SOURCES OF INTERNATIONAL WATER LAW

Some General Conventions, Declarations, Resolutions and Decisions adopted by International Organizations, International Non-Governmental Institutions, International and Arbitral Tribunals, on International Water Resources

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FOREWORD

This Legislative Study constitutes a compendium of documents, often not easily available, on the law governing the development and management of international watercourses, i.e., rivers, lakes and underground aquifers, forming or traversed by the international border between or among sovereign States. It updates and replaces "The Law of International Water Resources" by Mr. D.A. Caponera, then Chief of the FAO Legislation Branch, published as FAO Legislative Study No. 23 in 1980.

In the preparation of this publication, only documents bearing a clear indication or reference to freshwaters which meet the standard illustrated at the outset of this Foreword, or to a particular body of freshwater also meeting the same standard, have been included in this publication. As a result, most, but not all, the material which featured in the Legislative Study No. 23 mentioned above has been included in this publication. In addition, where documents in draft form at that time had been included in that publication and have been since replaced by a new text, only the latter has been included in this publication. Many more documents which have made their appearance in the last nearly two decades have been added.

The present compendium is intended as a contribution to the better knowledge of the international law of freshwaters in general and, more specifically, as a source of ready reference and inspiration for policymakers and decisionmakers, legal practitioners and academics, and for Government legal advisors and negotiators, as they deal with the complex legal ramifications of developing and managing water resources shared across international borders and search for relevant applicable rules. The adoption by the United Nations General Assembly of a Convention on the Law of the Non-navigational Uses of International Watercourses at a specially convened session, in April 1997[1] adds to the urgency and usefulness of this publication. This complements three recent features in the Legislative Studies series, namely, the collections of the text of treaties and agreements on the non-navigational uses of international watercourses in Europe (Legislative Study No. 50 of 1993), Asia (Legislative Study No. 55 of 1995) and Africa (Legislative Study No. 61 of 1997).

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[1] U.N. doc. A/51/869 of 11 April 1997.

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1. INTERNATIONAL CONVENTIONS

1.1 INTERNATIONAL CONVENTIONS OF UNIVERSAL APPLICATION

1.1.1 General Treaty[1]
Vienna, 9 June 1815

(Extract)

. . .

Article CVIII

The Powers whose states are separated, or crossed by the same navigable river, engage to regulate, by common consent, all that regards its navigation. For this purpose they will name Commissioners, who shall assemble, at latest, within six months after the termination of the Congress, and who shall adopt, as the basis of their proceedings, the principles established by the following Articles.

Article CIX

The navigation of the rivers, along their whole course, referred to in the preceding article, from the point where each of them becomes navigable, to its mouth, shall be entirely free, and shall not, in respect to commerce, be prohibited to any one; it being understood that the regulations established with regard to the police of this navigation, shall be respected; as they will be framed alike for all, and as favourable as possible to the commerce of all nations.

Article CX

The system that shall be established, both for the collection of the duties and for the maintenance of the police, shall be, as nearly as possible, the same along the whole course of the river; and shall also extend, unless particular circumstances prevent it, to those of its branches and junctions, which, in their navigable course, separate or traverse different states.

Article CXI

The duties on navigation shall be regulated in a uniform and settled manner, and with as little reference as possible to the different quality of the merchandize, in order that a minute examination of the cargo may be rendered unnecessary, except with a view to prevent fraud and evasion. The amount of the duties, which shall in no case exceed those now paid, shall be determined by local circumstances, which scarcely allow of a general rule in this respect. The tariff shall, however, be prepared in such a manner as to encourage commerce by facilitating navigation; for which purpose the duties established upon the Rhine, and now in force on that river, may serve as an approximating rule for its construction.

The tariff once settled, no increase shall take place therein, except by the common consent of the states bordering on the rivers; nor shall the navigation be burdened with any other duties than those fixed in the regulation.

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[1] Text in: HERTSLET, A collection of treaties and conventions between Great Britain and Foreign Powers, Vol. 1, p. 3.

Article CXII

The offices for the collection of duties, the number of which shall be reduced as much as possible, shall be determined upon in the above regulation, and no change shall afterwards be made, but by common consent, unless any of the States bordering on the Rivers should wish to diminish the number of those which exclusively belong to the same.

Article CXIII

Each State bordering on the Rivers is to be at the expense of keeping in good repair the towing paths which pass through its territory, and of maintaining the necessary works through the same extent in the channels of the river, in order that no obstacle may be experienced to the navigation.

The intended regulation shall determine the manner in which the States bordering on the Rivers are to participate in these latter works, where the opposite banks belong to different governments.

Article CXIV

There shall no where be established store-house, port, or forced harbour duties. Those already existing shall be preserved for such time only as the States bordering on Rivers (without regard to the local interest of the place or the country where they are established) shall find them necessary or useful to navigation and commerce in general.

Article CXV

The custom-houses belonging to the States bordering on Rivers shall not interfere in the duties of navigation. Regulations shall be established to prevent officers of the customs, in the exercise of their functions, throwing obstacles in the way of the navigation; but care shall be taken, by means of a strict police on the bank, to preclude every attempt of the inhabitants to smuggle goods, through the medium of boatmen.

Article CXVI

Everything expressed in the preceding Articles shall be settled by a general arrangement, in which there shall also be comprised whatever may need an ulterior determination.

The arrangement once settled, shall not be changed, but by and with the consent of all the States bordering on Rivers, and they shall take care to provide for its execution with due regard to circumstances and locality.

. . .

1.1.2 Convention and Statute on the Regime of Navigable Waterways of International Concern[1]

Barcelona, 20 April 1921

1.1.2.1 The Convention

Albania, Austria, Belgium, Bolivia, Brazil, Bulgaria, Chile, China, Colombia, Costa-Rica, Cuba, Denmark, the British Empire (with New Zealand and India), Spain, Estonia, Finland, France, Greece, Guatemala, Haiti, Honduras, Italy, Japan, Latvia, Lithuania, Luxembourg, Norway, Panama, Paraguay, the Netherlands, Persia, Poland, Portugal, Romania, the Serb-Croat-Slovene State, Sweden, Switzerland, Czecho-Slovakia, Uruguay and Venezuela:

Desirous of carrying further the development as regards the international regime of navigation on international waterways, which began more than a century ago, and which has been solemnly affirmed in numerous treaties,

Considering that General Conventions to which other Powers may accede at a later date constitute the best method of realising the purpose of article 23e of the Covenant of the League of Nations,

Recognising in particular that a fresh confirmation of the principle of Freedom of Navigation in a Statute elaborated by forty-one States belonging to the different portions of the world constitutes a new and significant stage towards the establishment of co-operation among States without in any way prejudicing their rights of sovereignty or authority,

Having accepted the invitation of the League of Nations to take part in a Conference at Barcelona which met on 10 March 1921, and having taken note of the final act of such Conference,

Anxious to bring into force forthwith the provisions of the Statute relating to the Regime of Navigable Waterways of International Concern which has there been adopted,

Wishing to conclude a Convention for this purpose the High Contracting Parties have appointed as their plenipotentiaries,

Who, after communicating their full powers found in good and due forms, have agreed as follows:

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[1] Text in: League of Nations, Treaty Series, Vol. VII, p. 37.
The Convention and Statute were adopted by the First General Conference on Communications and Transit by 29 votes to 1, with 2 abstentions (see League of Nations, Barcelona Conference 1921, Verbatim Records and Texts relating to the Convention on the regime of navigable waterways of international concern, 1921, p. 373). The Convention came into force on 31 October 1922.

Article 1

The High Contracting Parties declare that they accept the Statute on the Regime of Navigable Waterways of International Concern annexed hereto, adopted by the Barcelona Conference on 19 April 1921.

This Statute will be deemed to constitutive an integral part of the present Convention. Consequently, they hereby declare that they accept the obligations and undertakings of the said Statute in conformity with the terms and in accordance with the conditions set out therein.

Article 2

The present Convention does not in any way affect the rights and obligations arising out of the provisions of the Treaty of Peace signed at Versailles on 28 June 1919, or out of the provisions of the other corresponding Treaties, in so far as they concern the powers which have signed, or which benefit by, such Treaties.

Article 3

The present Convention, of which the French and English texts are both authentic, shall bear this day's date and shall be open for signature until 1 December 1921.

Article 4

The present Convention is subject to ratification. The instruments of ratification shall be transmitted to the Secretary-General of the League of Nations, who will notify the receipt of them to the other Members of the League and to States admitted to sign the Convention. The instruments of ratification shall be deposited in the archives of the secretariat.

In order to comply with the provisions of article 18 of the Convention of the League of Nations, the Secretary-General will register the present Convention upon the deposit of the first ratification.

Article 5

Members of the League of Nations which have not signed the present Convention before 1 December 1921, may accede to it.

The same applies to States not Members of the League to which the Council of the League may decide officially to communicate the present Convention.

Accession will be notified to the Secretary-General of the League, who will inform all Powers concerned of the accession and of the date on which it was notified.

Article 6

The present Convention will not come into force until it has been ratified by five Powers. The date of its coming into force shall be the ninetieth day after the receipt by the Secretary-

General of the League of Nations of the fifth ratification. Thereafter the present convention will take effect in the case of each party ninety days after the receipt of its ratification or of the notification of its accession.

Upon the coming into force of the present Convention, the Secretary-General will address a certified copy of it to the Powers not Members of the League which are bound under the Treaties of Peace to accede to it.

Article 7

A special record shall be kept by the Secretary-General of the League of Nations, showing which of the parties have signed, ratified, acceded to or denounced the present Convention. This record shall be open to the Members of the League at all times; it shall be published as often as possible in accordance with the directions of the council.

Article 8

Subject to the provisions of article 2 of the present Convention, the latter may be denounced by any party thereto after the expiration of five years from the date when it came into force in respect of that party. Denunciation shall be effected by notification in writing addressed to the Secretary-General of the League of Nations. Copies of such notification shall be transmitted forthwith by him to all the other parties, informing them of the date on which it was received. The denunciation shall take effect one year after the date on which it was notified to the Secretary-General and shall operate only in respect of the notifying Power. It shall not, in the absence of an agreement to the contrary, prejudice engagements entered into before the denunciation relating to a program of works.

Article 9

A request for the revision of the present Convention may be made at any time by one-third of the High Contracting Parties.

In faith whereof .... Done at Barcelona, on April 20th, 1921.

1.1.2.2 The Statute

Article 1

In the application of the Statute, the following are declared to be navigable waterways of international concern:

1. All parts which are naturally navigable to and from the sea of a waterway which in its course, naturally navigable to and from the sea, separates or traverses different States, and also any part of any other waterway naturally navigable to and from the sea, which connects with the sea a waterway naturally navigable which separates or traverses different States.

It is understood that:

a) transhipment from one vessel to another is not excluded by the words "navigable to and from the sea";

b) any natural waterway or part of a natural waterway is termed "naturally navigable" if now used for ordinary commercial navigation, or capable by reason of its natural conditions of being so used; by "ordinary commercial navigation" is to be understood navigation which, in view of the economic condition of the riparian countries, is commercial and normally practicable;

c) tributaries are to be considered as separate waterways;

d) lateral canals constructed in order to remedy the defects of a waterway included in the above definition are assimilated thereto;

e) the different States separated or traversed by a navigable waterway of international concern, including its tributaries of international concern, are deemed to be "riparian States".

2. Waterways, or parts of waterways, whether natural or artificial, expressly declared to be placed under the regime of the General Convention regarding navigable waterways of international concern either in unilateral Acts of the States under whose sovereignty or authority these waterways or parts of waterways are situated, or in agreements made with the consent, in particular, of such States.

Article 2

For the purpose of Articles 5, 10, 12 and 14 of this Statute, the following shall form a special category of navigable waterways of international concern:

a) navigable waterways for which there are international Commissions upon which non-riparian States are represented;

b) navigable waterways which may hereafter be placed in this category, either in pursuance of unilateral Acts of the States under whose sovereignty or authority they are situated, or in pursuance of agreements made with the consent, in particular, of such States.

Article 3

Subject to the provisions contained in Articles 5 and 17, each of the Contracting States shall accord free exercise of navigation to the vessels flying the flag of any one of the other Contracting States on those parts of navigable waterways specified above which may be situated under its sovereignty or authority.

Article 4

In the exercise of navigation referred to above, the nations, property and flags of all Contracting States shall be treated in all respects on a footing of perfect equality. No distinction shall be made between the nationals the property and the flags of the different riparian States, including the riparian State exercising sovereignty or authority over the portion of the navigable waterway in question; similarly, no distinction shall be made between the nationals, the property and the flags of riparian and non-riparian States. It is understood, in consequence, that no exclusive right of navigation shall be accorded on such navigable waterways to companies or to private persons.

No distinctions shall be made in the said exercise, by reason of the point of departure, of destination or of the direction of the traffic.

Article 5

As an exception to the two preceding Articles, and in the absence of any Convention or obligation to the contrary:

1. A riparian State has the right of reserving for its own flag the transport of passengers and goods loaded at one port situated under its sovereignty or authority and unloaded at another port also situated under its sovereignty or authority. A State which does not reserve the above-mentioned transport to its own flag may, nevertheless, refuse the benefit of equality of treatment with regard to such transport to a co-riparian which does reserve it.

On the navigable waterways referred to in Article 2, the Act of Navigation shall only allow to riparian States the right of reserving the local transport of passengers or of goods which are of national origin or are nationalized. In every case, however, in which greater freedom of navigation may have been already established, in a previous Act of Navigation, this freedom shall not be reduced.

2. When a natural system of navigable waterways of international concern which does not include waterways of the kind referred to in Article 2 separates or traverses two States only, the latter have the right to reserve to their flags by mutual agreement the transport of passengers and goods loaded at one port of this system and unloaded at another port of the same system, unless this transport takes place between two ports which are not situated under the sovereignty or authority of the same State in the course of a voyage, effected without

transhipment on the territory of either of the said States, involving a sea-passage over a navigable waterway of international concern which does not belong to the said system.

Article 6

Each of the Contracting States maintains its existing right, on the navigable waterways or parts of navigable waterways referred to in Article 1 and situated under its sovereignty or authority, to enact the stipulations and to take the measures necessary for policing the territory and for applying the laws and regulations relating to customs, public health, precautions against the diseases of animals and plants, emigration or immigration, and to the import or export of prohibited goods, it being understood that such stipulations and measures must be reasonable, must be applied on a footing of absolute equality between the nationals, property and flags of any one of the Contracting States, including the State which is their author, and must not without good reason impede the freedom of navigation.

Article 7

No dues of any kind may be levied anywhere on the course or at the mouth of a navigable waterway of international concern, other than dues in the nature of payment for services rendered and intended solely to cover in an equitable manner the expenses of maintaining and improving the navigability of the waterway and its approaches, or to meet expenditure incurred in the interest of navigation. These dues shall be fixed in accordance with such expenses, and the tariff of dues shall be posted in the ports. These dues shall be levied in such a manner as to render unnecessary a detailed examination of the cargo, except in cases of suspected fraud or infringement of regulations, and so as to facilitate international traffic as much as possible, both as regards their rates and the method of their application.

Article 8

The transit of vessels and of passengers and goods on navigable waterways of international concern shall, so far as customs formalities are concerned, be governed by the conditions laid down in the Statute of Barcelona on Freedom of Transit. Whenever transit takes place without transhipment the following additional provisions shall be applicable:

a) when both banks of a waterway of international concern are within one and the same State, the customs formalities imposed on goods in transit after they have been declared and subjected to a summary inspection shall be limited to placing them under seal or padlock or in the custody of customs officers;

b) when a navigable waterway of international concern forms the frontier between two States, vessels, passengers and goods in transit shall while "en route" be exempt from` any customs formality, except in cases in which there are valid reasons of a practical character for carrying out customs formalities at a place on the part of the river which forms the frontier, and this can be done without interfering with navigation facilities.

The transit of vessels and passengers, as well as the transit of goods without transhipment, on navigable waterways of international concern, must not give rise to the levying of any duties whatsoever, whether prohibited by the Statute of Barcelona on Freedom of Transit or authorized by Article 3 of that Statute. It is nevertheless understood that vessels in transit may

be made responsible for the board and lodging of any customs officers who are strictly required for supervision.

Article 9

Subject to the provisions of Articles 5 and 17, the nationals, property and flags of all the Contracting States shall, in all ports situated on a navigable waterway of international concern, enjoy, in all that concerns the use of the port, including port dues and charges, a treatment equal to that accorded to the nationals, property and flag of the riparian State under whose sovereignty or authority the port is situated. It is understood that the property to which the present paragraph relates is property originating in, coming from or destined for, one or other of the Contracting States.

The equipment of ports situated on a navigable waterway of international concern and the facilities afforded in these ports to navigation, must not be withheld from public use to an extent beyond what is reasonable and fully compatible with the free exercise of navigation.

In the application of customs or other analogous duties, local octroi or consumption duties, or incidental charges, levied on the occasion of the importation or exportation of goods through the aforesaid ports, no difference shall be made by reason of the flag of the vessel on which the transport has been or is to be accomplished, whether this flag be the national flag or that of any of the Contracting States.

The State under whose sovereignty or authority a port is situated may withdraw the benefits of the preceding paragraph from any vessel if it is proved that the owner of the vessel discriminates systematically against the nationals of that State, including companies controlled by such nationals.

In the absence of special circumstances justifying an exception on the ground of economic necessities, the customs duties must not be higher than those levied on the other customs frontiers of the State interested, on goods of the same kind, source and destination. All facilities accorded by the Contracting States to the importation or exportation of goods by other land or water routes, or in other ports, shall be equally accorded to importation or exportation under the same conditions over the navigable waterway and through the ports referred to above.

Article 10

1. Each riparian State is bound, on the one hand, to refrain from all measures likely to prejudice the navigability of the waterway, or to reduce the facilities for navigation, and, on the other hand, to take as rapidly as possible all necessary steps for removing any obstacles and dangers which may occur to navigation.

2. If such navigation necessitates regular upkeep of the waterway, each of the riparian States is bound as towards the others to take such steps and to execute such works on its territory as are necessary for the purpose as quickly as possible, taking account at all times of the conditions of navigation, as well as of the economic state of the regions served by the navigable waterway.

In the absence of an agreement to the contrary, any riparian State will have the right, on valid reason being shown, to demand from the other riparians a reasonable contribution towards the cost of upkeep.

3. In the absence of legitimate grounds for opposition by one of the riparian States, including the State territorially interested, based either on the actual conditions of navigability in its territory, or on other interests such as *inter alia*, the maintenance of the normal water-conditions, requirements for irrigation, the use of water-power, or the necessity for constructing other and more advantageous ways of communication, a riparian State may not refuse to carry out works necessary for the improvement of the navigability which are asked for by another riparian State, if the latter State offers to pay the cost of the works and a fair share of the additional cost of upkeep. It is understood, however, that such works cannot be undertaken so long as the State of the territory on which they are to be carried out objects on the ground of vital interests.

4. In the absence of any agreement to the contrary, a State which is obliged to carry out works of upkeep is entitled to free itself from the obligation, if, with the consent of all the co-riparian States, one or more of them agree to carry out the works instead of it; as regards works for improvement, a State which is obliged to carry them out shall be freed from the obligation, if it authorizes the State which made the request to carry them out instead of it. The carrying out of works by States other than the State territorially interacted, or the sharing by such States in the cost of works, shall be so arranged as not to prejudice the rights of the State territorially interested as regards the supervision and administrative control over the works, or its sovereignty and authority over the navigable waterway.

5. On the waterways referred to in Article 2, the provisions of the present Article are to be applied subject to the terms of the Treaties, Conventions, or Navigation Acts which determine the powers and responsibilities of the International Commission in respect of works.

Subject to any special provisions in the said Treaties, Conventions, or Navigation Acts, which exist or may be concluded:

a) decisions in regard to works will be made by the Commission;

b) the settlement, under the conditions laid down in Article 22 below, of any dispute which may arise as a result of these decisions, may always be demanded on the grounds that these decisions are ultra vires, or that they infringe international conventions governing navigable waterways. A request for a settlement under the aforesaid conditions based on any other grounds can only be put forward by the State which is territorially interested.

The decisions of this Commission shall be in conformity with the provisions of the present Article.

6. Notwithstanding the provisions of paragraph 1 of this Article, a riparian State may, in the absence of any agreement to the contrary, close a waterway wholly or in part to navigation, with the consent of all the riparian States or of all the States represented on the International Commission in the case of navigable waterways referred to in Article 2.

As an exceptional case one of the riparian States of a navigable waterway of international concern not referred to in Article 2 may close the waterway to navigation, if the navigation on it is of very small importance, and if the State in question can justify its action on the ground of an economic interest clearly greater than that of navigation. In this case the closing to navigation may only take place after a year's notice and subject to an appeal on the part of any other riparian State under the conditions laid down in Article 22. If necessary, the judgement shall prescribe the conditions under which the closing to navigation may be carried into effect.

7. Should access to the sea be afforded by a navigable waterway of international interest through several branches, all of which are situated in the territory of one and the same State, the provisions of paragraphs 1, 2 and 3 of this Article shall apply only to the principal branches deemed necessary for providing free access to the sea.

Article 11

If on a waterway of international concern one or more of the riparian States are not Parties to this Statute, the financial obligations undertaken by each of the Contracting States in pursuance of Article 10 shall not exceed those to which they would have been subject if all the riparian States had been Parties.

Article 12

In the absence of contrary stipulations contained in a special Agreement or Treaty, for example, existing Conventions concerning customs and police measures and sanitary precautions, the administration of navigable waterways of international concern is exercised by each of the riparian States under whose sovereignty or authority the navigable waterway is situated. Each of such riparian States has, *inter alia*, the power and duty of publishing regulations for the navigation of such waterway and of seeing to their execution. These regulations must be framed and applied in such a way as to facilitate the free exercise of navigation under the conditions laid down in this Statute.

The rules of procedure dealing with such matters as ascertaining, prosecuting and punishing navigation offences must be such as to promote as speedy a settlement as possible

Nevertheless, the Contracting States recognize that it is highly desirable that the riparian States should come to an understanding with regard to the administration of the navigable waterway and, in particular, with regard to the adoption of navigation regulations of as uniform a character throughout the whole course of such navigable waterway as the diversity of local circumstances permits.

Public services of towage or other means of haulage may be established in the form of monopolies for the purpose of facilitating the exercise of navigation, subject to the unanimous agreement of the riparian States or the States represented on the International Commission in the case of navigable waterways referred to in Article 2.

Article 13

Treaties, conventions or agreements in force relating to navigable waterways, concluded by the Contracting States before the coming into force of this Statute, are not, as a consequence of its coming into force, abrogated so far as concerns the States signatories to those treaties.

Nevertheless, the Contracting States undertake not to apply among themselves any provisions of such treaties, conventions or agreements which may conflict with the rules of the present Statute.

Article 14

If any of the special agreements or treaties referred to in Article 12 has entrusted or shall hereafter entrust certain functions to an international Commission which includes representatives of States other than the riparian States, it shall be the duty of such Commission, subject to the provisions of Article 10, to have exclusive regard to the interests of navigation, and it shall be deemed to be one of the organizations referred to in Article 24 of the Covenant of the League of Nations. Consequently, it will exchange all useful information directly with the League and its organizations, and will submit an annual report to the League.

The powers and duties of the Commission referred to in the preceding paragraph shall be laid down in the Act of Navigation of each navigable waterway and shall at least include the following:

a) the Commission shall be entitled to draw up such navigation regulations as it thinks necessary itself to draw up, and all other navigation regulations shall be communicated to it;

b) it shall indicate to the riparian States the action advisable for the up-keep of works and the maintenance of navigability;

c) it shall be furnished by each of the riparian States with official information as to all schemes for the improvement of the waterway;

d) it shall be entitled, in cases in which the Act of Navigation does not include a special regulation with regard to the levying of dues, to approve of the levying of such dues and charges in accordance with the provisions of Article 7 of this Statute.

Article 15

This Statute does not prescribe the rights and duties of belligerents and neutral in time of war. The Statute shall, however, continue in force in time of war so far as such rights and duties permit.

Article 16

This Statute does not impose upon a Contracting State any obligation conflicting with its rights and duties as a Member of the League of Nations.

Article 17

In the absence of any agreement to the contrary to which the State territorially interested is or may be a Party, this Statute has no reference to the navigation of vessels of war or of vessels performing police or administrative functions, or, in general, exercising any kind of public authority.

Article 18

Each of the Contracting States undertakes not to grant, either by agreement or in any other way, to a non-Contracting State treatment with regard to navigation over a navigable waterway of international concern which, as between Contracting States, would be contrary to the provisions of this Statute.

Article 19

The measures of a general or particular character which a Contracting State is obliged to take in case of an emergency affecting the safety of the State or the vital interests of the country may, in exceptional cases and for a period as short as possible, involve a deviation from the provisions of the above Articles; it being understood that the principle of the freedom of navigation, and especially communication between the riparian States and the sea, must be maintained to the utmost possible extent.

Article 20

This Statute does not entail in any way the withdrawal of existing greater facilities granted to the free exercise of navigation on any navigable waterway of international concern, under conditions consistent with the principle of equality laid down in this Statute, as regards the nationals, the goods and the flags of all the Contracting States; nor does it entail the prohibition of such grant of greater facilities in the future.

Article 21

In conformity with Article 23 (e) of the Covenant of the League of Nations, any Contracting State which can establish a good case against the application of any provisions of this Statute in some or all of its territory on the ground of the grave economic situation arising out of the acts of devastation perpetrated on its soil during the war 1914-1918, shall be deemed to be relieved temporarily of the obligations arising from the application of such provision, it being understood that the principle of freedom of navigation must be observed as far as possible.

Article 22

Without prejudice to the provisions of paragraph 5 of Article 10, any dispute between States as to the interpretation or application of this Statute which is not settled directly between them shall be brought before the Permanent Court of International Justice, unless under a special agreement or a general arbitration provision steps are taken for the settlement of the dispute by arbitration or some other means.

Proceedings are opened in the manner laid down in Article 40 of the Statute of the Permanent Court of International Justice.

In order to settle such disputes, however, in a friendly way as far as possible, the Contracting States undertake before resorting to any judicial proceedings and without prejudice to the powers and right of action of the Council and of the Assembly to submit such disputes for an opinion to any body established by the League of Nations as the advisory and technical organization of the Members of the League in matters of communications and transit. In urgent cases a preliminary opinion may recommend temporary measures intended in particular to restore the facilities for free navigation which existed before the act or occurrence which gave rise to the dispute.

Article 23

A navigable waterway shall not be considered as of international concern on the sole ground that it traverses or delimits zones or enclaves, the extent and population of which are small as compared with those of the territories which it traverses, and which form detached portions or establishments belonging to a State other than that to which the said river belongs, with this exception, throughout its navigable course.

Article 24

This Statute shall not be applicable to a navigable waterway of international concern which has only two riparian States, and which separated for a considerable distance, a Contracting State from a non-Contracting State whose Government is not recognized by the former at the time of the signing of this Statute, until an agreement has been concluded between them establishing, for the waterway in question, an administrative and customs regime which affords suitable safeguards to the Contracting State.

Article 25

It is understood that this Statute must not be interpreted as regulating in any way rights and obligations inter se of territories forming part, or placed under the protection, of the same sovereign State, whether or not these territories are individually Members of the League of Nations.

1.1.2.3 Additional Protocol

The States signatories of the Convention on the Regime of Navigable Waterways of International Concern, signed at Barcelona on 20 April 1921, whose duly authorised representatives have affixed their signatures to the present Protocol, hereby declare that, in addition to the Freedom of Communications which they have conceded by virtue of the Convention on Navigable Waterways considered as of international concern, they further concede, on condition of reciprocity, without prejudice to their rights of sovereignty, and in time of peace:

a) on all navigable waterways;

b) on all naturally navigable waterways;

which are placed under their sovereignty or authority, and which, not being considered as of international concern, are accessible to ordinary commercial navigation to and from the sea, and also in all the ports situated on these waterways, perfect equality of treatment for the flags of any State signatory of this Protocol as regards the transport of imports and exports without transhipment.

At the time of signing, the signatory States must declare whether they accept the obligation to the full extent indicated under paragraph a) above, or only to the more limited extent defined by paragraph b).

It is understood that States which have accepted paragraph a) are not bound as regards those which have accepted paragraph b), except under the conditions resulting from the latter paragraph.

It is also understood that those States which possess a large number of ports (situated on navigable waterways) which have hitherto remained closed to international commerce, may, at the time of the signing of the present Protocol, exclude from its application one or more of the navigable waterways referred to above.

The signatory States may declare that their acceptance of the present Protocol does not include any or all of the colonies, overseas possessions or protectorates under their sovereignty or authority, and they may subsequently adhere separately on behalf of any colony, overseas possession or protectorate so excluded in their declaration. They may also denounce the Protocol separately in accordance with its provisions, in respect of any colony, overseas possession or protectorate under their sovereignty or authority.

The present Protocol shall be ratified. Each Power shall send its ratification to the Secretary-General of the League of Nations, who shall cause notice of such ratification to be given to all the other signatory Powers; these ratifications shall be deposited in the archives of the Secretariat of the League of Nations.

The present Protocol shall remain open for the signature or adherence of the States which have signed the above-mentioned Convention or have given their adherence to it.

It shall come into force after the Secretary-General of the League of Nations has received the ratification of two States; provided, however, that the said Convention has come into force by that time.

It may be denounced at any time after the expiration of a period of two years dating from the time of the reception by the Secretary-General of the League of Nations of the ratification of the denouncing State. The denunciation shall not take effect until one year after it has been received by the Secretary-General of the League of Nations. A denunciation of the Convention on the Regime of Navigable Waterways of International Concern shall a considered as including a denunciation of the present Protocol.

Done at Barcelona, the twentieth day of April, nineteen hundred and twenty-one, in single copy, of which the French and English texts shall be authentic.

1.1.2.4 Declaration recognising the Right to a Flag of States having no Sea-coast

The undersigned, duly authorised for the purpose, declare that the States which they represent recognise the flag flown by the vessels of any State having no sea-coast which are registered at some one specified place situated in its territory; such place shall serve as the port of registry of such vessels.

Barcelona, 20 April 1921, done in a single copy of which the English and French texts shall be authentic.

1.1.3 Convention relating to the Development of Hydraulic Power affecting more than one State and Protocol of Signature[1]

Geneva, 9 December 1923

1.1.3.1 The Convention

Austria, Belgium, The British Empire (with New Zealand), Bulgaria, Chile, Denmark, The Free City of Danzig, France, Greece, Hungary, Italy, Lithuania, Poland, Kingdom of the Serbs, Croats and Slovenes, Siam and Uruguay:

Desirous of promoting international agreement for the purpose of facilitating the exploitation and increasing the yield of hydraulic power,

Having accepted the invitation of the League of Nations to take part in the Conference which met at Geneva on 15 November 1923,

Wishing to conclude a General Convention for the above purpose,

The High Contracting Parties have appointed as their plenipotentiaries, who, after communicating their full powers, found in good and due form, have agreed as follows:

Article 1

The present Convention in no way affects the right belonging to each State, within the limits of international law, to carry out on its own territory any operations for the development of hydraulic power which it may consider desirable.

Article 2

Should reasonable development of hydraulic power involve international investigation, the Contracting States concerned shall agree to such investigation, which shall be carried out conjointly at the request of any one of them, with a view to arriving at the solution most favourable to their interests as a whole, and to drawing up, if possible, a scheme of development, with due regard for any works already existing, under construction or projected.

Any Contracting State desirous of modifying a programme of development so drawn up shall, if necessary, apply for a fresh investigation, under the conditions laid down in the preceding paragraph.

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[1] Text in: League of Nations, Treaty Series, Vol. XXXVI, p. 77.
The Convention was adopted by the Second Conference on Communication and Transit by 24 votes to 3, with 6 abstentions (see League of Nations, Second General Conference on Communications and Transit, Records and Texts, 1921 (C.30.M.16.1924.VIII), Annex I, p. 76).

No State shall be obliged to carry out a programme of development unless it has formally accepted the obligation to do so.

Article 3

If a Contracting State desires to carry out operations for the development of hydraulic power, partly on its own territory and partly on the territory of another Contracting State or involving alterations on the territory of another Contracting State, the States concerned shall enter into negotiations with a view to the conclusion of agreements which will allow such operations to be executed.

Article 4

If a Contracting State desires to carry out operations for the development of hydraulic power which might cause serious prejudice to any other Contracting State, the States concerned shall enter into negotiations with a view to the conclusion of agreements which will allow such operations to be executed.

Article 5

The technical methods adopted in the agreements referred to in the foregoing articles shall, within the limits of tie national legislation of the various countries, be based exclusively upon considerations which might legitimately be taken into account in analogous cases of development of hydraulic power affecting only one State, without reference to any political frontier.

Article 6

The agreements contemplated in the foregoing articles may provide, amongst other things, for:

a) general conditions for the establishment, upkeep and operation of the works;

b) equitable contributions by the States concerned towards the expenses, risks, damage of the works, as well as for meeting the cost of upkeep;

c) the settlement of questions of financial co-operation;

d) the methods for exercising technical control and securing public safety;

e) the protection of sites;

f) the regulation of the flow of water;

g) the protection of the interests of third parties;

h) the method of settling disputes regarding the interpretation or application of the agreements.

Article 7

The establishment and operation of works for the exploitation of hydraulic power shall be subject, in the territory of each State, to the laws and regulations applicable to the establishment and operation of similar works in that State.

Article 8

So far as international waterways are concerned which, under the terms of the general Convention on the Regime of Navigable Waterways of International Concern, are contemplated as subject to the provisions of that Convention, all rights and obligations which may be derived from agreements concluded in conformity with the present Convention shall be construed subject to all rights and obligations resulting from the general Convention and the special instruments which have been or may be concluded, governing such navigable waterways.

Article 9

This Convention does not prescribe the rights and duties of belligerents and neutrals in time of war. The Convention shall, however, continue in forge in time of war so far as such rights and duties permit.

