish and fisheries.[337] An example is the 1904 Convention between the French Republic and the Swiss Confederation for the regulation of fishing in frontier waters.[338] Other agreements in effect protect the ecosystems of international watercourses by protecting the waters thereof against pollution. These include the 1958 Treaty between the Soviet Union and Afghanistan concerning the regime of the Soviet-Afghan State frontier;[339] and the 1956 Convention concerning the canalization of the Moselle between the Federal Republic of Germany, France and Luxembourg.

(8) The need to protect and preserve the ecosystems of international watercourses is also recognized in the work of international organizations, conferences and meetings. The Act of Asunción, adopted by the Fourth Meeting of Foreign Ministers of the River Plate Basin States in 1971, refers to the "grave health problems arising from ecological relationships in the geographic area of the River Plate Basin, which have an unfavourable impact on the social and economic development of the region", and notes that "this health syndrome is related to the quality and quantity of the water resources".[340] The Act also mentions

> The need to control water pollution and preserve as far as possible the natural qualities of the water as an integral part of a policy in the conservation and utilization of the water resources of the Basin.[341]

Among the decisions adopted by the United Nations Water Conference, held at Mar del Plata in 1977, is recommendation 35, which provides that

> It is necessary to evaluate the consequences which the various uses of water have on the environment, to support the measures aimed at controlling water-related diseases, and to protect ecosystems.[342]

(9) In addition to the instruments concerning the protection and preservation of the ecosystems of international watercourses, a number of agreements, resolutions, declarations and other instruments recognize the importance of protecting and preserving the environment in general, or ecosystems other than those of watercourses, in particular. Agreements concerning the environment in general include the African Convention on the Conservation of Nature and Natural Resources[343] and the 1985 ASEAN Agreement on the Conservation of Nature and Natural Resources.[344] Reference has already been made to the analogous obligation "to protect and preserve the marine environment" contained in article 192 of the United Nations Convention on the Law of the Sea, which is complemented by a number of more specific agreements concerning the protection of the marine environment.[345] In addition, the principle of precautionary action reflected in article 20 has found expression in a number of international agreements and other instruments.[346] Also of general relevance, as evidence of a recognition by States of the necessity of protecting essential ecological processes, are the numerous declarations and resolutions concerning the preservation of the environment. These include the Stockholm Declaration,[347] General Assembly resolution 37/7 on the World Charter for Nature, the 1989 Amazon Declaration,[348] the 1989 Draft American Declaration on the Environment,[349] the 1988 ECE Declaration on Conservation of Flora, Fauna and

[337] See, for example, the 1868 Final Act on the delimitation of the international frontier of the Pyrenees between France and Spain, sect. I, clause 6 (*Legislative Texts*, No. 186, pp. 674-676, summarized in A/5409, p. 182, paras. 979 and 980 (*c*)). See also the 1887 Convention between Switzerland and the Grand Duchy of Baden and Alsace-Lorraine (*Legislative Texts*, No. 113, p. 397, art. 10); and the 1906 Convention between Switzerland and Italy establishing provisions in respect of fishing in frontier waters (*Legislative Texts*, No. 230, p. 839, art. 12, para. 5, summarized in A/5409, p. 136, para. 633).

[338] *Legislative Texts*, No. 196, p. 701, arts. 6, 11 and 17.

[339] See also United Nations, *Treaty Series*, vol. 321, p. 166.

[340] See A/CN.4/274, p. 323, resolution No. 15.

[341] Ibid., resolution No. 23.

[342] *Report of the United Nations Water Conference* . . . (see footnote 215 above), p. 25, para. 35.

[343] See especially article II, "Fundamental principle", in which the parties "undertake to adopt the measures necessary to ensure conservation, utilization and development of soil, water, air, flora and faunal resources" taking into account the "best interests of the people", and article V, "Water", in which the parties agree to "establish policies for conservation, utilization and development of underground and surface water".

[344] Adopted on 7 September 1985 by Brunei Darussalam, Indonesia, Malaysia, the Philippines, Singapore and Thailand. See especially article 1, "Fundamental principle", in which the parties undertake to adopt "the measures necessary to maintain essential ecological processes and life-support systems", and article 8, "Water", in which the parties recognize "the role of water in the functioning of natural ecosystems" and agree to endeavour to assure sufficient water supply "for, *inter alia*, the maintenance of natural life supporting systems and aquatic fauna and flora".

See also, for example, the Convention on Nature Protection and Wild Life Preservation in the Western Hemisphere; the Convention for the Protection of World Cultural and Natural Heritage; the Convention on the Conservation of European Wildlife and Natural Habitats; and the Convention for the Protection of the Natural Resources and Environment of the South Pacific Region.

[345] See, for example, the Convention for Cooperation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region ; the Convention for the Prevention of Marine Pollution from Land-based Sources; the Convention on the Protection of the Marine Environment of the Baltic Sea Area; the Convention for the Protection of the Mediterranean Sea against Pollution, and its Protocol of 1980; and the Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution.

[346] The principle of precautionary action has been applied especially in instruments concerning the ozone layer and land-based marine pollution. With regard to the ozone layer, see the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer. Concerning land-based and other forms of marine pollution, see, for example, decision 15/27 adopted by the Governing Council of UNEP at its fifteenth session on 25 May 1989 entitled "Precautionary approach to marine pollution, including waste-dumping at sea" (*Official Records of the General Assembly, Forty-fourth Session, Supplement No. 25* (A/44/25), p. 152; and the Ministerial Declarations of the Second and Third International Conferences on the Protection of the North Sea (London, 24-25 November 1987 and The Hague, 8 March 1990, respectively) (*The North Sea: Basic Legal Documents on Regional Environmental Cooperation*, D. Freestone and T. Ijlstra, eds. (Graham and Trotman/Martinus Nijhoff, Dordrecht, 1991), pp. 40 and 3, respectively). The Ministerial Declarations specify that the precautionary principle entails the taking of action to avoid potentially damaging impacts of dangerous substances (such as those that are persistent, toxic or bioaccumulative) "even before a causal link [between emissions and effects] has been established by absolutely clear scientific evidence".

[347] See footnote 213 above. See especially principles 2 to 5 and 12.

[348] A/44/275 - E/1989/79, annex.

[349] OAS, Inter-American Juridical Committee, *Informes y Recomendaciones*, vol. XXI (1989), document CJI/RES.II-10/1989.

their Habitats,[350] the 1990 Bergen Ministerial Declaration on Sustainable Development in the ECE Region[351] and the Hague Declaration on the Environment of 11 March 1989.[352] The importance of maintaining "the ecological balance"[353] in utilizing natural resources, and of following "the ecosystems approach"[354] to the protection of water quality, have also been recognized in instruments adopted within the framework of CSCE. Finally the work of the World Commission on Environment and Development[355] and its Experts Group on Environmental Law[356] also emphasize that maintaining ecosystems and related ecological processes is essential to the achievement of sustainable development.[357]

Article 21. Prevention, reduction and control of pollution

1. For the purposes of this article, "pollution of an international watercourse" means any detrimental alteration in the composition or quality of the waters of an international watercourse which results directly or indirectly from human conduct.

2. Watercourse States shall, individually or jointly, prevent, reduce and control pollution of an international watercourse that may cause significant harm to other watercourse States or to their environment, including harm to human health or safety, to the use of the waters for any beneficial purpose or to the living resources of the watercourse. Watercourse States shall take steps to harmonize their policies in this connection.

3. Watercourse States shall, at the request of any of them, consult with a view to establishing lists of substances, the introduction of which into the waters of an international watercourse is to be prohibited, limited, investigated or monitored.

Commentary

(1) Article 21 establishes the fundamental obligation to prevent, reduce and control the pollution of international watercourses. It contains three paragraphs, the first of which defines the term "pollution", while the second lays down the obligation just referred to, and the third establishes a procedure for drawing up agreed lists of dangerous substances that should be subjected to special controls.

(2) *Paragraph 1* contains a general definition of the term "pollution", as that term is used in the present draft articles. While it contains the basic elements found in other definitions of the term,[358] paragraph 1 is more general in several respects. First, it does not mention any particular type of pollution or polluting agent (for example, substances or energy), unlike some other definitions. Secondly, the definition simply refers to "any detrimental alteration" and thus does not prejudge the question of the threshold at which pollution becomes impermissible. This threshold is addressed in paragraph 2. The definition is thus a purely factual one. It encompasses all pollution, whether or not it results in "significant harm" to other watercourse States within the meaning of article 7 and, more specifically, paragraph 2 of article 21. Thirdly, in order to preserve the factual character of the definition, paragraph 1 does not refer to any specific "detrimental" effects, such as harm to human health, property or living resources. Examples of such effects that rise to the level of "significant harm" are provided in paragraph 2. The definition requires only that there be a detrimental alteration in the "composition or quality" of the water. The term "composition" refers to all substances contained in the water, including solutes, as well as suspended particulate matter and other insoluble substances. The term "quality" is commonly used in rela-

[350] Adopted by ECE at its forty-third session in 1988, decision E(43) (E/ECE/1172-ECE/ENVWA/6). In the Declaration, the ECE member States agree, *inter alia*, to pursue the aim of "conserv[ing] living natural resources in the interests of present and future generations by maintaining essential ecological processes and life-support systems, preserving genetic diversity and ensuring sustainable utilization of species and ecosystems" (ibid., paragraph 1).

[351] Document A/CONF.151/PC/10, annex I. The Declaration recognizes, *inter alia*, in paragraph 6, that "The challenge of sustainable development of humanity depends on providing sustainability of the biosphere and its ecosystems".

[352] ILM, vol. XXVIII, No. 5 (November, 1989), p. 1308.

[353] *Final Act of the Conference on Security and Co-operation in Europe*, signed at Helsinki on 1 August 1975 (Lausanne, Imprimeries Réunies, [n.d.]).

[354] Report on conclusions and recommendations of the Meeting on the Protection of the Environment of the Conference on Security and Cooperation in Europe, held in Sofia in November 1989 (CSCE/SEM.36/Rev.1).

[355] *Our Common Future* (Oxford, University Press, 1987).

[356] *Environmental Protection* . . . (see footnote 310 above), especially article 3, "Ecosystems, related ecological processes, biological diversity, and sustainability".

[357] See, for example, to the same effect, paragraphs 2 and 3(*d*) of the Environmental Perspective to the Year 2000 and Beyond, adopted by the Governing Council of UNEP (*Official Records of the General Assembly, Forty-second Session, Supplement No. 25* (A/42/25 and Corr.1), annex II) and subsequently adopted by the General Assembly in resolution 42/186 "as a broad framework to guide national action and international cooperation on policies and programmes aimed at achieving environmentally sound development".

Also to the same effect are certain provisions of the Constitution of the Republic of Namibia, which entered into force on 21 March 1990, including article 91 (concerning the functions of the Ombudsman), subparagraph (*c*), and article 95 (concerning the promotion of the welfare of the people), subparagraph (*l*). According article 95, for example, "The State shall actively promote and maintain the welfare of the people by adopting, *inter alia*, policies aimed at the following: . . . (*l*) maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future . . ." (reproduced in document S/20967/Add.2, annex I).

[358] See, for example, article IX of the Helsinki Rules (footnote 184 above); article I, paragraph 1, of the Athens resolution (ibid.); part A, paragraph 3, of the 1974 Principles concerning transfrontier pollution of OECD (footnote 296 above); article 2, paragraph 1, of the Montreal Rules (footnote 256 above); article 1, paragraph 4, of the United Nations Convention on the Law of the Sea; article 1 of the Convention on Long-range Transboundary Air Pollution; article 1, subparagraph (*c*), of the draft European Convention on the Protection of Fresh Water against Pollution, adopted by the Council of Europe in 1969 (reproduced in A/CN.4/274, p. 343, para. 374); and article 1, subparagraph (*c*), of the draft European Convention for the protection of international watercourses against pollution, adopted by the Council of Europe in 1974 (ibid., para. 376).

tion to pollution, especially in such expressions as "air quality" and "water quality". While it is difficult, and perhaps undesirable, to define the term precisely, it refers generally to the essential nature and degree of purity of water. Fourthly, the definition does not refer to the means by which pollution is caused, such as by the "introduction" of substances, energy, and the like, into a watercourse. It requires only that the "detrimental alteration" result from "human conduct". The latter expression is understood to include both acts and omissions, and was thus considered preferable to such terms as "activities". Finally, the definition does not include "biological" alterations. While there is no doubt that the introduction into a watercourse of alien or new species of flora and fauna may have harmful effects upon the quality of the water, the introduction of such living organisms is not generally regarded as "pollution" *per se*. Biological alterations are therefore the subject of a separate article, namely article 22.

(3) *Paragraph 2* sets forth the general obligation of watercourse States to "prevent, reduce and control pollution of an international watercourse that may cause significant harm to other watercourse States or to their environment ...". This paragraph is a specific application of the general principles contained in articles 5 and 7.

(4) In applying the general obligation of article 7 to the case of pollution, the Commission took into account the practical consideration that some international watercourses are already polluted to varying degrees, while others are not. In light of this state of affairs, it employed the formula "prevent, reduce and control" in relation to the pollution of international watercourses. This expression is used in article 194, paragraph 1, of the United Nations Convention on the Law of the Sea in connection with marine pollution, with respect to which the situation is similar. The obligation to "prevent" relates to new pollution of international watercourses, while the obligations to "reduce" and "control" relate to existing pollution. As with the obligation to "protect" ecosystems under article 20, the obligation to prevent pollution "that may cause significant harm" includes the duty to exercise due diligence to prevent the threat of such harm.[359] This obligation is signified by the words "may cause". Furthermore, as in the case of article 20, the principle of precautionary action is applicable, especially in respect of dangerous substances such as those that are toxic, persistent or bioaccumulative.[360] The requirement that watercourse States "reduce and control" existing pollution reflects the practice of States, in particular those in whose territories polluted watercourses are situated. This practice indicates a general willingness to tolerate even significant pollution harm, provided that the watercourse State of origin is making its best efforts to reduce the pollution to a mutually acceptable level.[361] A requirement that existing pollution causing such harm be abated immediately could, in some cases, result in undue hardship, especially where the detriment to the watercourse State of origin was grossly disproportionate to the benefit that would accrue to the watercourse State experiencing the harm.[362] On the other hand, failure of the watercourse State of origin to exercise due diligence in reducing the pollution to acceptable levels would entitle the affected State to claim that the State of origin had breached its obligation to do so.

(5) Like article 20, paragraph 2 of article 21 requires that the measures in question be taken "individually or jointly". The remarks made on paragraph (4) of the commentary to article 20 apply, *mutatis mutandis*, with regard to paragraph 2 of article 21. As explained in the commentary to article 20, the obligation to take joint action derives from certain general obligations contained in part two of the draft articles. In the case of paragraph 2 of article 21, the obligation of watercourse States under article 5, paragraph 2, to "participate in the ... protection of an international watercourse in an equitable and reasonable manner", as well as that under article 8 to "cooperate ... in order to attain ... adequate protection of an international watercourse" may, in some situations, call for joint participation in the application of pollution control measures.[363] These obligations contained in articles 5 and 8 are also relevant to the duty to harmonize policies, addressed in paragraph (7) below.

(6) The obligations of prevention, reduction and control all apply to pollution "that may cause significant harm to other watercourse States or to their environment". Pollution below that threshold would not fall within paragraph 2 of article 21 but, depending upon the circumstances, might be covered either by article 20 or by article 23, to be discussed below. Several examples of significant harm that pollution may cause to a watercourse State or to its environment are provided at the end of the first sentence of paragraph 2. The list is not exhaustive, but is provided for purposes of illustration only. Pollution of an international watercourse may cause harm not only to "human health or safety" or to "the use of the waters for any beneficial purpose"[364] but also to "the living resources of the international watercourse", flora and fauna dependent upon the watercourse, and the amenities connected with it.[365] The term "environment" of other watercourse States is intended

[359] See paragraph (3) of the commentary to article 20.

[360] See the commentary to article 20, especially paragraphs (3) and (9).

[361] See the fourth report of the previous Special Rapporteur (footnote 265 above), paragraph (11) of the comments to article 16[17]. This assessment of the practice of States is also reflected in the most recent comprehensive study on the subject (see J. G. Lammers, op. cit. (footnote 184 above), p. 301).

[362] This position is in accord with that taken in the Helsinki Rules (see footnote 184 above). See especially comment (*d*) to article XI.

[363] Such participation and cooperation may take a number of forms, including the provision of technical assistance, joint financing, the exchange of specific data and information, and similar forms of joint participation and cooperation. To the same effect, see comment (*b*) to article X of the Helsinki Rules (ibid.).

[364] The Commission recognizes that it may be regarded as somewhat awkward to speak of "harm ... to the use of waters", but preferred not to use another expression (such as, for example, "interference with the use of the waters"), since other expressions could raise doubts as to whether a uniform standard was being applied in the case of each illustration. The present wording leaves no doubt that the same standard—that of significant harm—is used in all illustrations.

[365] Such amenities may include, for example, the use of a watercourse for recreational purposes or for tourism.

to encompass, in particular, matters of the latter kind.[366] It is thus broader than the concept of the "ecosystem" of an international watercourse, which is the subject of article 20.

(7) The final sentence of paragraph 2 requires watercourse States to "take steps to harmonize their policies" concerning the prevention, reduction and control of water pollution. This obligation, which is grounded in treaty practice[367] and which has a counterpart in article 194, paragraph 1 of the 1982 United Nations Convention on the Law of the Sea, addresses the problems that often arise when States adopt divergent policies, or apply different standards, concerning the pollution of international watercourses. The duty to harmonize policies is a specific application of certain of the general obligations contained in articles 5 and 8, mentioned in paragraph (5) of the commentary to article 21, particularly the obligation of watercourse States under article 8 to "cooperate ... in order to attain ... adequate protection of an international watercourse". In the present case, this means that watercourse States are to work together in good faith to achieve and maintain harmonization of their policies concerning water pollution. Harmonization of policies is thus a process in two different senses. First, initial achievement of harmonization will often involve several steps or stages; it is this aspect of the process that is addressed in paragraph 2, as indicated by the words "take steps". Secondly, even after policies have been successfully harmonized, continuing cooperative efforts will ordinarily be required to maintain their harmonization as conditions change. The entire process will necessarily depend on consensus among watercourse States.