Article 10

This Convention does not entail in any way the withdrawal of facilities which are greater than those provided for in the Statute and which have been granted to international traffic by rail under conditions consistent with its principles. This Convention also entails no prohibition of such grant of greater facilities in the future.

Article 11

The present Convention does not in any way affect the rights and obligations of the Contracting State arising out of former conventions or treaties on the subject matter of the present Convention, or out of the provisions on the same subject-matter in general treaties, including the Treaties of Versailles, Trianon and other treaties which ended the war of 1914-18.

Article 12

If a dispute arises between Contracting States as to the application or interpretation of the present Statute, and if such dispute cannot be settled either directly between the Parties or by some other amicable method of procedure, the Parties to the dispute may submit it for an advisory opinion to the body established by the League of Nations as the advisory and technical organization of the Members of the League in matters of communications and transit, unless they have decided or shall decide by mutual agreement to have recourse to some other advisory, arbitral or judicial procedure.

The provisions of the preceding paragraph shall not be applicable to any State which represents that the development of hydraulic power would be seriously detrimental to its national economy or security.

Article 13

It is understood that this Convention must not be interpreted as regulating in any way rights and obligations inter se of territories forming part of or placed under the protection of the same sovereign State, whether or not these territories are individually Contracting States.

Article 14

Nothing in the preceding articles is to be construed as affecting in any way the rights or duties of a Contracting State as Member of the League of Nations.

Article 15

The present Convention, of which the French and English texts are both authentic, shall bear this day's date, and shall be open for signature until October 31, 1924, by any State represented at the Conference of Geneva, by any Member of the League of Nations and by any States to which the Council of the League of Nations shall have communicated a copy of the Convention for this purpose.

Article 16

The present Convention is subject to ratification. The instruments of ratification shall be deposited with the Secretary-General of the League of Nations, who shall notify their receipt to every State signatory of or acceding to the Convention.

Article 17

On and after November 1, 1924, the present Convention may be acceded to by any State represented at the Conference of Geneva, by any Member of the League of Nations, or by any State to which the Council of the League of Nations shall have communicated a copy of the Convention for this purpose.

Accession shall be effected by an instrument communicated to the Secretary-General of the League of Nations to be deposited in the archives of the Secretariat. The Secretary-General shall at once notify such deposit to every State signatory of or acceding to the Convention.

Article 18

The present Convention will not come into force until it has been ratified in the name of three States. The date of its coming into force shall be the ninetieth day after the receipt by the Secretary-General of the League of Nations of the third ratification. Thereafter, the present Convention will take effect in the case of each Party ninety days after the receipt of its ratification or of the notification of its accession.

In compliance with the provisions of Article 18 of the Convention of the League of Nations, the Secretary-General will register the present Convention upon the day of its coming into force.

Article 19

A special record shall be kept by the Secretary-General of the League of Nations showing, with due regard to the provisions of Article 21, which of the Parties have signed, ratified, acceded to or denounced the present Convention. This record shall be open to the Members of the League at all times; it shall be published as often as possible, in accordance with the directions of the Council.

Article 20

Subject to the provisions of Article 11 above, the present Convention may be denounced by any Party thereto after the expiration of five years from the date when it came into force in respect of that Party. Denunciation shall be effected by notification in writing addressed to the Secretary-General of the League of Nations. Copies of such notification shall be transmitted forthwith by him to all the other Parties, informing them of the date on which it was received.

A denunciation shall take effect one year after the date on which the notification thereof was received by the Secretary-General and shall operate only in respect of the notifying State.

Article 21

Any State signing or adhering to the present Convention may declare, at the moment either of its signature, ratification or accession, that its acceptance of the present Convention does not include any or all of its colonies, overseas possessions, protectorates, or overseas territories, under its sovereignty or authority, and may subsequently accede, in conformity with the provisions of Article 17, on behalf of any such colony, overseas possession, protectorate or territory excluded by such declaration.

Denunciation may also be made separately in respect of any such colony, overseas possession, protectorate or territory, and the provisions of Article 20 shall apply to any such denunciation.

Article 22

A request for the revision of the present Convention may be made at any time by one-third of the Contracting States.

1.1.3.2 Protocol of Signature

At the moment of signing the Convention of to-day's date relating to the development of hydraulic power affecting more than one State, the undersigned, duly authorised, have agreed as follows:

The provisions of the Convention do not in any way modify the responsibility or obligations imposed on States, as regards injury done by the construction of works for development of hydraulic power, by the rules of international law.

The present Protocol will have the same force, effect and duration as the Convention of to-day's date, of which it is to be considered as an integral part.

In faith whereof the above-named Plenipotentiaries have signed the present Protocol.

Done at Geneva, the ninth day of December one thousand nine hundred and twenty-three, in a single copy, which will remain deposited in the archives of the Secretariat of the League of Nations; certified copies will be transmitted to all the States represented at the Conference.

1.1.4 Convention to Combat Desertification[1]

Paris, 17 June 1994

(Extract)

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Part III
Action programmes, scientific and technical co-operation and supporting measures

Article 11
Sub-regional and regional action programmes

Affected country Parties shall consult and cooperate to prepare, as appropriate, in accordance with relevant regional implementation annexes, sub-regional and/or regional action programmes to harmonize, complement and increase the efficiency of national programmes. The provisions of article 10[2] shall apply *mutatis mutandis* to sub-regional and regional programmes. Such co-operation may include agreed joint programmes for the sustainable management of transboundary natural resources, scientific and technical co-operation, and strengthening of relevant institutions.

Annex I
Regional implementation Annex for Africa

Article 11
Content and preparation of sub-regional action programmes

Sub-regional action programmes shall focus on issues that are better addressed at the sub-regional level. They shall establish, where necessary, mechanisms for the management of shared natural resources. Such mechanisms shall effectively handle transboundary problems associated with desertification and/or drought and shall provide support for the harmonious implementation of national action programmes. Priority areas for sub-regional action programmes shall, as appropriate, focus on:

(a) joint programmes for the sustainable management of transboundary natural resources through bilateral and multilateral mechanisms, as appropriate;

. . .

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[1] Text in: Convention to Combat Desertification (CCD) Web Page, Internet (http://www.unccd.ch). The Convention entered into force on 26 December 1996.

[2] National Action Programmes.

(e) scientific and technical co-operation, particularly in the climatological, meteorological and hydrological fields, including networking for data collection and assessment, information sharing and project monitoring, and co-ordination and prioritization of research and development activities;

. . .

Annex II
Regional implementation Annex for Asia

Article 5
Sub-regional and joint action programmes

. . .

3. Sub-regional or joint action programmes may include agreed joint programmes for the sustainable management of transboundary natural resources relating to desertification, priorities for co-ordination and other activities in the fields of capacity building, scientific and technical co-operation, particularly drought early warning systems and information sharing, and means of strengthening the relevant sub-regional and other organizations or institutions.

1.1.5 Convention on the Law of the Non-navigational Uses of International Watercourses[1]

New York, 21 May 1997[2]

The Parties to the present Convention,

Conscious of the importance of international watercourses and the non-navigational uses thereof in many regions of the world,

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

Considering that successful codification and progressive development of rules of international law regarding non-navigational uses of international watercourses would assist in promoting and implementing the purposes and principles set forth in Articles 1 and 2 of the Charter of the United Nations,

Taking into account the problems affecting many international watercourses resulting from, among other things, increasing demands and pollution,

Expressing the conviction that a framework convention will ensure the utilization, development, conservation, management and protection of international watercourses and the promotion of the optimal and sustainable utilization thereof for present and future generations,

Affirming the importance of international co-operation and good neighbourliness in this field,

Aware of the special situation and needs of developing countries,

Recalling the principles and recommendations adopted by the United Nations Conference on Environment and Development of 1992 in the Rio Declaration and Agenda 21,

Recalling also the existing bilateral and multilateral agreements regarding the non-navigational uses of international watercourses,

Mindful of the valuable contribution of international organizations, both governmental and non-governmental, to the codification and progressive development of international law in this field,

Appreciative of the work carried out by the International Law Commission on the law of the non-navigational uses of international watercourses,

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1 Text in: UN Document A/51/869 of 11 April 1997. The Convention was adopted by UN General Assembly Resolution 51/229 of 21 May 1997 and opened to signature on the same day.

2 UN Document A/51/L.72.

Bearing in mind United Nations General Assembly resolution 49/52 of 9 December 1994,

Have agreed as follows:

Part I. Introduction

Article 1
Scope of the present Convention

1. The present Convention applies to uses of international watercourses and of their waters for purposes other than navigation and to measures of protection, preservation and management related to the uses of those watercourses and their waters.

2. The uses of international watercourses for navigation is not within the scope of the present Convention except insofar as other uses affect navigation or are affected by navigation.

Article 2
Use of terms

For the purposes of the present Convention:

"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;

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

"Watercourse State" means a State Party to the present Convention in whose territory part of an international watercourse is situated, or a Party that is a regional economic integration organization, in the territory of one or more of whose Member States part of an international watercourse is situated;

"Regional economic integration organization" means an organization constituted by sovereign States of a given region, to which its member States have transferred competence in respect of matters governed by this Convention and which has been duly authorized in accordance with its internal procedures, to sign, ratify, accept, approve or accede to it.

Article 3
Watercourse agreements

In the absence of an agreement to the contrary, nothing in the present Convention shall affect the rights or obligations of a watercourse State arising from agreements in force for it on the date on which it became a party to the present Convention.

Notwithstanding the provisions of paragraph 1, parties to agreements referred to in paragraph 1 may, where necessary, consider harmonizing such agreements with the basic principles of the present Convention.

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

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 any part thereof or a particular project programme or use except insofar as the agreement adversely affects, to a significant extent, the use by one or more other watercourse States of the waters of the watercourse, without their express consent.

Where a watercourse State considers that adjustment and application of the provisions of the present Convention 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.

Where some but not all watercourse States to a particular international watercourse are parties to an agreement, nothing in such agreement shall affect the rights or obligations under the present Convention of watercourse States that are not parties to such an agreement.

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 such an agreement and, where appropriate, in the negotiation thereof in good faith with a view to becoming a party thereto, to the extent that its use is thereby affected.

Part II. 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 and sustainable utilization thereof and benefits therefrom, taking into account the interests of the watercourse States concerned, 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 co-operate in the protection and development thereof, as provided in the present Convention.

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 watercourses 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 comparable 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 co-operation.

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 use, all relevant factors are to be considered together and a conclusion reached on the basis of the whole.

Article 7
Obligation not to cause significant harm

1. Watercourse States shall, in utilizing an international watercourse in their territories, take all appropriate measures to prevent the causing of significant harm to other watercourse States.

2. Where significant harm nevertheless is caused to another watercourse State, the States whose use causes such harm shall, in the absence of agreement to such use, take all appropriate measures, having due regard for the provisions of articles 5 and 6, in consultation with the affected State, to eliminate or mitigate such harm and, where appropriate, to discuss the question of compensation.

Article 8
General obligation to co-operate

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

In determining the manner of such co-operation, watercourse States may consider the establishment of joint mechanisms or commissions, as deemed necessary by them, to facilitate co-operation on relevant measures and procedures in the light of experience gained through co-operation in existing joint mechanisms and commissions in various regions.

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 and related to the water quality 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.

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 articles 5 to 7, with special regard being given to the requirements of vital human needs.

Part III. Planned measures

Article 11
Information concerning planned measures

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

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, including the results of any environmental impact assessment, in order to enable the notified States to evaluate the possible effects of the planned measures.

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 measures poses special difficulty, be extended for a period of six months.

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

During the period referred to in article 13, the notifying State:

(a) 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

(b) shall not implement or permit the implementation of the planned measures without the consent of the notified States.

Article 15
Reply to notification

The notified States shall communicate their findings to the notifying State as early as possible within the period applicable pursuant to article 13. If a notified State finds that implementation of the planned measures would be inconsistent with the provisions of articles 5 or 7, it shall attach to its finding a documented explanation setting forth the reasons for the finding.

Article 16
Absence of reply to notification

1. If, within the period applicable pursuant to article 13, the notifying State receives no communication under 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 within the period applicable pursuant to article 13 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 that period.

Article 17
Consultations and negotiations concerning planned measures

1. If a communication is made under article 15 that implementation of the planned measures would be inconsistent with the provisions of articles 5 or 7, the notifying State and the State making the communication shall enter into consultations 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 of six months unless otherwise agreed.

Article 18
Procedures in the absence of notification

1. If a watercourse State has reasonable grounds to believe that another watercourse State is planning 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 grounds.

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 of six months unless otherwise agreed.

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 case, a formal declaration of the urgency of the measures shall be communicated without delay 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.

Part IV. Protection, preservation and management

Article 20
Protection and preservation of ecosystems

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

Article 21
Prevention, reduction and control of pollution

1. For the purpose 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 and, where appropriate, jointly, prevent, reduce and control the 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.

Watercourse States shall, at the request of any of them, consult with a view to arriving at mutually agreeable measures and methods to prevent, reduce and control pollution of an international watercourse, such as:

(a) setting joint water quality objectives and criteria;

(b) establishing techniques and practices to address pollution from point and non-point sources;

(c) establishing lists of substances the introduction of which into the waters of an international watercourse is to be prohibited, limited, investigated or monitored.

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.

Article 23
Protection and preservation of the marine environment

Watercourse States shall, individually and, where appropriate, in co-operation with other States, 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.

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 the rational and optimal utilization, protection and control of the watercourse.

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.

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 reasonable grounds to believe that it may suffer significant adverse effects, enter into consultations with regard to:

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

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

Part V. Harmful conditions and emergency situations

Article 27
Prevention and mitigation of harmful conditions

Watercourse States shall, individually and, where appropriate, jointly, take all appropriate measures to prevent or mitigate conditions related to an international watercourse 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.

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 co-operation 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 co-operation, where appropriate, with other potentially affected States and competent international organizations.

Part VI. 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 non-international armed conflict and shall not be used in violation of those principles and rules.

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 co-operation provided for in the present Convention, including exchange of data and information, notification, communication, consultations and negotiations, through any indirect procedure accepted by them.

Article 31
Data and information vital to national defense or security

Nothing in the present Convention obliges a watercourse State to provide data or information vital to its national defense 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.

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 in its territory.

Article 33
Settlement of disputes

1. In the event of a dispute between two or more Parties concerning the interpretation or application of the present Convention, the Parties concerned shall, in the absence of an applicable agreement between them, seek a settlement of the dispute by peaceful means in accordance with the following provisions.

2. If the Parties concerned cannot reach agreement by negotiation requested by one of them, they may jointly seek the good offices of, or request mediation or conciliation by, a third party, or make use, as appropriate, of any joint watercourse institutions that may have been

established by them or agree to submit the dispute to arbitration or to the International Court of Justice.

3. Subject to the operation of paragraph 10, if after six months from the time of the request for negotiations referred to in paragraph 2, the Parties concerned have not been able to settle their dispute through negotiation or any other means referred to in paragraph 2, the dispute shall be submitted, at the request of any of the parties to the dispute, to impartial fact-finding in accordance with paragraphs 4 to 9, unless the Parties otherwise agree.

A Fact-finding Commission shall be established, composed of one member nominated by each Party concerned and in addition a member not having the nationality of any of the Parties concerned chosen by the nominated members who shall serve as Chairman.

5. If the members nominated by the Parties are unable to agree on a Chairman within three months of the request for the establishment of the Commission, any Party concerned may request the Secretary-General of the United Nations to appoint the Chairman who shall not have the nationality of any of the parties to the dispute or of any riparian State of the watercourse concerned. If one of the Parties fails to nominate a member within three months of the initial request pursuant to paragraph 3, any other Party concerned may request the Secretary-General of the United Nations to appoint a person who shall not have the nationality of any of the parties to the dispute or of any riparian State of the watercourse concerned. The person so appointed shall constitute a single-member Commission.

6. The Commission shall determine its own procedure.

7. The Parties 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 natural feature relevant for the purpose of its inquiry.

8. The Commission shall adopt its report by a majority vote, unless it is a single-member Commission, and shall submit that report to the Parties concerned setting forth its findings and the reasons therefor and such recommendations as it deems appropriate for an equitable solution of the dispute, which the Parties concerned shall consider in good faith.

9. The expenses of the Commission shall be borne equally by the Parties concerned.

10. When ratifying, accepting, approving or acceding to the present Convention, or at any time thereafter, a Party which is not a regional economic integration organization may declare in a written instrument submitted to the Depositary that, in respect of any dispute not resolved in accordance with paragraph 2, it recognizes as compulsory *ipso facto* and without special agreement in relation to any Party accepting the same obligation:

(a) submission of the dispute to the International Court of Justice; and/or

(b) arbitration by an arbitral tribunal established and operating, unless the parties to the dispute otherwise agreed, in accordance with the procedure laid down in the Annex to the present Convention.

A Party which is a regional economic integration organization may make a declaration with like effect in relation to arbitration in accordance with subparagraph (b).

Part VII. Final clauses

Article 34
Signature

The present Convention shall be open for signature by all States and by regional economic integration organizations from ... until ... at United Nations Headquarters in New York.

Article 35
Ratification, acceptance, approval or accession

1. The present Convention is subject to ratification, acceptance, approval or accession by States and by regional economic integration organizations. The instruments of ratification, acceptance, approval or accession shall be deposited with the Secretary-General of the United Nations.

2. Any regional economic integration organization which becomes a Party to this Convention without any of its member States being a Party shall be bound by all the obligations under the Convention. In the case of such organizations, one or more of whose member States is a Party to this Convention, the organization and its member States shall decide on their respective responsibilities for the performance of their obligations under the Convention. In such cases, the organization and the member States shall not be entitled to exercise rights under the Convention concurrently.

3. In their instruments of ratification, acceptance, approval or accession, the regional economic integration organizations shall declare the extent of their competence with respect to the matters governed by the Convention. These organizations shall also inform the Secretary-General of the United Nations of any substantial modification in the extent of their competence.

Article 36
Entry into force

1. The present Convention shall enter into force on the ninetieth day following the date of deposit of the thirty-fifth instrument of ratification, acceptance, approval or accession with the Secretary-General of the United Nations.

2. For each State or regional economic integration organization that ratifies, accepts or approves the Convention or accedes thereto after the deposit of the thirty-fifth instrument of ratification, acceptance, approval or accession, the Convention shall enter into force on the ninetieth day after the deposit by such State or regional economic integration organization of its instrument of ratification, acceptance, approval or accession.

3. For the purposes of paragraphs 1 and 2, any instrument deposited by a regional economic integration organization shall not be counted as additional those deposited by States.

Article 37
Authentic texts

The original of the present Convention, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations.

IN WITNESS WHEREOF the undersigned plenipotentiaries, being duly authorized thereto, have signed this Convention.

DONE at New York, this _____ day of one thousand nine hundred and ninety-seven.

Annex
Arbitration

Article 1

Unless the parties to the dispute otherwise agree, the arbitration pursuant to article 33 of the Convention shall take place in accordance with articles 2 to 14 of the present Annex.

Article 2

The claimant party shall notify the respondent party that it is referring a dispute to arbitration pursuant to article 33 of the Convention. The notification shall state the subject matter of arbitration and include, in particular, the articles of the Convention, the interpretation or application of which are at issue. If the parties do not agree on the subject matter of the dispute, the arbitral tribunal shall determine the subject matter.

Article 3

1. In disputes between two parties, the arbitral tribunal shall consist of three members. Each of the parties to the dispute shall appoint an arbitrator and the two arbitrators so appointed shall designate by common agreement the third arbitrator, who shall be the Chairman of the tribunal. The latter shall not be a national of one of the parties to the dispute or of any riparian State of the watercourse concerned, nor have his or her usual place of residence in the territory of one of these parties or such riparian State, nor have dealt with the case in any other capacity.

2. In disputes between more than two parties, parties in the same interest shall appoint one arbitrator jointly by agreement.

3. Any vacancy shall be filled in the manner prescribed for the initial appointment.

Article 4

1. If the Chairman of the arbitral tribunal has not been designated within two months of the appointment of the second arbitrator, the President of the International Court of Justice shall, at the request of a party, designate the Chairman within a further two-month period.

2. If one of the parties to the dispute does not appoint an arbitrator within two months of receipt of the request, the other party may inform the President of the International Court of Justice, who shall make the designation within a further two-month period.

Article 5

The arbitral tribunal shall render its decisions in accordance with the provisions of this Convention and international law.

Article 6

Unless the parties to the dispute otherwise agree, the arbitral tribunal shall determine its own rules of procedure.

Article 7

The arbitral tribunal may, at the request of one of the Parties, recommend essential interim measures of protection.

Article 8

1. The parties to the dispute shall facilitate the work of the arbitral tribunal and, in particular, using all means at their disposal, shall:

(a) provide it with all relevant documents, information and facilities; and

(b) enable it, when necessary, to call witnesses or experts and receive their evidence.

2. The parties and the arbitrators are under an obligation to protect the confidentiality of any information they receive in confidence during the proceedings of the arbitral tribunal.

Article 9

Unless the arbitral tribunal determines otherwise because of the particular circumstances of the case, the costs of the tribunal shall be borne by the parties to the dispute in equal shares. The tribunal shall keep a record of all its costs, and shall furnish a final statement thereof to the parties.

Article 10

Any Party that has an interest of a legal nature in the subject matter of the dispute which may be affected by the decision in the case, may intervene in the proceedings with the consent of the tribunal.

Article 11

The tribunal may hear and determine counterclaims arising directly out of the subject matter of the dispute.

Article 12

Decisions both on procedure and substance of the arbitral tribunal shall be taken by a majority vote of its members.

Article 13

If one of the parties to the dispute does not appear before the arbitral tribunal or fails to defend its case, the other party may request the tribunal to continue the proceedings and to make its award. Absence of a party or a failure of a party to defend its case shall not constitute a bar to the proceedings. Before rendering its final decision, the arbitral tribunal must satisfy itself that the claim is well founded in fact and law.

Article 14

1. The tribunal shall render its final decision within five months of the date on which it is fully constituted unless it finds it necessary to extend the time limit for a period which should not exceed five more months.

2. The final decision of the arbitral tribunal shall be confined to the subject matter of the dispute and shall state the reasons on which it is based. It shall contain the names of the members who have participated and the date of the final decision. Any member of the tribunal may attach a separate or dissenting opinion to the final decision.

3. The award shall be binding on the parties to the dispute. It shall be without appeal unless the parties to the dispute have agreed in advance to an appellate procedure.

4. Any controversy which may arise between the parties to the dispute as regards the interpretation or manner of implementation of the final decision may be submitted by either party for decision to the arbitral tribunal which rendered it.

1.2 INTERNATIONAL CONVENTIONS OF REGIONAL APPLICATION

1.2.1 Africa

1.2.1.1 African Convention on the Conservation of Nature and Natural Resources[1] - Algiers, 15 September 1968

(Extracts)

. . .

Article II
Fundamental Principle

The Contracting States shall undertake to adopt the measures necessary to ensure conservation, utilization and development of soil, water, flora and fauna resources in accordance with scientific principles and with due regard to the best interests of the people.

. . .

Article V
Water

1. The Contracting States shall establish policies for conservation, utilization and development of underground and surface water, and shall endeavour to guarantee for their populations a sufficient and continuous supply of suitable water, taking appropriate measures with due regard to:

(i) the study of water cycles and the investigation of each catchment area;

(ii) the co-ordination and planning of water resources development projects;

(iii) the administration and control of all water utilization; and

(iv) prevention and control of water pollution.

2. Where surface or underground water resources are shared by two or more of the Contracting States, the latter shall act in consultation, and if the need arises, set up inter-State Commissions to study and resolve problems arising from the joint use of there resources, and for the joint development and conservation thereof.

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[1] Text in: African Convention on the Conservation of Nature and Natural Resources, published by the Organization of African Unity - General Secretariat OAU, CM/232.
Entry into force on 9 October 1969.

1.2.2 Americas

1.2.2.1 Organization of American States: Draft Convention on the Industrial and Agricultural Use of International Rivers and Lakes[1] - Rio de Janeiro, 1 September 1965

Whereas:

The American States have co-operated for many generations in the realization of important common undertakings;

The utilization of waters in accordance with modern technological methods contributes decisively to the economic development of their peoples; and

It is the common desire of the Contracting Parties to ensure the development of those resources so that they may benefit the well-being of their peoples;

The Governments of the member States of the Organization of American States have agreed as follows:

Article 1

This convention establishes the general standards concerning the utilization of the waters of international rivers and lakes for industrial and agricultural purposes.

Article 2

The provisions of this convention shall not imply the total or partial revocation of regional or bilateral agreements in effect between the High Contracting Parties.

Article 3

The terms mentioned below have the following meanings:

(a) an international river is one that flows through or separates two or more States. The former shall be called successive, and the latter contiguous;

(b) an international lake is one whose banks belong to more than one State;

(c) agricultural use is the utilization of the waters for irrigation or other agricultural uses;

(d) industrial use is the utilization of the water for the production of electric power or for other industrial purposes;

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[1] Text in: Report of the Inter-American Juridical Committee on the work accomplished during its 1965 meeting, (OEA/Ser. 1/VI.1, CIJ-83) (Washington, D.C. Pan-American Union, 1966), pp. 7-10.

(e) a notification is written communication stating that it is planned to utilize the waters or to build works that may modify the existing regimen;

(f) an interested State is one that has jurisdiction over some part of an international river or lake.

Article 4

The right of a State to industrial or agricultural utilization of the waters of an international river or lake that are under its sovereignty does not imply non-recognition of the eventual right of other riparian States.

Article 5

The utilization of the waters of an international river or lake for industrial or agricultural purposes must not prejudice the free navigation thereof in accordance with the applicable legal rules, or cause substantial injury, according to international law, to the riparian States or alterations to their boundaries.

Article 6

In cases in which the utilization of an international river or lake results or may result in damage or injury to another interested State, the consent of that interested State shall be required, as well as the payment or indemnification for any damage or harm done, when such is claimed.

Article 7

No State may utilize or authorize the utilization of an international river under conditions that are less strict than those to which the utilization of domestic rivers is subjected by law, custom, or usage.

No State may, however, demand that greater precautions or requisites be adopted when those that govern in another of the interested States are inferior to those that are generally or prevalently in force for international waters.

Article 8

A State that plans to build works for utilization of an international river or lake must first notify the other interested States. The notification shall be in writing and shall be accompanied by the necessary technical documents in order that the other interested States may have sufficient basis for determining and judging the scope of the works. Along with the notification, the names of the technical expert or experts who are to have charge of the first international phase of the matter should also be supplied.

Article 9

The reply to the notification must be given within six months and no postponements of any kind may be allowed, unless the requested State asks for supplementary information in

addition to the documents that were originally provided, which request may be made only within thirty days following the date of the said notification and must set forth in specific terms the background information that is desired. In such case, the term of six months shall be counted from the date on which the aforesaid supplementary information is provided.

I. If no reply is received within the aforesaid period, it shall be understood that the State or States that were notified have no objections to the work that is being planned and that, consequently, the notifying State may proceed to execute its plans in accordance with the project that was presented. No later claim by the notified State shall be valid.

II. If observations of a technical nature or relating to foreseeable damage or injury are made in the reply to the notification, this document should indicate the nature and estimate of these and the name of the technical expert or experts who together with those mentioned in the notification will form a Joint Commission that will proceed to study the matter. The reply should also include an indication of the place and the date for the meeting of the Joint Commission thus formed.

If the reply does not meet the foregoing requirements, it shall be considered that this procedure has not been executed.

The Joint Commission shall carry out its mandate of seeking a solution, both with respect to the best way of executing and taking advantage of the works that are planned in common benefit, and, when appropriate, with respect to indemnification for the damage and injury caused, all within the period of six months from the date of the reply to the notification.

Article 10

For the purposes of this Convention, the High Contracting Parties shall settle the disputes that may arise with respect to the industrial or agricultural use of international rivers and lakes in accordance with the peaceful procedures established by the inter-American system.

Article 11

This Convention shall be ratified in accordance with the constitutional procedures of the respective countries. It shall enter into force for them at the time that notification of ratification is communicated to the Secretary-General of the Organization of American States.

Article 12

This Convention may be denounced in writing to the Pan American Union by any of the High Contracting Parties.

The Pan American Union shall in each case inform the other Member States of the Organization of the denunciation received, which shall take effect six months after the parties have been informed.

1.2.2.2 Act of Asunción on the Use of International Rivers[1] - 3 June 1971

(Extract)

. . .

Resolution No. 25

Declaration of Asunción on the Use of International Rivers

The Fourth Meeting of Foreign Ministers of the countries of the River Plate Basin,

Decides

To endorse all the resolutions so far adopted in this field and to express its particular satisfaction at the results of the Second Meeting of Experts on Water Resources, held at Brasilia (18-22 May 1970). They also wish to express their conviction that such an important subject will continue to be dealt with in the same spirit of frank and cordial collaboration at the third Meeting of this Group, convened for 29 June 1971;

The Foreign Ministers consider that it is of real value to record the fundamental points on which agreement has already been reached, on the basis of which the studies on this subject are to proceed:

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.

3. As to the exchange of hydrological meteorological data:

(a) processed data shall be disseminated and exchanged systematically through publications;

(b) unprocessed data, whether in the form of observations, instrument measurements or graphs, shall be exchanged or furnished at the discretion of the countries concerned.

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[1] Text in: Rios y lagos internacionales (Utilización pare fines agricolas e industriales) 4 ed. rev., OEA/Ser. I/VI, CIJ-75 rev. 2 (Wash., D.C., Organization of American States), 1971 pp. 183-186. English version in Legal Problems relating to the non-navigational uses of international watercourses, A/CN.4/274 - Supplementary Report by the Secretary-General, United Nations Yearbook of the International Law Commission, 1974, Vol. II (Part two), p. 324.

Parties: Argentina, Bolivia, Brazil, Paraguay, Uruguay.

4. The States shall try as far as possible gradually to exchange the cartographic and hydrographic results of their measurements in the River Plate Basin in order to facilitate the task of determining the characteristics of the flow system.

5. The States shall do their best to maintain the best possible conditions of navigability on the reaches of the rivers under their sovereignty and shall adopt for that purpose whatever measures may be necessary to ensure that any permanent works that are constructed do not interfere with the other present uses of the river system.

6. When executing permanent works for any purpose on the rivers of the Basin, the States shall take the necessary steps to ensure that navigability is not impaired.

7. When executing permanent works on the navigable waterways system, the States shall ensure the conservation of the living resources.

1.2.3 Europe

1.2.3.1 Council of Europe: Draft European Convention for the Protection of International Watercourses against Pollution[1] - Strasbourg, February 1974

(Extracts)

. . .

The member States of the Council of Europe, signatory hereto;

Considering that the aim of the Council of Europe is to achieve a greater unit between its Members;

Considering that protection of the environment, an important factor in the conditions of human life, demands closer co-operation between governments;

Considering that water resources are threatened by increasing pollution;

Convinced of the urgent need for general and simultaneous action on the part of States and for co-operation between them with a view to protecting all water resources against pollution, especially watercourses forming part of an international hydrographic basin;

Being of the opinion that the protection of international watercourses against pollution constitutes only one important step towards the achievement of that objective and that this action must be complemented by the conclusion of conventions for the prevention of marine pollution from land-based sources, in order to ensure that the present Convention is fully effective;

Have agreed as follows:

Article 1

For the purposes of this Convention:

(a) "international watercourse" means any watercourse, canal or lake which separates or passes through the territories of two or more States;

(b) "estuary" means the part of a watercourse between the freshwater limit and the baseline of the territorial sea;

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[1] Text in: Legal Problems relating to the non-navigational uses of international watercourses, Supplementary Report by the Secretary General, doc. A/CN. 4/274, United Nations, Yearbook of International Law Commission, 1974, Vol. II (part two), pp. 346-349.

(c) "freshwater limit" means the place in the watercourse where, at low tide and in a period of low freshwater flow, there is an appreciable increase in salinity due to the presence of sea water;

(d) "water pollution" means any impairment of the composition or state of water, resulting directly or indirectly from human agency, in particular to the detriment of:

its use for human and animal consumption;

its use in industry and agriculture;

the conservation of the natural environment, particularly of aquatic flora and fauna.

Article 2

Each Contracting Party shall endeavour to take, in respect of all surface waters in its territory, all measures appropriate for he reduction of existing water pollution and for the prevention or new forms of such pollution.

Article 3

1. Each Contracting Party undertakes, with regard to international watercourses, to take:

(a) all measures required to prevent new forms of water pollution or any increase in the degree of existing water pollution;

(b) measures aiming at the gradual reduction of existing water pollution.

2. This Convention is not to lead to the replacement of existing measures by measures giving rise to increased pollution.

Article 4

1. Each Contracting Party shall take all measures appropriate for maintaining the quality of the waters of international watercourses at, or for raising it to, a level not lower than:

(a) the specific standards referred to in Article 15, paragraph 2; or

(b) in the absence of such specific standards, the minimum standards laid down in Appendix I to this Convention, subject to any derogation provided for in paragraph 2 of the present Article.

2. The minimum standards laid down in Appendix I shall be applied:

(a) in the case of freshwater standards, at the freshwater limit and at each point upstream from this limit where the watercourse is crossed by a frontier between States;

(b) in the case of brackish water standards, at the baseline of the territorial sea and at the points where the estuary is crossed by a frontier between States.

3. Derogations to the application of Appendix I at the points fixed by the previous paragraph are authorized for the watercourses and the parameters listed in Appendix IV to this Convention. The Contracting Parties riparian to such a watercourse shall co-operate with each other in accordance with the provisions of Article 10.

Article 5

1. The discharge into the waters of international hydrographic basins of any of the dangerous or harmful substances listed in Appendix II to this Convention shall be prohibited or restricted under the conditions provided for in that Appendix.

2. Insofar as a Contracting Party cannot immediately give effect to the provisions of the preceding paragraph, it shall take steps to comply with them in a reasonable time.

Article 6

1. The provision of Articles 3 and 4 may not be involved against a Contracting Party to the extent that this latter is prevented, as a result of water pollution having its origin in the territory of a non-contracting state, from ensuring their full application.

2. However, the said Contracting Party shall endeavour to co-operate with the non-Contracting State so as to make possible the full application of these provisions.

Article 7

1. Each Contracting Party shall communicate to the Secretary-General of the Council of Europe every five years a written statement of the measures which it has taken to implement Articles 2 to 5 inclusive and of the results achieved.

2. The Secretary-General shall notify the other Contracting Parties of the information received from each of them and shall forward such information to the Committee of Ministers of the Council of Europe.

Article 8

The Contracting Parties undertake to co-operate with each other with a view to achieving the aims of this Convention.

Article 9

The Contracting Parties riparian to an international watercourse to which the minimum standards laid down in Appendix I to this Convention are to be applied and the waters of which do not yet meet the level of these standards shall advise each other of the measures they have taken with a view to reaching, within a fixed time-limit, this level at the points fixed by Article 4, paragraph 2.

Article 10

1. The Contracting Parties situated either upstream or downstream of a point on an international watercourse at which the derogations provided for in Article 4, paragraph 3, apply shall carry out, in consultation with each other and before the end of the first year after this Convention enters into force in respect of them, an inquiry with a view to establishing the quality of the waters at this point as regards the parameters covered by the derogation.

2. The Contracting Parties riparian to such a watercourse shall jointly establish a programme designed to achieve, within a fixed time-limit, certain objectives for reducing pollution at the point referred to in the preceding paragraph. This programme may envisage various stages each reaching intermediate objectives. A comparison shall be effected between the objectives envisaged and the results obtained at the expiration of the fixed time-limits.

3. If the inquiry the results mentioned in the preceding paragraphs show that it is no longer necessary to maintain the derogation as regards one of the parameters, the Contracting Party which requested the derogation shall notify the Secretary-General of the Council of Europe of its suppression as regards that parameter.

Article 11

As soon as a sudden increase in pollution is recorded, the Contracting Parties riparian to the same watercourse shall immediately warn each other, and shall take unilaterally or jointly all measures in their power to avert injurious consequences or to limit the extent thereof, having recourse to the early warning system envisaged in Article 15, paragraph 1(c), if any.

Article 12

1. The Contracting Parties whose territories the same international watercourse separates or passes through, hereinafter called "the interested Contracting Parties", undertake to enter into negotiations with each other, if one of them so requests, with a view to concluding a co-operation agreement or to adapting existing co-operation agreements to the provisions of this Convention.

2. When the interested Contracting Parties admit expressly or tacitly that the contribution of one of them to the pollution of the international watercourse car be deemed negligible, the latter Contracting Party is not bound to enter into negotiations in conformity with the preceding paragraph. Likewise, when the pollution of one section of an international watercourse by another section situated upstream on the same watercourse can be deemed negligible, the Contracting Parties riparian to one or the other of these two sections are not bound to enter into negotiations with regard to the watercourse as a whole.

Article 13

If an interested Contracting Party does not enter into negotiations within a reasonable time, any interested Contracting Party may inform the Committee of Ministers of the Council of Europe which shall then hold itself at the disposal of the interested Contracting Parties in order to find a procedure for reaching a satisfactory solution. The same shall apply if the negotiations, once begun, do not reach a positive conclusion within a reasonable time.

Article 14

1. The co-operation agreement referred to in Article 12 of this Convention shall, unless the interested Contracting Parties decide otherwise, provide for the establishment of an international commission and lay down its organization, its modes of operating and, if necessary, the rules for financing it.

2. The co-operation agreement shall, where appropriate, provide that any existing commission or commissions shall be assigned the functions provided for in Article 15.

3. Where two or more international commissions exist for the protection against pollution of the waters of the international watercourses of the same hydrographic basin, the interested Contracting Parties undertake to co-ordinate their activities in order to improve the protection of the waters of this basin.

Article 15

1. Each international commission for water protection shall have *inter alia* the following functions:

(a) to collect and to verity at regular intervals data concerning the quality of the water of the international watercourse;

(b) to propose, if necessary, that the interested Contracting Parties carry out or have carried out any additional investigation to establish the nature, degree and source of pollution; the commission may also decide to undertake certain studies itself;

(c) to propose to the interested Contracting Parties that an early warning system be set up for serious accidental pollution;

(d) to propose to the interested Contracting Parties any additional measures that it considers useful;

(e) to study, at the request of the interested Contracting Parties, the advisability and, if necessary, the methods of jointly financing large-scale projects concerning water pollution control;

(f) to propose to the interested Contracting Parties the inquiries and the programmes and objectives for reducing pollution mentioned in Article 10 concerning the international watercourses for which a derogation has been made pursuant to Article 4, paragraph 3.

2. In compliance with the general aims defined in Articles 2, 3, 4 and 5, each international commission shall, if it deems it necessary, propose to the interested Contracting Parties the assignment of the international watercourse under its authority, or one or more of its sections, to one or more of the possible uses of the watercourse. According to these uses and in conformity with the provisions of Article 17, the commission shall elaborate specific standards of water quality as well as the ways and means of applying them, and shall propose these for adoption by the interested Contracting Parties.

Article 16

1. Each interested Contracting Party shall have one vote in any international commission of which it is a member, unless the co-operation agreement provides otherwise.

2. The co-operation agreement may provide that a proposal adopted by a unanimous decision of the commission shall be binding on each member State, unless it informs the commission within a period to be fixed by the latter that it does not approve of the proposal or is unable to express an opinion thereon.

Article 17

1. The specific standards referred to in Article 15, paragraph 2 shall be adapted to the various possible uses of the international watercourse, such as:

(a) production of drinking water for human consumption;

(b) consumption by domestic and wild animals;

(c) conservation of wild life, both flora and fauna, and securing conditions in which they thrive, and the conservation of the self-purifying capacity of water;

(d) fishing;

(e) recreational amenities. with due regard to health and aesthetic requirements;

(f) the application of freshwater directly or indirectly to land for agricultural purposes;

(g) production of water for industrial purposes;

(h) the need to preserve an acceptable quality of sea water.

2. These specific standards shall be determined taking into account the quality limits for each use as set out in Appendix III to this Convention, and in particular must be at a level which ensures that the quality of the water of the watercourse or of the section thereof which has been assigned to the use is of a level at least equal to that of those quality limits in Appendix III which are of an imperative nature.

Article 18

Each interested Contracting Party undertakes to furnish to the international commissions of which it is a member the necessary facilities for the accomplishment of their tasks.

Article 19

1. Each interested Contracting Party shall take all legislative and administrative measures necessary for the implementation of the undertakings which it has accepted under co-operation agreements.

2. Such undertakings may in no case be interpreted to prevent a Contracting Party from taking, as far as it is concerned, stricter or more effective measures.

Article 20

The co-operation agreement may make provision for a procedure which, set in motion at the request of any Contracting State, would permit a satisfactory solution to be reached when:

(a) the international commission has not reached agreement on the adoption of a proposal;

(b) a Contracting State has not approved, within a reasonable time, a proposal submitted to it by the international commission of which it is a member.

Article 21

The provisions of this Convention shall not affect the rules applicable under general international law to any liability of States for damage caused by water pollution.

Article 22

1. Any dispute between Contracting Parties concerning the interpretation or application of this Convention or of a co-operation agreement referred to in Articles 12 to 20 thereof, including an act made in execution of such an agreement and binding upon the Parties, shall, if it has not been possible to settle it through negotiations between the parties to the dispute and unless these parties decide otherwise, be submitted, on the application of one of them, to arbitration as provided for in Appendix A to this Convention

2. The provisions of the preceding paragraph shall not affect the undertakings by which the parties to the dispute have agreed or may agree, under a co-operation agreement, upon another procedure for the settlement of disputes concerning the interpretation or application of this agreement or of acts made in execution of it and binding upon the parties. However, if provision is not made in such procedure for a binding decision and if, once set in motion, such procedure does not lead to the settlement of the dispute within nine months, one or other of the parties to the dispute may have recourse to the arbitral procedure provided for in Appendix A to this Convention.

Appendix I

Minimum standards for international watercourses referred to in Article 4, paragraph 1 (b).

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Appendix II

Dangerous or harmful substances referred to in Article 5.

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Appendix III

Quality limits for international watercourses according to their possible uses, as referred to in Article 17, paragraph 2.

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List of watercourses for which derogations to the undertakings under Article 4, paragraph 1(b) are permissible.

. . .

Appendix A
Arbitration

Article 1

Unless the parties to the dispute decide otherwise, the arbitral procedure shall be in accordance with the provisions of this Appendix.

Article 2

1. Upon an application addressed by one Contracting Party to another Contracting Party in accordance with Article 22 of the Convention, an arbitral tribunal shall be set up. The application for arbitration shall state the subject-matter of the application and shall be accompanied by proposals for the settlement of the dispute as well as any supporting documents.

2. If the dispute relates to the Convention, the party making the application shall inform the Secretary-General of the Council of Europe of the fact that it has asked for an arbitral tribunal to be set up, of the name of the other party to the dispute and of the articles of the Convention the interpretation or application of which are, in its opinion, the subject-matter of the dispute. The Secretary-General shall transmit the information so received to all the Contracting Parties to the Convention.

Article 3

The arbitral tribunal shall consist of three members each of the parties to the dispute shall appoint one arbitrator; the two arbitrators so appointed shall designate by common agreement the third arbitrator who shall be the chairman of the tribunal. The latter shall not be a national of one of the parties to the dispute, nor have his usual place of residence in the territory of one of these parties, nor be employed by one of them, nor have dealt with the case in another capacity.

Article 4

1. If the chairman of the arbitral tribunal has not been designated within two months of the appointment of the second arbitrator, the President of the European Court of Human Rights shall, at the request of either party, designate him within a further two months' period.

If one of the parties to the dispute does not appoint an arbitrator within two months of receipt of the application, the other party may refer the matter to the President of the European Court of Human Rights, who shall designate the chairman of the arbitral tribunal within a further two months' period. As soon as designated, the chairman of the arbitral tribunal shall request the party which has not appointed an arbitrator to do so within two months. After this period has expired, he shall refer the matter to the President of the European Court of Human Rights, who shall make his appointment within a further two months' period.

3. If in the cases envisaged in the preceding, paragraphs, the President of the European Court of Human Rights is unable to act or is a national of one of the parties to the dispute, the chairman of the arbitral tribunal shall be designated or the arbitrator appointed by the Vice-President of the Court or by the most senior member of the Court who is not unable to act and is not a national of one of the parties to the dispute.

4. The above provisions shall apply, as the case may be, in order to fill any vacancy.

Article 5

1. The arbitral tribunal shall decide according to the rules of international law and, in particular, those of this Convention and of the co-operation agreement binding upon the parties to the dispute, including the acts made in execution of this agreement and binding upon these parties.

2. Any arbitral tribunal constituted under the provisions of this Appendix shall draw up its own rules of procedure.

Article 6

1. The decisions of the arbitral tribunal, both on questions of procedure and of substance, shall be taken by majority vote of its members; the absence or abstention of a member for whose appointment one of the parties to the dispute was responsible shall not prevent the tribunal from reaching a decision.

2. The tribunal may take all appropriate measures in order to establish the facts. If two or more arbitral tribunals set up under the provisions of this Appendix are seized of applications with identical or analogous subject-matter, they may inform themselves of the proceedings relating to the establishment of the facts and take them into account as far as possible.

3. The parties to the dispute shall provide all facilities necessary for the effective conduct of the proceedings.

4. The absence or default of a party to the dispute shall not prevent the operation of the proceedings.

Article 7

1. The award of the arbitral tribunal shall be supported by a statement of reasons. It shall be final and binding upon the parties to the dispute.

2. Any dispute which may arise between the parties concerning the interpretation or execution of the award may be submitted by either party to the arbitral tribunal which made the award or, if the latter cannot be seized thereof, to another arbitral tribunal set up for this purpose in the same manner as the first.

1.2.3.2 Convention on Environmental Impact Assessment in a Transboundary Context[1] - Espoo, 25 February 1991

(Extract)

. . .

Article 2
General provisions

1. The Parties shall, either individually or jointly, take all appropriate and effective measures to prevent, reduce and control significant adverse transboundary environmental impact from proposed activities.

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 listed in Appendix I that are likely to cause significant adverse transboundary impact, the establishment of an environmental impact assessment procedure that permits public participation and preparation of the environmental impact assessment documentation described in Appendix II.

3. The Party of origin shall ensure that in accordance with the provisions of this Convention an environmental impact assessment is undertaken prior to a decision to authorize or undertake a proposed activity listed in Appendix I that is likely to cause a significant adverse transboundary impact.

4. The Party of origin shall, consistent with the provisions of this Convention, ensure that affected Parties are notified of a proposed activity listed in Appendix I that is likely to cause a significant adverse transboundary impact.

5. Concerned Parties shall, at the initiative of any such Party, enter into discussions on whether one or more proposed activities not listed in Appendix I is or are likely to cause a significant adverse transboundary impact and thus should be treated as if it or they were so listed. Where those Parties so agree, the activity or activities shall be thus treated. General guidance for identifying criteria to determine significant adverse impact is set forth in Appendix III.

6. The Party of origin shall provide, in accordance with the provisions of this Convention, an opportunity to the public in the areas likely to be affected to participate in relevant environmental impact assessment procedures regarding proposed activities and shall ensure that the opportunity provided to the public of the affected Party is equivalent to that provided to the public of the Party of origin.

7. Environmental impact assessments as required by this Convention shall, as a minimum requirement, be undertaken at the project level of the proposed activity. To the extent

[1] Text in: ECE Web Page, Internet.
The Convention has not yet entered into force.

appropriate, the Parties shall endeavour to apply the principles of environmental impact assessment to policies, plans and programmes.

8. The provisions of this Convention shall not affect the right of Parties to implement national laws, regulations, administrative provisions or accepted legal practices protecting information the supply of which would be prejudicial to industrial and commercial secrecy or national security.

9. The provisions of this Convention shall not affect the right of particular Parties to implement, by bilateral or multilateral agreement where appropriate, more stringent measures than those of this Convention.

10. The provisions of this Convention shall not prejudice any obligations of the Parties under international law with regard to activities having or likely to have a transboundary impact.

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Appendix I
List of activities

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9. Trading ports and also inland waterways and ports for inland-waterway traffic which permit the passage of vessels of over 1,350 tonnes.

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11. Large dams and reservoirs.

12. Groundwater abstraction activities in cases where the annual volume of water to be abstracted amounts to 10 million cubic metres or more.

. . .

1.2.3.3 Convention on the Protection and Use of Transboundary Watercourses and International Lakes[1] - 18 March 1992

Preamble

The Parties to this Convention,

Mindful that the protection and use of transboundary watercourses and international lakes are important and urgent tasks, the effective accomplishment of which can only be ensured by enhanced co-operation,

Concerned over the existence and threats of adverse effects, in the short or long term, of changes in the conditions of transboundary watercourses and international lakes on the environment, economies and well-being of the member countries of the Economic Commission for Europe (ECE),

Emphasizing the need for strengthened national and international measures to prevent, control and reduce the release of hazardous substances into the aquatic environment and to abate eutrophication and acidification, as well as pollution of the marine environment, in particular coastal areas, from land-based sources,

Commending the efforts already undertaken by the ECE Governments to strengthen co-operation, on bilateral and multilateral levels, for the prevention, control and reduction of transboundary pollution, sustainable water management, conservation of water resources and environmental protection,

Recalling the pertinent provisions and principles of the Declaration of the Stockholm Conference on the Human Environment, the Final Act of the Conference on Security and Co-operation in Europe (CSCE), the Concluding Documents of the Madrid and Vienna Meetings of Representatives of the Participating States of the CSCE, and the Regional Strategy for Environmental Protection and Rational Use of Natural Resources in ECE Member Countries covering the Period up to the Year 2000 and Beyond,

Conscious of the role of the United Nations Economic Commission for Europe in promoting international co-operation for the prevention, control and reduction of transboundary water pollution and sustainable use of transboundary waters, and in this regard recalling the ECE Declaration of Policy on Prevention and Control of Water Pollution, including Transboundary Pollution; the ECE Declaration of Policy on the Rational Use of Water; the ECE Principles Regarding Co-operation in the Field of Transboundary Waters; the ECE Charter on Groundwater Management; and the Code of Conduct on Accidental Pollution of Transboundary Inland Waters,

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[1] Text in: Separate Publication of the United Nations Economic Commission for Europe (UN/ECE). The Convention came into force on 6 October 1996.

Referring to decisions I (42) and I (44) adopted by the Economic Commission for Europe at its forty-second and forty-fourth sessions, respectively, and the outcome of the CSCE Meeting on the Protection of the Environment (Sofia, Bulgaria, 16 October - 3 November 1989),

Emphasizing that co-operation between member countries in regard to the protection and use of transboundary waters shall be implemented primarily through the elaboration of agreements between countries bordering the same waters, especially where no such agreements have yet been reached,

have agreed as follows:

Article 1
Definitions

For the purposes of this Convention,

1. "Transboundary waters" means any surface or ground waters which mark, cross or are located on boundaries between two or more States; wherever transboundary waters flow directly into the sea, these transboundary waters end at a straight line across their respective mouths between points on the low-water line of their banks;

2. "Transboundary impact" means any significant adverse effect on the environment resulting from a change in the conditions of transboundary waters caused by a human activity, the physical origin of which is situated wholly or in part within an area under the jurisdiction of a Party, within an area under the jurisdiction of another Party. Such effects on the environment include effects on human health and safety, flora, fauna, soil, air, water, climate, landscape and historical monuments or other physical structures or the interaction among these factors; they also include effects on the cultural heritage or socio-economic conditions resulting from alterations to those factors;

3. "Party" means, unless the text otherwise indicates, a Contracting Party to this Convention;

4. "Riparian Parties" means the Parties bordering the same transboundary waters;

5. "Joint body" means any bilateral or multilateral commission or other appropriate institutional arrangements for co-operation between the Riparian Parties;

6. "Hazardous substances" means substances which are toxic, carcinogenic, mutagenic, teratogenic or bio-accumulative, especially when they are persistent;

7. "Best available technology" (the definition is contained in Annex I to this Convention).

PART I
Provisions relating to all parties

Article 2
General provisions

1. The Parties shall take all appropriate measures to prevent, control and reduce any transboundary impact.

2. The Parties shall, in particular, take all appropriate measures:

(a) to prevent, control and reduce pollution of waters causing or likely to cause transboundary impact;

(b) to ensure that transboundary waters are used with the aim of ecologically sound and rational water management, conservation of water resources and environmental protection;

(c) to ensure that transboundary waters are used in a reasonable and equitable way, taking into particular account their transboundary character, in the case of activities which cause or are likely to cause transboundary impact;

(d) to ensure conservation and, where necessary, restoration of ecosystems.

3. Measures for the prevention, control and reduction of water pollution shall be taken, where possible, at source.

4. These measures shall not directly or indirectly result in a transfer of pollution to other parts of the environment.

5. In taking the measures referred to in paragraphs 1 and 2 of this article, the Parties shall be guided by the following principles:

(a) the precautionary principle, by virtue of which action to avoid the potential transboundary impact of the release of hazardous substances shall not be postponed on the ground that scientific research has not fully proved a causal link between those substances, on the one hand, and the potential transboundary impact, on the other hand;

(b) the polluter-pays principle, by virtue of which costs of pollution prevention, control and reduction measures shall be borne by the polluter;

(c) water resources shall be managed so that the needs of the present generation are met without compromising the ability of future generations to meet their own needs.

6. The Riparian Parties shall cooperate on the basis of equality and reciprocity, in particular through bilateral and multilateral agreements, in order to develop harmonized policies, programmes and strategies covering the relevant catchment areas, or parts thereof, aimed at the prevention, control and reduction of transboundary impact and aimed at the protection of

the environment of transboundary waters or the environment influenced by such waters, including the marine environment.

7. The application of this Convention shall not lead to the deterioration of environmental conditions nor lead to increased transboundary impact.

8. The provisions of this Convention shall not affect the right of Parties individually or jointly to adopt and implement more stringent measures than those set down in this Convention.

Article 3
Prevention, control and reduction

1. To prevent, control and reduce transboundary impact, the Parties shall develop, adopt, implement and, as far as possible, render compatible relevant legal, administrative, economic, financial and technical measures, in order to ensure, *inter alia* that:

(a) the emission of pollutants is prevented, controlled and reduced at source through the application of, *inter alia*, low- and non-waste technology;

(b) transboundary waters are protected against pollution from point sources through the prior licensing of waste-water discharges by the competent national authorities, and that the authorized discharges are monitored and controlled;

(c) limits for waste-water discharges stated in permits are based on the best available technology for discharges of hazardous substances;

(d) stricter requirements, even leading to prohibition in individual cases, are imposed when the quality of the receiving water or the ecosystem so requires;

(e) at least biological treatment or equivalent processes are applied to municipal waste water, where necessary in a step-by-step approach;

(f) appropriate measures are taken, such as the application of the best available technology, in order to reduce nutrient inputs from industrial and municipal sources;

(g) appropriate measures and best environmental practices are developed and implemented for the reduction of inputs of nutrients and hazardous substances from diffuse sources, especially where the main sources are from agriculture (guidelines for developing best environmental practices are given in Annex II to this Convention);

(h) environmental impact assessment and other means of assessment are applied;

(i) sustainable water-resources management, including the application of the ecosystems approach, is promoted;

(j) contingency planning is developed;

(k) additional specific measures are taken to prevent the pollution of groundwaters;

(l) the risk of accidental pollution is minimized.

2. To this end, each Party shall set emission limits for discharges from point sources into surface waters based on the best available technology, which are specifically applicable to individual industrial sectors or industries from which hazardous substances derive. The appropriate measures mentioned in paragraph 1 of this article to prevent, control and reduce the input of hazardous substances from point and diffuse sources into waters, may, *inter alia*, include total or partial prohibition of the production or use of such substances. Existing lists of such industrial sectors or industries and of such hazardous substances in international conventions or regulations, which are applicable in the area covered by this Convention, shall be taken into account.

3. In addition, each Party shall define, where appropriate, water-quality objectives and adopt water-quality criteria for the purpose of preventing, controlling and reducing transboundary impact. General guidance for developing such objectives and criteria is given in Annex III to this Convention. When necessary, the Parties shall endeavour to update this Annex.

Article 4
Monitoring

The Parties shall establish programmes for monitoring the conditions of transboundary waters.

Article 5
Research and development

The Parties shall cooperate in the conduct of research into and development of effective techniques for the prevention, control and reduction of transboundary impact. To this effect, the Parties shall, on a bilateral and/or multilateral basis, taking into account research activities pursued in relevant international forums, endeavour to initiate or intensify specific research programmes, where necessary, aimed, *inter alia*, at:

(a) methods for the assessment of the toxicity of hazardous substances and the noxiousness of pollutants;

(b) improved knowledge on the occurrence, distribution and environmental effects of pollutants and the processes involved;

(c) the development and application of environmentally sound technologies, production and consumption patterns;

(d) the phasing out and/or substitution of substances likely to have transboundary impact;

(e) environmentally sound methods of disposal of hazardous substances;

(f) special methods for improving the conditions of transboundary waters;

(g) she development of environmentally sound water-construction works and water-regulation techniques;

(h) the physical and financial assessment of damage resulting from transboundary impact.

The results of these research programmes shall be exchanged among the Parties in accordance with article 6 of this Convention.

Article 6
Exchange of information

The Parties shall provide for the widest exchange of information, as early as possible, on issues covered by the provisions of this Convention.

Article 7
Responsibility and liability

The Parties shall support appropriate international efforts to elaborate rules, criteria and procedures in the field of responsibility and liability.

Article 8
Protection of information

The provisions of this Convention shall not affect the rights or the obligations of Parties in accordance with their national legal systems and applicable supranational regulations to protect information related to industrial and commercial secrecy, including intellectual property, or national security.

PART II
Provisions relating to riparian parties

Article 9
Bilateral and multilateral co-operation

1. The Riparian Parties shall on the basis of equality and reciprocity enter into bilateral or multilateral agreements or other arrangements, where these do not yet exist, or adapt existing ones, where necessary to eliminate the contradictions with the basic principles of this Convention, in order to define their mutual relations and conduct regarding the prevention, control and reduction of transboundary impact. The Riparian Parties shall specify the catchment area, or part(s) thereof, subject to co-operation. These agreements or arrangements shall embrace relevant issues covered by this Convention, as well as any other issues on which the Riparian Parties may deem it necessary to cooperate.

2. The agreements or arrangements mentioned in paragraph 1 of this article shall provide for the establishment of joint bodies. The tasks of these joint bodies shall be, *inter alia*, and without prejudice to relevant existing agreements or arrangements, the following:

(a) to collect, compile and evaluate data in order to identify pollution sources likely to cause transboundary impact;

(b) to elaborate joint monitoring programmes concerning water quality and quantity;

(c) to draw up inventories and exchange information on the pollution sources mentioned in paragraph 2 (a) of this article;

(d) to elaborate emission limits for waste water and evaluate the effectiveness of control programmes;

(e) to elaborate joint water-quality objectives and criteria having regard to the provisions of article 3, paragraph 3 of this Convention, and to propose relevant measures for maintaining and, where necessary, improving the existing water quality;

(f) to develop concerted action programmes for the reduction of pollution loads from both point sources (e.g. municipal and industrial sources) and diffuse sources (particularly from agriculture);

(g) to establish warning and alarm procedures;

(h) to serve as a forum for the exchange of information on existing and planned uses of water and related installations that are likely to cause transboundary impact;

(i) to promote co-operation and exchange of information on the best available technology in accordance with the provisions of article 13 of this Convention, as well as to encourage co-operation in scientific research programmes;

(j) to participate in the implementation of environmental impact assessments relating to transboundary waters, in accordance with appropriate international regulations.

3. In cases where a coastal State, being Party to this Convention, is directly and significantly affected by transboundary impact, the Riparian Parties can, if they all so agree, invite that coastal State to be involved in an appropriate manner in the activities of multilateral joint bodies established by Parties riparian to such transboundary waters.

4. Joint bodies according to this Convention shall invite joint bodies, established by coastal States for the protection of the marine environment directly affected by transboundary impact, to cooperate in order to harmonize their work and to prevent, control and reduce the transboundary impact.

5. Where two or more joint bodies exist in the same catchment area, they shall endeavour to co-ordinate their activities in order to strengthen the prevention, control and reduction of transboundary impact within that catchment area.

Article 10
Consultations

Consultations shall be held between the Riparian Parties on the basis of reciprocity, good faith and good-neighbourliness, at the request of any such Party. Such consultations shall aim at co-operation regarding the issues covered by the provisions of this Convention. Any such consultations shall be conducted through a joint body established under article 9 of this Convention, where one exists.

Article 11
Joint monitoring and assessment

1. In the framework of general co-operation mentioned in article 9 of this Convention, or specific arrangements, the Riparian Parties shall establish and implement joint programmes for monitoring the conditions of transboundary waters, including floods and ice drifts, as well as transboundary impact.

2. The Riparian Parties shall agree upon pollution parameters and pollutants whose discharges and concentration in transboundary waters shall be regularly monitored.

3. The Riparian Parties shall, at regular intervals, carry out joint or co-ordinated assessments of the conditions of transboundary waters and the effectiveness of measures taken for the prevention, control and reduction of transboundary impact. The results of these assessments shall be made available to the public in accordance with the provisions set out in article 16 of this Convention.

4. For these purposes, the Riparian Parties shall harmonize rules for the setting up and operation of monitoring programmes, measurement systems, devices, analytical techniques, data processing and evaluation procedures, and methods for the registration of pollutants discharged.

Article 12
ommon research and development

In the framework of general co-operation mentioned in article 9 of this Convention, or specific arrangements, the Riparian Parties shall undertake specific research and development activities in support of achieving and maintaining the water-quality objectives and criteria which they have agreed to set and adopt.

Article 13
Exchange of information between riparian parties

1. The Riparian Parties shall, within the framework of relevant agreements or other arrangements according to article 9 of this Convention, exchange reasonably available data, *inter alia*, on:

(a) environmental conditions of transboundary waters;

(b) experience gained in the application and operation of best available technology and results of research and development;

(c) emission and monitoring data;

(d) measures taken and planned to be taken to prevent, control and reduce transboundary impact;

(e) permits or regulations for waste-water discharges issued by the competent authority or appropriate body.

2. In order to harmonize emission limits, the Riparian Parties shall undertake the exchange of information on their national regulations.

3. If a Riparian Party is requested by another Riparian Party to provide data or information that is not available, the former shall endeavour to comply with the request but may condition its compliance upon the payment, by the requesting Party, of reasonable charges for collecting and, where appropriate, processing such data or information.

4. For the purposes of the implementation of this Convention, the Riparian Parties shall facilitate the exchange of best available technology, particularly through the promotion of: the commercial exchange of available technology; direct industrial contacts and co-operation, including joint ventures; the exchange of information and experience; and the provision of technical assistance. The Riparian Parties shall also undertake joint training programmes and the organization of relevant seminars and meetings.

Article 14
Warning and alarm systems

The Riparian Parties shall without delay inform each other about any critical situation that may have transboundary impact. The Riparian Parties

shall set up, where appropriate, and operate co-ordinated or joint communication, warning and alarm systems with the aim of obtaining and transmitting information. These systems shall operate on the basis of compatible data transmission and treatment procedures and facilities to be agreed upon by the Riparian Parties. The Riparian Parties shall inform each other about competent authorities or points of contact designated for this purpose.

Article 15
Mutual assistance

1. If a critical situation should arise, the Riparian Parties shall provide mutual assistance upon request, following procedures to be established in accordance with paragraph 2 of this article.

2. The Riparian Parties shall elaborate and agree upon procedures for mutual assistance addressing, *inter alia*, the following issues:

(a) the direction, control, co-ordination and supervision of assistance;

(b) local facilities and services to be rendered by the Party requesting assistance, including, where necessary, the facilitation of border-crossing formalities;

(c) arrangements for holding harmless, indemnifying and/or compensating the assisting Party and/or its personnel, as well as for transit through territories of third Parties, where necessary;

(d) methods of reimbursing assistance services.

Article 16
Public information

1. The Riparian Parties shall ensure that information on the conditions of transboundary waters, measures taken or planned to be taken to prevent, control and reduce transboundary impact, and the effectiveness of those measures, is made available to the public. For this purpose, the Riparian Parties shall ensure that the following information is made available to the public:

(a) water-quality objectives;

(b) permits issued and the conditions required to be met;

(c) results of water and effluent sampling carried out for the purposes of monitoring and assessment, as well as results of checking compliance with the water-quality objectives or the permit conditions.

2. The Riparian Parties shall ensure that this information shall be available to the public at all reasonable times for inspection free of charge, and shall provide members of the public with reasonable facilities for obtaining from the Riparian Parties, on payment of reasonable charges, copies of such information.

PART III
Institutional and final provisions

Article 17
Meeting of parties

1. The first meeting of the Parties shall be convened no later than one year after the date of the entry into force of this Convention. Thereafter, ordinary meetings shall be held every three years, or at shorter intervals as laid down in the rules of procedure. The Parties shall hold an extraordinary meeting if they so decide in the course of an ordinary meeting or at the written request of any Party, provided that, within six months of it being communicated to all Parties, the said request is supported by at least one third of the Parties.

2. At their meetings, the Parties shall keep under continuous review the implementation of this Convention, and, with this purpose in mind, shall:

(a) review the policies for and methodological approaches to the protection and use of transboundary waters of the Parties with a view to further improving the protection and use of transboundary waters;

(b) exchange information regarding experience gained in concluding and implementing bilateral and multilateral agreements or other arrangements regarding the protection and use of transboundary waters to which one or more of the Parties are party;

(c) seek, where appropriate, the services of relevant ECE bodies as well as other competent international bodies and specific committees in all aspects pertinent to the achievement of the purposes of this Convention;

(d) at their first meeting, consider and by consensus adopt rules of procedure for their meetings;

(e) consider and adopt proposals for amendments to this Convention;

(f) consider and undertake any additional action that may be required for the achievement of the purposes of this Convention.

Article 18
Right to vote

1. Except as provided for in paragraph 2 of this article, each Party to this Convention shall have one vote.

2. Regional economic integration organizations, in matters within their competence, shall exercise their right to vote with a number of votes equal to the number of their member States which are Parties to this Convention. Such organizations shall not exercise their right to vote if their member States exercise theirs, and vice versa.

Article 19
Secretariat

The Executive Secretary of the Economic Commission for Europe shall carry out the following secretariat functions:

(a) the convening and preparing of meetings of the Parties;

(b) the transmission to the Parties of reports and other information received in accordance with the provisions of this Convention;

(c) the performance of such other functions as may be determined by the Parties.

Article 20
Annexes

Annexes to this Convention shall constitute an integral part thereof.

Article 21
Amendments to the convention

1. Any Party may propose amendments to this Convention.

2. Proposals for amendments to this Convention shall be considered at a meeting of the Parties.

3. The text of any proposed amendment to this Convention shall be submitted in writing to the Executive Secretary of the Economic Commission for Europe, who shall communicate it to all Parties at least ninety days before the meeting at which it is proposed for adoption.

4. An amendment to the present Convention shall be adopted by consensus of the representatives of the Parties to this Convention present at a meeting of the Parties, and shall enter into force for the Parties to the Convention which have accepted it on the ninetieth day after the date on which two thirds of those Parties have deposited with the Depositary their instruments of acceptance of the amendment. The amendment shall enter into force for any other Party on the ninetieth day after the date on which that Party deposits its instrument of acceptance of the amendment.

Article 22
Settlement of disputes

1. If a dispute arises between two or more Parties about the interpretation or application of this Convention, they shall seek a solution by negotiation or by any other means of dispute settlement acceptable to the parties to the dispute.