(8) *Paragraph 3* requires watercourse States to enter into consultations, if one or more of them should so request, with a view to drawing up lists of substances which, by virtue of their dangerous nature, should be subjected to special regulation. Such substances are principally those that are toxic, persistent or bioaccumulative. The practice of establishing lists of substances whose discharge into international watercourses is either prohibited or subject to special regulation has been followed in a number of international agreements and other instruments.[368] States have made the discharge of these substances subject to special regimes because of their particularly dangerous and long-lasting nature. Indeed, the objective of some of the recent agreements dealing with these substances is to eliminate them entirely from the watercourses in question.[369] The provision contained in paragraph 3 is in no way intended to suggest that pollution by substances is of any greater concern or effect than any other detrimental alteration resulting from human conduct such as the thermal consequences of energy.

(9) A detailed survey of representative illustrations of international agreements, the work of international organizations, decisions of international courts and tribunals, and other instances of State practice supporting article 21 is contained in the fourth report of the previous Special Rapporteur.[370] A 1984 study lists 88 international agreements "containing substantive provisions concerning pollution of international watercourses".[371] The work of international non-governmental organizations concerned with international law and groups of experts in this field has been particularly rich.[372] These authorities evidence a long-standing concern of States with the problem of pollution of international watercourses.

Article 22. Introduction of alien or new species

Watercourse States shall take all measures necessary to prevent the introduction of species, alien or new, into an international watercourse which may have effects detrimental to the ecosystem of the watercourse resulting in significant harm to other watercourse States.

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[366] Significant harm, by pollution, to the "environment" of a watercourse State could also take the form of harm to human health in the form of diseases, or their vectors, carried by water. While harm to "human health" is expressly mentioned in paragraph 2, other forms of significant harm that are not directly connected with the use of water may also result from pollution of an international watercourse.

[367] International agreements concerning water pollution normally have as one of their explicit or implicit objects the harmonization of the relevant policies and standards of the watercourse States concerned. This is true whether the agreement concerns the protection of fisheries (see, for example, article 17 of the 1904 Convention between the French Republic and the Swiss Confederation for the regulation of fishing in frontier waters (footnote 338 above), or the prevention of adverse effects upon certain uses (see, for example, article 4, paragraph 10, of the Indus Waters Treaty 1960 between India and Pakistan (footnote 178 above), or actually sets water quality standards and objectives (see, for example, the Agreement on Great Lakes Water Quality (footnote 336 above), in particular, article II). Thus, harmonization may be achieved by agreement upon specific policies and standards or by requiring that pollution not exceed levels necessary for the protection of a particular resource, use or amenity. See generally the discussion of international agreements concerning water pollution in the fourth report of the previous Special Rapporteur (footnote 265 above), paras. 39-48.

[368] See, for example, the Convention on the Protection of the Rhine against Chemical Pollution and the Agreement on Great Lakes Water Quality (footnote 336 above).

See also the draft European convention for the protection of international watercourses against pollution (A/CN.4/274, para. 376); article III, paragraph 2, of the Athens resolution (footnote 184 above); and article 2 of the Montreal Rules (footnote 256 above).

The same approach has also been used in the field of marine pollution. See especially the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter. This agreement separates harmful wastes into three categories: those whose discharge is prohibited altogether; those whose discharge is subject to a prior special permit; and those whose discharge is subject only to a prior general permit.

[369] Ibid.

[370] Paras. 38-88 (see footnote 265 above).

[371] Lammers, op. cit. (see footnote 184 above), pp. 124 *et seq.* See also the survey by J. J. A. Salmon, conducted in connection with the preparatory works for the Athens session by the Institute of International Law, on "Les obligations relatives à la protection du milieu aquatique", in *Yearbook of the Institute of International Law*, vol. 58, part I (1979), pp. 195-200 and 268-271.

[372] This is especially true of the Institute of International Law and ILA. For the Institute of International Law, see especially the Athens resolution (footnote 184 above). For ILA, see the Helsinki Rules (ibid.), arts. IX-XI; the Montreal Rules (footnote 256 above); and article 3 of the Seoul Rules (footnote 222 above). See also the legal principles for environmental protection and sustainable development elaborated by the Experts Group on Environmental Law of the World Commission on Environment and Development, *Environmental Protection* ..., op. cit. (footnote 310 above), p. 45.

Commentary

(1) The introduction of alien or new species of flora or fauna into a watercourse can upset its ecological balance and result in serious problems including the clogging of intakes and machinery, the spoiling of recreation, the acceleration of eutrophication, the disruption of food webs, the elimination of other, often valuable species, and the transmission of disease. Once introduced, alien and new species can be highly difficult to eradicate. Article 22 addresses this problem by requiring watercourse States to take all measures necessary to prevent such introduction. A separate article is necessary to cover this subject because, as already noted, the definition of "pollution" contained in paragraph 1 of article 21 does not include biological alterations.[373] A similar provision, relating to the protection of the marine environment, is contained in paragraph 1 of article 196 of the 1982 United Nations Convention on the Law of the Sea.

(2) The term "species" includes both flora and fauna, such as plants, animals and other living organisms.[374] The term "alien" refers to species that are non-native, while "new" encompasses species that have been genetically altered or produced through biological engineering. As is clear from its terms, the article concerns the introduction of such species only into the watercourse itself, and does not concern fish farming or other activities that are conducted outside the watercourse.[375]

(3) Article 22 requires watercourse States to "take all measures necessary" to prevent the introduction of alien or new species. This expression, which is also used in article 196 of the 1982 United Nations Convention on the Law of the Sea, indicates that watercourse States are to undertake studies, in so far as they are able, and take the precautions that are required to prevent alien or new species from being introduced into a watercourse by public authorities or private persons. The obligation is one of due diligence, and will not be regarded as having been breached if a watercourse State has done all that can reasonably be expected to prevent the introduction of such species.

(4) The "introduction" that watercourse States are to take all measures necessary to prevent is one that "may have effects detrimental to the ecosystem of the watercourse resulting in significant harm to other watercourse States". While any introduction of an alien or new species into an international watercourse should be treated with great caution, the Commission was of the view that the relevant legal obligation under the draft articles should be kept in harmony with the general rule contained in article 7. Since detrimental effects of alien or new species will, almost invariably, manifest themselves first upon the ecosystem of a watercourse, this link between the "introduction" of the species and significant harm was included in the article. As in the case of paragraph 2 of article 21, the use of the word "may" indicates that precautionary action is necessary to guard against the very serious problems that alien or new species may cause. While the term "environment" was included for purposes of emphasis in paragraph 2 of article 21, it perhaps goes without saying that the "significant harm to other watercourse States" contemplated in the present article includes harm to the environment of those States. Finally, as is true of other aspects of the protection of international watercourses, joint as well as individual action may be called for in preventing the introduction of alien or new species into international watercourses.

Article 23. Protection and preservation of the marine environment

Watercourse States shall, individually or jointly, take all measures with respect to an international watercourse that are necessary to protect and preserve the marine environment, including estuaries, taking into account generally accepted international rules and standards.

Commentary

(1) Article 23 addresses the increasingly serious problem of pollution that is transported into the marine environment by international watercourses. While the impact of such pollution upon the marine environment, including estuaries, has been recognized only relatively recently, it is now dealt with, directly or indirectly, in a number of agreements. In particular, the obligation not to cause pollution damage to the marine environment from land-based sources is recognized both in the 1982 United Nations Convention on the Law of the Sea[376] and in conventions concerning various regional seas.[377]

(2) The obligation set forth in article 23 is not, however, to protect the marine environment, *per se*, but to take measures "with respect to an international watercourse" that are necessary to protect that environment. But the obligation of watercourse States under article 23 is separate from, and additional to, the obligations set forth in articles 20 to 22. Thus, a watercourse State could conceivably damage an estuary through pollution of an international watercourse without breaching its obligation not to cause significant harm to other watercourse States. Article 23 would require the former watercourse State to take the measures necessary to protect and preserve the estuary.

[373] See paragraph (2) of the commentary to article 21 above.

[374] Thus the term would include parasites and disease vectors.

[375] Appropriate precautionary measures may be required, however, to prevent any alien or new species involved in such activities from making their way into the watercourse.

[376] See article 194, paragraph 3 (*a*), and article 207.

[377] See, for example, the Convention for the Prevention of Marine Pollution from Land-based Sources; the Convention on the Protection of the Marine Environment of the Baltic Sea Area; the Convention for the Protection of the Mediterranean Sea against Pollution, and its Protocol of 1980 and the Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution. See also the Ministerial Declarations of the various international conferences on the protection of the North Sea: the First International Conference (Bremen, 31 October-1 November 1984); the Second International Conference (London, 24-25 November 1987); and the Third International Conference (The Hague, 8 March 1990) (*The North Sea . . .*, op. cit. (footnote 346 above)).

(3) The expression "take all measures ... necessary" has the same meaning, *mutatis mutandis*, as in article 22.[378] In the present case, watercourse States are to take all of the necessary measures of which they are capable, financially and technologically. The expression "individually or jointly" also has the same meaning, *mutatis mutandis*, as in articles 20[379] and 21, paragraph 2.[380] Thus, where appropriate, watercourse States are to take joint, cooperative action to protect the marine environment from pollution carried there by an international watercourse. Such action is to be taken on an equitable basis. The terms "protect" and "preserve" have the same meaning, *mutatis mutandis*, as in article 20.[381] Without prejudice to its meaning in the United Nations Convention on the Law of the Sea and other international agreements, the expression "marine environment" is understood to include, *inter alia*, the water, flora and fauna of the sea, as well as the sea-bed and ocean floor.[382]

(4) The article concludes with the phrase, "taking into account generally accepted international rules and standards", which has also been used in the United Nations Convention on the Law of the Sea.[383] The phrase refers both to rules of general international law and to those derived from international agreements, as well as to standards adopted by States and international organizations pursuant to those agreements.[384]

Article 24. Management

1. Watercourse States shall, at the request of any of them, enter into consultations concerning the management of an international watercourse, which may include the establishment of a joint management mechanism.

2. For the purposes of this article, "management" refers, in particular, to:

(*a*) Planning the sustainable development of an international watercourse and providing for the implementation of any plans adopted; and

(*b*) Otherwise promoting rational and optimal utilization, protection and control of the watercourse.

Commentary

(1) Article 24 recognizes the importance of cooperation by watercourse States in managing international watercourses with a view to ensuring their protection while maximizing benefits for all watercourse States concerned. It is intended to facilitate the consideration by watercourse States of modalities of management that are appropriate to the individual States and watercourses in question.

(2) *Paragraph 1* requires that watercourse States enter into consultations concerning the management of an international watercourse if any watercourse State should so request. The paragraph does not require that watercourse States "manage" the watercourse in question, or that they establish a joint organization, such as a commission, or other management mechanism. The outcome of the consultations is left in the hands of the States concerned. States have, in practice, established numerous joint river, lake and similar commissions, many of which are charged with management of the international watercourses. Management of international watercourses may also be affected through less formal means, however, such as by the holding of regular meetings between the appropriate agencies or other representatives of the States concerned. Thus paragraph 1 refers to a joint management "mechanism" rather than an organization in order to provide for such less formal means of management.

(3) *Paragraph 2* indicates in general terms the most common features of a programme of management of an international watercourse. The use of terms in this article such as "sustainable development" and "rational and optimal utilization" is to be understood as relevant to the process of management. It in no way affects the application of articles 5 and 7 which establish the fundamental basis for the draft articles as a whole. Planning the development of a watercourse so that it may be sustained for the benefit of present and future generations is emphasized in *subparagraph* (a) because of its fundamental importance. While joint commissions have proved an effective vehicle for carrying out such plans, the watercourse States concerned may also implement plans individually. The functions mentioned in *subparagraph* (b) are also common features of management regimes. Most of the specific terms contained in that subparagraph are derived from other articles of the draft, in particular article 5. The adjective "rational" indicates that the "utilization, protection and control" of an international watercourse should be planned by the watercourse States concerned, rather than being carried out on a haphazard or ad hoc basis. Together, subparagraphs (*a*) and (*b*) would include such functions as: planning of sustainable, multi-purpose and integrated development of international watercourses; facilitation of regular communication and exchange of data and information between watercourse States; and monitoring of international watercourses on a continuous basis.

(4) A review of treaty provisions concerning institutional arrangements, in particular, reveals that States have established a wide variety of organizations for the management of international watercourses. Some agreements deal only with a particular watercourse while others cover a number of watercourses or large drainage basins. The powers vested in the respective commissions are tailored to the subject matter of the individual agreements. Thus, the competence of a joint body may be defined rather specifically where a single watercourse is involved and more generally where the agreement covers

[378] See paragraph (3) of the commentary to article 22 above.

[379] See paragraph (4) of the commentary to article 20 above.

[380] See paragraph (5) of the commentary to article 21 above.

[381] See paragraph (3) of the commentary to article 20 above.

[382] The expression "marine environment" is not defined in the Convention. "Pollution of the marine environment" is, however, defined in article 1, paragraph 1 (4).

[383] See, for example, article 211, paragraph 2.

[384] See, in particular, the above-mentioned agreements (footnote 377 above).

an international drainage basin or a series of boundary rivers, lakes and aquifers. Article 24 is cast in terms that are intended to be sufficiently general to be appropriate for a framework agreement. At the same time, the article is designed to provide guidance to watercourse States with regard to the powers and functions that could be entrusted to such joint mechanisms or institutions as they may decide to establish.

(5) The idea of establishing joint mechanisms for the management of international watercourses is hardly a new one.[385] As early as 1911, the Institute of International Law recommended "that the interested States appoint permanent joint commissions" to deal with "new establishments or the making of alterations in existing establishments".[386] Many of the early agreements concerning international watercourses, particularly those of the nineteenth century, were especially concerned with the regulation of navigation and fishing.[387] The more recent agreements, especially those concluded since the Second World War, have focused more upon other aspects of the utilization or development of international watercourses, such as the study of the development potential of the watercourse, irrigation, flood control, hydroelectric power generation and pollution.[388] These kinds of uses, which took on greater importance due to the intensified demand for water, food and electricity, have necessitated to a much greater degree the establishment of joint management mechanisms. Today there are nearly as many such mechanisms as there are major international watercourses.[389] They may be ad hoc or permanent, and they possess a wide variety of functions and powers.[390] Article 24 takes into account not only this practice of watercourse States, but also the recommendations of conferences and meetings held under United Nations auspices to the effect that those States should consider establishing joint management mechanisms in order to attain maximum possible benefits from and protection of international watercourses.[391]

Article 25. Regulation

1. Watercourse States shall cooperate, where appropriate, to respond to needs or opportunities for regulation of the flow of the waters of an international watercourse.

2. Unless otherwise agreed, watercourse States shall participate on an equitable basis in the construction and maintenance or defrayal of the costs of such regulation works as they may have agreed to undertake.

3. For the purposes of this article, "regulation" means the use of hydraulic works or any other continuing measure to alter, vary or otherwise control the flow of the waters of an international watercourse.

Commentary

(1) Article 25 deals with the regulation, by watercourse States, of the flow of waters of an international watercourse. Regulation of the flow of watercourses is often necessary both to prevent harmful effects of the current, such as floods and erosion, and to maximize the benefits that may be obtained from the watercourse. The article consists of three paragraphs, setting forth respectively the basic obligation in respect of regulation, the duty of equitable participation as it applies to regulation, and a definition of the term "regulation".

(2) *Paragraph 1* is a specific application of the general obligation to cooperate provided for in article 8. The paragraph requires watercourse States to cooperate, where appropriate, specifically with regard to needs and opportunities for regulation. As indicated in the preceding paragraph of this commentary, such needs and opportunities would normally relate to the prevention of harm and the increasing of benefits from the international watercourse in question. The words "where ap-

[385] The 1754 Treaty for the Establishment of Limits (Treaty of Vaprio) between the Empress of Austria, in her capacity as Duchess of Milan, and the Republic of Venice, entrusted a pre-existing joint boundary commission with functions relating to the common use of the river Ollio (C. Parry, ed., *The Consolidated Treaty Series* (Dobbs Ferry, New York, Oceana Publications, 1969), vol. 40, p. 215). Another early example is found in the 1785 Definitive Treaty (Treaty of Fontainebleau) between Austria and the Netherlands, which formed a bipartite body to determine the best sites for the joint construction of locks on the River Meuse (ibid., vol. 49, p. 369, also referred to in the 1952 ECE report, "Legal aspects of hydroelectric development of rivers and lakes of common interest", document E/ECE/136, paras. 175 *et seq.*).

[386] The Madrid resolution (see footnote 273 above).

[387] An illustrative survey may be found in the fourth report of the previous Special Rapporteur (see footnote 265 above), paras. 39-48.

[388] This point is illustrated by the discussion of "Multilateral agreements" in United Nations, *Management of International Water Resources* . . . (see footnote 260 above), pp. 33-36, especially p. 34.

[389] A survey of multipartite and bipartite commissions concerned with non-navigational uses of international watercourses, compiled by the Secretariat in 1979, lists 90 such bodies ("Annotated list of multipartite and bipartite commissions concerned with non-navigational uses of international watercourses", April 1979 (unpublished)). While the largest number of the commissions listed deal with watercourses in Europe, every region of the world is represented and the number of commissions was increasing in developing countries, particularly on the African continent, at the time the list was prepared.

[390] For summary descriptions of some of these agreements, "selected to illustrate the widest possible variety of arrangements", see "Annotated list . . .", annex IV (ibid.). See also the list of agreements setting up joint machinery for the management of international watercourses in ILA, *Report of the Fifty-seventh Conference, Madrid, 1976*, pp. 256-266; Ely and Wolman, loc. cit. (footnote 260 above), p. 124; and the sixth report of the previous Special Rapporteur, *Yearbook* . . . *1990*, vol. II (Part One), p. 41, document A/CN.4/427 and Add.1, paras. 3-6. The kinds of functions and powers that have been conferred upon joint management mechanisms are illustrated in the following three agreements from three continents: the Convention creating the Niger Basin Authority, arts. 3-5; the Indus Waters Treaty 1960 (see footnote 178 above); and the Treaty relating to boundary waters and questions concerning the boundary between Canada and the United States ((Washington, D.C., 11 January 1909) *British and Foreign State Papers, 1908-1909*, vol. 102, p. 137; *Legislative Texts*, p. 260, No. 79).

[391] See, for example, the *Report of the United Nations Conference on the Human Environment* (footnote 213 above), recommendation 51; and Interregional Meeting on River and Lake Development, with emphasis on the African region (footnote 184 above). The work of international organizations in this field is surveyed in the sixth report of the previous Special Rapporteur (footnote 390 above), paras. 7-17.

propriate" emphasize that the obligation is not to seek to identify needs and opportunities, but to respond to those that exist.