2. When signing, ratifying, accepting, approving or acceding to this Convention, or at any time thereafter, a Party may declare in writing to the Depositary that, for a dispute not resolved in accordance with paragraph 1 of this article, it accepts one or both of the following means of dispute settlement as compulsory in relation to any Party accepting the same obligation:

(a) submission of the dispute to the International Court of Justice;

(b) arbitration in accordance with the procedure set out in Annex IV.

3. If the parties to the dispute have accepted both means of dispute settlement referred to in paragraph 2 of this article, the dispute may be submitted only to the International Court of Justice, unless the parties agree otherwise.

Article 23
Signature

This Convention shall be open for signature at Helsinki from 17 to 18 March 1992 inclusive, and thereafter at United Nations Headquarters in New York until 18 September 1992, by States members of the Economic Commission for Europe as well as States having consultative status with the Economic Commission for Europe pursuant to paragraph 8 of Economic and Social Council resolution 36 (IV) of 28 March 1947, and by regional economic integration organizations constituted by sovereign States members of the Economic Commission for Europe to which their member States have transferred competence over matters governed by this Convention, including the competence to enter into treaties in respect of these matters.

Article 24
Depositary

The Secretary-General of the United Nations shall act as the Depositary of this Convention.

Article 25
Ratification, acceptance, approval and accession

1. This Convention shall be subject to ratification, acceptance or approval by signatory States and regional economic integration organizations.

2. This Convention shall be open for accession by the States and organizations referred to in article 23.

3. Any organization referred to in article 23 which becomes a Party to this Convention without any of its member States being a Party shall be bound by all the obligations under this Convention. In the case of such organizations, one or more of whose member States is a Party to this Convention, the organization and its member States shall decide on their respective responsibilities for the performance of their obligations under this Convention. In such cases, the organization and the member States shall not be entitled to exercise rights under this Convention concurrently.

4. In their instruments of ratification, acceptance, approval or accession, the regional economic integration organizations referred to in article 23 shall declare the extent of their competence with respect to the matters governed by this Convention. These organizations shall also inform the Depositary of any substantial modification to the extent of their competence.

Article 26
Entry into force

1. This Convention shall enter into force on the ninetieth day after the date of deposit of the sixteenth instrument of ratification, acceptance, approval or accession.

2. For the purposes of paragraph 1 of this article, any instrument deposited by a regional economic integration organization shall not be counted as additional to those deposited by States members of such an organization.

3. For each State or organization referred to in article 23 which ratifies, accepts or approves this Convention or accedes thereto after the deposit of the sixteenth instrument of ratification, acceptance, approval or accession, the Convention shall enter into force on the ninetieth day after the date of deposit by such State or organization of its instrument of ratification, acceptance, approval or accession.

Article 27
Withdrawal

At any time after three years from the date on which this Convention has come into force with respect to a Party, that Party may withdraw from the Convention by giving written notification to the Depositary. Any such withdrawal shall take effect on the ninetieth day after the date of its receipt by the Depositary.

Article 28
Authentic texts

The original of this Convention, of which the English, French and Russian texts are equally authentic, shall be deposited with the Secretary-General of the United Nations.

IN WITNESS WHEREOF the undersigned, being duly authorized thereto, have signed this Convention.

DONE at Helsinki, this seventeenth day of March one thousand nine hundred and ninety-two.

Annex I
Definition of the term "best available technology"

1. The term "best available technology" is taken to mean the latest stage of development of processes, facilities or methods of operation which indicate the practical suitability of a particular measure for limiting discharges, emissions and waste. In determining whether a set of processes, facilities and methods of operation constitute the best available technology in general or individual cases, special consideration is given to:

(a) comparable processes, facilities or methods of operation which have recently been successfully tried out;

(b) technological advances and changes in scientific knowledge and understanding;

(c) the economic feasibility of such technology;

(d) time limits for installation in both new and existing plants;

(e) the nature and volume of the discharges and effluents concerned;

(f) low- and non-waste technology.

2. It therefore follows that what is "best available technology" for a particular process will change with time in the light of technological advances, economic and social factors, as well as in the light of changes in scientific knowledge and understanding.

Annex II
Guidelines for developing best environmental practices

1. In selecting for individual cases the most appropriate combination of measures which may constitute the best environmental practice, the following graduated range of measures should be considered:

(a) provision of information and education to the public and to users about the environmental consequences of the choice of particular activities and products, their use and ultimate disposal

(b) the development and application of codes of good environmental practice which cover all aspects of the product's life;

(c) labels informing users of environmental risks related to a product, its use and ultimate disposal;

(d) collection and disposal systems available to the public;

(e) recycling, recovery and reuse;

(f) application of economic instruments to activities, products or groups of products;

(g) a system of licensing, which involves a range of restrictions or a ban.

2. In determining what combination of measures constitute best environmental practices, in general or in individual cases, particular consideration should be given to:

(a) the environmental hazard of:

  (i) the product;

  (ii) the product's production;

  (iii) the product's use;

  (iv) the product's ultimate disposal;

(b) substitution by less polluting processes or substances;

(c) scale of use;

(d) potential environmental benefit or penalty of substitute materials or activities;

(e) advances and changes in scientific knowledge and understanding;

(f) time limits for implementation;

(g) social and economic implications.

3. It therefore follows that best environmental practices for a particular source will change with time in the light of technological advances, economic and social factors, as well as in the light of changes in scientific knowledge and understanding.

Annex III
Guidelines for developing water-quality Objectives and criteria

Water-quality objectives and criteria shall:

(a) take into account the aim of maintaining and, where necessary, improving the existing water quality;

(b) aim at the reduction of average pollution loads (in particular hazardous substances) to a certain degree within a certain period of time;

(c) take into account specific water-quality requirements (raw water for drinking-water purposes, irrigation, etc.);

(d) take into account specific requirements regarding sensitive and specially protected waters and their environment, e.g. lakes and groundwater resources;

(e) be based on the application of ecological classification methods and chemical indices for the medium- and long-term review of water-quality maintenance and improvement;

(f) take into account the degree to which objectives are reached and the additional protective measures, based on emission limits, which may be required in individual cases.

Annex IV
Arbitration

1. In the event of a dispute being submitted for arbitration pursuant to article 22, paragraph 2 of this Convention, a party or parties shall notify the secretariat of the subject-matter of arbitration and indicate, in particular, the articles of this Convention whose interpretation or application is at issue. The secretariat shall forward the information received to all Parties to this Convention.

2. The arbitral tribunal shall consist of three members. Both the claimant party or parties and the other party or parties to the dispute shall appoint an arbitrator, and the two arbitrators so appointed shall designate by common agreement the third arbitrator, who shall be the president of the arbitral tribunal. The latter shall not be a national of one of the parties to the dispute, nor have his or her usual place of residence in the territory of one of these parties, nor be employed by any of them, nor have dealt with the case in any other capacity.

3. If the president of the arbitral tribunal has not been designated within two months of the appointment of the second arbitrator, the Executive Secretary of the Economic Commission

for Europe shall, at the request of either party to the dispute, designate the president within a further two-month period.

4. If one of the parties to the dispute does not appoint an arbitrator within two months of the receipt of the request, the other party may so inform the Executive Secretary of the Economic Commission for Europe, who shall designate the president of the arbitral tribunal within a further two-month period. Upon designation, the president of the arbitral tribunal shall request the party which has not appointed an arbitrator to do so within two months. If it fails to do so within that period, the president shall so inform the Executive Secretary of the Economic Commission for Europe, who shall make this appointment within a further two-month period.

5. The arbitral tribunal shall render its decision in accordance with international law and the provisions of this Convention.

6. Any arbitral tribunal constituted under the provisions set out in this Annex shall draw up its own rules of procedure.

7. The decisions of the arbitral tribunal, both on procedure and on substance, shall be taken by majority vote of its members.

8. The tribunal may take all appropriate measures to establish the facts.

9. The parties to the dispute shall facilitate the work of the arbitral tribunal and, in particular, using all means at their disposal, shall:

(a) provide it with all relevant documents, facilities and information;

(b) enable it, where necessary, to call witnesses or experts and receive their evidence.

10. The parties and the arbitrators shall protect the confidentiality of any information they receive in confidence during the proceedings of the arbitral tribunal.

11. The arbitral tribunal may, at the request of one of the parties, recommend interim measures of protection.

12. If one of the parties to the dispute does not appear before the arbitral tribunal or fails to defend its case, the other party may request the tribunal to continue the proceedings and to render its final decision. Absence of a party or failure of a party to defend its case shall not constitute a bar to the proceedings.

13. The arbitral tribunal may hear and determine counter-claims arising directly out of the subject-matter of the dispute.

14. Unless the arbitral tribunal determines otherwise because of the particular circumstances of the case, the expenses of the tribunal, including the remuneration of its members, shall be borne by the parties to the dispute in equal shares. The tribunal shall keep a record of all its expenses, and shall furnish a final statement thereof to the parties.

15. Any Party to this Convention which has an interest of a legal nature in the subject-matter of the dispute, and which may be affected by a decision in the case, may intervene in the proceedings with the consent of the tribunal.

16. The arbitral tribunal shall render its award within five months of the date on which it is established, unless it finds it necessary to extend the time limit for a period which should not exceed five months.

17. The award of the arbitral tribunal shall be accompanied by a statement of reasons. It shall be final and binding upon all parties to the dispute. The award will be transmitted by the arbitral tribunal to the parties to the dispute and to the secretariat. The secretariat will forward the information received to all Parties to this Convention.

18. Any dispute which may arise between the parties concerning the interpretation or execution of the award may be submitted by either party to the arbitral tribunal which made the award or, if the latter cannot be seized thereof, to another tribunal constituted for this purpose in the same manner as the first.

2. EUROPEAN COMMUNITIES (EC)

2.1 Commission Proposal for a Council Directive Establishing a Framework for Community Action in the field of Water Policy[1]

Brussels, 15 April 1997

The Council of the European Union,

Having regard to the Treaty establishing the European Community, and in particular Article 130s (1) thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the Economic and Social Committee,

Having regard to the opinion of the Committee of the Regions,

Acting in accordance with the procedure laid down in Article 189c of the Treaty, in co-operation with the European Parliament,

(1) Whereas the supply of water is a service of general interest as defined in the Commission communication on services of general interest in Europe (COM(96) 443)[2];

(2) Whereas this Directive aims at maintaining and improving the aquatic environment in the Community; whereas this objective is primarily concerned with the quality of the waters concerned; whereas control of quantity is one element in securing good water quality and therefore measures on quantity, serving the objective of ensuring good quality, should be established;

(3) Whereas waters in the Community are under increasing pressure from the continuous growth in demand for sufficient quantities of good quality water for all purposes; whereas on 10 November 1995, the European Environment Agency[3] presented an updated state of the environment report, confirming the need for action to protect Community waters in qualitative as well as in quantitative terms;

(4) Whereas the conclusions of the Community Water Policy Ministerial Seminar in Frankfurt in 1988 highlighted the need for Community legislation covering ecological quality; whereas the Council in its resolution of 28 June 1988[4] asked the Commission to submit proposals to improve ecological quality in Community surface waters;

(5) Whereas the declaration of the Ministerial Seminar on groundwater held at the Hague in 1991 recognized the need for action to avoid long-term deterioration of fresh-water quality

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1 Text in: Official Journal No. C 184, 17 June 1997 p. 20.
2 Official Journal No. C 281, 26 September 1996, p. 3.
3 Report on "Environment in the European Union - 1995", European Environment Agency, Copenhagen, 1995.
4 Official Journal No. C 209, 9 August 1988, p. 3.

and quantity and called for a programme of actions to be implemented by the year 2000 aiming at sustainable management and protection of fresh-water resources; whereas in its resolutions of 25 February 1992[1] and 20 February 1995[2], the Council requested an action programme for groundwater and a revision of Council Directive 80/68/EEC of 17 December 1979 on the protection of groundwater against pollution caused by certain dangerous substances[3], as part of an overall policy on fresh-water protection;

(6) Whereas on 21 February 1996 the Commission adopted a communication to the European Parliament and the Council on "European Community water policy" setting out the principles for a Community water policy[4];

(7) Whereas the Commission presented on 9 September 1996 a proposal for a European Parliament and Council Decision on an action programme for integrated protection and management of groundwater[5]; whereas that programme pointed to the need to establish procedures for the regulation of abstraction of fresh water and for the monitoring of fresh-water quality and quantity;

(8) Whereas the Council on 25 June 1996, the Committee of the Regions on 19 September 1996, the Economic and Social Committee on 26 September 1996, and the European Parliament on 23 October 1996 all requested the Commission to come forward with a proposal for a Council Directive establishing a framework for European water policy;

(9) Whereas the Convention on the protection and use of transboundary water courses and international lakes calls for the management of river basins, whereas that Convention was approved by Council Decision 95/308/EC[6];

(10) Whereas surface waters and groundwaters are in principle renewable natural sources; whereas, in particular, the task of ensuring a good status of groundwater requires early action and stable long-term planning of protective measures, owing to the natural time-lag in its formation and renewal; whereas such time-lag for improvement must be taken into account in timetables when establishing measures for the achievement of a good status of groundwater;

(11) Whereas Community water policy requires a transparent, effective and coherent legislative framework; whereas the Community should provide common principles and the overall framework for action; whereas this Directive will provide for such a framework and co-ordinate and integrate, and, in a longer perspective, further develop the overall principles and structures for sustainable use of water in the Community in accordance with the principles of subsidiarity;

(12) Whereas the objectives and the principles of the Community's environmental policy, as set out in Article 130r of the Treaty, consist in particular in preventing, reducing and as far as possible eliminating pollution by giving priority to intervention at source and ensuring

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1 Official Journal No. C 59, 6 March 1992, p. 2.
2 Official Journal No. C 49, 28 February 1995, p. 1.
3 Official Journal No. L 20, 26 January1980, p. 43; Directive as amended by Directive 91/692/EEC Official Journal No. L 377, 31 December 1991, p. 48).
4 COM(96) 59 final of 21. February 1996.
5 Official Journal No. C 355, 25 November 1996, p. 1.
6 Official Journal No. L 186, 5 August 1995, p. 42.

prudent management of natural resources, in compliance with the "polluter-pays" principle and the principle of pollution prevention;
(13) Whereas, pursuant to Article 130r of the Treaty, in preparing its policy on the environment the Community is to take account of the economic and social development of the Community as a whole and the balanced development of its regions;

(14) Whereas Member States sharing the same river-basin or groundwater aquifers should ensure joint long-term planning of water resources based on forecasts of supply and demand, so as to establish long-term strategic objectives for water reserves and priorities for their use;

(15) Whereas there are diverse conditions and needs in the Community which require different specific solutions; whereas this diversity must be taken into account in the planning and execution of measures to ensure sustainable protection and use of water; whereas decisions should be taken as close as possible to the locations where water is used or affected; whereas priority should be given to action within the responsibility of Member States through the drawing up of specific programmes of measures adjusted to regional and local conditions;

(16) Whereas the success of this Directive relies upon close co-operation and coherent action at Community, Member States and local level as well as on information, consultation and involvement of management and labour, and individual citizens;

(17) Whereas, with regard to pollution prevention and control, Community water policy should be based on a combined approach using control of pollution at source through the setting of emission limit values and of environmental quality standards; whereas, for water quantity, overall principles should be laid down for control on abstraction in order to ensure the long-term availability of sufficient amounts of good quality fresh water;

(18) Whereas common environmental quality-standards for certain groups or families of substances should be laid down in Community legislation; whereas provisions for the adoption of such standards at Community level should be ensured;

(19) Whereas common principles are needed in order to co-ordinate Member States' efforts to improve water quantity and quality, to promote sustainable water consumption, to contribute to the control of transboundary pollution problems, to protect ecosystems, in particular aquatic ecosystems, and to safeguard the recreational potential of Community waters;

(20) Whereas common definitions of the status of water in terms of quality and quantity should be established; whereas environmental objectives should be set to ensure that good status of surface water and groundwater is achieved at Community level;

(21) Whereas Member States should meet the objective of at least a good water status by defining and implementing the necessary measures within integrated programmes of measures, taking into account existing Community requirements; whereas, where a good water status already exists, it should be maintained;

(22) Whereas the objective of achieving at least a good status of waters should be pursued within the river basin, thus ensuring an administrative structure which ensures that waters belonging to the same ecological and hydrogeological system are managed as a whole whether such waters are present as groundwater or surface water;

(23) Whereas there is a need to prevent or reduce the impact of incidents in which water is accidentally polluted; whereas common principles should be established aiming at co-ordinating Member States' efforts and at increasing transboundary co-operation in this field;

(24) Whereas there is a need for a greater integration of qualitative and quantitative aspects of protection and management of both surface waters and groundwaters within one administrative structure, taking into account the natural flow of water within the hydrogeological cycle;

(25) Whereas it is necessary to determine within the river basin existing levels of water pollution and to draw up inventories of water use, including the various sources of pollution, demand for water and other man-made impacts on water status;

(26) Whereas Member States should designate waters used for the abstraction of drinking water and establish environmental standards to permit compliance with Council Directive 80/778/EEC of 15 July 1980 relating to the quality of water intended for human consumption[1];

(27) Whereas, to ensure the participation of the general public and of individual users of water, it is necessary to provide proper information of planned measures and to report on progress with their implementation with a view to their involvement before final decisions on the necessary measures are adopted;

(28) Whereas, within a river basin where use of water may have transboundary effects, concerted action should be ensured across frontiers; whereas this Directive will contribute to the implementation of Community obligations under international conventions on water protection and management, notably the United Nations Convention on the protection and use of transboundary water courses and international lakes;

(29) Whereas further integration of sustainable water management into other Community policy areas and, in particular, into agriculture policy, regional policy and fisheries policy is necessary; whereas this Directive will provide a basis for a continued dialogue and for the development of strategies towards a further integration of policy areas; whereas this Directive will therefore bring an important contribution to implementing the main principles and objectives of the European spatial development perspective (ESDP);

(30) Whereas, in cases where, because of natural conditions, for historical reasons or because of pollution from third countries, it may be difficult or impossible to achieve a good status, appropriate procedures should be established to prevent any deterioration of the status of waters;

(31) Whereas the development in water status should be monitored on a systematic and comparable basis throughout the Community in order to provide a sound basis for the choice of measures to ensure a sustainable use of water; whereas the European Environment Agency

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[1] Official Journal No. L 229, 30 August 1980, p. 11; Directive as last amended by the Act of Accession of Austria, Finland and Sweden.

and the Commission, working in close co-operation, will monitor and report on developments in the state of the environment;

(32) Whereas the use of economic instruments may be appropriate as part of a programme of measures; whereas under the polluter-pays principle any damage or negative impact on the aquatic environment caused by pollutants, abstraction and other use of water should be taken into account; whereas costs of water use should be fully recovered from the water user;

(33) Whereas full implementation and enforcement of existing environmental legislation for the protection of waters should be ensured; whereas it is necessary to ensure the proper application of the provisions implementing this Directive throughout the Community; whereas appropriate sanctions should be ensured in Member States' legislation;

(34) Whereas a new committee with horizontal responsibilities in the area of Community water policy should be set up to assist the Commission in matters relating to the implementation of this Directive; whereas this Directive will provide mechanisms to address obstacles to progress in improving water status when these fall outside the scope of Community water legislation, with a view to developing appropriate Community strategies for overcoming them;

(35) Whereas the Commission should present annually an updated plan for possible future initiatives which it is planning or considering for the water sector;

(36) Whereas technical specifications should be laid down to ensure a coherent approach in the Community as part of this Directive; whereas adaptation of the Annexes of this Directive to technical development and the standardization of the monitoring, sampling and analysis methods should be adopted by committee procedure;

(37) Whereas the implementation of programmes of measures for river basins under this Directive will achieve a level of protection of waters at least equivalent to that provided for in:

- Council Directive 75/440/EEC of 16 June 1975 concerning the quality required of surface water intended for the abstraction of drinking water in the Member States[1],

- Council Decision 77/795/EEC of 12 December 1977 establishing a common procedure for the exchange of information on the quality of surface fresh water in the Community[2],

- Directive 78/659/EEC of 18 July 1978 on the quality of fresh waters needing protection or improvement in order to support fish life[3],

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1 Official Journal No. L 194, 25 July 1975, p. 26; Directive as last amended by Directive 91/692/EEC.

2 Official Journal No. L 334, 24 December 1977, p. 29; Decision as last amended by the Act of Accession of Austria, Finland and Sweden.

3 Official Journal No. L 222, 14 August 1978, p. 1; Directive as last amended by the Act of Accession of Austria, Finland and Sweden.

- Directive 79/869/EEC of 9 October 1979 concerning the methods of measurement and frequencies of sampling and analysis of surface water intended for the abstraction of drinking waters in the Member States[1],
- Directive 79/923/EEC of 30 October 1979 on the quality required of shellfish waters[2],

- Directive 80/68/EEC, as well as

- the proposed Directive on the ecological quality of water[3];

whereas those Directives should therefore be repealed, and the proposed Directive withdrawn, once the relevant provisions of this Directive have been fully implemented,

Has adopted this directive:

Article 1
Purpose

The overall purpose of this Directive is to establish, for the protection of surface fresh water, estuaries, coastal waters and groundwater in the Community, a framework which:

(a) prevents further deterioration and protects and enhances the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems; and

(b) promotes sustainable water consumption based on long-term protection of available water resources;

and thereby contributes to the provision of a supply of water of the qualities and in the quantities needed for sustainable use of these resources.

Article 2
Definitions

For the purposes of this Directive and, unless otherwise defined in Community legislation, for all Community legislation concerning water, the following definitions shall apply:

1. "surface water" means surface fresh waters, estuaries and coastal waters;

2. "groundwater" means all water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil;

3. "surface fresh water" means all static or flowing water on the surface of the land upstream of the fresh water limit;

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1 Official Journal No. L 271, 29 October 1979, p. 44; Directive as last amended by the Act of Accession of Austria, Finland and Sweden.
2 Official Journal No. L 281, 10 November 1979, p. 47; Directive as last amended by Directive 91/692/EEC.
3 Official Journal No. C 222, 10 August 1994, p. 6.

4. "coastal water" means water on the landward side of a line every point of which is at a distance of one nautical mile on the seaward side from the nearest point of the baseline from which the breadth of territorial waters is measured, extending where appropriate in the case of watercourses, up to the outer limit of t e estuary;

5. "estuary" means the transitional area at the mouth of a river between surface fresh water and coastal waters. The outer (seaward) limits of estuaries shall be defined, as necessary, by Member States. The inner (upstream) limit shall be the fresh water limit;

6. "fresh water limit" means the place in the watercourse where, at low tide and in a period of low fresh water flow, there is an appreciable increase in salinity due to the presence of sea water;

7. "body of water" means a discrete and homogenous element of surface water or groundwater such as an aquifer, a lake, a reservoir, a stretch of stream, river or canal, an estuary or a stretch of coastal water;

8. "significant body of water" for the purpose of Article 8 shall mean all waters intended for the production of drinking water from an individual source serving more than 15 households;

9. "river basin" means the area of land from which all surface run-off flows through a sequence of streams, rivers and, possibly, lakes into the sea at a single river mouth, estuary or delta;

10. "sub-basin" means the area of land from which all surface run-off flows through a series of streams, rivers and, possibly, lakes to a particular point in a water course (normally a lake or a river confluence);

11. "river basin district" means the administrative area of land and sea, made up of one or more neighbouring river basins together with their associated groundwaters and coastal waters, which is established under Article 3 (1) as the main unit for river basin management;

12. "competent authority" means a competent authority established under Article 3 (2) or 3 (3) to be responsible *inter alia* for applying the rules of this Directive within a particular river basin district;

13. "surface water status" is the general expression of the status of a body of surface water, determined by the poorer of its ecological status and its chemical status;

14. "good surface water status" means the status achieved by a surface water body when both its ecological status and its chemical status are at least "good".

Good surface water status is the environmental objective for surface waters established in point (a) of Article 4 (1);

15. "groundwater status" is the general expression of the status of a body of groundwater, determined by the poorer of its quantitative status and its chemical status;

16. "good groundwater status" means the status achieved by a groundwater body when both its quantitative status and its chemical status are at least "good".

Good groundwater status is the environmental objective for groundwaters established in point (b) of Article 4 (1);

17. "ecological status" is an expression of the quality of the structure and functioning of aquatic ecosystems associated with surface waters. It takes into account the physico-chemical nature of the water and sediment, the flow characteristics of the water and the physical structure of the water body, but it concentrates on the condition of the biological elements of the ecosystem;

18. "natural ecological status" means the theoretical ecological status which would be achieved by a body of surface water in the absence of human activity;

19. "high ecological status" means the ecological status achieved by a body of surface water which is demonstrated not to be significantly influenced by human activity;

20. "good ecological status" means the ecological status achieved by a body of surface water which is demonstrated to be significantly influenced by human activity, but which nevertheless has a rich, balanced and sustainable ecosystem.

Good ecological status is the ecological status required to meet the environmental objectives for surface waters established in point (a) of Article 4 (1);

21. "chemical status" is an expression of the degree to which a body of water is polluted;

22. "high chemical status" means the chemical status achieved by a body of water in which none of the substances listed in Annex VIII are present in levels in excess of natural background levels;

23. "good chemical status" means the chemical status achieved by a body of water in which concentrations of the substances from Annex VIII do not exceed the environmental quality standards established in Annex X and other relevant Community legislation setting environmental quality standards and in which the trends in the monitoring data do not suggest that such environmental quality standards will be exceeded in the future.

Good chemical status is the chemical status required to meet the environmental objectives for surface waters and groundwaters established in points (a) and (b) of Article 4 (1);

24. "quantitative status" is an expression of the degree to which a body of groundwater is permanently depleted by direct and indirect abstractions and alterations to its natural rate of recharge;

25. "high quantitative status" means the quantitative status achieved by a body of groundwater in which abstractions and alterations to the natural rate of recharge have a negligible impact on the nature of the aquifer;

26. "good quantitative status" means the quantitative status achieved by a body of groundwater in which abstractions and alterations to the natural rate of recharge are sustainable in the long term without leading to loss of ecological quality in associated surface waters or damage to associated terrestrial ecosystems.

Good quantitative status is the quantitative status required to meet the environmental objectives for groundwaters established in point (b) of Article 4 (1);
27. "pollutant" means substances and groups of substances listed in Annex VIII;

28. "pollution" means the direct or indirect introduction, as a result of human activity, of substances, vibrations, heat or noise into the air, water or land which may be harmful to human health or the quality of the environment, which result in damage to material property, or which impair or interfere with amenities and other legitimate uses of the environment;

29. "environmental objectives" means the objectives set out in Article 4.

Those environmental objectives shall be regarded as "environmental quality standards" for the purposes of point 7 of Article 2 and Article 10 of Council Directive 96/61/EC[1];

30. "environmental quality standard" means the concentration of a particular pollutant or group of pollutants in water, sediment or biota which should not be exceeded in order to protect human health and the environment.

For the purposes of this Directive, environmental quality standards are established at a Community level in Annex X. In addition, environmental quality standards shall be established by Member States under Article 8 (2) in respect of waters used for the abstraction of drinking water. The environmental quality standards in Annex X and those adopted under Article 8 (2) shall also be regarded as environmental quality standards for the purposes of point 7 of Article 2 and Article 10 of Directive 96/61/EC;

31. "water intended for human consumption" means water covered by the provisions of Directive 80/778/EEC;

32. "use" of water means:

(a) abstraction, distribution and consumption of surface water or groundwater;

(b) emission of pollutants into surface water and waste water collection and treatment facilities which subsequently discharge into surface water;

(c) any other application of surface water or groundwater having the potential of a significant impact on the status of water;

33. "full cost recovery" means that the following cost elements of any service provided in relation to water use are paid by the user through prices or charges:

- operation and maintenance costs,

[1] Official Journal No. L 257, 10 October 1996, p. 26.

- capital maintenance cost,

- capital costs (principal and interest payments), and

- reserves for future improvements and extensions;

34. "domestic use" means individual household water use, excluding use for commercial activity;

35. "basic level of use" means the amount of water used by the individual person for basic needs. This amount shall be calculated taking into consideration the minimum amount required for human health and hygiene. At all stages, water consumption by domestic machinery should be calculated on the basis of best available techniques.

Article 3
Co-ordination of measures within river basin districts

1. Member States shall identify the individual river basins lying within their national territory and, for the purposes of this Directive, shall assign them to individual river basin districts. Small river basins may be combined with larger river basins or joined with neighbouring small basins to form individual river basin districts where appropriate. Where groundwaters do not fully follow a particular river basin, they shall be assigned to the nearest or most appropriate river basin district. Coastal waters shall be assigned to the nearest or most appropriate river basin district.

2. Member States shall ensure that appropriate administrative arrangements, including the designation of appropriate competent authorities, are established to ensure that the application of the rules of this Directive is co-ordinated and overseen within each river basin district.

3. Where a river basin covers the territory of more than one Member State, the Member States concerned shall jointly establish an international river basin district. At the request of one or more of the Member States involved, the Commission shall act as an independent mediator to facilitate the establishment of such international river basin districts.

Member States shall jointly ensure that appropriate administrative arrangements, including the designation of appropriate competent authorities, are established to ensure that the application of the rules of this Directive is co-ordinated and overseen within such international river basin districts.

4. Where a river basin extends beyond the territory of the Community, the relevant river basin district and competent authorities should be jointly established with the relevant non-Member States.

5. Member States may designate existing national or international bodies as competent authorities for the purposes of this Directive. In such cases, they shall ensure that the resulting competent authorities have the powers and authority needed to meet the obligations imposed by this Directive.

6. Member States shall designate the competent authorities by 31 December 1999.

7. Member States shall provide the Commission with a list of their competent authorities and of the competent authorities of all the international bodies in which they participate by 30 June 2000. For each competent authority the information set out in Annex I shall be provided.

8. Member States shall inform the Commission of any changes to the information provided according to paragraph 7 within three months of the change coming into effect.

Article 4
Environmental objectives

1. Member States shall draw up and make operational within a comprehensive river basin management plan the programmes of measures envisaged as necessary, in order to:

(a) prevent deterioration of ecological quality and pollution of surface waters and restore polluted surface waters, in order to achieve good surface water status in all surface waters by 31 December 2010;

(b) prevent deterioration of groundwater quality, restore polluted groundwater, and ensure a balance between abstraction and recharge of groundwater, in order to achieve good groundwater status in all groundwaters by 31 December 2010; and

(c) comply with all standards and objectives relating to protected areas by 31 December 2010, unless otherwise specified in the Community, national or local legislation under which the individual protected areas have been established.

2. If the objectives established under point (c) of paragraph 1 are incompatible with those established under points (a) or (b) thereof, the objectives established under point (c) shall take priority.

3. The deadlines established under points (a) and (b) of paragraph 1 may be extended for specific bodies of water when all the following conditions are met:

(a) natural conditions do not allow rapid improvements in the status of the body of water;

(b) all the measures required under Article 13 to bring the body of water to the required standard by the extended deadline have been established and made operational by 31 December 2007; and

(c) the extension of the deadline, and the reasons for it, are specifically mentioned in the river basin management plan required under Article 16.

4. Less stringent environmental objectives than those required under points (a) and (b) of paragraph 1 of a limited area may be established for specific bodies of water when all the following conditions are met:

(a) the body of water is severely affected by human activity and improvements in status are proven to be impossible or prohibitively expensive;

(b) the environmental objectives are established so as to ensure no further deterioration in status in order not to compromise the achievement of the objectives of this Directive in other bodies of water within the same river basin district;

(c) the establishment of less stringent environmental objectives, and the reasons for it, are specifically mentioned in the river basin management plan required under Article 16;

(d) such less stringent objectives are established in a way which does not undermine the implementation of existing Community environmental legislation.

Article 5
Characteristics of the river basin district

1. Member States shall ensure that an analysis of the characteristics of each river basin district is undertaken and that it is completed by 31 December 2001. Such analyses shall cover the following elements:

(a) the geographical and geological characteristics of the river basin district;

(b) the hydrographical characteristics of the river basin district;

(c) the demographic characteristic of the river basin district; and

(d) land use and economic activity within the river basin district.

In order to ensure that the maximum use can be made of all available information and to avoid duplication of data collection, co-operation shall be ensured with statistical authorities at national and Community level.

2. The technical specifications of Annex II shall, for the purpose of the analysis, be adopted by the Commission by 31 December 1999 at the latest, in accordance with the procedure laid down in Article 25. The technical specifications shall replace the current Annex II.

3. The analyses shall be reviewed, and if necessary updated by 31 December 2007 and every six years thereafter.

Article 6
Review of the environmental impact of human activity

1. Member States shall ensure that, for each river basin district, a review of the impact of human activity on the status of surface waters and on groundwater is undertaken and that it is completed by 31 December 2001. Such reviews shall cover the following elements:

(a) estimations of point source pollution;

(b) estimations of diffuse source pollution;

(c) estimations of water abstractions; and

(d) an analysis of other anthropogenic influences on the status of water.

2. The technical specifications of Annex III shall, for the purpose of the review, be adopted by the Commission by 31 December 1999 at the latest, in accordance with the procedure laid down in Article 25. The technical specifications shall replace the current Annex III.

3. The review shall be updated by 31 December 2007 and every six years thereafter.

Article 7
Economic analysis of water use within the river basin district

1. Member States shall ensure that, for each river basin district, an economic analysis of water use is undertaken in order, *inter alia*, to provide the basic information for the purposes of Article 12, and that it is completed by 31 December 2001. Such analyses shall cover the following:

(a) the abstraction and distribution of fresh water;

(b) the collection and discharge of waste water;

(c) the volumes, prices and costs (including environmental and resource costs and benefits) associated with points (a) and (b);

(d) the breakdown of the data collected under points (a), (b) and (c) according to different sectors of the economic activity, broken down at least into households, industry and agriculture;

(e) long-term forecasts of supply and demand;

(f) estimates of investments in infrastructure by the public and private sectors; and

(g) the historical trends in the data collected under points (a) to (f), including seasonal data where relevant, and future projections under a number of price and investment scenarios, covering, at least, the previous six years and projections for the following 12 years.