(3) *Paragraph 2* applies to situations in which watercourse States have agreed to undertake works for the regulation of the flow of an international watercourse. It is a residual rule which requires watercourse States to "participate on an equitable basis" in constructing, maintaining, or defraying the costs of those works unless they have agreed on some other arrangement. This duty is a specific application of the general obligation of equitable participation contained in article 5. It does not require watercourse States to "participate", in any way, in regulation works from which they derive no benefit. It would simply mean that when one watercourse State agrees with another to undertake regulation works, and receives benefits therefrom, the former would be obligated, in the absence of agreement to the contrary, to contribute to the construction and maintenance of the works in proportion to the benefits it received therefrom.

(4) *Paragraph 3* contains a definition of the term "regulation". The definition identifies, first, the means of regulation, that is to say, "hydraulic works or any other continuing measure" and, secondly, the objectives of regulation, that is to say, "to alter, vary or otherwise control the flow of the waters". Specific means of regulation commonly include such works as dams, reservoirs, weirs, canals, embankments, dykes, and river bank fortifications. They may be used for such objectives as regulating the flow of water, so as to prevent floods in one season and drought in another; guarding against serious erosion of river banks or even changes in the course of a river; and assuring a sufficient supply of water, for example, to keep pollution within acceptable limits, or to permit such uses as navigation and timber floating. Making the flow of water more consistent through regulation or control works can also extend periods during which irrigation is possible, permit or enhance the generation of electricity, alleviate siltation, prevent the formation of stagnant pools in which the malarial mosquito may breed, and sustain fisheries. However, regulation of the flow of an international watercourse may also have adverse effects upon other watercourse States. For example, a dam may reduce seasonal flows of water to a downstream State or flood an upstream State. The fact that regulation of the flow of water may be necessary to achieve optimal utilization and, at the same time, potentially harmful, demonstrates the importance of cooperation between watercourse States in the manner provided for in article 25.

(5) The numerous treaty provisions concerning regulation of the flow of international watercourses demonstrate that States recognize the importance of cooperation in this respect.[392] This practice and the need for strengthening cooperation among watercourse States with regard to regulation has also led an organization of specialists in international law to elaborate a set of general rules and recommendations concerning the regulation of the flow of international watercourses.[393] The present article, which was inspired by the practice of States in this field, contains general obligations, appropriate for a framework instrument, relating to a subject of concern to all watercourse States.

Article 26. Installations

1. Watercourse States shall, within their respective territories, employ their best efforts to maintain and protect installations, facilities and other works related to an international watercourse.

2. Watercourse States shall, at the request of any of them which has serious reason to believe that it may suffer significant adverse effects, enter into consultations with regard to:

(*a*) The safe operation or maintenance of installations, facilities or other works related to an international watercourse; or

(*b*) The protection of installations, facilities or other works from wilful or negligent acts or the forces of nature.

Commentary

(1) Article 26 concerns the protection of installations, such as dams, barrages, dykes and weirs from damage due to deterioration, the forces of nature or human acts, which may result in significant harm to other watercourse States. The article consists of two paragraphs which, respectively, lay down the general obligation and provide for consultations concerning the safety of installations.

(2) *Paragraph 1* requires that watercourse States employ their "best efforts" to maintain and protect the works there described. Watercourse States may fulfil this obligation by doing what is within their individual capabilities to maintain and protect installations, facilities and other works related to an international watercourse. Thus, for example, a watercourse State should exercise due diligence to maintain a dam, that is to say, keep it in good order, such that it will not burst, causing significant harm to other watercourse States. Similarly, all reasonable precautions should be taken to protect such works

[392] A number of these provisions are referred to in the fifth report of the previous Special Rapporteur, *Yearbook . . . 1989*, vol. II (Part One), pp. 91 *et seq.* document A/CN.4/421 and Add.1 and 2, paras. 131-138. Representative examples include the Agreement between the Government of the Union of Soviet Socialist Republics, the Government of Norway and the Government of Finland concerning the regulation of Lake Inari by means of the Kaïtakoski hydroelectric power station and dams; the Treaty between the United States of relating to the utilization of the waters of the Colorado and Tijuana Rivers, and the Rio Grande (Rio Bravo) from Fort Quitman, Texas, to the Gulf of Mexico (see footnote 268 above); the Agreement between the United Arab Republic and the Sudan for the full utilization of the Nile waters (footnote 244 above); the Treaty of the River Plate Basin; and the Indus Waters Treaty 1960 (see footnote 178 above), pp. 325-332 (Annexure E).

[393] At its fifty-ninth Conference, held in Belgrade in 1980, ILA adopted nine articles on the regulation of the flow of water of international watercourses (see footnote 304 above). The articles are set forth in the fifth report of the Special Rapporteur (see footnote 392 above), para. 139.

from foreseeable kinds of damage due to forces of nature, such as floods, or to human acts, whether wilful or negligent. The wilful acts in question would include terrorism and sabotage, while negligent conduct would encompass any failure to exercise ordinary care under the circumstances which resulted in damage to the installation in question. The words "within their respective territories" reflect the fact that maintenance and protection of works are normally carried out by the watercourse State in whose territory the works in question are located. Paragraph 1 in no way purports to authorize, much less require, one watercourse State to maintain and protect works in the territory of another watercourse State. However, there may be circumstances in which it would be appropriate for a watercourse State to participate in the maintenance and protection of works outside its territory as, for example, where it operated the works jointly with the State in which they were situated.

(3) *Paragraph 2* establishes a general obligation of watercourse States to enter into consultations concerning the safe operation, maintenance or protection of water works. The obligation is triggered by a request of a watercourse State "which has serious reason to believe that it may suffer significant adverse effects" arising from the operation, maintenance or protection of the works in question. Thus, in contrast to paragraph 1, this paragraph deals with exceptional situations in which a watercourse State perceives the possibility of a particular danger. The cases addressed in paragraph 2 should also be distinguished from "emergency situations" under article 28. While the situations dealt with in the latter article involve, *inter alia*, an imminent threat, the danger under paragraph 2 of the present article need not be an imminent one, although it should not be so remote as to be minimal. The requirement that a watercourse State have a "serious reason to believe" that it may suffer adverse effects constitutes an objective standard, and requires that there be a realistic danger. The phrase "serious reason to believe" is also used in article 18 and has the same meaning as in that article. This requirement conforms with State practice, since States generally hold consultations when there are reasonable grounds for concern about actual or potential adverse effects. Finally, the expression "significant adverse effects" has the same meaning as in article 12. Thus the threshold established by this standard is lower than that of "significant harm".[394]

(4) The obligation to enter into consultations under paragraph 2 applies to significant adverse effects that may arise in two different ways. First, such effects may arise from the operation or maintenance of works. Thus, *subparagraph (a)* provides for consultations concerning the operation or maintenance of works in a safe manner. Secondly, adverse effects upon other watercourse States may result from damage to water works due to wilful or negligent acts, due to the forces of nature. Thus, if a watercourse State had serious reason to believe that it could be harmed by such acts or forces, it would be entitled, under *subparagraph (b)*, to initiate consultations concerning the protection of the works in question from such acts as terrorism and sabotage, or such forces as landslides and floods.

(5) The concern of States for the protection and safety of installations is reflected in international agreements. Some agreements involving hydroelectric projects contain specific provisions concerning the design of installations[395] and provide that plans for the works may not be carried out without the prior approval of the parties.[396] States have also made provision in their agreements for ensuring the security of works through the enactment of domestic legislation by the State in whose territory the works are situated. Article 26 does not go so far, but lays down general, residual rules intended to provide for basic levels of protection and safety of works related to international watercourses.

PART FIVE

HARMFUL CONDITIONS AND EMERGENCY SITUATIONS

Article 27. Prevention and mitigation of harmful conditions

Watercourse States shall, individually or jointly, take all appropriate measures to prevent or mitigate conditions that may be harmful to other watercourse States, whether resulting from natural causes or human conduct, such as flood or ice conditions, water-borne diseases, siltation, erosion, salt-water intrusion, drought or desertification.

Commentary

(1) Article 27 deals with a wide variety of "conditions" related to international watercourses that may be harmful to watercourse States. While it may be debated whether the harm results from the condition itself or from the effects thereof, there is no doubt that such problems as floods, ice floes, drought and water-borne diseases, to mention only a few, are of serious consequence for watercourse States. The present article is concerned with the prevention and mitigation of such conditions while article 28 deals with the obligation of watercourse States in responding to actual emergency situations. The measures called for in preventing and mitigating these conditions are of an anticipatory nature and are thus quite different from those involved in responding to emergencies.

(2) Like articles 20, 21 and 23, the present article requires that the measures in question be taken "individually or jointly". As in the case of those articles, this

[394] See paragraph (2) of the commentary to article 12 above.

[395] An example is article 8 of the 1957 Convention between the Swiss Confederation and the Italian Republic concerning the use of the water power of the Spöl (*Legislative Texts*, No. 235, p. 859; summarized in A/5409, p. 161, paras. 849-854).