2. The technical specifications of Annex II shall, for the purpose of the analysis, be adopted by the Commission by 31 December 1999 at the latest, in accordance with the procedure laid down in Article 25. The technical specifications shall replace the current Annex II.

3. The economic analyses shall be updated 31 December 2007 and every six years thereafter.

Article 8
Waters used for the abstraction of drinking water

1. Member States shall carry out, within each river basin district, the identification of all significant bodies of water which are used for the abstraction of water intended for human consumption or which may in the future be used for the abstraction of such water.

2. For each body of water identified under paragraph 1, Member States shall ensure the establishment of environmental quality standards designed to ensure that, under the anticipated water treatment regime, and in accordance with Community legislation, the resulting water will meet the requirements of Directive 80/778/EEC.

Article 9
Register of protected areas

1. Member States shall ensure the establishment of a register of all areas lying within each river basin district which have been designated as requiring special protection under specific Community, national or local legislation for the protection of their surface water and groundwater or for the conservation of habitats and species. They shall ensure that the register is completed by 31 December 2001.

2. The register shall include all areas designated under Article 8 (1) and all protected areas listed in Annex IV.

3. Within each river basin district, the register of protected areas shall be kept under review and up to date.

Article 10
Monitoring of surface water status and groundwater status

1. Member States shall ensure the establishment of programmes for the monitoring of water status in order to establish a coherent and comprehensive overview of water status within each river basin district. For surface waters such programmes shall cover monitoring of the ecological and chemical status. For groundwaters such programmes shall cover monitoring of the chemical and quantitative status. These programmes shall be operational by 31 December 2001. Such monitoring shall cover the elements listed in Annex V.

2. The technical specifications of Annex V for this purpose shall be adopted by the Commission by 31 December 1999 at the latest, in accordance with the procedure laid down in Article 25. The technical specifications shall replace the current Annex V.

Article 11
Monitoring of protected areas

1. Member States shall ensure the establishment of programmes for monitoring the status of their protected areas within each river basin district. These programmes shall be operational according to the timetable contained in Community, national or local legislation under which the individual protected areas have been established. Where there is no such timetable in force fixing a commencement date on, or earlier than, 1 January 2002, the monitoring programme shall be operational from that date.

2. The technical specifications shall, for the purpose of monitoring, be those contained in Community, national or local legislation under which the individual protected areas have been established. Where no such technical specifications for monitoring exist, Member States shall ensure that appropriate technical specifications are established.

Article 12
Charges for the use of water

1. By 2010, Member States shall ensure full cost recovery for all costs for services provided for water uses overall and by economic sectors, broken down at least into households, industry and agriculture.

2. Following the analysis required under Article 7 and Annex II of methods for calculating the environmental and resource costs and benefits of water use, the Commission shall, where appropriate, come forward with proposals to ensure that environmental and resource costs not covered under paragraph 1 are reflected in the price of water uses.

3. Without prejudice to the application of Articles 92, 93 and 94 of the Treaty, Member States may grant exemptions to the provisions of this Article for the following reasons:

(a) in order to allow a basic level of water use for domestic purposes at an affordable price;

(b) in order to allow capital costs subsidies for infrastructure projects where Community funding is provided under Articles 130a to 130e of the Treaty and which are designed to assist in the achievement of the environmental objectives set out under Article 4 of this Directive;

(c) in order to take account of a specific geographical or climatic situation of a region eligible for assistance pursuant to Objectives 1, 5b and 6 of the Structural Funds.

Exemptions shall be explained in detail in the river basin management plans required under Article 16, and a detailed explanation shall be sent to the Commission within six months of the entry into force of those exemptions.

4. Member States shall establish timetables for the full application of the provisions of this Article. Details of such timetables shall be included in the river basin management plans required under Article 16.

Article 13
Programme of measures

1. Member States shall ensure the establishment within each river basin district of a programme of measures designed to achieve the environmental objectives established under Article 4. A programme of measures shall be part of each river basin management plan in accordance with Article 16.

2. The programme of measures shall include "basic measures" and, where necessary, in accordance with paragraph 4, "supplementary measures".

3. "Basic measures" are compulsory elements of the programme of measures. They shall consist of:

(a) those measures required to implement Community, national or local legislation for the protection of water, including measures required under the Community legislation listed

in Part A of Annex VI and, in particular, to give full effect to the provisions of Directive 96/61/EC in relation to those industries and activities described in Annex I to that Directive.

For basic measures covering emission of pollutants, a combined approach shall be applied, using control of pollution at source through the setting of emission limit values and the setting of environmental quality standards;

(b) measures required to implement the charges for water use required under Article 12;

(c) measures required to meet the environmental quality standards established under Article 8 (2) for waters intended for the abstraction of drinking water by the deadlines established under Article 4 (1);

(d) the following measures to apply to all bodies of water having a chemical status below "good":

(i) more intensive monitoring of the extent and nature of the pollution within the body of water;

(ii) investigation of the source of the pollution; and

(iii) immediate review of all relevant authorizations and discharge permits followed by action based upon the level of risk involved;

(e) controls over the abstraction of fresh surface water and groundwater, including a register of water abstractors and a requirement of prior authorization for abstraction except in areas where the Member State concerned has demonstrated, and reported to the Commission, that abstraction has no significant impact on water status and that the total level of abstraction amounts to a small proportion of the available resources;

(f) a requirement for prior authorization for all activities having a potentially adverse impact upon the status of water where such prior authorization is not otherwise provided for under other Community legislation; and

(g) a prohibition on the direct discharge into groundwater of the substances listed in Annex VIII.

4. "Supplementary measures" are those measures designed and implemented in addition to the basic measures in order to achieve the objectives set out under Article 4. The programme of measures shall include whatever supplementary measures are considered necessary in order to achieve those objectives, notably in relation to sustainable water consumption. Part B of Annex VI contains a non-exclusive list of supplementary measures.

5. The programme of measures shall be established for each river basin district by 31 December 2004 and all the measures shall be made operational by 31 December 2007.

6. The programmes shall be reviewed, and if necessary updated by 31 December 2010 and every six years thereafter. Any new or revised measures established under an updated programme shall be made operational within three years of their establishment.

Article 14
Interim measures to combat pollution

1. If the monitoring programme under Article 10 identifies bodies of water where the chemical status has fallen below "good" since the preparation of the most recent review of the programme of measures required under Article 13, Member States shall ensure that, according to the level of risk involved, the following additional interim measures are taken as soon as possible in advance of the next review of the programme of measures:

(a) more intensive monitoring of the extent and nature of the pollution within the body of water;

(b) investigation of the source of the pollution;

(c) immediate review of all relevant authorizations and discharge permits; and

(d) the identification of additional measures to be taken.

2. Member States shall ensure that appropriate measures are taken to consult interested parties on these additional interim measures, but they should not, as a result, unnecessarily delay their implementation.

Article 15
Issues which fall outside the competence of a competent authority

If a competent authority identifies an issue which has an impact on the management of its water but which falls outside its competence, it shall report the issue to the Member State and to the Commission and may make recommendations for the resolution of the issue. Possible reasons for the identification of such issues include the following factors:

(a) that the source of the problem lies outside the river basin district;

(b) that the issue can only be dealt with by measures or legislation at a national or Community level; or

(c) that the issue relates to other policy areas over which the competent authority has no control.

Article 16
River basin management plans

1. Member States shall ensure that within each river basin district a river basin management plan covering the whole of the river basin district is produced. The river basin management plan shall include the information detailed in Annex VII.

2. River basin management plans shall be published by 31 December 2004.

3. River basin management plans shall be reviewed and updated by 31 December 2010 and every six years thereafter.

Article 17
Public information and consultation

1. Member States shall ensure that for each river basin district draft copies of the river basin management plan are published and access granted at least one year before the beginning of the period to which the plan refers. Upon request access shall be given to background documents and information used for the development of the draft river basin management plan.

2. Interested parties shall have at least six months to comment in writing on those documents in order to allow active involvement and consultation.

3. Paragraphs 1 and 2 shall apply equally to updated river basin management plans.

Article 18
Planning by sub-basin, sector, issue or water type

1. River basin management plans may be supplemented by the production of more detailed programmes and management plans to deal with particular aspects of water management, including:

(a) programmes and management plans dealing with particular sub-basins within their river basin district;

(b) programmes and management plans dealing with particular sectors of the economy;

(c) programmes and management plans dealing with particular water issues; and

(d) programmes and management plans dealing with particular classes of water or particular ecosystems.

Reference to such planning activities shall be made in the river basin management plan.

2. Undertaking any of the planning activities shall not exempt Member States from any of their obligations under the rest of this Directive.

Article 19
Accidental pollution

In co-operation with other competent authorities, Member States shall ensure that action is taken to prevent or reduce the impact of accidental pollution incidents, including any required under Council Directive 82/501/EEC[1]. Those measures shall, in particular, cover the risk of

[1] Official Journal No. L 230, 5 August 1982, p. 1.

accidental pollution due to floods, extinguishing products or by-products from fires occurring in warehouses or plants, and leakage of pollutants during their transport or while in storage. Where appropriate, the measures taken shall include the following:

(a) hazard analyses and risk assessments of potential sources of accidental pollution;

(b) preventive measures;

(c) preparatory measures for responding to emergencies, including procedures for the rapid reporting of pollution incidents to downstream authorities and other interested parties, including water abstractors; and

(d) measures to restore the body of surface water or groundwater affected by incidents.

Article 20
Reporting and the exchange of information

Member States shall send copies of the following plans to the Commission and to the European Environment Agency within three months of their publication:

(a) all river basin management plans covering their national territory and published pursuant to Article 16;

(b) all draft river basin management plans covering their national territory and published pursuant to Article 17; and

(c) relevant programmes and plans covered by the terms of Article 18;

(d) for international river basin districts, at least the part of the river basin management plans covering the territory of the Community.

Article 21
Commission strategies against pollution of water

1. The Commission may prepare strategies against pollution of water by individual pollutants or groups of pollutants, including any pollution which occurs as a result of accidents.

2. Such strategies may be initiated as a result of:

(a) recommendations from Member States, or from competent authorities acting under Article 15;

(b) recommendations from the European Environment Agency;

(c) recommendations from international organizations and conventions to which the Community or its Member States are signatories;

(d) risk assessments carried out under Council Regulation (EEC) No 793/93[1];

(e) recommendations from the Community research programmes; or

(f) other expressions of concern which come to the attention of the Commission.

3. Strategies shall consider the nature of the risk to water and shall take into consideration any possible impact on air and soil quality. They may include recommendations for any of the following classes of action:

(a) the consideration of the substance or group of substances in the risk assessment procedure of Regulation (EEC) No 793/93, if it is not already being considered;

(b) the inclusion of the substance or group of substances in Annex VIII to this Directive and in Annex III to Directive 96/61/EC, if it is not already included in that Directive;

(c) criteria for selection of priority substances or groups of substances for examination of the risk they pose to the aquatic environment and the desirability of developing a specific Commission strategy for the control of emissions into the aquatic environment. Annex IX contains a list of such criteria;

(d) the adoption of Community environmental quality standards under paragraph 4;

(e) the adoption of Community emission limit values under Article 18 of Directive 96/61/EC;

(f) a review of the relevant authorizations issued under Council Directive 91/414/EEC[2] and Directive 97/.../EC of the European Parliament and of the Council[3];

(g) the adoption of measures under Council Directive 76/769/EEC[4]; or

(h) the adoption of other appropriate measures at national or Community level.

4. Where a Commission strategy recommends the adoption of environmental quality standards applicable to the concentrations of certain pollutants in water, sediments or biota, the Commission shall propose the appropriate measures.

Article 22
Commission report

1. The Commission shall publish a report on the implementation of this Directive by 31 December 2006 and every six years thereafter.

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1 Official Journal No. L 84, 5. 4. 1993, p. 1.
2 Official Journal No. L 230, 19 August 1991, p. 1.
3 Common position (EC) No 10/97 (Official Journal No. C 69, 5. 3. 1997, p. 13).
4 Official Journal No. L 262, 27. 9. 1976, p. 201.

2. The Report shall include the following:

(a) a review of progress in the implementation of the Directive;

(b) a review of the status of surface water and groundwater in the Community;

(c) a comparative survey of the river basin management plans submitted in accordance with Article 20, including recommendations for the improvement of future plans;

(d) a response to each of the recommendations to the Commission made by competent authorities pursuant to Article 15; and

(e) a summary of any strategies developed under Article 21.

Article 23
Plans for future Community measures

1. Once a year, the Commission shall present to the Committee referred to in Article 25 an indicative plan of measures having an impact on water legislation which it intends to propose in the near future, including any emerging from the strategies developed under Article 21. The Commission shall make the first such presentation by 31 December 1999.

2. The Commission will review this Directive by 31 December 2013 and will propose any necessary amendments to it.

Article 24
Amendments to the Directive

1. Annexes I, II, III, V, VIII and IX may be adapted to scientific and technical progress in accordance with the procedures laid down in Article 25.

2. For the purpose of transmission and processing of data, including statistical and cartographic data, technical formats for the purpose of paragraph 1 may be adopted in accordance with the procedures laid down in Article 25.

Article 25
Committee

The Commission shall be assisted by a Committee composed of the representatives of the Member States and chaired by the representative of the Commission.

The representative of the Commission shall submit to the Committee a draft of the measures to be taken. The Committee shall deliver its opinion on the draft within a time limit which the chairman may lay down according to the urgency of the matter. The opinion shall be delivered by the majority laid down in Article 148 (2) of the Treaty in the case of decisions which the Council is required to adopt on a proposal from the Commission. The votes of the representatives of the Member States within the Committee shall be weighed in the manner set out in that Article. The chairman shall not vote.

The Commission shall adopt the measures envisaged if they are in accordance with the opinion of the Committee.

If the measures envisaged are not in accordance with the opinion of the Committee, or if no opinion is delivered, the Commission shall, without delay, submit to the Council a proposal relating to the measures to be taken. The Council shall act by a qualified majority.

If, on the expiry of three months from the date of referral to the Council, the Council has not acted, the proposed measures shall be adopted by the Commission.

Article 26
Repeals

The following are repealed with effect from 31 December 2007:

- Directive 75/440/EEC,
- Decision 77/795/EEC,
- Directive 78/659/EEC,
- Directive 79/869/EEC,
- Directive 79/923/EEC, and
- Directive 80/68/EEC.

Article 27
Implementation

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 31 December 1999 at the latest. They shall immediately inform the Commission thereof.

When Member States adopt these provisions, these shall contain a reference to this Directive or shall be accompanied by such reference at the time of their official publication. The procedure for such reference shall be adopted by Member States.

2. Member States shall communicate to the Commission the texts of the main provisions of national law which they adopt in the field covered by this Directive.

Article 28
Penalties

Member States shall lay down the system of penalties for breaching the national provisions adopted pursuant to this Directive and shall take all the measures necessary to ensure that those penalties are applied. The penalties thus provided for shall be effective, proportionate and dissuasive. Member States shall notify those measures to the Commission no later than

the date set out in Article 27 (1), and shall notify any subsequent amendment thereto as soon as possible.

Article 29
Entry into force

This Directive shall enter into force on the 20th day following that of its publication in the Official Journal of the European Communities.

Article 30
Addressees

This Directive is addressed to the Member States.

Annex I
Information required for the list of competent authorities

As required under Article 3(7), the Member States shall provide the following information on all competent authorities within each of its river basin districts as well as within each international river basin district in which they participate:

i. name and address of the competent authority - the official name and address of the authority established under Article 3(2);

ii. name and title of correspondent - the name and official title of the official to whom all correspondence should be addressed;

iii. geographical coverage of the river basin district - the names of the main rivers within the river basin district together with a precise description of the position of the terrestrial and maritime frontiers of the river basin district. This information should as far as possible be available for introduction into the Geographic Information System (GIS) and/or the Geographic Information System of the Commission (Gisco);

iv. legal status of competent authority - a description of the legal status of the competent authority and, where relevant, a summary or copy of its statute, founding treaty or equivalent legal document;

v. responsibilities - a description of the legal and administrative responsibilities of each competent authority and of its role within each river basin district;

vi. membership - where the competent authority acts as a co-ordinating body for other competent authorities, a list is required of these bodies together with a summary of the institutional relationships established in order to ensure co-ordination in a legally binding way of the measures required under this Directive;

vii. international relationships - where a river basin district covers the territory of more than one Member State or includes the territory of non-Member States, a summary is

required of the institutional relationships established in order to ensure co-ordination in a legally binding way of the measures required under this Directive.

Annex II
Analysis of the characteristics of the river basin district

1. The technical specifications shall establish methods for an analysis of the characteristics of river basin district listed in Article 5 (1) and for economic analyses of water use as required by Article 7 (1).

2. The technical specifications shall include a common format for the presentation of the analysis of characteristics of the river basin district and of the economic analysis of water use, and common rules on the amount of information to be included in the summary required as part of the river basin management plan.

The information provided should as far as possible be available for introduction into the Geographic Information System (GIS) and/or the Geographic Information System of the Commission (Gisco).

The collection of information by competent authorities shall be co-ordinated with the authorities responsible for statistics in Member States in conformity with Community legislation on statistics and in particular with Council Regulation (EC) No 2223/96[1] and Council Regulation (EC) No 58/97[2].

Annex III
Review of the environmental impact of human activity

1. The technical specifications shall include a common format for the presentation of the review of the environmental impact of human activity and for common rules on the amount of information to be included in the summary required as part of the river basin management plan.

The collection of information by competent authorities shall be co-ordinated with the authorities responsible for statistics in Member States in conformity with Community legislation on statistics and in particular with Council Regulation (EC) No 2223/96 of 25 June 1996[3] and Council Regulation (EC) No 58/97 of 18 December 1996[4].

In case the technical specifications indicate more than one method, it must be ensured that such methods lead to comparability of results.

2. The technical specifications shall establish methods for estimating the extent and location of point source pollution by the substances listed in Annex VIII and shall be based on

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1 Official Journal No. L 310, 30. 11. 1996, p. 1.
2 Official Journal No. L 14, 17. 1. 1997, p. 1.
3 Official Journal No. L 310, 30. 11. 1996, p. 1.
4 Official Journal No. L 14, 17. 1. 1997, p. 1.

information gathered under, *inter alia*, the following Directives, but may include additional requirements:

i. Article 9 and 15 of the Integrated Pollution Prevention and Control Directive (96/61/EC)[1];

ii. Article 11 of the Dangerous Substances Directive (76/464/EEC)[2]; and

iii. Article 15 and 17 of the Urban Waste Water Treatment Directive (91/271/EEC)[3].

3. The technical specifications shall establish methods for estimating the extent and the location of diffuse pollution of the substances listed in Annex VIII.

4. The technical specifications shall establish methods for identifying those individual bodies of water which are susceptible to the point source and diffuse source pollution identified under sections 2 and 3 above.

5. The technical specifications shall establish methods for estimating the volume of:

i. abstractions for drinking water;
ii. abstractions for agricultural uses;
iii. abstractions for industrial uses; and
iv. other abstractions.

6. The technical specifications shall establish methods for estimating water abstractions:

i. total annual demand;
ii. seasonal variations in demand; and
iii. the efficiency of water use.

Annex IV
Protected areas

1. The register of protected areas required under Article 9 shall include, where relevant for the purpose of water protection, the following types of protected areas:

i. areas designated for the abstraction of water intended for human consumption under Article 8;

ii. areas designated for the protection of economically significant aquatic species;

iii. bodies of water designated as recreational waters, including areas designated as bathing waters under the Bathing Water Directive (76/160/EEC)[4];

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1 Official Journal No. L 257, 10. 10. 1996, p. 26.
2 Official Journal No. L 129, 18. 5. 1976, p. 23.
3 Official Journal No. L 135, 21. 5. 1991, p. 40.
4 Official Journal No. L 31, 5. 2. 1976, p. 1.

iv. nutrient sensitive areas, including areas designated as vulnerable zones under the Nitrates Directive (91/676/EEC)[1] and areas designated as sensitive areas under the Urban Waste Water Treatment Directive (91/271/EEC)[2]; and

v. areas designated for the protection of habitats or species where the maintenance or improvement of the status of water is an important factor in their protection, including relevant Natura 2000 sites designated under the Habitats Directive (92/43/EEC)[3] and the Birds Directive (79/409/EEC)[4].

2. The summary of the register required as part of the river basin management plan shall include maps indicating the location of each protected area and a description of the Community, national or local legislation under which they have been designated. In the case of bodies of water designated under Article 8, the summary shall include details of the environmental quality standards adopted and the expected treatment regime.

Annex V
Monitoring of surface water status and groundwater status

For surface waters

1. The technical specifications for the monitoring of ecological status of surface waters shall establish methods for:

i. monitoring of all significant bodies of surface water and representative monitoring of all other bodies of surface water;

ii. monitoring of the physico-chemical, biological and physical characteristics of the water body, including quantitative aspects, including dynamic elements such as seasonal variations and long-term natural fluctuations, with most importance being afforded to the biological characteristics;

iii. the presentation of monitoring results in a common format or model based on the degree of deviation from natural ecological status or, in the case of artificial water bodies, the degree of deviation from their maximum ecological potential;

iv. the use of five classes for the presentation of ecological status, of which the top two classes will be "high ecological status" and "good ecological status".

2. The technical specifications for monitoring of the chemical status of surface waters shall establish methods for:

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1 Official Journal No. L 375, 31. 12. 1991, p. 1.
2 Official Journal No. L 135, 21. 5. 1991, p. 40.
3 Official Journal No. L 206, 22. 7. 1992, p. 7.
4 Official Journal No. L 103, 25. 4. 1979, p. 1.

i. monitoring of all surface waters identified under section 4 of Annex III as being susceptible to point source or diffuse source pollution by the substances listed in Annex VIII;

ii. the use of five classes for the presentation of chemical status of which the top two classes will be "high chemical status" and "good chemical status".

For groundwaters

3. The technical specifications for the monitoring of the quantitative status of groundwater shall establish methods for:

i. monitoring of all groundwaters used for the abstraction of water and representative monitoring of other groundwaters;

ii. monitoring of the quantity of groundwater, including dynamic elements such as seasonal variations, long-term natural fluctuations, the abstraction rate (including indirect abstractions) and the recharge rate;

iii. monitoring of the impact of changes in groundwater characteristics on the ecological status of associated surface water bodies and on associated terrestrial ecosystems;

iv. selection of indicators, including natural conditions, for the characterization of the quantitative status of groundwaters with a view to identification of "good quantitative status".

4. The technical specifications, monitoring of the chemical status of groundwater shall establish methods for:

i. monitoring of all groundwaters identified under section 4 of Annex III as being susceptible to point source or diffuse source pollution by the substances listed in Annex VIII;

ii. monitoring at a range of depths;

iii. selection of indicators, including natural conditions, for the characterization of the qualitative status of groundwaters with a view to the identification of parameters for "good qualitative status".

5. The overall status of any individual groundwater body shall be based on the lower of the two assessments made under sections 3 and 4 above.

For surface waters and groundwaters

6. The technical specifications shall be established recognizing that different methods of monitoring will be appropriate depending on the nature of the body of water, its location and, for surface waters, the aspect of its ecological status which is being examined; and that the technical specifications will have to be flexible to allow the development and refinement of monitoring techniques whilst assuring the comparability of results between different methods and over time.

The technical specifications shall establish monitoring and analysis methods, including criteria for location of sampling stations and frequency as well as quality control systems.

In case the technical specifications indicate more than one method for a specific purpose, it shall be ensured that such methods are leading to comparability of results.

The technical specifications shall include quality assurance provisions and provisions for a common format for the presentation of the results of the monitoring of surface waters and groundwaters and common rules on the amount of information to be included in the summary required as part of the river basin management plan.

Annex VI
Lists of measures to be included within the programmes of measures

Part A

The following is a list of those pieces of Community legislation which, together with national or local legislation, make up the baseline measures to be included in the programmes of measures under Article 13 (3) (a):

i. the Bathing Water Directive (76/160/EEC)[1];

ii. the Birds Directive (79/409/EEC)[2];

iii. the Drinking Water Directive (80/778/EEC)[3];

iv. the Major Accidents (Seveso) Directive (82/501/EEC)[4];

v. the Environmental Impact Assessment Directive (85/37/EEC)[5];

vi. the Sewage Sludge Directive (86/278/EEC)[6];

vii. the Urban Waste Water Treatment Directive (91/271/EEC)[7];

viii. the Plant Protection Products Directive (91/414/EEC)[8];

ix. the Nitrates Directive (91/676/EEC)[9];

x. the Habitats Directive (92/43/EEC)[1];

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1 Official Journal No. L 31, 5. 2. 1976, p. 1.
2 Official Journal No. L 103, 25. 4. 1979, p. 1.
3 Official Journal No. L 229, 30 August 1980, p. 11.
4 Official Journal No. L 230, 5 August 1982, p. 1.
5 Official Journal No. L 175, 5. 7. 1985, p. 40.
6 Official Journal No. L 181, 8. 7. 1986, p. 6.
7 Official Journal No. L 135, 21. 5. 1991, p. 40.
8 Official Journal No. L 230, 19 August 1991, p. 1.
9 Official Journal No. L 375, 31. 12. 1991, p. 1.

xi. the Integrated Pollution Prevention Control Directive (96/61/EC)[2];
xii. other relevant legislation.

Part B

The following is a non-exclusive list of supplementary measures which Member States within each river basin district may choose to adopt as part of the programme of measures required under Article 13 (4):

i. legislative instruments;

ii. administrative instruments;

iii. economic or fiscal instruments;

iv. negotiated environmental agreements;

v. emission controls;

vi. codes of good practice;

vii. abstraction controls;

viii. demand management measures, *inter alia* promotion of adapted agricultural production such as low water requiring crops in areas affected by drought;

ix. efficiency and re-use measures, *inter alia* promotion of water efficient technologies in industry and water saving irrigation techniques;

x. construction projects;

xi. desalination plants;

xii. rehabilitation projects;
xiii. artificial recharge of aquifers;

xiv. educational projects;

xv. research, development and demonstration projects;

xvi. other relevant measures.

Annex VII

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1 Official Journal No. L 206, 22. 7. 1992, p. 7.
2 Official Journal No. L 257, 10. 10. 1996, p. 26.

River basin management plans

1. River basin management plans shall cover the following elements:

i. a summary of the information provided to the Commission under Article 3 (7);

ii. a summary of the environmental objectives adopted under Article 4;

iii. a summary of the analysis of the characteristics of their river basin district required under Article 5;

iv. a summary of the review of the environmental impact of human activity required under Article 6;

v. a summary of the economic analysis of water use within the river basin district required under Article 7;

vi. a summary of the register of protected areas designated under Article 9;

vii. a summary of the results of the monitoring programmes carried out under Articles 10 and 11;

viii. a summary of the programme of measures adopted under Article 13, including:

   a. for those measures described under Article 13 (3) (a), a description of the European Community, national or local legislation from which the measures derive, together with details of the way in which they have been, or will be, implemented within the river basin district;

   b. a summary of the measures taken for the implementation of the charges for water use required under Article 12 and Article 13 (3) (b);

   c. a summary of the measures taken under Article 13 (3) (c) to achieve the environmental quality standards established under Article 8 (2);

   d. a summary of the measures taken under Article 13 (3) (d) for bodies of water with a chemical status below "good";

   e. details of the abstraction controls adopted under Article 13 (3) (e) and, where such controls have not been adopted, reasoned justification for the exemption;

   f. details of the additional measures adopted under Article 13 (3) (f); and

   g. details of the supplementary measures adopted under Article 13 (4);

ix. a summary of the measures taken under Article 19 to reduce the impact of accidental pollution incidents.

2. The first update of the river basin management plan and all subsequent updates shall also include:

i. a summary of any changes or updates since the publication of the previous version of the river basin management plan;

ii. an assessment of progress towards the achievement of the environmental objectives and an explanation for any environmental objectives which have not been reached;

iii. a summary of, and an explanation for, any measures foreseen in the earlier version of the river basin management plan which have not been undertaken; and

iv. a summary of any additional interim measures adopted under Article 14 since the publication of the previous version of the river basin management plan.

3. The river basin management plan shall contain a summary of the results of the public consultation undertaken on the draft plan under Article 17 together with a summary of the changes made as a result.

4. The river basin management plan shall contain references to any programmes and plans covered by the terms of Article 18.

5. The river basin management plans shall also include any recommendations for national or Community action adopted under Article 15.

Annex VIII
Pollutants

1. Organohalogen compounds and substances which may form such compounds in the aquatic environment

2. Organophosphorus compounds.

3. Organotin compounds.

4. Substances and preparations which have been proved to possess carcinogenic or mutagenic properties or properties which may affect reproduction in or via the aquatic environment.

5. Persistent hydrocarbons and persistent and bioaccumulable organic toxic substances.

6. Cyanides.

7. Metals and their compounds.

8. Arsenic and its compounds.

9. Biocides and plant protection products.

10. Material in suspension.

11. Substances which contribute to eutrophication (in particular nitrates and phosphates).

12. Substances which have an unfavourable influence on the oxygen balance (and can be measured using parameters such as BOD, COD, etc.).

Annex IX

Criteria for selection of priority substances or groups of substances for examination of the risk they pose to the aquatic environment and the appropriateness of developing a specific commission strategy for the control of emission to the aquatic environment

The substance or group of substances

1. has been shown to cause unacceptable effects in or there are strong indications of risk to the aquatic environment;

2. has been found widespread in one or more compartments of the aquatic environment;

3. reaches the aquatic environment from a diversity of sources through a diversity of parkways.

Annex X

Environmental quality standards

The "quality objectives" established under the daughter Directives of the Dangerous Substances Directive (76/464/EEC)[1] shall be considered as environmental quality standards for the purposes of this Directive. They are established in the following Directives:

i. the Mercury Discharges Directive (82/176/EEC)[2];

ii. the Cadmium Discharges Directive (83/513/EEC)[3];

iii. the Mercury Directive (84/156/EEC)[4];
iv. the Hexachlorocyclohexane Discharges Directive (84/491/EEC)[5]; and

v. the Dangerous Substance Discharges Directive (86/280/EEC)[6]

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1 Official Journal No. L 129, 18. 5. 1976, p. 23.
2 Official Journal No. L 81, 27. 3. 1982, p. 29.
3 Official Journal No. L 291, 24. 10. 1983, p. 1.
4 Official Journal No. L 74, 17. 3. 1984, p. 49.
5 Official Journal No. L 274, 17. 10. 1984, p. 11.
6 Official Journal No. L 181, 4. 7. 1986, p. 16.

3. DECLARATIONS OF PRINCIPLES AND RESOLUTIONS OF INTERGOVERNMENTAL ORGANIZATIONS

3.1 THE UNITED NATIONS SYSTEM

3.1.1 Economic Commission for Europe

3.1.1.1 Declaration of Policy on Prevention and Control of Water Pollution, including Transboundary Pollution (Decision B (XXV))[1] - Geneva, 1980

The Economic Commission for Europe,

Mindful of the special importance of solving the problems of the protection of water against pollution and its rational utilization in ECE member countries as an integral part of the environmental protection policy in the interests of present and future generations,

Appreciating the important role of the ECE Declaration of policy on water pollution control of 29 April 1966, which has contributed to the substantial progress made in this field by ECE member countries, the Committee on Water Problems and its subsidiary bodies,

Taking note of the Final Act of the Conference on Security and Co-operation in Europe and the Mar del Plata Action Plan adopted by the United Nations Water Conference, in particular resolutions VII and VIII and the recommendations applying more specifically to Europe,

Bearing in mind the recent international conventions aimed at the protection of the marine environment; the Convention for the prevention of marine pollution by dumping from ships and aircraft (Oslo, 1972); the Convention on the protection of the marine environment of the Baltic Sea area (Helsinki, 1974); the Convention for the prevention of marine pollution from land-based sources (Paris, 1974); the Convention for the protection of the Mediterranean Sea against pollution (Barcelona, 1976); the Convention on civil liability for oil pollution damage resulting from exploration and exploitation of sea-bed mineral resources (London, 1976); and the international conventions applicable to marine pollution due to vessel sources,

Considering that the efforts of individual countries in solving the problems of the protection of water against pollution, including transboundary pollution, should be supplemented and supported, as appropriate, by bilateral and multilateral international co-operation,

Aware of the responsibilities and activities of different United Nations bodies and other relevant international organizations in this field,

Recognizing the need for further development and strengthening of international co-operation and improvement in the co-ordination of efforts by ECE member countries in water pollution control matters, including transboundary pollution, in the light of the experience acquired during the past few years in the management and integrated use of water resources,

1. Decides to adopt the Principles on prevention and control of water pollution, including transboundary pollution set forth in the appendix to this Decision, which complete and develop the Principles contained in the 1966 Declaration;

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[1] Text in: E/ECE/1084, ECE/WATER/38. Adopted by the Economic Commission for Europe at its thirty-fifth session (1980) in its decision B (XXXV).

2. Recommends to ECE Governments that they consider the possibility of applying these Principles in formulating and carrying out their water policies and in their international co-operation;

3. Invites the member Governments to report in depth to the Commission at three year intervals, through the Committee on Water Problems, on the action taken by them in this regard;

4. Requests the Executive Secretary to transmit this decision to the member Governments as a Declaration of policy on prevention and control of water pollution, including transboundary pollution;

5. Requests the Executive Secretary to transmit this decision to the organizations concerned with a view to extending international co-operation in this field.

Principles

1. The conservation of water resources and the prevention and control of water pollution are integral parts of a comprehensive national policy in environmental protection and call for active participation of national and local public authorities and water users as well as close international co-operation. The rational utilization of water resources, both surface and underground, as a basic element in the framework of long-term water management, should be viewed as an effective support to the policy of prevention and control of water pollution, taking into account the special features of each drainage basin.

2. Water pollution control should be handled taking account of possible interactions of pollutants on air, land and water.

3. The aim of water pollution control is to preserve, as far as possible, the natural quality of surface and ground water, to protect the environment which depends on such water, and to decrease existing levels of water pollution in order to protect public health and to allow the satisfaction of the needs of such water, under the best economic conditions and in sufficient quantity, in particular for[1]:

- providing drinking water of sufficiently good quality for human health;

- preserving the aquatic flora and fauna;

- providing water for industry;

- providing water for agriculture, in particular irrigation and animal consumption;

- recreation (sports and leisure) with due regard to sanitary and aesthetic requirements.

4. Governments should adopt a long-term policy directed towards the reduction of existing water pollution and its prevention in the future. To this end a series of interrelated measures should be developed including, so far as necessary, the improvement of water legislation and

[1] Apart from drinking water, these uses are not necessarily listed in order of importance.

its implementation, the use of all legal and administrative measures, integrated land-use planning, and the application of suitable economic incentives to encourage, *inter alia*, the conservation of water, the optimization of water resources management, the elimination of pollutants, in particular, at source the development of low- and non-waste technology, including recycling of water, and research and development.

5. Important tools in water pollution control are standardization and monitoring of water quality in rivers and lakes or standardization and monitoring of effluents, or an appropriate combination of both; the quantitative and qualitative assessment of waste water and its treatment with due regard to the interests of water users and environmental protection. In setting criteria and standards, all types of water resources (surface, ground and sea water) and/or effluents should be covered. The criteria and standards themselves should, as far as possible, reflect public health, drinking water supply and environmental protection requirements and should also satisfy the demand for water in the industrial, agricultural, fisheries and other sectors of the economy.

6. Pollution of the aquatic environment by dangerous substances that are toxic, persistent and bioaccumulative should be prevented by using the best available technology and eliminated within a reasonable period of time.

7. Governments should organize the implementation of water pollution control measures as part of their national policy of environmental protection, within the framework of their institutions and taking into account the nature of the problems to be solved. In this connection, it may be desirable that States, within the limits of their constitutional and legislative competence, have at their disposal appropriate organs at the central or regional levels or at the level of the various hydrographic basins. It may be desirable that the central responsibility for water pollution control be vested in one authority or co-ordinating body on a sufficiently high level. This authority or body should carry out its work in collaboration with other authorities and within the framework of water resources, water utilization and public health policies in general. Furthermore, bodies such as committees, commissions, etc., composed of representatives of the public authorities, of representatives of users and independent experts may be entrusted with the task of helping and advising the above-mentioned organs.

8. To promote water pollution control and to protect both surface and underground water, it is essential to establish laws which prohibit all discharges of liquid and solid wastes from domestic, industrial and agricultural activities to surface waters and aquifers unless they have been authorized by the competent authority in charge of water pollution control. However, regulations for discharges of limited importance and special derogations, if appropriate, could be implemented in particular cases. In deciding whether to permit these discharges, the appropriate competent authority should ensure that the effluents are treated at least by the best practicable technology possible and that they will not endanger public health or life in general and should take particular account of the following factors:

(a) the capacity of the receiving water to assimilate materials being discharged, taking into account the physical, chemical, biological, microbiological and radio-active characteristics of these materials;

(b) the evaluation of the environmental, social and economic advantages and disadvantages of possible methods of treatment and disposal.

9. Each country should take all appropriate steps to prevent pollution of the sea, namely by the direct or indirect introduction by man into the marine environment - including estuaries - of substances or energy which may endanger human health, harm living resources and the marine ecosystem, affect amenities or interfere with other legitimate uses of the sea. Governments should therefore seek: to reduce progressively land-based pollution provoked by toxic, non-degradable and bioaccumulative substances enumerated in the appropriate supplements to different international conventions; to prohibit or to set up controls by specific permits, according to the different international conventions, of the discharge of these substances from their territories into the sea; and to carry out the principles set out in the convention pertaining to the reduction and prohibition of pollution caused in coastal areas and estuaries by exploration and exploitation of the resources of the sea.

10. It is essential that legislation on water use and pollution control should be drawn up and applied in such a way that if violations occur effective sanctions can be imposed. The competent authorities should be authorized to take immediate action in case of need.

11. The general principle should be adopted that, as far as possible, the direct or indirect costs attributable to pollution should be borne by the polluter. Each State should use the most suitable economic incentives in order to discourage pollution and encourage the reduction of polluting discharges and the development of new technologies which are less polluting. Strategies for water pollution control should include, in addition to the installation of effluent treatment plants, the adoption of preventive measures at the earliest possible stage in the production processes, especially through the incorporation of low- and non-waste technology, water recycling and the rational use of chemicals and fertilizers in agriculture and forestry, as well as the implementation of land-use policies.

12. States should establish information and educational programmes in order to influence individual behaviour in relation to water utilization and pollution and to promote the acceptance of responsibility for dealing with water problems.

13. States sharing water resources[1] should undertake, on the basis of their national policies, concerted action to improve the quality of surface and ground water, to control pollution and to guard against accidental pollution. These States should, by means of bilateral or multilateral agreements define their mutual relations on water pollution control, especially through the widest possible exchange of information and through consultations at an early stage in regard to activities likely to have significant adverse effects on water quality in the territory of the other States. In these agreements, water quality standards and/or emission standards for a particular water body should be established, where necessary. These agreements would also stipulate the obligations of the States in solving water pollution problems, including their scientific and technological aspects. Provision should be made in particular for the use of existing structures of co-operation and for seeking new ones, as appropriate, to meet fully the interests of expanding and intensifying international relations.

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[1] The term "shared water resources" is used only for the uniformity of the text and its use does not prejudice the position of the countries supporting the terms "transboundary waters" or "international waters" in any of the problems involved.

14. International co-operation on water problems, within the United Nations Economic Commission for Europe and other competent international organizations operating within the ECE region should facilitate the exchange of experience between countries and help them to find the most appropriate solutions through the exchange of available information, especially on ways of predicting and effectively avoiding adverse environmental consequences of economic activities and new technology. This co-operation should include: exchange of scientific and technical information including experience of structure, design and technology of waste water treatment plants, and on the development and introduction of low- and non-waste technology; exchange of researchers, specialists, trainees; carrying out joint studies; comparison of long-term national policies for rational water use and water protection; organization of scientific and technical meetings; and comparison of water quality criteria and standards as well as their methods of application.

3.1.1.2 Decision on International Co-operation on Shared Water Resources (D (XXXVII))[1]-[2] - Geneva, 1982

The Economic Commission for Europe,

Recognizing the growing significance of economic, environmental and physical interrelationships between ECE countries, in particular where streams or lakes and related ground water aquifers cross or are located on international boundaries.

Reaffirming the principle of the permanent sovereignty of States over their natural resources.

Mindful of the vital importance and special urgency to continue and stimulate efforts which promote international co-operation on shared water resources aiming at their development, use and conservation for the mutual benefit of present and future generations,

Believing that the intensification of concerted endeavours for a further strengthening of international co-operation on shared water resources will not only be of interest to countries involved but also to other ECE member countries, as firm co-operation between countries contributes fundamentally to promoting and deepening mutual understanding, confidence and trust in the region,

Conscious of the wish of participating States expressed in the Final Act of the Conference on Security and Co-operation in Europe to develop such co-operation, *inter alia*, "by promoting the progressive development, codification and implementation of international law as one means of preserving and enhancing the human environment, including principles and practices, as accepted by them, relating to pollution and other environmental damage caused by activities within the jurisdiction or control of their States affecting other countries and regions",

Commending the efforts already undertaken by riparian countries to harmonize and co-ordinate their national policies in the field of management of shared water resources by bilateral and multilateral conventions and agreements or other legally binding arrangements,

Welcoming the substantive progress made in the development and formulation of principles and guidelines governing international co-operation on shared natural resources elaborated by the United Nations Environment Programme, with a view to placing such co-operation on a more systematic basis, and mindful of the principle recommended by the Mar del Plata Action Plan that "in relation to the use, management and development of shared water resources, rational policies should take into consideration the right of each State sharing the

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[1] Text in: E/ECE/1084, ECE/WATER/38. Adopted by the Economic Commission for Europe at its thirty-seventh session in 1982.

[2] The term "shared water resources" has been used only for the uniformity of the text and its use does not prejudice the position of the countries supporting the terms "transboundary waters" or "international waters" in any of the problems involved. The interpretation of the term "shared water resources" excludes all possibilities of prejudice to international law and to the sovereign rights of States over water resources located within their frontiers and, also, in respect of their rights and obligations regarding the use and conservation of those resources.

resources to equitably utilize such resources as the means to promote bonds of solidarity and co-operation",

Underlining the importance of the ECE Declaration of Policy on Prevention and Control of Water Pollution, including Transboundary Pollution, which invites States to define, by means of bilateral or multilateral agreements, their mutual relations on water pollution control, especially through the widest possible exchange of information and through consultations at an early stage in regard to activities likely to have significant adverse effects on water quality in the territories of the other States.

Recalling further that this ECE Declaration of Policy called on States to make provisions in particular for the use of existing structures of co-operation and for seeking new ones, as appropriate, to meet fully the interests of expanding and intensifying international relations,

Conscious of the role of ECE as an instrument for promoting bilateral and multilateral co-operation on shared water resources within the region,

1. Calls upon member Governments to pursue and if necessary to strengthen their efforts to co-operate in the elaboration of policy aims, programmes and planning regarding the development, use and conservation of shared water resources;

2. Notes with appreciation that the great majority of ECE countries have already entered into legal, binding arrangements, including treaties, conventions and agreements, with a view to better co-operation in their endeavours towards better protection and more equitable utilization and development of shared water resources;

3. Encourages member Governments to continue their efforts to extend already existing international arrangements in the light of changing socio-economic requirements or of changing priorities in the utilization of shared water resources and in particular to speed up procedures within international river commissions and competent governmental bodies to cope efficiently with emergency situations and/or to embody sufficient power to existing legal and administrative arrangements to deal with such situations;

4. Stresses the important and useful role that international river commissions play within the context of international co-operation on shared water resources and in this respect invites member Governments, *inter alia*:

(a) to make full use of international river commissions by providing them with all necessary means for the efficient and mutually beneficial implementation of those tasks they entrusted to them and in particular by facilitating periodical exchange of information between international river commissions and, where appropriate;

(b) to promote and strengthen international co-operation through international river commissions by improving their efficiency and by establishing new ones where they do not already exist, through regional conventions and through the harmonization of different long-term national plans of riparian States and of national monitoring systems, as well as, at a second stage, if necessary, to take steps for the possible elaboration of a joint plan for the entire basin;

5. Reiterates its previous decision to intensify its efforts in the water sector by, *inter alia*, strengthening the activities and responsibilities of the Committee on Water Problems with a view to providing a basis for co-operation among countries involved in the spirit of the Final Act of the Conference on Security and Co-operation in Europe and to assist them at the request of all ECE member Governments concerned with a particular shared water resource;

6. Requests, therefore, the Committee on Water Problems to pay full attention to facilitating international co-operation on shared water resources and in this respect:

(a) to elaborate a report on international co-operation in the field of shared water resources development which may contain, *inter alia*, case studies prepared by concerned ECE countries on the principles and results achieved in bilateral and multilateral co-operation;

(b) to carry out projects relating to the collection and use of compatible statistical data; comparison of water quality norms; comparison of methods for analysing the composition and properties of water including waste water; review of measures taken in emergency cases (such as accidental pollution, floods) and those taken for the assessment of socio-economic impacts due to accidental pollution and floods;

7. Decides to convene under the auspices of the Committee on Water Problems, as and if required, meetings on international river commissions in order to promote and facilitate international co-operation on shared water resources in the ECE region.

3.1.1.3 Decision on Co-operation in the field of Transboundary Waters (Decision B (41))[1] - Geneva, 1986

The Economic Commission for Europe,

Recognizing the significance of the harmonious development, use and conservation of transboundary waters and aware that prevention and control of transboundary pollution in rivers and lakes crossing or forming frontiers between two or more countries, and in related groundwater aquifers, as well as prevention and control of floods are important and urgent tasks whose effective accomplishment can only be ensured by enhanced co-operation among riparian countries,

Recalling its decision B (XXXV) whereby it adopted the ECE Declaration of Policy on Prevention and Control of Water Pollution, including Transboundary Pollution;

Taking into account the results of the Seminar on Co-operation in the Field of Transboundary Waters (Dusseldorf, Federal Republic of Germany in 1984),

Commending the efforts already undertaken by riparian countries to strengthen co-operation in the field of transboundary waters on a bilateral and multilateral level in particular regarding prevention and control of both transboundary water pollution including accidental pollution and transboundary flood episodes,

Conscious of the role of ECE as an instrument for promoting international co-operation regarding prevention and control of transboundary pollution, including accidental pollution as well as floods by, *inter alia*, elaborating international principles conducive to the achievement of those purposes as a means of placing or a firmer basis co-operation among riparian countries,

1. Decides to adopt the recommendations to ECE member Governments on Co-operation in the Field of Transboundary Waters, set forth hereunder;

2. Invites ECE member Governments to apply these recommendations in formulating and implementing water policies.

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[1] Text in: ECE/WATER/42, Annex II. Adopted by the Economic Commission for Europe at its forty-first session (1986) on its decision B.

3.1.1.4 Code of Conduct on Accidental Pollution of Transboundary Inland Waters (Decision C (45))[1] - New York, 1990

Introduction

1. This Code is intended to guide Governments in the protection of transboundary inland waters against pollution resulting from hazardous activities in case of accidents or natural disasters and in mitigating their impacts on the aquatic environment. It deals, in particular, with the transboundary effects of such pollution. It is aimed at the harmonization of national measures to be taken in this field and at the formulation of basic frames of international co-operation.

2. The Code lays down those measures which countries concerned should take individually or jointly to prevent, control and reduce accidental pollution of transboundary inland waters. Its objective is also to increase the state of preparedness to respond efficiently to such incidents, to mitigate and contain the damage resulting therefrom, to provide a common basis for, and establish standards of, conduct relating to hazardous activities that might affect transboundary inland waters.

3. One of the basic functions of the Code is to serve as a point of reference, particularly until such time as countries have entered into relevant bilateral or multilateral agreements.

4. The Code is without prejudice to the provisions of particular systems or procedures included in national legislation or in bilateral or multilateral instruments concluded for this purpose. Countries should endeavour to apply and further develop the objectives of the Code either within the framework of existing international agreements or through the elaboration and adoption of new agreements as appropriate, taking into account the relevant work of competent international bodies in this field.

5. The Code does not preclude countries from instituting more stringent national regulations as well as broader and more frequent co-operative measures with other countries concerned.

6. The Code applies to hazardous activities which result in or are likely to result in accidental pollution of transboundary inland waters in the territory of other countries, especially that resulting from:

- the extraction, production, processing or movement of hazardous substances;

- the unintended release of hazardous substances in the form of eases, liquids, or solids into water bodies;

- the surface or underground storage of hazardous substances;

- the misuse of hazardous substances and/or of technologies;
- natural disasters.

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[1] Text in: E/ECE/1225, ECE/ENWA/16. Adopted by the Economic Commission for Europe at its forty-fifth session in 1990 on its decision C.

Inasmuch as matters regarding the transport of dangerous goods including hazardous substances and wastes, as well as those regarding radioactive substances, are covered by relevant existing international instruments, these are not referred to in the Code.

7. The Code applies to any incident irrespective of whether it occurred in the transboundary inland waters or in their vicinity with the risk of affecting such waters.

8. This Code should be brought to the attention of all concerned with the utilization and protection of transboundary inland waters so that Governments assume their shared responsibility, individually or jointly, to ensure that the objectives of the Code are met.

I. Definitions

For the purposes of this Code:

(a) "Incident" means any man-made accident or natural disaster;

(b) "Accidental pollution of transboundary inland waters" means the introduction, directly or indirectly, of hazardous substances into transboundary inland waters as a result of incidents originating wholly or partly within an area under the jurisdiction of one country, which causes or threatens to cause significant impairment of the quality of transboundary inland waters and/or significant damage to aquatic ecosystems in an area under the jurisdiction of another country;

(c) "Transboundary inland waters" means any surface and ground waters which form or cross the common boundaries of two or more countries;

(d) "Accident" means a departure from normally permissible operating conditions of an activity causing or threatening to cause water pollution;

(e) "Natural disaster" means any natural event including such phenomena as floods, ice drifts, earthquakes, landslides and hurricanes, which causes or threatens to cause accidental pollution of transboundary inland waters;

(f) "Risk" means the combined effect of the probability of occurrence of an undesirable event and its magnitude;

(g) "Hazardous activity" means any activity which by its nature involves a significant risk of accidental pollution of transboundary inland waters;

(h) "Hazardous substance" means any substance or energy involving a significant risk of accidental pollution of transboundary inland waters, including toxic, persistent and bio-accumulative substances and harmful micro-organisms;

(i) "Riparian country" means any country bordering on a given transboundary inland water;

(j) "Country concerned" means any country of incident and any exposed country;

(k) "Country of incident" means any country within the territory and under the jurisdiction of which accidental pollution of transboundary inland waters originates or is likely to originate;

(l) "Exposed country" means any country affected by, or exposed to a significant risk of, accidental pollution of transboundary inland waters;

(m) "Authorizing country" means any country authorizing hazardous activities or activities involving hazardous substances;

(n) "Operator" means any physical or legal person planning to carry out, or carrying out, a hazardous activity, such as manufacturing, processing, storing, disposing, distributing, transporting, handling, discharging, recovering or consuming hazardous substances.

II. General provisions

1. Countries should in particular take, and adapt to circumstances, strict measures relating to hazardous activities and substances according to safety standards using the best available technology to prevent, control and reduce accidental pollution of transboundary inland waters and minimize the risk of damage, and/or to mitigate and contain the damage from such pollution.

2. In taking measures to control and regulate hazardous activities and substances, to prevent and control accidental pollution, to mitigate damage arising from accidental pollution, countries should do everything so as not to transfer, directly or indirectly, damage or risks between different environmental media or transform one type of pollution into another.

3. Riparian countries should implement, within the framework of their national legislation, the basic principle that responsibility for pollution lies with the polluter.

4. In the interest of rational management of transboundary inland waters and their protection against accidental pollution, riparian countries are called upon to use the provisions of this Code including the Annexes hereto, as guidance to enhance co-operation in this field.

III. National legislative and administrative measures

1. Countries should take appropriate legislative and administrative measures for the prevention, control and reduction of accidental pollution of transboundary inland waters and for the mitigation and containment of damage resulting therefrom. Such measures should cover the matters referred to in Annex A, and particular attention should be given to hazardous substances, especially those which are toxic, persistent and bio-accumulative.

2. National legislative and administrative measures should promote the development and sound application of the best available technologies and their safe operation for efficient prevention, control and reduction of accidental pollution of transboundary inland waters. Those measures should also provide for the competent authorities to be authorized to take emergency action without delay.

IV. International co-operation

1. Countries should make use of existing bilateral or multilateral agreements and institutional arrangements to cope with accidental pollution of transboundary inland waters and should, where necessary, expand their scope and functions to cover matters governed by this Code including the Annexes hereto.

2. Riparian countries should, in the framework of bilateral or multilateral agreements or arrangements, define their mutual relations regarding the control of hazardous activities and the prevention of accidental pollution of transboundary inland waters, in order to ensure mutually agreed regulation of their conduct.

3. Bilateral and multilateral agreements or arrangements should contain in particular, provisions on appropriate mutual exchange all pertinent information, early warning and alarm systems, joint contingency plans, preventive and remedial measures, institutional infrastructures and joint manoeuvres and exercises of competent services, such as civil protection, rescue units, fire and oil brigades, common procedures concerning risk assessment and environmental impact assessment as well as those relating to responsibility and liability, and measures to remedy damage caused by accidental pollution of transboundary inland waters. Agreements or arrangements in this framework should provide for the necessary international institutions to ensure implementation.

4. Riparian countries should agree to co-ordinate and harmonize as necessary their legislative and administrative measures relating to transboundary inland waters, particularly as regards criteria for defining hazardous activities and substances, contingency plans at all levels, monitoring, safety and other relevant matters.

5. When a country of incident receives information from either riparian country that activities envisaged or carried out in the territory of the country of incident are likely to cause accidental pollution of transboundary inland waters in the territory of the other country, both countries should without undue delay commence consultations and negotiations as appropriate aimed at achieving mutually acceptable solutions.

V. Institutional arrangements

1. International institutions for transboundary inland waters should, where appropriate, be entrusted with the functions specified in Annex B.

2. Where commissions or other institutional arrangements are already set up, participating countries should make full use of them by providing all necessary means for the efficient implementation of their tasks concerning accidental pollution of transboundary inland waters. Where countries act within such institutions, they should make every effort to take the provisions of this Code into account.

3. The formal character, functions and geographical and substantive scope of existing commissions should, where necessary, be broadened to deal with protection of transboundary inland waters against accidental pollution and to cope with such incidents in the best possible way. Existing national and intergovernmental structures and legal provisions should be fully taken into account, as well as hydrological, environmental, economic and other relevant

conditions. Joint commissions should be used to facilitate co-operation and communication between the national authorities concerned, in particular between designated points of contact of participating countries.

VI. Exchange of information

1. Riparian countries should, in accordance with the provisions of this Code:

(a) exchange information on their legislative and administrative measures as well as their policies, scientific activities and technical measures to prevent, control and reduce accidental pollution of transboundary inland waters and to mitigate and contain damage from such pollution with a view to harmonizing such measures;

(b) provide for the exchange of information on:

(i) incidents, measures and plans at the national level affecting other countries;

(ii) objectives and standards, as well as programmes for monitoring, planning, research and development including their implementation and surveillance;

(iii) data regarding the control of accidental pollution of transboundary inland waters.

2. For purposes of expeditious communications between the countries concerned, each country should designate a national governmental authority as point of contact competent to perform the administrative functions related to the exchange of information. Countries should inform each other of these authorities and of any changes in their functions.

3. In order to facilitate and expedite the exchange of information pertinent to the implementation of their relevant cements or arrangements, countries concerned should consider the possibility of establishing communication links between the regional and/or local authorities of adjacent areas, integrated in and co-ordinated with any intergovernmental system of information exchange.

4. Riparian countries should exchange information regarding authorization of planned activities involving a significant risk of accidental pollution of transboundary inland waters.

5. Countries exchanging information in accordance with this Code should establish internal procedures for the receipt, handling and protection of confidential and proprietary information received from other countries.

VII. Access to proceedings

1. In order to promote informed decision-making by central, regional or local authorities in proceedings concerning accidental pollution of transboundary inland waters, countries should facilitate participation of the public likely to be affected in hearings and preliminary inquiries and the making of objections respect of proposed decisions, as well as recourse to and standing in administrative and judicial proceedings.

2. Countries of incident should take all appropriate measures to provide physical and legal persons exposed to a significant risk accidental pollution of transboundary inland waters with sufficient information to enable them to exercise the rights accorded to them by national law in accordance with the objectives of this Code.

3. Countries should endeavour, in accordance with their legal systems and, where appropriate, on the basis of mutual agreements, to provide physical and legal persons in other countries, who have been or may be adversely affected by accidental pollution of transboundary inland waters, with equivalent access to and treatment in the same administrative and judicial proceedings, and make available to them the same remedies as are available to persons within their own jurisdiction who have been or may be similarly affected.

4. Where the law of a country of incident permits a public authority competent to safeguard general environmental interests, to participate in administrative or judicial proceedings, the country of incident should consider the possibility of providing equivalent public authorities of the exposed country with access to such proceedings.

5. Where, during the authorization procedure referred to in section IX, there are reasonable grounds to believe that pollution of transboundary inland waters within the territory of a country other than the authorizing country resulting from incidents relating to an activity subject to authorization cannot be reasonably excluded, the authorizing country should inform the exposed country about the activity as soon as it has sufficient information on the possible effect of the activity, and not later than when informing its own nationals.

6. As to possibilities of appropriate access to proceedings by the exposed countries as well as by physical and legal persons, countries should take duly into account environmental impact assessment (EIA) procedures in a transboundary context which will provide, *inter alia*, for risk assessment and reduction of risk of accidents with transboundary impacts thus preventing accidental pollution.

7. If necessary, both the authorizing and the exposed country should without undue delay enter into consultations and negotiations in order to verify and determine the risk and amount of accidental pollution of transboundary inland waters, aiming at arriving at an arrangement with regard to the necessary adjustments and modifications of planned activities, safety measures or off-site and on-site contingency plans that would give the exposed country reasonable satisfaction.

8. Where an installation involved in activities subject to authorization is owned, or activities subject to authorization are performed, by a person not under the jurisdiction of the authorizing country, a representative of that person within the jurisdiction of the authorizing country should be duly empowered to act on that person's behalf and account. This representative should also be in a position to meet any financial obligations that may arise from such activities or installations.

VIII. Economic instruments

1. Countries should consider all possible economic measures which could promote the prevention, control and reduction of accidental pollution of transboundary inland waters, as well as suitable remedial measures to cope with critical situations caused by such pollution.

In the formulation and application of economic instruments for this purpose, attention should be paid, in particular, to:

(a) their optimal combination with existing patterns of legal, administrative and technical instruments;

(b) their consistency with prevailing economic principles; and

(c) anticipated changes of water-use practices owing to the measures applied.

2. Economic including fiscal instruments should be employed, where appropriate and possible, in order to:

(a) induce operators to anticipate the environmental consequences of their activities regarding transboundary inland waters and to adopt the necessary safety regulations and standards;

(b) encourage operators to substitute hazardous substances in their production processes by non-hazardous or less hazardous substances;

(c) promote the development, application and exchange of information on new technologies and equipment reducing the risk of accidental pollution of transboundary inland waters.

3. Adequate financial and other resources should be made available, in accordance with national law and practice, for administrative tasks in relation to accidental pollution of transboundary inland waters.

IX. Regulatory instruments

1. Countries should, by all appropriate measures:

(a) provide criteria and procedures forming the basis for the authorization of hazardous activities, whether governmental or undertaken by physical or legal persons, that are likely to lead to accidental pollution of transboundary inland waters;

(b) ensure that such activities be subject to authorization according to the terms and conditions specified in Annex C.

2. The activities subject to authorization should comprise those which are classified as hazardous by the authorizing country, or which are connected with the use of hazardous substances as laid down by the authorizing country.

3. Countries should ensure that applications for authorization contain an assessment of the anticipated impact on the environment as specified in Annex C. On the basis of a bilateral or multilateral agreement an environmental impact assessment (EIA) should also be undertaken if so requested by an exposed country that has reasonable grounds to believe that the transboundary inland waters within its territory could be affected by an activity planned in the

other country in case of incident; it is necessary that such a request be accompanied by the stated reasons and sufficient evidence.

4. Criteria and procedures for determining whether an activity is subject to an EIA should be defined clearly by legislation, regulation, or other means, so that activities subject to authorization can be identified quickly and accurately, and an EIA can be undertaken as the activity is being planned. Any authorization procedure should contain a mechanism for ensuring that the results of EIA are adequately taken into account in the decision-making process. The way in which the findings are taken into account should be documented as appropriate.

5. Any authorization should specify, directly or by referring to the applicable legislative or administrative measures, the obligations imposed on the operator such as those laid down in Annex C. Operators should also be informed about the competent governmental authorities designated as points of contact for issuing and receiving notifications in accordance with paragraph 2 of section VI.

6. Countries should keep registers and other records of authorizations granted for hazardous activities. The competent authority should be in a position to (a) survey the installations regularly in order to ensure that the conditions under which the authorization was issued are being met, and (b) to enforce the terms of the authorization and, if necessary, to suspend or revoke it if the terms and conditions laid down therein are not met.

7. Hazardous activities should not be authorized unless it is established that (a) the planned activities and substances involved therein are subject to adequate safety measures to minimize the risk of accidental pollution of transboundary inland waters; and/or (b) in case of accidental pollution, significant adverse effects on the aquatic environment of another country could not be avoided by compliance with the conditions in the authorization.

X. Risk and vulnerability assessments

1. Countries should ensure, in accordance with their legal systems, that an analysis and assessment of the risks of accidental pollution of transboundary inland waters is undertaken in the course of the authorization procedure referred to in section IX and is subsequently reviewed when circumstances so require. Such risk assessment should include procedures to identify and assess hazardous activities and substances, taking into account e hazard identification techniques contained in Annex D.

2. The objectives of risk assessments should be the identification the nature and scale of potential accidental releases of hazardous substances into the aquatic environment, laying down e basis for contingency plans, the identification of the type, likelihood and broad consequences of major accidents and disasters that might occur. To this end countries should ensure e establishment, *inter alia*, of inventories as specified in Annex D.

3. Countries having carried out risk assessments should inform other countries concerned, regularly and/or when circumstances so require, of the results of such assessments, so as to enable these countries to take the necessary preventive and remedial measures.

4. Countries concerned should co-ordinate their assessments of the risk of accidental pollution of transboundary inland waters by using comparable methods, data and criteria and, where appropriate, harmonize the criteria of such assessments. Where appropriate, joint assessment should be envisaged which would allow for common conclusions with respect to mutual interests.

5. Countries should carry out vulnerability assessments of transboundary inland waters with a view to identifying sensitive areas with regard to their ecological situation with particular emphasis on their water resources. Other countries concerned should be notified of these areas.

6. Land-use planning and proper allocation of water resources should be given priority as an effective means to prevent accidental pollution of transboundary inland waters. To this end, countries should ensure that hazardous activities or substances likely to cause such pollution should be excluded from sensitive or protected areas and adequate buffer zones should be established between hazardous installations and sensitive or protected transboundary inland waters. Increased attention should be paid to the control of abandoned sites of hazardous waste disposal and to closed facilities of hazardous activities, with a view to minimizing the risk of accidental pollution.

XI. Contingency plans

1. Countries authorizing hazardous activities should ensure the development and, whenever necessary, application of contingency plans at all levels to prevent, control and reduce accidental pollution of transboundary inland waters by using all available resources in the most efficient way.

2. Operators should be required to establish on-site contingency plans in accordance with Annex E, and to assess regularly the effectiveness of such plans.

3. Countries should elaborate and adopt appropriate off-site contingency plans in accordance with Annex E. Such off-site contingency plans should be drawn up at the national, regional and/or local level and should be compatible with those to be established by operators. On-site and off-site contingency plans should be interlocked to ensure that they provide a comprehensive and effective response to incidents.

4. Countries concerned should endeavour to co-ordinate their national contingency plans relating to transboundary inland waters, to harmonize them as well as the criteria on which the contingency plans are based or, where appropriate, to draw up contingency plans.

XII. Early warning and alarm systems

1. Countries should set up and operate efficient warning and alarm systems with the aim of obtaining and transmitting reliable information needed to counteract accidental pollution of transboundary inland waters. Warning and alarm systems should consist of main communication centres which, on the basis of a national reporting system, should ensure the speediest possible transmission of data and forecasts following previously determined patterns. These warning and alarm systems should permit early undertaking of corrective and protective measures, containment of damage and reduction of risks. To this effect, countries

should seek to establish common communication systems including mutually agreed codes for emergency warning response, and compatible data-transmission and treatment systems

2. Countries concerned should make known to each other their competent points of contact and communication centres responsible for the timely issuing, receipt and transmission of the respective notifications and information, and ensure the efficiency of these centres. The countries concerned should promptly inform each other of any changes that may occur in the information referred to above.

3. Countries concerned should at regular intervals test and review the efficacy of warning and alarm systems, and ensure regular training of the personnel involved in warning and alarm operations. Where appropriate, the countries concerned should perform such tests, reviews and training jointly.

XIII. Notification of incidents

1. Countries should ensure that in an incident or in an imminent threat of accidental pollution of transboundary inland waters, operators comply with the contingency plans referred to in section XI.

2. In an incident entailing the risk of accidental pollution of transboundary inland waters in the territory of another country, the country of incident should forthwith notify all exposed countries and provide additional information in accordance with Annex F, taking into account the information furnished by the operator.

3. Countries should in due time notify all exposed countries of any significant change of circumstances likely to cause or aggravate accidental pollution of transboundary inland waters in the territories of exposed countries.

4. Any warning, notification of emergency situations or transmittal of additional information among the countries concerned should be made through the designated points of contact referred to in paragraph 2 of section VI or, if the urgency requires, through other competent authorities that may be expected to ensure an efficient treatment of the information.

XIV. Damage containment and rehabilitation

1. Countries concerned should ensure that operators make use under their control of the most efficient practices to contain and abate accidental pollution of transboundary inland waters, by appropriate treatment, collection, recovery, storage and/or safe disposal of pollutants and polluted material, in particular by taking the measures specified in Annex G. In cases where operators take no action or insufficient action, or in other cases where it is deemed necessary, countries should, where appropriate, have necessary measures carried out at operators' own expense and risk.

2. Exposed countries should communicate to the country of incident any information and observation relating to the assessment of damage and development of the situation concerning transboundary inland waters affected by accidental pollution in areas under their jurisdiction, in order to enable the country of incident to take the necessary measures to abate and/or contain such pollution at source.

3. For the purpose of effective co-ordination and harmonization of contingency measures, the countries concerned should convene committees consisting of representatives of competent authorities involved. Where and when appropriate, the operator, other persons involved such as safety officers and physical or legal persons affected by the incident could be given an opportunity to participate in these committees.

4. To facilitate co-operation for this purpose, riparian countries should, where appropriate, agree on bilateral or multilateral arrangements for rendering mutual assistance in such events; they should, in particular, consider the possibility to include the rendering of such assistance in joint contingency plans. Such arrangements should contain specific provisions relating to mutual assistance such as direction, control, co-ordination and supervision of assistance; local facilities and services to be rendered by the requesting country, including the reduction or waiver of border-crossing formalities; reimbursement for assistance services; the necessary privileges, immunities and facilities to be accorded by the requesting country; arrangements for holding harmless, indemnifying and/or compensating the assisting country or its personnel as well as transit through third countries, where necessary.