[396] See article 2 of the 1963 Convention between France and Switzerland on the Emosson hydroelectric project (RGDIP (Paris), 3rd series, vol. XXXVI, No. 1 (January-March, 1965), p. 571; summarized in A/CN.4/274, p. 311, para. 229).

expression is an application of the general obligation of equitable participation set forth in article 5. The requirement that watercourse States take "all appropriate measures" means that they are to take measures that are tailored to the situation involved, and that are reasonable in view of the circumstances of the watercourse State in question. It takes into account the capabilities of watercourse States, in so far as their means of knowing of the conditions and their ability to take the necessary measures are concerned.

(3) The conditions dealt with in article 27 may result from natural causes, human conduct, or a combination of the two.[397] The expression "natural causes or human conduct" comprehends each of these three possibilities. While States cannot prevent phenomena resulting entirely from natural causes, they can do much to prevent and mitigate harmful conditions that are consequent upon such phenomena. For example, floods may be prevented, or their severity mitigated, through the construction of reservoirs, afforestation, or improved range management practices.

(4) The list of conditions provided at the end of the article is non-exhaustive, but includes most of the major problems that the article is intended to address. Other conditions covered by the article include drainage problems and flow obstructions. Drought and desertification may not, at first glance, seem to fit in with the other problems mentioned since, unlike the others, they are the result of the lack of water rather than the harmful effects of it. But the effects of a drought, for example, may be seriously exacerbated by improper water management practices.[398] And States situated in regions subject to droughts and desertification have demonstrated their determination to cooperate with a view to controlling and mitigating these problems.[399] In view of the severity of these problems, and of the fact that cooperative action among watercourse States can do much to prevent or mitigate them, they are expressly mentioned in the article.

(5) The kinds of measures that may be taken under article 27 are many and varied. They range from the regular and timely exchange of data and information that would be of assistance in preventing and mitigating the conditions in question, to taking all reasonable steps to ensure that activities in the territory of a watercourse State are so conducted as not to cause conditions that may be harmful to other watercourse States. They may also include the holding of consultations concerning the planning and implementation of joint measures, whether or not involving the construction of works, and the preparation of studies of the efficacy of measures that have been taken.

(6) Article 27 is based upon the provisions of numerous treaties,[400] decisions of international courts and tribunals, State practice, and the work of international organizations.[401] Representative examples have been surveyed and analysed in the fifth report of the previous Special Rapporteur.[402]

Article 28. Emergency situations

1. For the purposes of this article, "emergency" means a situation that causes, or poses an imminent threat of causing, serious harm to watercourse States or other States and that results suddenly from natural causes, such as floods, the breaking up of ice, landslides or earthquakes, or from human conduct, such as industrial accidents.

2. 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.

3. A watercourse State within whose territory an emergency originates shall, in cooperation with potentially affected States and, where appropriate, competent international organizations, immediately take all practicable measures necessitated by the circumstances to prevent, mitigate and eliminate harmful effects of the emergency.

4. 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.

Commentary

(1) Article 28 deals with the obligations of watercourse States in responding to actual emergency situations that are related to international watercourses. It is to be contrasted with article 27 which concerns the prevention and mitigation of conditions that may be harmful to watercourse States.[403]

(2) *Paragraph 1* defines the term "emergency". The definition contains a number of important elements, and

[397] For example, floods and siltation may result from deforestation coupled with heavy rains; or a flood may be caused by earthquake damage to a dam.

[398] See, for example, *Report of the United Nations Water Conference* . . . (footnote 215 above).

[399] See, for example, the Convention creating the Niger Basin Authority, which provides that the Authority shall undertake activities relating to the "[p]revention and control of drought and desertification . . .", art. 4, para. 2 (*c*) (iv) and (*d*) (iv), pp. 58-59. See also the Convention concerning the Creation of the Permanent Inter-State Committee for the Fight against Drought in the Sahel, art. 4, subparas. (i) and (iv).

[400] See, for example, the systematized collection of treaty provisions concerning floods in the report submitted in 1972 by the Committee on International Water Resources Law of ILA (ILA, *Report of the Fifty-fifth Conference, New York, 1972*, Part II (Flood Control), London, 1974, pp. 43-97.) A number of these agreements require consultation, notification, the exchange of data and information, the operation of warning systems, the preparation of surveys and studies, the planning and execution of flood control measures, and the operation and maintenance of works.

[401] See especially the articles on flood control adopted by ILA in 1972 (ibid.).

[402] See footnote 392 above.

[403] See paragraph (1) of the commentary to article 27 above.

includes several examples that are provided for purposes of illustration. As defined, an "emergency" must cause, or imminently threaten, "serious harm" to watercourse States "or other States". The seriousness of the harm involved, together with the suddenness of the emergency's occurrence, justifies the measures required by the article. The expression "other States" refers to non-watercourse States that might be affected by an emergency. These would usually be coastal States that could be harmed by, for example, a chemical spill transported by an international watercourse into the sea. The situation constituting an emergency must arise "suddenly". This does not necessarily mean, however, that the situation need be wholly unexpected. For example, weather patterns may provide an advance indication that a flood is likely. Because this situation would pose "an imminent threat of causing [ ] serious harm to watercourse States", a watercourse State in whose territory the flood is likely to originate would be obligated under paragraph 2 to notify other potentially affected States of the emergency. Finally, the situation may result either "from natural causes ... or from human conduct". While there may well be no liability on the part of a watercourse State for the harmful effects in another watercourse State of an emergency originating in the former and resulting entirely from natural causes, the obligations under paragraphs 2 and 3 would none the less apply to such an emergency.[404]

(3) *Paragraph 2* requires a watercourse State within whose territory an emergency originates to notify, "without delay and by the most expeditious means available", other potentially affected States and competent international organizations. Similar obligations are contained, for example, in the 1986 Convention on Early Notification of a Nuclear Accident, article 198 of the United Nations Convention on the Law of the Sea and a number of agreements concerning international watercourses.[405] The words "without delay" mean immediately upon learning of the emergency, and the phrase "by the most expeditious means available" means that the most rapid means of communication that is accessible is to be used. The States to be notified are not confined to watercourse States since, as explained above, non-watercourse States may be affected by an emergency. The paragraph also calls for the notification of "competent international organizations". Such an organization would have to be competent to participate in responding to the emergency by virtue of its constituent instrument. Most frequently, such an organization would be one established by the watercourse States to deal, *inter alia*, with emergencies.[406]

(4) *Paragraph 3* requires that a watercourse State within whose territory an emergency originates "immediately take all practicable measures ... to prevent, mitigate and eliminate harmful effects of the emergency". The most effective action to counteract most emergencies resulting from human conduct is that taken where the industrial accident, vessel grounding or other incident occurs. But the paragraph requires only that all "practicable" measures be taken, meaning those that are feasible, workable and reasonable. Further, only such measures as are "necessitated by the circumstances" need be taken, meaning those that are warranted by the factual situation of the emergency and its possible effect upon other States. Like paragraph 2, paragraph 3 foresees the possibility that there will be a competent international organization, such as a joint commission, with which the watercourse State may cooperate in taking the requisite measures. And finally, cooperation with potentially affected States (again including non-watercourse States) is also provided for. Such cooperation may be especially appropriate in the case of contiguous watercourses or where a potentially affected State is in a position to render assistance on the territory of the watercourse State where the emergency originated.

(5) *Paragraph 4* contains an obligation that is different in character from those contained in the two preceding paragraphs, in that it calls for anticipatory rather than responsive action. The need for the development of contingency plans for responding to possible emergencies is now well recognized. For example, article 199 of the United Nations Convention on the Law of the Sea provides that "States shall jointly develop and promote contingency plans for responding to pollution incidents in the marine environment".

(6) The obligation set forth in paragraph 4 is qualified by the words "when necessary", in recognition of the fact that the circumstances of some watercourse States and international watercourses may not justify the effort and expense that are involved in the development of contingency plans. Whether such plans would be necessary would depend, for example, upon whether the characteristics of the natural environment of the watercourse, and the uses made of the watercourse and adjacent land areas, would indicate that it was possible for emergencies to arise.

(7) While watercourse States bear the primary responsibility for developing contingency plans, in many cases it will be appropriate to prepare them in cooperation with "other potentially affected States and competent international organizations". For example, the establishment of effective warning systems may necessitate the involvement of other, non-watercourse States as well as international organizations with competence in that particular field. In addition, the coordination of response efforts might be most effectively handled by a competent international organization set up by the States concerned.

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[404] Thus, the breach of one of those obligations would engage the responsibility of the State in question

[405] See, for example, article 11 of the Convention on the protection of the Rhine against chemical pollution; the Agreement on Great Lakes Water Quality (footnote 336 above); and the Convention between the Swiss Federal Council and the Government of the French Republic Concerning the Activities of Organs charged with the Control of Water Pollution by Hydrocarbons or Other Water Endangering Substances Caused by Accidents, and Recognized as such within the Framework of the Swiss-French Convention of 16 November 1962 Concerning the Protection of the Waters of Lake Geneva against Pollution, of 5 May 1977 (*Recueil des lois fédérales*, No. 51 (Bern, 19 December 1977), p. 2204; reproduced in B. Ruester, B. Simma and M. Bock, eds., *International Protection of the Environment* (Dobbs Ferry, New York, Oceana Publications, 1981), vol. XXV (1981), p. 285).

[406] See, for example, article 11 of the Convention on the Protection of the Rhine against Chemical Pollution.

PART SIX

MISCELLANEOUS PROVISIONS

Article 29. International watercourses and installations in time of armed conflict

International watercourses and related installations, facilities and other works shall enjoy the protection accorded by the principles and rules of international law applicable in international and internal armed conflict and shall not be used in violation of those principles and rules.

Commentary

(1) Article 29 concerns the protection to be accorded to, and the use of international watercourses and related installations in time of armed conflict. The article, which is without prejudice to existing law, does not lay down any new rule. It simply serves as a reminder that the principles and rules of international law applicable in international and internal armed conflict contain important provisions concerning international watercourses and related works. These provisions fall generally into two categories: those concerning the protection of international watercourses and related works; and those dealing with the use of such watercourses and works. Since detailed regulation of this subject matter would be beyond the scope of a framework instrument, article 29 does no more than to refer to each of these categories of principles and rules.

(2) The principles and rules of international law that are "applicable" in a particular case are those that are binding on the States concerned. Just as article 29 does not alter or amend existing law, it also does not purport to extend the applicability of any instrument to States not parties to that instrument. On the other hand, article 29 is not addressed only to watercourse States, in view of the fact that international watercourses and related works may be used or attacked in time of armed conflict by other States as well. While a State not party to the present articles would not be bound by this provision *per se*, inclusion of non-watercourse States within its coverage was considered necessary both because of the signal importance of the subject and since the article's principal function is, in any event, merely to serve as a reminder to States of the applicability of the law of armed conflict to international watercourses.

(3) Of course, the present articles themselves remain in effect even in time of armed conflict. The obligation of watercourse States to protect and use international watercourses and related works in accordance with the articles remains in effect during such times. Warfare may, however, affect an international watercourse as well as the protection and use thereof by watercourse States. In such cases, article 29 makes clear that the rules and principles governing armed conflict apply. For example, the poisoning of water supplies is prohibited by the Hague Convention of 1907 Concerning the Laws and Customs of War on Land[407] and paragraph 2 of article 54 of Protocol I Additional to the Geneva Conventions of 12 August 1949, while paragraph 1 of article 56 of that Protocol protects dams, dikes and other works from attacks that "may cause the release of dangerous forces and consequent severe losses among the civilian population". Similar protections apply in non-international armed conflicts under articles 14 and 15 of Protocol II Additional to the Geneva Conventions of 12 August 1949. Also relevant to the protection of international watercourses in time of armed conflict is the provision of Protocol I that "Care shall be taken in warfare to protect the natural environment against widespread, long-term and severe damage." (art. 55, para. 1).[408] In cases not covered by a specific rule, certain fundamental protections are afforded by the "Martens clause". That clause, which was originally inserted in the Preamble of the Hague Conventions of 1899 and 1907 and has subsequently been included in a number of conventions and protocols,[409] now has the status of general international law. In essence, it provides that even in cases not covered by specific international agreements, civilians and combatants remain under the protection and authority of the principles of international law derived from established custom, from the principles of humanity and from the dictates of public conscience. The same general principle is expressed in article 10 of the draft articles, which provides that in reconciling a conflict between uses of an international watercourse, special attention is to be paid to the requirements of vital human needs.

Article 30. Indirect procedures

In cases where there are serious obstacles to direct contacts between watercourse States, the States concerned shall fulfil their obligations of cooperation provided for in the present articles, including exchange of data and information, notification, communication, consultations and negotiations, through any indirect procedure accepted by them.

Commentary

Article 30 addresses the exceptional case in which direct contacts cannot be established between the water-

[407] Article 23 of the Regulations annexed to the Convention concerning the Laws and Customs of Land Warfare, in AJIL, vol. 2 (1908), p. 106. For a commentary on article 23, see L. Oppenheim, *International Law: A Treatise*, 7th ed., H. Lauterpacht, ed. (London, Longmans, Green, 1952), vol. II, *Disputes, War and Neutrality*, p. 340, sect. 110.

[408] A more general provision to the same effect is contained in article 35 (Basic Rules), paragraph 3 of the same Protocol.

[409] For example, the Protocol for the Prohibition of Poisonous Gases and Bacteriological Methods of Warfare (Preamble, paras. 1 and 3); the Geneva Conventions of 12 August 1949 (the first Geneva Convention, art. 63, para. 4; the second Geneva Convention, art. 62, para. 4; the third Geneva Convention, art. 142, para. 4; and the fourth Geneva Convention, art. 158, para. 4); Protocol I Additional to the Geneva Conventions of 1949 (art. 1, para. 2); and the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May be Deemed to be Excessively Injurious or to Have Indiscriminate Effects (Preamble, para. 5).

course States concerned. As already mentioned in the commentary to article 9 (para. (3)), circumstances such as an armed conflict or the absence of diplomatic relations may raise serious obstacles to the kinds of direct contacts provided for in articles 9 to 19. Even in such circumstances, however, there will often be channels which the States concerned utilize for the purpose of conveying communications to each other. Examples of such channels are third countries, armistice commissions and the good offices of international organizations. Article 30 requires that the various forms of contact provided for in articles 9 to 19 be effected through any channel, or "indirect procedure", which has been accepted by the States concerned. All the forms of contact required by articles 9 to 19 are covered by the expressions employed in article 30, namely "exchange of data and information, notification, communication, consultations and negotiations".

Article 31. Data and information vital to national defence or security

Nothing in the present articles obliges a watercourse State to provide data or information vital to its national defence or security. Nevertheless, that State shall cooperate in good faith with the other watercourse States with a view to providing as much information as possible under the circumstances.

Commentary

Article 31 creates a very narrow exception to the requirements of articles 9 to 19. The Commission is of the view that States cannot realistically be expected to agree to the release of information that is vital to their national defence or security. At the same time, however, a watercourse State that may experience adverse effects of planned measures should not be left entirely without information concerning those possible effects. Article 31 therefore requires a State withholding information to "cooperate in good faith with the other watercourse States with a view to providing as much information as possible under the circumstances". The "circumstances" referred to are those that led to the withholding of the data or information. The obligation to provide "as much information as possible" could be fulfilled in many cases by furnishing a general description of the manner in which the measures would alter the condition of the water or affect other States. The article is thus intended to achieve a balance between the legitimate needs of the States concerned: the need for the confidentiality of sensitive information, on the one hand, and the need for information pertaining to possible adverse effects of planned measures, on the other. As always, the exception created by article 31 is without prejudice to the obligations of the planning State under articles 5 and 7.

Article 32. Non-discrimination

Unless the watercourse States concerned have agreed otherwise for the protection of the interests of persons, natural or juridical, who have suffered or are under a serious threat of suffering significant transboundary harm as a result of activities related to an international watercourse, a watercourse State shall not discriminate on the basis of nationality or residence or place where the injury occurred, in granting to such persons, in accordance with its legal system, access to judicial or other procedures, or a right to claim compensation or other relief in respect of significant harm caused by such activities carried on under its jurisdiction.

Commentary

(1) Article 32 sets out the basic principle that watercourse States are to grant access to their judicial and other procedures without discrimination on the basis of nationality, residence or the place where the damage occurred.

(2) The article contains two basic elements, namely, non-discrimination on the basis of nationality or residence and non-discrimination on the basis of where the harm occurred. The rule set forth obliges States to ensure that any person, whatever his nationality or place of residence, who has suffered significant transboundary harm as a result of activities related to an international watercourse should, regardless of where the harm occurred or might occur, receive the same treatment as that afforded by the country of origin to its nationals in case of domestic harm. This obligation would not 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 systems". As indicated by the words, "has suffered or is under a serious threat of suffering significant transboundary harm", the rule of non-discrimination applies both to cases involving actual harm and to those in which the harm is prospective in nature. Since cases of the latter kind can often be dealt with most effectively through administrative proceedings, the article, in referring to "judicial or other procedures", requires that access be afforded on a non-discriminatory basis both to courts and to any applicable administrative procedures.

(3) The rule is a residual one as denoted by the phrase "Unless the States concerned have agreed otherwise". This means that States may agree otherwise on the best means of providing relief to persons who have suffered or are under a serious threat of suffering significant harm, for example through diplomatic channels. The phrase "for the protection of the interests of persons who have suffered" has been used to make it clear that the phrase "agreed otherwise" is not intended to suggest that States decide by mutual agreement to discriminate in granting access to their judicial or other procedures or a right to compensation. It makes it clear that the purpose of the inter-State agreement should always be the protection of the interests of the victims or potential victims of the harm. Rather it is intended to permit the matter to be handled at the diplomatic or State to State level, should the States concerned agree so to do.

(4) The article also provides that States may not discriminate on the basis of the place where the damage

occurred. In other words, if significant harm is caused in State A as a result of conduct in State B, State B may not bar an action on the grounds that the harm occurred outside its jurisdiction.[410]

(5) One member of the Commission found the article as a whole unacceptable on the ground that the draft articles deal with relations between States and should not extend into the field of actions by natural or legal persons under domestic law. Two members of the Commission held the view that the article was undesirable within the broad scope of the present articles because it may be interpreted as establishing an obligation of States to grant to foreign nationals based on their respective territories rights which not only procedurally but also in all other respects would be equal to the rights of their own nationals. In the view of those members, such a broadening of the principle of the exhaustion of local remedies would not correspond to the present content of this principle.

(6) Precedents for the obligation contained in article 32 may be found in international agreements and in recommendations of international organizations. For example, article 3 of the Convention on the Protection of the Environment, between Denmark, Finland, Norway and Sweden of 19 February 1974, 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.[411]
>
> 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.