5. Countries should, within the limits of their capabilities, identify and notify other countries about experts, equipment and materials which can be made available for the provision of assistance to countries concerned in pollution incidents, as well as about the financial and other terms under which such assistance can be provided.

6. Countries receiving a request for assistance should promptly inform the requesting country whether they are in a position to render the assistance required, and indicate the scope and terms of the assistance available.

XV. Damage assessment and compensation

1. Countries should seek to ensure in their national legislation prompt and adequate compensation in respect of damage caused by accidental pollution of transboundary inland waters according to the provisions of this Code.

2. When an accidental pollution of transboundary inland waters occurs, the countries concerned should at the expense of the polluter take all necessary steps to assess the actual and potential damage, as provided for in Annex H. Countries concerned should co-operate, as far as practicable, to assist each other in damage assessment, and with a view to harmonizing the methods, criteria and procedures for such assessment.

3. In accordance with the polluter-pays principle referred to in paragraph 3 of section II, countries should co-operate in the implementation and further development of appropriate rules and practices to ensure redress for the victims of accidental pollution of transboundary inland waters and necessary rehabilitation measures. Countries should enter into or accelerate discussions for the elaboration of liability systems including the establishment of funds or insurance systems for pollution damage.

4. In order to ensure prompt and adequate compensation in respect of all damage caused by accidental pollution of transboundary inland waters, countries should in accordance with their national legal system provide for the identification of the physical or legal person or persons liable for damage resulting from hazardous activities. Unless otherwise provided, the operator

should be considered liable; and where more than one organization or person is liable, such liability should be joint and several. Countries should ensure that recourse is available in accordance with their legal systems for compensation.

5. Countries should provide strict liability for pollution damage caused by accidents involving hazardous activities bearing in mind exonerating circumstances. The organization or person liable for damage should be held to incur liability upon proof that damage was caused by an accident in the installation for which it/he is responsible.

6. For cases of pollution of transboundary inland waters, where the incident from which the damage resulted cannot be identified, and in order to facilitate the payment of compensation to persons who have suffered damage caused by accidental pollution of transboundary inland waters, countries should, *inter alia*, consider the establishment of compensation funds. Such funds might be established to deal with cases in which damage remains wholly or partly uncompensated.

7. Countries of incident should ensure that any person who has suffered damage resulting from accidental pollution or is exposed to a significant risk of accidental pollution of transboundary inland waters, receive treatment at least equivalent to that afforded in the country of incident in comparable domestic circumstances, to persons of equivalent condition or status.

XVI. Post-accident surveillance

1. After any incident resulting in accidental pollution of transboundary inland waters, the countries concerned should, through their competent authorities at all levels, survey the consequences for the environment, including pollutant concentrations, persistence and distribution in the aquatic environment by means of monitoring, survey and research measures. Countries should ensure that adequate institutional arrangements are made at the appropriate level for the purpose reporting on measures taken, on results achieved and, if the case arises, on difficulties encountered in the implementation and application of provisions contained in relevant international agreements or national legislative and administrative measures including contingency plans.

2. Countries should draw up reports based on such information and make them available to other countries concerned. The countries concerned should assist each other in the interpretation and assessment of such reports, in particular in the assessment the efficiency of rehabilitation measures.

3. The experience gained in coping with accidental pollution incidents should be used to the fullest extent possible as feedback for the progressive development and application of preventive measures and for the improvement of contingency plans. The countries concerned should co-operate in drawing conclusions from such experience.

Annex A
Matters to be regulated

National legislative and administrative measures for the prevention, control and reduction of accidental pollution of transboundary inland waters should provide, in particular, for:

(a) safety objectives, safety standards and safety measures;

(b) hazard identification for activities and substances which require special preventive measures and are subject to authorization as well as risk assessment;

(c) authorization procedures for activities which because of their hazardous nature or because of the use of hazardous substances may result in accidental pollution of transboundary inland waters;

(d) inventories of accidents and natural disasters relating to transboundary inland waters;

(e) inventories of sensitive areas, i.e. areas which are particularly vulnerable to pollution of transboundary inland waters;

(f) off-site contingency planning for hazardous activities, including public information requirements;

(g) on-site contingency plans to be established by operators;

(h) long-term water management plans taking accidental pollution aspects into account as well as land-use plans regulating the citing of hazardous activities and of new developments near existing hazardous activities;

(i) containment and rehabilitation programmes for accidental pollution incidents;

(j) liability and compensation for damage caused by accidental pollution of transboundary inland waters;

(k) appropriate regulatory powers for competent administrative authorities, including pre-accident and post-accident monitoring, unimpeded access to, as well as inspection and control of hazardous activities;

(l) adequate sanctions for non-compliance;

(m) economic incentives and disincentives;

(n) protection of confidential and proprietary data;

(o) mutual assistance in accidental pollution incidents;

(p) support for participation in relevant international institutions and programmes.

Annex B
Functions of international institutions for transboundary inland waters

Joint commissions and other co-operation bodies dealing with transboundary inland waters should be entrusted with the function, *inter alia*:

(a) to serve as advisory and negotiating body in all matters regarding accidental pollution of transboundary inland waters;

(b) to develop water protection objectives and standards as well as joint arrangements, control programmes, and common methodologies to deal with accidental pollution of transboundary inland waters;

(c) to monitor and assess data relating to accidental pollution as well as to survey the state of transboundary inland waters and to control the effectiveness of measures implemented as a basis for new measures;

(d) to prepare on the basis of results obtained from monitoring programmes inventories of transboundary inland waters sensitive to accidental pollution, as well as inventories of potential sources of accidental pollution;

(e) to arrange for and carry out relevant research work in order to determine the nature, significance and origin of accidental pollution of transboundary inland waters;

(f) to develop, establish and operate early detection and warning systems;

(g) to examine the possibilities for further measures and co-operation including improved exchange of information on topical issues in preventing and mitigating accidental pollution including experience gained in the application and operation of technology and results of research in this field;

(h) to initiate necessary measures aimed at harmonizing or making compatible contingency plans and legislation on matters covered by this Code;

(i) to develop joint or co-ordinated monitoring programmes and off-site contingency plans;

(j) to promote co-operation between the competent local authorities of adjacent frontier regions for the prevention and control of accidental pollution of transboundary inland waters and to facilitate the participation and representation of such authorities in international co-operative arrangements;

(k) to prepare inventories of technical facilities available to the countries concerned to prevent, control and reduce accidental pollution and to promote the international compatibility of such facilities;

(l) to arrange for mutual assistance upon request and to make available to requesting countries facilities for preventing and controlling accidental pollution and for rehabilitating polluted transboundary inland waters;

(m) to monitor, as far as possible, the effectiveness and compatibility of control measures implemented at the national level and to evaluate the extent to which the objectives of relevant agreements are met;

(n) to arrange for joint manoeuvres and equipment tests and exercises of competent services and facilities such as civil protection and rescue units, fire and oil brigades;

(o) to take steps as required for the identification of the source or origin of accidental pollution of transboundary inland waters;

(p) to ensure liaison with other international institutions concerned and to seek advice from experts and scientific institutes, if necessary;

(q) to prepare and publish regular reports on work accomplished and information supplied;

(r) to develop common principles such as a set of guidelines for the use of economic instruments at the national level in order to promote the application of safety measures in hazardous activities;

(s) to establish specific codes of good practice on prevention and mitigation of accidental pollution for transboundary inland waters.

Annex C
Terms and conditions of administrative authorization

1. The information to be furnished by an applicant for authorization of hazardous activities should contain the following elements, including those resulting from an environmental impact assessment (EIA) as appropriate:

(a) a description of the proposed hazardous activities and the substances to be used as well as of management of waste generated;

(b) an indication of the authorities required to act upon the documentation and of the nature of the decision;

(c) a description of potential sources and causes of incidents in connection with the proposed activities;

(d) a description of the conditions of the water resources potentially affected by incidents in connection with the proposed activities, including specific information necessary for identifying and assessing the adverse effects of such incidents;

(e) a description of reasonable main alternatives, as appropriate, including the no-action alternative;

(f) an assessment of the potential adverse impacts on transboundary inland waters likely to result from incidents in connection with the proposed activities and main alternatives, as well as the socio-economic consequences of environmental change owing to such activities or alternatives, including direct, indirect, cumulative, short-term and long-term, secondary and synergetic effects;

(g) relevant environmental data used and an explanation of predictive methods and assumptions made in the course of the assessment;

(h) information about contingency procedures laid down for dealing with an accident occurring at the site;

(i) an identification and description of measures available to prevent incidents and to mitigate adverse impacts on transboundary inland waters of the proposed activities and alternatives and an assessment of those measures as well as information on compliance with relevant safety standards;

(j) an outline of monitoring programmes, management tools and mitigation measures for minimizing water-resources degradation;

(k) an indication of whether the aquatic environment of any other countries may be affected by the proposed activities or alternatives;

(l) an indication of uncertainties encountered in compiling the required information;

(m) a non-technical summary including appropriate visual presentation (maps, graphs, etc.).

2. The obligations imposed on an operator, to be included in the authorization, should comprise among others the following, as appropriate:

(a) to comply with safety standards and to set up reliable warning systems for early detection of any impending or probable accidental pollution of transboundary inland waters;

(b) to monitor all phases of the hazardous activity;

(c) to provide special equipment necessary for preventing accidental pollution or for limiting the detrimental effects of such pollution including transboundary pollution;

(d) to establish an on-site contingency plan;

(e) to designate an appropriate and qualified person as "safety officer" responsible for providing the appropriate information, implementing safety measures, notifying and receiving information, and checking on-site contingency plans;

(f) to take preventive measures and to maintain preventive arrangements, e.g. by regular inspections;

(g) to permit inspection and surveys by governmental authorities on site and off site at regular and random intervals in order to ensure that the conditions under which the authorization was issued are being met;

(h) to provide access for the competent authorities in case of an incident;

(i) to assess the effects of the activity on transboundary inland waters and in case of an unexpected increase of risks as compared to the original conditions for the authorization, to report on these to the competent authority in accordance with established procedures;

(j) to enter an insurance or any other equivalent means to cover risks which are to be insured according to the law of that country in respect of damage to third parties arising from accidental pollution of transboundary inland waters.

3. The safety measures imposed on an operator, to be included in the authorization, should comprise, among others, the following as appropriate:

(a) adequate design and construction of installations taking into account foreseeable natural circumstances;

(b) adequate instrumentation such as protective devices, safety and prevention equipment, and alarm systems;

(c) development and application of operating procedures for safety installations;

(d) continuous supervision and periodic inspection of safety installations;

(e) permanent monitoring of hazardous activities;

(f) adequate manning of the installations involved in hazardous activities;

(g) suitable qualifications and experience of persons engaged in hazardous activities, taking into account all existing standards and the best available techniques;

(h) adequate training programmes, including training on a continuing basis, particularly as regards safety and environmental matters;

(i) application of relevant national and international rules, standards and recommended practices and procedures as regards occupational safety during all phases of activities.

Annex D
Hazard identification techniques

Hazardous activities likely to cause accidental pollution of transboundary inland waters should be identified by means of appropriate techniques and procedures such as:

(a) description of the production unit where hazardous substances are handled, including the amount and characteristics of these substances;

(b) review of hazardous substances present on the site and/or used in the production process regarding their physical and chemical properties and their characteristics concerning toxicology and ecotoxicology, bio-accumulativity and persistence, flammability and explosion, reactivity to common ambient media such as water and air as well as potential ways in which the accidental release of such substances from their normal containment may result in pollution of the transboundary inland waters;

(c) design checking concerning process, operations, equipment and instrumentation, including characteristics of the material for construction and installation involved;

(d) description and analysis of the existing or planned safety measures compared to safety standards as well as evaluation of damages to be expected in case of any incident occurring despite safety measures applied;

(e) description of substantial hazard scenarios owing to accidental pollution caused by man-made accidents and natural disasters including their potential impact on transboundary inland waters, giving due consideration to the existing or planned safety measures;

(f) evaluation of accidental pollution hazards resulting from operational errors as well as of breakdown of safety devices, using appropriate analysis techniques, such as "fault-tree" or "event-tree" techniques concentrating on sensitive sectors of hazardous activities;

(g) review of process stability under departures from normal conditions, in order to identify potential hazards and to ensure that operating procedures are inherently safe so that the consequences of possible errors are minimized as far as possible;

(h) qualitative failure studies to identify accidental pollution hazard due to malfunctioning of certain operations during start-up and shut-down phases or during loading or unloading;

(i) inventories and analyses of past incidents of accidental pollution drawn up for specific production sectors and according to causes either internal or external, direct or indirect;

(j) application of safety audits and quality assurance programmes during construction, commissioning, operation and maintenance;

(k) installation layout survey, to examine existence of buffer zones, of safe roads without impediment to freedom of movement of traffic, and adequate spacing of hazardous installations;

(l) evaluation of the remaining risk; conclusions for additional safety measures to be included in relevant contingency plans;

(m) check-lists allowing immediate assessment and warning on serious danger for accidental pollution of transboundary inland waters.

Annex E
Contingency plans

1. On-site contingency plans to be established by operators, should provide appropriate measures to prevent and control accidents, to limit and mitigate impacts on transboundary inland waters, to provide persons working on the site with the necessary information, training and equipment, and, in particular, should include arrangements for:

(a) the immediate raising of an alarm in the area of operations, including rapid warning of the authority or authorities designated for that purpose and for transmitting information related to any significant change in risk of a hazardous activity;

(b) an up-to-date list of persons to be alerted and informed, together with the speediest means and necessary information available for making contact with them;

(c) a continuous flow of full information to the authority or authorities designated for that purpose, relating to particulars of the contingency, measures already taken and further action required;

(d) unimpeded access to the site for the competent authorities and authorized experts;

(e) compatibility and co-ordination with off-site contingency plans drawn up by the competent authorities, and mutual assistance among operators;

(f) identification of the nature and quantity of hazardous substances present on the site, as well as potential ways in which the accidental release of such substances from their normal containment may result in pollution of the transboundary inland waters;

(g) identification of the designated safety officer, and an inventory of means available to him to prevent, control and reduce accidental pollution of transboundary inland waters and of any special safety arrangements aimed at preventing potentially hazardous deviations from normal operations, including an alarm system and measures to limit the consequences of an incident;

(h) primary preventive measures (proper design, construction, operation, maintenance, inspection and periodic exercises of the safety installations);

(i) emergency measures to be taken under the direction of the safety officer, in particular for the protection of human life;

(j) technical measures for containment of the flow of hazardous substances, extinguishing of fires, safe removal and disposal of polluting substances and polluted materials;

(k) identification of the transport of dangerous substances in various media - air, surface water, ground water, soil - as well as in sewage systems, paying due attention to sampling sites, parameters to be measured and analytical methods to be applied, which will serve as bases for deciding on emergency and follow-up measures as well as for assessing damage.

2. Off-site contingency plans to be established by competent authorities should include, in particular:

(a) pre-determined procedures according to the various categories of incidents, aimed at preventing, controlling and including accidental pollution of transboundary inland waters, and designation of the competent authorities;

(b) a description of the material and equipment required for emergency measures;

(c) an indication of the competent authorities and available facilities for physical-chemical treatment, containment, removal, storage and/or disposal of hazardous substances and polluted materials, as well as for rehabilitation measures;

(d) a procedure under which the competent authority may intervene whenever necessary, either by giving directions to the safety officer or by undertaking direct action;

(e) supervision of hazardous activities at all times during emergencies;

(f) ready availability, at strategically placed centres and as required by the location of hazardous activities, of the necessary trained personnel, equipment and materials necessary for prevention, control and reduction of accidental pollution of transboundary inland waters;

(g) procedures and channels of public information on emergencies and emergency measures;

(h) expeditious communication on emergencies with the competent authorities, including the authorities of other countries concerned, and designation of a point of contact responsible for communication with other countries concerned;

(i) arrangements for consultations of the competent authorities of the countries concerned regarding the terms and conditions of authorizations for hazardous activities;

(j) exchange of information between the countries concerned on the on-site contingency plans established by operators;

(k) exchange of information between the countries concerned on the availability of personnel, equipment and materials necessary for the prevention, control and reduction of accidental pollution of inland waters;

(l) a procedure under which the competent authorities of any exposed country other than the authorizing country may have access, with the latter's consent, to the site of the incident;

(m) arrangements for alternative water supply in case of accidental pollution of transboundary inland waters.

3. Off-site contingency plans should take into account, in particular:

(a) the on-site contingency plans established by operators, and their capacity to implement these plans, as well as other relevant legal and administrative requirements;

(b) the ecological vulnerability and the actual use of water resources including transboundary waters in the areas potentially affected by pollution incidents;

(c) the probability, nature and consequences of potential incidents, including the amount of damage, the risk of explosions or of release of hazardous substances into transboundary inland waters, and the influence of pollutants on food chains or transport cycles through the aquatic environment;

(d) the characteristics of hazardous substances involved, in particular their toxic, persistent or bio-accumulative nature;

(e) the expected duration of the emergency situation.

Annex F
Notification and information on incidents

The information to be provided by the country of incidence to the exposed country(ies) in case of an incident or imminent threat of accidental pollution of transboundary inland waters should comprise:

(a) the time, location, nature and quantitative dimensions of the incident;

(b) the event which is most likely to be the origin of accidental pollution as well as the activity or facility involved;

(c) the media polluted, including their location and characteristics;

(d) any hazardous substances released, including their nature, composition (by chemical formulae or other appropriate identification), quantity, effects on human health and on the aquatic environment, the extent of their distribution in transboundary inland waters and adjacent land as a result of the incident, and the results of any monitoring relevant to the release and behaviour of such substances;

(e) the predicted behaviour over time of the pollutants released and the possibilities and mechanisms of attenuation of the pollution;

(f) means of public information as well as forecasting systems;

(g) the on-site and off-site contingency measures taken or planned concerning mitigation, containment and control of accidental pollution, and other emergency measures;

(h) foreseeable transboundary consequences of the incident;

(i) any other information which might be useful for the effective prevention or abatement of accidental pollution of transboundary inland waters, including information on current and forecast meteorological, hydrological and hydrogeological conditions as may be necessary for forecasting potential effects of the pollutants on the aquatic environment in other countries concerned;

(j) continuous follow-up information, as appropriate, regarding the subsequent evolution of the emergency situation.

Annex G
Rehabilitation methods and techniques

Appropriate damage containment and rehabilitation methods and techniques, depending on the media polluted and the type of pollution, should be effectively applied, if appropriate, by means of mobile installation including *inter alia*:

(a) physical detoxification, including techniques of thermal destruction, incineration, filtration;

(b) biological and chemical treatment processes, including aerobic and anaerobic treatment, neutralization, chemical precipitation, reduction/oxidation processes, in-situ enhanced natural biodegradation;

(c) phase-separated techniques, including interceptor trenches and wells;

(d) vapour-phase organic chemical techniques, including positive and negative pressure systems for vapour mitigation, venting to atmosphere, adsorption/removal of organics;

(e) dredging operations and safe treatment and/or disposal of dredged material;

(f) washing out of river beds and flushing of sensitive areas with clean and appropriately drained water and drainage of polluted soil together with appropriate treatment and discharge of the purified wash-water;

(g) removal of sensitive aquatic species and transfer to unpolluted aquatic ecosystems for their reimplementation and restocking;

(h) temporary impounding of the polluted water body;

(i) diversion to preconstructed reservoirs, construction of interceptor trenches, provisional diversion to treatment sites;

(j) pumping operations to remove polluted bottom sediments and/or floating hazardous substances.

Annex H
Damage assessment

The physical and monetary assessment of damage attributed to accidental pollution of transboundary inland waters should contain the following elements:

(a) review of background data on the pollutants released;

(b) analysis of soils, hydrological and environmental conditions that affect the release and spreading of pollution;

(c) evaluation regarding the movement of pollutants in terms of concentration, time, place, environmental media and chemical/biochemical changes in the plume with time;

(d) examination of affected transboundary inland waters and related ecosystems, as well as of adjacent protection zones for drinking-water abstraction, ground-water recharge areas and other sensitive water bodies that could be damaged;

(e) evaluation of impacts on the use of transboundary inland waters particularly for domestic sector, agriculture, industry and recreation;

(f) examination of possible interaction of pollutants;

(g) monitoring and analysis of water quality and of sediments in terms of pollutant concentrations and load;

(h) ecotoxicological surveys including biomonitoring analysis and analysis of microphytes;

(i) evaluation of damage caused by post-accident measures, including containment and rehabilitation measures;

(j) evaluation of expenditures for monitoring and rehabilitation operations as well as for action designed to prevent the spread of accidental pollution of transboundary inland waters, minimize damage and protect people and the environment against deleterious effects.

3.1.2 Proposals of Panel of Experts on the Legal and Institutional Aspects of International Water Resources Development[1]

New York, 9 December 1969

The Panel, at its final plenary session, prepared and approved the following specific proposals:

1. As a preliminary stage to the establishment of institutional arrangements in a river basin and in order to encourage basin States to cooperate, it is important that the States of a basin know the potential benefits to them from co-operative development of water resources. It may be necessary, therefore, that preliminary reconnaissance surveys be made to determine the potential for development. The possibility of obtaining external financing may serve as a catalyst for co-operation. Full advantage should be taken of the opportunities of assistance from United Nations organizations, including the United Nations Development Programme and the specialized agencies, and regional and bilateral financing institutions.

2. A gradual approach to institutionalization should be employed for the early stages of development of river basin resources. The institutions should develop from the co-operation and the facts as they emerge. Elaborate institutional arrangements at the outset may tend to impede rather than encourage co-operation.

3. Basin States should assess their own human and other resources, and the potentially available external assistance and project or programmes financing in order to effect careful selection and timing of international water resources development undertakings, within their overall national or regional priorities and plans for development. Where institutional arrangements do not exist, the developing countries concerned should consider the establishment of an office in the national Government to initiate the development of water resources involving co-operation and collaboration with other States in an international drainage basin. The Panel believes further that direct utilization of regional economic commissions and regional international organizations should be made to enable the member States to identify the most worthwhile water resources undertakings in the total context of economic and social development.

4. Wherever multinational institutions are created for purposes of international water resources development, conservation and use, differences should be accommodated at the technical level. In this connection, consideration should be given to appropriate authority and procedures to prevent disagreements from rising unnecessarily to the level of a formal dispute.

5. All aspects of conservation and the prevention of degradation of the water resources should receive serious attention in planning for the present and future development of international drainage basins.

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[1] Text in: Natural Resources/Water Series No. 1, Management of International Water Resources: Institutional and Legal Aspects, United Nations, 1975, pp. 181-184.

6. In planning integrated international river basin development, due regard should be given to adequate administrative structures and the necessary supervisory controls and monitoring devices in order to accomplish optimal water management.

7. In order to promote the technical capabilities as well as the mutual understanding of co-basin States concerned with development of international water resources, regional training, research and documentation centres could be established for certain regions or river basins which would be able to serve for specific basin-oriented training and research as well as regional data banks.

8. The consideration of legal and institutional implications of international water resources development should be energetically continued. The publication of this report should be followed up by systematic collection and dissemination of all available information on the subject and on additional aspects of international water resources development.

9. Regarding existing multinational water resources agencies or other multinational institutions established for the co-ordinated or joint study, planning, construction or operation of programmes and projects related to international water resources, the United Nations system of organizations should cooperate directly with these multinational water agencies and institutions by:

(a) providing a clearing house for the mutual exchange of information on legal, institutional and managerial experience and problems related to the activities of such agencies and institutions, and publishing the relevant information as appropriate;

(b) organizing at regular intervals meetings and conferences of executive and technical personnel of such agencies and institutions, thus providing a forum for the reciprocal exchange of the actual legal, institutional and managerial experience;

(c) providing advice to and co-operation with such agencies and institutions as and when requested by them or by the constituent co-basin Governments, as appropriate, on subjects that fall within their respective responsibilities;

(d) helping to develop technical assistance especially tailored to the needs of these existing institutions.

10. Regarding international drainage basins for which no multinational institutional arrangements have been established with respect to co-ordinated or joint development and use of their resources, it would appear desirable for the United Nations system of organizations to:

(a) undertake studies, as appropriate, encompassing a preliminary inventory of international drainage basins indicating the co-basin States, prevailing economic and social conditions and patterns of water use as well as multinational arrangements, where they exist;

(b) encourage the Governments of co-basin States which have not yet established multinational institutional arrangements for the development of the joint basins' resources to do so, offering the assistance and machinery of the United Nations system of organizations when these Governments are ready to undertake joint development of the resources of each particular basin if this is considered to be helpful by the States concerned;

(c) stimulate studies of significant international water resources development problems, giving special consideration to related legal and institutional aspects, and encourage the publication of the results; and

(d) organize or support related seminars, training courses and other meetings to be attended by officers concerned with international water resources development.

11. Arrangements should be made and funds provided for adequate training of personnel from developing countries, *inter alia*,

(a) in the form of international interships for junior officers from States that are engaged in, or intend to engage in discussions and planning with one or more co-basin States for the regulation or development of the water resources of an international drainage basin. Such internships should include formally organized study, a period of time with the secretariat of an appropriate international organization and a working period with one or more existing international river commissions;

(b) in the form of support for officers charged with the planning for the legal and institutional framework for an international drainage basin, or basin project, to visit one or more selected existing basin or project commissions or administrations for a period of study and personal discussion with the staff members of those commissions or administrations in order to profit from their experience and, in particular, to learn about the effectiveness and adequacy of their machinery for tasks relevant to the officers' own basin.

12. The United Nations system of organizations should amplify its co-operation with international non-governmental organizations working in the fields related to water resources development and administration, including logistical and consultative support for the meetings of the substantive bodies of such organizations. In particular, the budgetary implications of attending such meetings, the provision of adequate technical services including consultants, and documentation have created difficulties for such organizations.

13. The United Nations system of organizations and the Governments of Member States should promptly review existing arrangements for international co-operation in the development, conservation and management of water resources, and evaluate their adequacy in the light of current trends and long-term requirements.

14. Appropriate international rules pertinent to the utilization and development of international (non-maritime) water resources should be adopted under the auspices of the United Nations, preferably in the form of a general convention. The Panel felt certain that in the preparation of such rules the work already accomplished in this field by other bodies such as the Institute of International Law, the Inter-American Bar Association and the International

Law Association, including the Helsinki Rules on the Uses of the Waters of International Rivers, would prove to be of much relevance and assistance.

15. The Panel expressed the hope that the International Law Commission of the United Nations, when considering its future programme of work, would give some priority to the question of the codification of the law relating to the utilization of international non-maritime water resources.

16. Meanwhile, the Panel considered, it would be useful if additional steps could be taken through the United Nations to suggest to Governments the desirability of their examining the question of the formulation of rules with respect to the utilization and development of international (non-maritime) water resources; and to acquaint Governments with the efforts that have already been made by other bodies towards the formulation of such rules.

3.1.3 Declarations of the United Nations Conference on the Human Environment[1]

Stockholm, 16 June 1972

(Extracts)

. . .

Principle 2

The natural resources of the earth including the air, water, land, flora and fauna and especially representative samples of natural ecosystems must be safeguarded for the benefit of present and future generations through careful planning or management, as appropriate.

. . .

Principle 6

The discharge of toxic substances or of other substances and the release of heat, in such quantities or concentrations as to exceed the capacity of the environment to render them harmless, must be halted in order to ensure that serious or irreversible damage is not inflicted upon ecosystems. The just struggle of the peoples of all countries against pollution should be supported.

Principle 7

States shall take all possible steps to prevent pollution of the seas by substances that are liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea.

. . .

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.

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[1] Text in: Report of the UN Conference on the Human Environment (United Nations publication, Sales No. E.73.II.A.14), pp. 4-7, 17, 20, 22 and 23.

Principle 22

States shall cooperate to develop further the international law regarding liability and compensation for the victims of pollution and other environmental damage caused by activities within the jurisdiction or control of such States to areas beyond their jurisdiction.

. . .

Principle 24

International matters concerning the protection and improvement of the environment should be handled in a co-operative spirit by all countries, big or small, on an equal footing. Co-operation 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.

. . .

(b) Action Plan for the Human Environment

. . .

Recommendations for action at the international level

. . .

Environmental aspects of natural resources management

. . .

Recommendation 51

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

(a) in accordance with the Charter of the United Nations and the principles of international law, full consideration must be given to the right of permanent sovereignty of each country concerned to develop its own resources;

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

    (i) 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;

(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;

(c) such arrangements, when deemed appropriate by the States concerned, will permit undertaking on a regional basis:

(i) collection, analysis, and exchanges of hydrologic data through some international mechanism agreed upon by the States concerned;

(ii) joint data-collection programmes to serve planning needs;

(iii) assessment of environmental effects of existing water uses;

(iv) joint study of the causes and symptoms of problems related to water resources, taking into account the technical, economic, and social considerations of water quality control;

(v) rational use, including a programme of quality control, of the water resource as an environmental asset;

(vi) provision for the judicial and administrative protection of water rights and claims;

(vii) prevention and settlement of disputes with reference to the management and conservation of water resources;

(viii) financial and technical co-operation of a shared resource.

(d) regional conferences should be organized to promote the above considerations.

. . .

Identification and control of pollutants of broad international significance

A. Pollution generally

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Recommendation 71

It is recommended that Governments use the best practicable means available to minimize the release to the environment of toxic or dangerous substances, especially if they are persistent substances such as heavy metals and organochlorine compounds, until it has been demonstrated that their release will not give rise to unacceptable risks or unless their use is essential to human health or food production, in which case appropriate control measures should be applied.

Recommendation 72

It is recommended that in establishing standards for pollutants of international significance, Governments take into account the relevant standards proposed by competent international organizations, and concert with other concerned Governments and the competent international organizations in planning and carrying out control programmes for pollutants distributed beyond the national jurisdiction from which they are released.

. . .

3.1.4 United Nations General Assembly

3.1.4.1 Resolution 3129 (XXVIII) on Co-operation in the field of the Environment concerning Natural Resources Shared by Two or More States[1] - New York, 13 December 1973

The General Assembly,

Reaffirming principles 21, 22 and 24 of the Declaration of the United Nations Conference on the Human Environment[2], held at Stockholm from 5 to 16 June 1972,

Recalling its resolutions 2995 (XXVII), 2996 (XXVII) and 2997 (XXVII) of 15 December 1972 relating to co-operation between States in the field of the environment, to international responsibility of States in regard to the environment and to the establishment of the Governing Council of the United Nations Environment Programme, respectively,

Reaffirming the duty of the international community to adopt measures to protect and improve the environment, and particularly the need for continuous international collaboration to that end,

Convinced of the need to pursue, in the field of the environment, the elaboration of international norms conducive to the achievement of those purposes,

Taking note with satisfaction of the important Economic Declaration adopted by the Fourth Conference of Heads of State or Government of Non-aligned Countries, held at Algiers from 5 to 9 September 1973[3],

Conscious of the importance and urgency of safeguarding the conservation and exploitation of the natural resources shared by two or more States, by means of an effective system of co-operation, as indicated in the above-mentioned Economic Declaration of Algiers,

1. Considers that it is necessary to ensure effective co-operation between countries through the establishment of adequate international standards for the conservation and harmonious exploitation of natural resources common to two or more States in the context of the normal relations existing between them;

2. Considers further that co-operation between countries sharing such natural resources and interested in their exploitation must be developed on the basis of a system of information and prior consultation within the framework of the normal relations existing between them;

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1 Text in: United Nations, Resolutions adopted by the General Assembly during its Twenty-Eighth Session, Vol. I, 18 September - 18 December 1973, p. 48.

2 See Report of the United Nations Conference on the Human Environment (United Nations publication, Sales No. E.73.II.A.14), chap. I.

3 A/9330 and Corr. 1, p. 57.

3. Requests the Governing Council of the United Nations Environment Programme, in keeping with its function of promoting international co-operation according to the mandate conferred upon it by the General Assembly, to take duly into account the preceding paragraphs and to report on measures adopted for their implementation;

4. Urges Member States, within the framework of their mutual relations, to take fully into account the provisions of the present resolution.

3.1.4.2 Resolution 33/87 on Co-operation in the field of the Environment concerning Natural Resources Shared by Two or More States[1] - New York, 15 December 1978

The General Assembly,

Affirming the principles stated in the Declaration of the United Nations Conference on the Human Environment[2],

Recalling its resolution 3129 (XXVIII) of 13 December 1973, entitled "Co-operation in the field of the environment concerning natural resources shared by two or more States",

Recalling further the Charter of Economic Rights and Duties of States, contained in its resolution 3281 (XXIX) of 12 December 1974,

Noting that the Governing Council of the United Nations Environment Programme has, by decision 6/14 of 19 May 1978[3] approved the final report of the Intergovernmental Working Group of Experts on Natural Resources Shared by Two or More States, established under Governing Council decision 44 (III) of 25 April 1975, containing the draft principles of conduct in the field of the environment for the guidance of States in the conservation and harmonious utilization of natural resources shared by two or more States and the declarations and reservations expressed thereon[4],

Recognizing the right of States to provide specific solutions on a bilateral or regional basis,

Desiring to promote effective co-operation among States for the development of international law regarding the conservation and harmonious utilization of natural resources shared by two or more States,

1. Notes the valuable work done by the Intergovernmental Working Group of Experts on Natural Resources Shared by Two or More States in carrying out the tasks entrusted to it in regard to the implementation of General Assembly resolution 3129 (XXVIII);

2. Takes note of the report of the Group of Experts, its approval, as adopted, by the Governing Council of the United Nations Environment Programme and its transmission to the General Assembly with an invitation to adopt the draft principles;

3. Invites the Secretary-General to transmit the report to Governments for their study and comments regarding the principles and to report thereon, taking into account also other significant information, with a view to enabling the General Assembly to take a decision at its thirty-fourth session.