The Council of 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 . . . .[412]

Article 33. Settlement of disputes

In the absence of an applicable agreement between the watercourse States concerned, any watercourse dispute concerning a question of fact or the interpretation or application of the present articles shall be settled in accordance with the following provisions:

(*a*) If such a dispute arises, the States concerned shall expeditiously enter into consultations and negotiations with a view to arriving at equitable solutions of the dispute, making use, as appropriate, of any joint watercourse institutions that may have been established by them.

(*b*) If the States concerned have not arrived at a settlement of the disputes through consultations and negotiations, at any time after six months from the date of the request for consultations and negotiations, they shall at the request of any of them have recourse to impartial fact-finding or, if agreed upon by the States concerned, mediation or conciliation.

(i) Unless otherwise agreed, a Fact-finding Commission shall be established, composed of one member nominated by each State concerned and in addition a member not having the nationality of any of the States concerned chosen by the nominated members who shall serve as Chairman.

(ii) If the members nominated by States are unable to agree on a Chairman within four months of the request for the establishment of the Commission, any State concerned may request the Secretary-General of the United Nations to appoint the Chairman. If one of the States fails to nominate a member within four months of the initial request pursuant to paragraph (*b*), any other State concerned may request the Secretary-General of the United Nations to appoint a person who shall not have the nationality of any of the States concerned, who shall constitute a single member Commission.

(iii) The Commission shall determine its own procedure.

(iv) The States concerned have the obligation to provide the Commission with such information as it may require and, on request, to permit the Commission to have access to their respective territory and to inspect any facilities, plant, equipment, construction or

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[410] It might be noted that international arbitration in the *Trail Smelter* case was required because the local courts of the State from which the fumes emanated did not at the time recognize the right of redress for injuries which occurred outside its jurisdiction even though the damage was caused by operations within its jurisdiction (UNRIAA, vol. III (Sales No. 1949.V.2), pp. 1905 *et seq.*).

[411] Similar provisions may be found in article 2, paragraph 6, of the Convention on Environmental Impact Assessment in a Transboundary Context; the Guidelines on responsibility and liability regarding transboundary water pollution, part II.B.8, prepared by the ECE Task Force on responsibility and liability regarding transboundary water pollution (document ENVWA/R.45, annex); and paragraph 6 of the Draft ECE Charter on environmental rights and obligations, prepared at a meeting of Senior Advisers to ECE Governments on Environmental and Water Problems, 25 February-1 March 1991 (document ENVWA/R.38, annex I).

[412] OECD document C(77)28 (Final), annex in *OECD and the Environment* (see footnote 296 above), p. 150. To the same effect is principle 14 of the "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", 1978 (see footnote 277 above). A discussion of the principle of equal access may be found in S. Van Hoogstraten, P. Dupuy and H. Smets, "Equal right of access: Transfrontier pollution", *Environmental Policy and Law*, vol. 2, No. 2 (June 1976), p. 77.

natural feature relevant for the purpose of its inquiry.

(v) The Commission shall adopt its report by a majority vote, unless it is a single member Commission, and shall submit that report to the States concerned setting forth its findings and the reasons therefor and such recommendations as it deems appropriate.

(vi) The expenses of the Commission shall be borne equally by the States concerned.

(*c*) If, after twelve months from the initial request for fact-finding, mediation or conciliation or, if a fact-finding, mediation or conciliation commission has been established, six months after receipt of a report from the Commission, whichever is the later, the States concerned have been unable to settle the dispute, they may by agreement submit the dispute to arbitration or judicial settlement.

Commentary

(1) Article 33 provides a basic rule for the settlement of watercourse disputes. The rule is residual in nature and applies where the watercourse States concerned do not have an applicable agreement for the settlement of such disputes.

(2) *Subparagraph* (a) obliges watercourse States to enter into consultations and negotiations in the event of a dispute arising concerning a question of fact or the interpretation or application of the present articles. In carrying out such consultations and negotiations, the watercourse States concerned are encouraged to utilize any existing joint watercourse institutions established by them. The words "as appropriate" were used to denote the fact that in conducting consultations and negotiations, the watercourse States concerned remain free to decide whether or not to utilize such joint watercourse institutions.

(3) The consultations and negotiations should be conducted in good faith and in a meaningful way that could lead to an equitable solution of the dispute. The principle that parties to a dispute should conduct their negotiations in good faith and in a meaningful way is a well-established rule of international law. ICJ, in the *North Sea Continental Shelf* case (Federal Republic of Germany *v.* Denmark), stated with regard to this principle that the parties to a dispute "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".[413]

(4) *Subparagraph* (b) sets forth the right of any watercourse State concerned to request the establishment of a Fact-finding Commission. The purpose of this provision is to facilitate the resolution of the dispute through the objective knowledge of the facts. The information to be gathered is intended to permit the States concerned to resolve the dispute in an amicable and expeditious manner and to prevent the dispute from escalating. (Indeed, it is envisaged that the availability to watercourse States of fact-finding machinery will often prevent disputes from arising by eliminating any questions as to the nature of the relevant facts.) Fact-finding as a means of conflict resolution has received considerable attention by States. For example, the General Assembly of the United Nations has adopted a Declaration on Fact-finding by the United Nations in the Field of the Maintenance of International Peace and Security[414] in which it defines fact-finding to mean "acquiring detailed knowledge about the factual circumstances of any dispute or situation". The request for fact-finding may be made by any of the parties to the dispute at any time after six months from the commencement of the consultations and negotiations. The rule also provides for the watercourse States concerned to have recourse to mediation or conciliation at the request of any of them and, upon the agreement of the other parties to the dispute. All the parties to the dispute must give their consent before recourse to mediation or conciliation can be made.

(5) *Subparagraphs (i)* to *(vi)* provide for the constitution and functioning of the Fact-finding Commission requested pursuant to paragraph 1 (*b*). The provisions state that unless the parties have agreed otherwise,[415] the fact-finding shall be conducted by a Fact-finding Commission established in accordance with paragraph 1, subparagraph (*b*) of this article.

(6) *Subparagraph (ii)* gives the nominated members a period of four months after the establishment of the Commission to agree on a chairman. If they fail to agree on a chairman, any party to the dispute may request the Secretary-General of the United Nations to appoint the chairman. The rule also provides for any of the parties to the dispute to request the Secretary-General of the United Nations to appoint a single member Commission if any of the parties fails, within four months, to nominate a member. The person to be appointed may not be a national of any of the States concerned. These provisions are intended to avoid the dispute settlement mechanism being frustrated by the lack of cooperation of one of the parties.

(7) *Subparagraph (iii)* provides that the Fact-finding Commission should determine its own procedure.

(8) *Subparagraph (iv)* obliges all the watercourse States concerned to provide the Commission with the information that it may require. This requirement is based on similar provisions which have been fairly common since the elaboration of the Bryan Treaties.[416] The watercourse States concerned are also obligated to provide the Commission access to their respective territories, in order to inspect any facilities, equipment, construction or natural feature which may be relevant for the purpose of its inquiry.

(9) In accordance with *subparagraph (v)*, the Commission is required to adopt its report by a majority vote.

[413] See footnote 196 above.

[414] General Assembly resolution 46/59, annex.

[415] They are free, for example, to establish a single member Commission or otherwise vary any aspect of the arrangement, including the size of the Commission.

[416] G. H. Hackworth, *Digest of International Law* (Washington, D.C., U.S. Government Printing Office, 1943), vol. VI, p. 5.

Where a Commission is composed of a single member the report is that of the single member. The Commission is required to submit its report to the States concerned and should set forth its findings and give reasons thereof. It may also provide recommendations, if it deems it appropriate to do so.

(10) The rule provided in *subparagraph (vi)* requires the expenses of the Commission to be borne equally by the watercourse States concerned. The parties may of course agree on a different arrangement.

(11) *Subparagraph (c)* sets out a rule for the submission of the dispute to arbitration or judicial settlement. In the event that there are more than two watercourse States parties to a dispute and some but not all of those States have agreed to submit the dispute to a tribunal or ICJ, it is to be understood that the rights of the other watercourse States who have not agreed to the referral of the dispute to the tribunal or ICJ cannot be affected by the decision of that tribunal or ICJ.

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RESOLUTION ON CONFINED TRANSBOUNDARY GROUNDWATER

The International Law Commission,

***Having completed* its consideration of the topic "The law of the non-navigational uses of international watercourses",**

***Having considered* in that context groundwater which is related to an international watercourse,**

***Recognizing* that confined groundwater, that is groundwater not related to an international watercourse, is also a natural resource of vital importance for sustaining life, health and the integrity of ecosystems,**

***Recognizing also* the need for continuing efforts to elaborate rules pertaining to confined transboundary groundwater,**

***Considering* its view that the principles contained in its draft articles on the law of the non-navigational uses of international watercourses may be applied to transboundary confined groundwater,**

1. *Commends* States to be guided by the principles contained in the draft articles on the law of the non-navigational uses of international watercourses, where appropriate, in regulating transboundary groundwater;

2. *Recommends* States to consider entering into agreements with the other State or States in which the confined transboundary groundwater is located;

3. *Recommends also* that, in the event of any dispute involving transboundary confined groundwater, the States concerned should consider resolving such dispute in accordance with the provisions contained in article 33 of the draft articles, or in such other manner as may be agreed upon.