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1 Text in: United Nations, Resolutions and Decisions adopted by the General Assembly during its Thirty-third Session (19 September - 21 December 1978, 15-19 January 1979 and 23-31 May 1979), p. 87

2 Report of the UN Conference on the Human Environment, Stockholm, 5-16 June 1972 (UN publication, Sales No. E.73.II.A.14 and corrigendum), chap. I

3 See Official Records of the General Assembly, Thirty-third Session, Supplement No. 25, (A/33/25), Annex I.

4 UNEP/GC.6/17

3.1.4.3 Resolution 34/186 on Co-operation. the field of the Environment concerning Natural Resources Shared by Two or More States[1] - New York, 18 December 1979

The General Assembly,

Recalling the relevant provisions of its resolutions 3201 (S-VI) and 3202 (S-VI) of 1 May 1974, in which it reaffirmed the principle of full permanent sovereignty of every State over its natural resources and the responsibility of States as set out in the Declaration of the United Nations Conference on the Human Environment[2] to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States and to cooperate in developing the international law regarding liability and compensation for such damages,

Recalling its resolution 3129 (XXVIII) of 13 December 1973, entitled "Co-operation in the field of the environment concerning natural resources shared by two or more States",

Also recalling the Charter of the Economic Rights and Duties of States contained in its resolution 3281 (XXIX) of 12 December 1974,

Noting that the Governing Council of the United Nations Environment Programme, by its decision 6/14 of 19 May 1978[3] invited the General Assembly to adopt the draft principles of conduct in the field of the environment for the guidance of States in the conservation and harmonious utilization of natural resources shared by two or more States, including the exploratory note, contained in the report of the Intergovernmental Working Group of Experts on Natural Resources Shared by Two or More States established under Governing Council decision 44 (III) of 25 April 1975[4],

Noting also the report by the Secretary-General recreated by the General Assembly in resolution 33/87 of 15 December 1978 and containing summaries of the comments made by Governments regarding the draft principles, as well as other significant information, recommendations and suggestions connection therewith[5],

Desiring to promote effective co-operation among States for the development of international law regarding the conservation and harmonious utilization of natural resources shared by two or more States,

Recognizing the right of States to provide specific solutions on a bilateral or regional basis,

Recalling that the principles have been drawn up for the guidance of States in the conservation and harmonious utilization of natural resources shared by two or more States,

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1 Text in: United Nations, Resolutions and Decisions adopted by the General Assembly during its Thirty-fourth Session, 18 September 1979 to 7 January 1980 (Press Release CA/6161), pp. 285-286.

2 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), chap. I.

3 See Official Records of the General Assembly, Thirty-third Session, Supplement No. 25, (A/33/25), Annex I.

4 UNEP/GC.6/17.

5 A/34/557 and Corr. 1

1. Takes note of the report as adopted of the Intergovernmental Group of Experts established under Governing Council decision 44 (III) in conformity with General Assembly resolution 3129 (XXVIII),

2. Takes note of the draft principles an guidelines and recommendations in the conservation and harmonious utilization of natural resources shared by two or more States without prejudice to the binding nature of those rules already recognized as such in international law,

3. Requests all States to use the principles as guidelines and recommendations in the formulation of bilateral or multilateral conventions regarding natural resources shared by two or more States, on the basis of the principle of good faith and in the spirit of good neighbourliness and in such a way as to enhance and not to affect adversely development and the interests of all countries and in Particular of the developing countries,

4. Further requests the Governing Council of the United Nations Environment Programme to submit, through the Economic and Social Council, to the General Assembly at its thirty-sixth session a report on the progress made in the implementation of the present resolution.

3.1.5 United Nations Environment Programme (UNEP)

3.1.5.1 Governing Council Decision 6/14, 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[1] - Nairobi, 19 May 1978

Principle 1

It is necessary for States to co-operate in the field of the environment concerning the conservation and harmonious utilization of natural resources shared by two or more States. Accordingly, it is necessary that consistent with the concept of equitable utilization of shared natural resources, States co-operate with a view to controlling, preventing, reducing or eliminating adverse environmental effects which may result from the utilization of such resources. Such co-operation is to take place on an equal footing and taking into account the sovereignty, rights and interests of the States concerned.

Principle 2

In order to ensure effective international co-operation in the field of the environment concerning the conservation and harmonious utilization of natural resources shared by two or more States, States sharing such natural resources should endeavour to conclude bilateral or multilateral agreements between or among themselves in order to secure specific regulation of their conduct in this respect, applying as necessary the present principles in a legally binding manner, or should endeavour to enter into other arrangements, as appropriate, for this purpose. In entering into such agreements or arrangements, States should consider the establishment of institutional structures, such as joint international commissions, for consultations on environmental problems relating to the protection and use of shared natural resources.

Principle 3

1. 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

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[1] Text in: Official Records of the General Assembly, Thirty-Third Session, Supplement No. 25, (A/33/25), pp. 154-155.
The principles were drafted, in response to United Nations General Assembly Resolution 3129 (XXVIII) of 13 December 1973, by a UNEP working group of legal experts which met between 1976 and 1978. In the light of the Working Group's report (UNEP.IG.12/2) and further Government comments on the draft principles (UN document A/34/557 and Corr. 1), the General Assembly by Resolution 34/186 of 18 December 1979 requested all States "to use the principles as guidelines and recommendations in the formulation of bilateral or multilateral conventions regarding natural resources shared by two or more States, on the basis of the principles of good faith and in the spirit of good neighborliness and in such a way as to enhance and not to affect adversely development and the interests of all countries and in particular of the developing countries" .
Progress reports on implementation of the principles were submitted to the General Assembly through the UNEP Governing Council in 1981 (UNEP/GC.9/5/Add.2) and in 1985 (UNEP/GC.13/9/Add.l).

or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.

2. The principles set forth in paragraph 1, as well as the other principles contained in this document, apply to shared natural resources.

3. Accordingly, it is necessary for each State to avoid to the maximum extent possible and to reduce to the minimum extent possible the adverse environmental effects beyond its jurisdiction of the utilization of a shared natural resource so as to protect the environment, in particular when such utilization might:

(a) cause damage to the environment which could have repercussions on the utilization of the resource by another sharing State;

(b) threaten the conservation of a shared renewable resource;

(c) endanger the health of the population of another State.

Without prejudice to the generality of the above principle, it should be interpreted taking into account, where appropriate, the practical capabilities of states sharing the natural resource.

Principle 4

States should make environmental assessment before engaging in any activity with respect to a shared natural resource which may create a risk of significantly[1] affecting the environment of another State or States sharing that resource.

Principle 5

States sharing a natural resource should, to the extent practicable, exchange information and engage in consultations on a regular basis on its environmental aspects.

Principle 6

1. It is necessary for every State sharing a natural resource with one or more other States:

(a) to notify in advance the other State or States of the pertinent details of plans to initiate, or make a change in, the conservation or utilization of the resource which can reasonably be expected to affect significantly[2] the environment in the territory of the other State or States; and

(b) upon request of the other State or States, to enter into consultations concerning the above mentioned plans; and

(c) to provide, upon request to that effect by the other State or States, specific additional pertinent information concerning such plans; and

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[1] See Definition.
[2] See Definition.

(d) if there has been no advance notification as envisaged in sub-paragraph (a) above, to enter into consultations about such plans upon request of the other State or States.

2. In cases where the transmission of certain information is prevented by national legislation or international conventions, the State or States withholding such information shall nevertheless, on the basis, in particular, of the principle of good faith and in the spirit of good neighbourliness, co-operate with the other interested State or States with the aim of finding a satisfactory solution.

Principle 7

Exchange of information, notification, consultations and other forms of co-operation regarding shared natural resources are carried out on the basis of the principle of good faith and in the spirit of good neighbourliness and in such a way as to avoid any unreasonable delays either in the forms of co-operation or in carrying out development or conservation projects.

Principle 8

When it would be useful to clarity environmental problems relating to a shared natural resource, States should engage in joint scientific studies and assessments, with a view to facilitating the finding of appropriate and satisfactory solutions such problems on the basis of agreed data.

Principle 9

1. States have a duty urgently to inform other States which may be affected:

(a) of any emergency situation arising from the utilization of a shared natural resource which might cause sudden harmful effects on their environment;

(b) of any sudden grave natural events related to a shared natural resource which may affect the environment of such States.

2. States should also, when appropriate, inform the competent international organizations of any such situation or event.

3. States concerned should co-operate, in particular by means of agreed contingency plans, when appropriate, and mutual assistance, in order to avert grave situations, and to eliminate, reduce or correct, as far as possible, the effects of such situations or events.

Principle 10

States sharing a natural resource should, when appropriate, consider the possibilities of jointly seeking the services of any competent international organization in clarifying the environmental problems relating to the conservation or utilization of such natural resource.

Principle 11

1. The relevant provisions of the Charter of the United Nations and of the Declaration of Principles of International Law concerning Friendly Relations and Co-operation among States in accordance with the Charter of the United Nations apply to the settlement of environmental disputes arising out of the conservation or utilization of shared natural resources.

2. In case negotiations or other non-binding means have failed to settle a dispute within a reasonable time, it is necessary for States to submit the dispute to an appropriate settlement procedure which is mutually agreed by them, preferably in advance. The procedure should be speedy, effective and binding.

3. It is necessary for the States parties to such a dispute to refrain from any action which may aggravate the situation with respect to the environment to the extent of creating an obstacle to the amicable settlement of the dispute.

Principle 12

1. States are responsible for the fulfilment of their international obligations in the field of the environment concerning the conservation and utilization of shared natural resources. They are subject to liability in accordance with applicable international law for environmental damage resulting from violations of these obligations caused to areas beyond their jurisdiction.

2. States should co-operate to develop further international law regarding liability and compensation for the victims of environmental damage arising out of the utilization of a shared natural resource and caused to areas beyond their jurisdiction.

Principle 13

It is necessary for States, when considering, under their domestic environmental policy, the permissibility of domestic activities, to take into account the potential adverse environmental effects arising out of the utilization of shared natural resources, without discrimination as to whether the effects would occur within their jurisdiction or outside it.

Principle 14

States should endeavour, in accordance with their legal systems and, where appropriate, on a basis agreed by them, to provide persons in other States who have been or may be adversely affected by environmental damage resulting from the utilization of shared natural resources with equivalent access to and treatment in the same administrative and judicial proceedings, and make available to them the same remedies as are available to persons within their own jurisdictions who have been or may be similarly affected.

Principle 15

The present principles should be interpreted and applied in such a way as to enhance and not to affect adversely development and the interests of all countries, and in particular of the developing countries.

Definition

In the present text, the expression "significantly affect" refers to any appreciable effects on a shared natural resource and excludes *de minimis* effects.

3.1.6 Declarations and Resolutions of the United Nations Water Conference[1]

Mar del Plata, March 1977

Regional co-operation
Development of shared water resources[2]

In the case of shared water resources, co-operative action should be taken to generate appropriate data on which future management can be based and to devise appropriate institutions and understandings for co-ordinated development.

Countries sharing water resources, with appropriate assistance from international agencies and other supporting bodies, on the request of the countries concerned, should review existing and available techniques for managing shared water resources and co-operate in the establishment of programmes, machinery and institutions necessary for the co-ordinated development of such resources. Areas of co-operation may with agreement of the parties concerned include planning, development, regulation, management, environmental protection, use and conservation, forecasting, etc. Such co-operation should be a basic element in an effort to overcome major constraints such as the lack of capital and trained manpower as well as the exigencies of natural resources development.

To this end it is recommended that countries sharing a water resource should:

(a) sponsor studies, if necessary with the help of international agencies and other bodies as appropriate, to compare and analyse existing institutions for managing shared water resources and to report on their results;

(b) establish joint committees, as appropriate with agreement of the parties concerned, so as to provide for co-operation in areas such as the collection, standardization and exchange of data, the management of shared water resources, the prevention and control of water pollution, the prevention of water-associated diseases, mitigation of drought, flood control, river improvement activities and flood warning systems;

(c) encourage joint education and training schemes that provide economies of scale in the training of professional and subprofessional officers to be employed in the basin;

(d) encourage exchanges between interested countries and meetings between representatives of existing international or interstate river commissions to share experiences. Representatives from countries which share resources but yet have no developed institutions to manage them could be included in such meetings;

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1 Text in: E/CONF.70/29, English, p. 51.

2 This term has been used only for the uniformity of the text and its use does not prejudice the position of the countries supporting the terms "transboundary waters" or "international waters" in any of the problems involved.

(e) strengthen if necessary existing governmental and intergovernmental institutions, in consultation with interested Governments, through the provisions of equipment, funds and personnel;

(f) institute action for undertaking surveys of shared water resources and monitoring their quality;

(g) in the absence of an agreement on the manner in which shared water resources should be utilized, countries which share these resources should exchange relevant information on which their future management can be based in order to avoid foreseeable damages.

(h) assist in the active co-operation of interested countries in controlling water pollution in shared water resources. This co-operation could be established through bilateral, sub-regional or regional conventions or by other means agreed upon by the interested countries sharing the resources.

The regional water organizations, taking into account existing and proposed studies as well as the hydrological, political, economic and geographical distinctiveness of shared water resources of various drainage basins, should seek ways of increasing their capabilities of promoting co-operation in the field of shared water resources and, for this purpose, draw upon the experience of other regional water organizations.

International co-operation
Development of shared water resources[1]

It is necessary or States to co-operate in the case of shared water resources in recognition of the growing economic, environmental and physical interdependencies across international frontiers. Such co-operation, 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[2].

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 co-operation.

A concerted and sustained effort is required to strength international water law as a means of placing co-operation among states on a firmer basis. The need for progressive development and codification of the rules of international law regulating the development and use of shared water resources has been the growing concern of many governments.

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1 This term has been used only for the uniformity of the text and its use does not prejudice the position of the countries supporting the terms "transboundary waters" or "international waters" in any of the problems involved.

2 Report of the United Nations Conference on the Human Environment (United Nations publication, Sales No. E.73.II.A.14), chap. I, sect. II.

To this end it is recommended that:

(a) the work of the International Law Commission in its contribution to the progressive development of international law and its codification in respect of the law of the non-navigational uses of international watercourses, should be given a higher priority in the working programme of the Commission and be co-ordinated with activities of other international bodies dealing With the development of international law of waters with a view to the early conclusion of an international convention;

(b) in the absence of bilateral or multilateral agreements, Member States continue to apply generally accepted principles of international law in the use, development and management of shared water resources;

(c) the Intergovernmental Working Group of Experts on Natural Resources Shared by Two or More States of the United Nations Environment Programme be urged to expedite its work on draft principles of conduct in the field of the environment for the guidance of States in the conservation and harmonious exploitation of natural resources shared by two or more States;

(d) Member States take note of the recommendations of the Panel of Experts on Legal and Institutional Aspects of International Water Resources Development set up under Economic and Social Council resolution 1033 (XXXVII) of 14 August 1964 as well as the recommendations of the United Nations Inter-regional Seminar on River Basin and Inter-basin Development (Budapest, 1975).

(e) Member States also take note of the useful work of non-governmental and other expert bodies on international water law;

(f) representatives of existing international commissions on shared water resources be urged to meet as soon as possible with a view to sharing and disseminating the results of their experience and to encourage institutional and legal approaches to this question;

(g) the United Nations system should be fully utilized in reviewing, collecting, disseminating and facilitating exchange of information and experiences on this question. The system should accordingly be organized to provide concerted and meaningful assistance to States and basin commissions requesting such assistance.

. . .

Technical co-operation among developing countries

The promotion of technical co-operation among developing countries will supplement, upgrade and give a new dimension to the traditional forms of bilateral and multilateral development co-operation to help the developing countries achieve greater intrinsic self-reliance. The development of water resources in developing countries provides a promising area where technical co-operation among developing countries can be achieved. Many developing countries have expertise and capacity which they can share with other developing countries. Alternate appropriate technologies nave been developed and many developing countries have reached the stage of self-reliance in water resources development to enable

them to apply the more appropriate techniques using the latest know-how and promote better understanding among the countries concerned. This can be adapted to the needs of other developing countries by means of technical co-operation among developing countries.

Governments of developing countries should pursue, explore and build mechanisms in order to promote to the fullest extent, technical co-operation among themselves with a view to achieving collective self-reliance in the development of their water resources.

Technical co-operation among developing countries will also facilitate the selection of appropriate technologies for each country and region according to local socio-economic and physical conditions.

In the light of these considerations it is recommended that where appropriate countries should at the national, regional and sub-regional level:

. . .

(e) identify programmes for water resources development that can be achieved through technical co-operation among developing countries in specific sectors such as community water supply, irrigation, drainage, hydroelectric generation, the development and management of transboundary water resources, groundwater development, and means for prevention and reduction of losses due to floods and droughts and pollution control, water legislation and training, transfer of technology suited to the requirements of the developing countries and the general development of such technology;

. . .

3.1.7 United Nations Conference on Environment and Development - Agenda 21[1]

Rio de Janeiro, 14 June 1992

(Extract)

. . .

Chapter 18
Protection of quality and supply of freshwater resources: application of integrated approaches to the development, management and use of water resources

. . .

Programme areas
A. Integrated water resources development and management

. . .

Objectives

. . .

18.10 In the case of transboundary water resources, there is a need for riparian States to formulate water resources strategies, prepare water resources action programmes and consider, where appropriate, the harmonization of those strategies and action programmes.

. . .

[1] Text in: Report of the United Nations Conference on Environment and Development, A/CONF.151/26 (Vol. II), p. 169 and 176.

B. Water resources assessment

. . .

Activities

. . .

18.27 All States, according to their capacity and available resources, and through bilateral or multilateral co-operation, including the United Nations and other relevant international organizations as appropriate, could undertake the following activities:

(a) institutional framework:

. . .

(iv) cooperate in the assessment of transboundary water resources, subject to the prior agreement of each riparian State concerned;

. . .

3.2 OTHER INTERNATIONAL ORGANIZATIONS AND CONFERENCES

3.2.1 Organization for Economic Co-operation and Development (OECD)

3.2.1.1 Recommendation of the Council on Principles concerning Transfrontier Pollution[1] - Paris, 14 November 1974

The Council,

Having regard to Article 5 b) of the Convention on the Organisation for Economic Co-operation and Development of 14th December 1960;

Considering that the protection and improvement of the environment are common objectives of Member Countries;

Considering that the common interests of countries concerned by transfrontier pollution should include them to cooperate more closely in a spirit of international solidarity and to initiate concerted action fro preventing and controlling transfrontier pollution;

Having regard to the Recommendations of the United Nations Conference on the Human Environment held in Stockholm in June 1972 and in particular those Principles of the Declaration on the Human Environment which are relevant to transfrontier pollution;

On the proposal of the Environment Committee:

I. Recommends that, without prejudice to future developments in international law and international co-operation in relation to transfrontier pollution, Member Countries should be guided in their environmental policy by the principles concerning transfrontier pollution contained in this Recommendation and its Annex, which is an integral part of this Recommendation.

II. Instructs the Environment Committee to prepare without delay, taking into account of the work undertaken by other international organizations, a programme of work designated to elaborate further these principles and to facilitate their practicable implementation.

III. Recommends Member Countries to cooperate in developing international law applicable to transfrontier pollution.

IV. Instructs the Environment Committee, within the framework of its mandate, to examine or investigate further, as the case may be, the issues related to the Principles of the Stockholm Declaration regarding responsibility and liability, taking into account the work undertaken by other international organizations, to submit a first report to the Council on its work by 1st March 1976 and to seek to formulate as soon as possible Draft Recommendations.

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[1] Text in: Organization for Economic Cooperation and Development, doc. C(74)224.

V. Instructs the Environment Committee to investigate further the issues concerning equal right to hearing, to formulate as soon as possible Draft Recommendations and to report to the Council on its work by 1st of July 1975.

Annex
Some principles concerning transfrontier pollution

Title A
Introduction

This Annex sets forth some principles designed to facilitate the development of harmonized environmental policies with a view to solving transfrontier pollution problems. Their implementation should be based on a fair balance of rights and obligations among countries concerned by transfrontier pollution.

These principles should subsequently be supplemented and developed in the light of work undertaken by the OECD or other appropriate international organizations.

For the purpose of these principles, pollution means the introduction by man, directly or indirectly, of substances or energy into the environment resulting in deleterious effects of such a nature as to endanger human health, harm living resources and ecosystems, and impair or interfere with amenities and other legitimate uses of the environment.

Unless otherwise specified, these principles deal with pollution originating in one country and having effects within other countries.

Title B
International solidarity[1]

1. Countries should define a concerted long-term policy for the protection and improvement of the environment in zones liable to be affected by transfrontier pollution.

Without prejudice to their rights and obligations under international law and in accordance with their responsibility under Principle 21 of the Stockholm Declaration, countries should seek, as far as possible, an equitable balance of their rights and obligations as regards the zones concerned by transfrontier pollution.

In implementing this concerted policy, countries should among other things:

(a) take account of:

- levels of existing pollution and the present quality of the environment concerned;
- the nature and quantities of pollutants;

[1] The Delegate for Spain reserved his position on Title B.

- the assimilative capacity of the environment, as established by mutual agreement by the countries concerned, taking into account the particular characteristics and use of the affected zone;

- activities at the source of pollution and activities and uses sensitive to such pollution;

- the situation, prospective use and development of the zones concerned from a socio-economic standpoint;

(b) define:

- environmental quality objectives and corresponding protective measures;

(c) promote:

- guidelines for a land-use planning policy consistent with the requirements both of environmental protection and socio-economic development;

(d) draw up and maintain up to date:

(i) list of particularly dangerous substances regarding which efforts should be made to eliminate polluting discharges, if necessary by stages, and

(ii) lists of substances regarding which polluting discharges should be subject to very strict control.

2. Pending the definition of such concerted long-term policies countries should, individually and jointly, take all appropriate measures to prevent and control transfrontier pollution, and harmonize as far as possible their relevant policies.

3. Countries should endeavour to prevent any increase in transfrontier pollution, including that stemming from new or additional substances and activities, and to reduce, and as far as possible eliminate any transfrontier pollution existing between them within time limits to be specified.

Title C
Principle of Non-Discrimination

4. Countries should initially base their action on the principle of non-discrimination, whereby:

(a) polluters causing transfrontier pollution should be subject to legal or statutory provisions no less severe than those which would apply for any equivalent pollution occurring within their country, under comparable conditions and in comparable zones, taking into account, when appropriate, the special nature and environmental needs of the zone affected;

(b) in particular, without prejudice to quality objectives or standards applying to transfrontier pollution mutually agreed upon by the countries concerned, the levels of transfrontier pollution entering into the zones liable to be affected by such pollution should not exceed those considered acceptable under comparable conditions and in comparable zones inside the country in which it originates, taking into account when appropriate, the special state of the environment in the affected country;

(c) any country whenever it applies the Polluter-Pays Principle should apply it to all polluters within this country without making any difference according to whether pollution affects this country or another country;

(d) persons affected by transfrontier pollution should be granted no less favourable treatment than persons affected by a similar pollution in the country from which such transfrontier pollution originates.

Title D
Principle of equal right of hearing[1]

5. Countries should make every effort to introduce, whore not already in existence, a system affording equal right of hearing, according to which:

(a) whenever a project, a new activity or a course of conduct may create a significant risk of transfrontier pollution and is investigated by public authorities, those who may be affected by such pollution should have the same rights of standing on judicial or administrative proceedings in the country where it originates as those of that country;

(b) whenever transfrontier pollution gives rise to damage in a country, those who are affected by such pollution should have the same rights of standing in judicial or administrative proceedings in the country where such pollution originates as those of that country, and they should be extended procedural rights equivalent to the rights extended to those of that country.

Title E
Principle of information and consultation[2]

6. Prior to the initiation in a country of works or undertakings which might create a significant risk of transfrontier pollution, this country should provide early information to other countries which are or may be affected. It should provide these countries with relevant information and data, the transmission of which is not prohibited by legislative provisions or prescriptions or applicable international conventions, and should invite their comments.

7. Countries should enter into consultation on an existing or foreseeable transfrontier pollution problem at the request of a country which is or may be directly affected and should diligently pursue such consultations on this particular problem over a reasonable period of time.

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[1] The Delegate for Spain reserved his position on Title D.

[2] The Delegate for Spain reserved his position on Title E.

8. Countries should refrain from carrying out projects or activities which might create a significant risk of transfrontier pollution without first informing the countries which are or may be affected and, except in cases of extreme urgency, providing a reasonable amount of time in the light of circumstances for diligent consultation. Such consultations held in the best spirit of co-operation and good neighbourliness should not enable a country to unreasonably delay or to impede the activities or projects on which consultations are taking place.

Title F
Warning systems and incidents

9. Countries should promptly warn other potentially affected countries of any situation which may cause any sudden increase in the level of pollution in areas outside the country of origin of pollution, and take all appropriate steps to reduce the effects of any such sudden increase.

10. Countries should assist each other, wherever necessary, in order to prevent incidents which may result in transfrontier pollution, and to minimise, and if possible eliminate, the effects of such incidents, and should develop contingency plans to this end.

Title G
Exchange of scientific information, monitoring measures and research

11. Countries concerned should exchange all relevant scientific information and data on transfrontier pollution, when not prohibited by legislative provisions or prescriptions or by applicable international conventions. They should develop and adopt pollution measurement methods providing results which are compatible.

12. They should when appropriate, cooperate in scientific and technical research programmes *inter alia* for identifying the origin and pathways of transfrontier pollution, any damage caused and the best methods of pollution prevention and control, and should share all information and data thus obtained.

They should, where necessary, consider setting up jointly, in zones affected by transfrontier pollution, a permanent monitoring system or network for assessing the levels of pollution and the effectiveness of measures taken by them to reduce pollution.

Title H
Institutions

13. Countries concerned by a particular problem of transfrontier pollution should consider the advantages of co-operation, by setting up international commissions or other bodies, or by strengthening existing institutions, in order to deal more effectively with particular aspects of such problems.

Such institutions could be authorised collect any data needed for a proper evaluation of the problem and its causes, and make to the countries concerned practical proposals for concerted efforts to combat transfrontier pollution. With the consent of the States concerned, they could also carry out any necessary additional investigations into the origin and degree of pollution, review the effectiveness of any pollution prevention and control measures which have been taken, and publish reports of their findings.

Title I
Disputes

14. Should negotiations and other means of diplomatically settling disputes concerning transfrontier pollution fail, countries should have the opportunity to submit such a dispute to a procedure of legal settlement which is prompt, effective and binding.

Title J
International Agreements

15. Countries should endeavour to conclude, where necessary, bilateral or multilateral agreements for the abatement of transfrontier pollution in accordance with the above principles, to bring promptly into force any agreements which may already have been signed.

16. When negotiating new bilateral or multilateral agreements countries should, while taking into account the principles set out above, strive for the application of efficient pollution prevention and control measures in accordance with the Polluter-Pays Principle.

Such agreements could, *inter alia*, include provisions for practical procedures promoting the prompt and equitable compensation of persons affected by transfrontier pollution, and could also contain procedures facilitating the provision of information and consultation.

3.2.1.2 Recommendation of the Council on the Control of Eutrophication of Waters[1] - Paris, 14 November 1974

The Council,

Having regard to Article 5 b) of the Convention on the Organisation for Economic Co-operation and Development of 14th December 1960;

Having regard to Recommendation 51 of the United Nations Conference on the Human Environment in relation to the protection of the quality of water resources, which are a primary need for social and economic development;

Having regard to the Recommendation of the Council of 26th May 1972 on Guiding Principles concerning International Economic Aspects of Environmental Policies [C(72)128];

Considering the importance of the accelerated degradation of the water environment due to the phenomenon of eutrophication resulting from man's activity;

Considering that the principal causes and mechanisms of eutrophication resulting from man's activity are now better understood and known to follow from the excessive input to surface waters of nutrient substances, such as phosphorous and nitrogen compounds;

Considering that States have a responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States;

Considering the need for continued co-operation on the monitoring of eutrophication and on exchange of experience in respect of control techniques;

Considering that the OECD Reports on Eutrophication Control:

- represent a valuable record of the acquired experience in Member countries in regard to technical possibilities for control of eutrophication, and a consensus on alternative strategies for control;

- show that, although there is no unique policy for eutrophication control, a number of steps can be taken. These steps directed at the control of nutrient substances include: treatment of municipal sewage and industrial effluents including nutrient removal; decreasing the contribution from various agricultural activities; and, where appropriate, control at source by product modification, as in the case of the replacement of phosphates in detergents;

Further noting the desirability, in certain circumstances, of harmonizing policies;

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[1] Text in: Organization for Economic Cooperation and Development, doc. C(74)220.

On the proposal of the Environment Committee:

I. Recommends that Governments of Member countries take measures to reduce to the extent required the pollution of surface waters resulting in eutrophication, with particular reference to the problem arising from the transfer of nutrient loaded waters across frontiers, taking into account the OECD conclusions on Eutrophication Control.

II. Invites the Governments of Member countries to inform the Organisation, within a year, on the measures taken pursuant to this Recommendation.

III. Instructs the Environment Committee to follow the implementation of this Recommendation and to report thereon to the Council.

3.2.1.3 Recommendation of the Council on Equal Right of Access in relation to Transfrontier Pollution[1] - Paris, 11 May 1976

The Council,

Having regard to Article 5 (b) of the Convention on the Organisation for Economic Co-operation and Development of 14 December 1960;

Having regard to the Recommendation of the Council of 14 November 1974 on Principles concerning Transfrontier Pollution and, in particular, the principles of non-discrimination and equal right of hearing appearing in its Annex[2];

Having regard to the Declaration on environmental policy according to which the Governments of Member Countries "will cooperate towards solving transfrontier pollution problems in a spirit of solidarity and with the intention of further developing international law in this field"[3];

Considering the desire of Member Countries to strengthen their environmental policies relating to transfrontier pollution;

Having regard to the Report by the Environment Committee of 22 April 1976 on Equal Right of Access in Relation to Transfrontier Pollution[4];

Considering that equal right of access should facilitate the prevention and the solution of many transfrontier pollution problems, without prejudice to other means available, and that it constitutes one of the suitable channels for giving effect to the principle of non-discrimination;

On the proposal of the Environment Committee:

I. Recommends that Member Countries should endeavour to remove, possibly under conditions of reciprocity, the obstacles which may exist in their legal systems to the implementation of a system of equal right of access, the constituent elements of which are set out in the attached Annex which constitutes an integral part of this Recommendation.

II. Recommends that Member Countries, even when their legislation already implicitly provides for equal right of access, should introduce into their legislation and regulations relating to the environment any explicit provisions that may appear to them to be necessary to ensure a system of equal right of access.

III. Recommends that Member Countries should consider in relation to discussions carried out further to paragraph IV of this Recommendation, the advisability of concluding, within suitable geographical areas and on the basis of the particular characteristics of their legal

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1 Text in: Organization for Economic Cooperation and Development, doc. C(76)55 Final.
2 C (74)224.
3 C/M (74)26 (Final), Annex.
4 C(76)55.

systems, agreements on environmental protection designed to ensure the application of the principle of equal right of access and as far as it is conducive to the implementation of this principle, of the principle of non-discrimination.

IV. Instructs the Environment Committee to go deeper in its work on equal right of access, through a study of the principle of non-discrimination, as far as it is necessary for the implementation of the principle of equal right of access with a view to preparing common guidelines designed to assist the practical implementation of these principles, to report to the Council on its work by 31 December 1976 and to draw up as soon ma possible draft Recommendations or Decisions.

Annex
Constituent elements of a system of equal right of access

1. A system of equal right of access is made up of a act of rights recognised by a country in favour of persons who are affected or likely to be affected in their personal and/or proprietary interests by transfrontier pollution originating in such country and whose personal and/or proprietary interests are situated outside such Country (hereafter referred to as "persons affected by transfrontier pollution").

2. Without prejudice to corresponding interstate procedures, the rights accorded to "persons affected by transfrontier pollution" should be equivalent to these accorded to persons whose personal and/or proprietary interests within the territory of the country where the transfrontier pollution originates are or may be affected under similar conditions by a same pollution, as regards:

(a) information concerning projects, new activities and courses of conduct which may give rise to a significant risk of pollution;

(b) access to information which the competent authorities make available to persons concerned;

(c) the participation in hearings and preliminary enquiries and the making of objections in respect of proposed decisions by the public authorities which could directly or indirectly lead to pollution;

(d) recourse to and standing in administrative and judicial procedures (including emergency procedures);

in order to prevent pollution, or to have it abated and/or obtain compensation for the damage caused.

3. Concomitantly with the rights of "persons affected by transfrontier pollution", the countries concerned by such pollution should take certain measures to make possible the exercise of the rights so recognised, in particular as regards the information and participation of "persons affected by transfrontier pollution" in hearings and enquiries prior to the taking of decisions. Such measures, which might be taken by countries where the pollution originate, would however gain in effectiveness if they were put into effect in co-operation with countries which are or may be affected by transfrontier pollution.

3.2.1.4 Recommendation of the Council for the Implementation of a Regime of Equal Right of Access and Non-Discrimination in relation to Transfrontier Pollution[1] - Paris, 17 May 1977

The Council,

Having regard to Article 5(b) of the Convention on the Organisation for Economic Co-operation and Development of 14 December 1960;

Having regard to the Declaration on the Human Environment adopted in Stockholm in June 1972 and in particular Principles 21, 22, 23 and 24 of that Declaration;

Having regard to the Recommendations of the Council of 14 November 1974 on Principles concerning Transfrontier Pollution and of 11 May 1976 on Equal Right of Access in relation to Transfrontier Pollution[2] and without prejudice to such Recommendations;

Having regard to the Report by the Secretary-General of 18 March 1977 on the Implementation of a Regime of Equal Right of Access and Non-Discrimination in relation to Transfrontier Pollution[3];

Considering that the protection and improvement of the environment are common objectives of Member Countries;

Conscious that pollution originating in the area within the national jurisdiction of a State may have effects on the environment outside this jurisdiction;

Considering that the implementation of a regime of equal right of access and non-discrimination among Member Countries should lead to improved protection of the environment without prejudice to other channels available for the solution of transfrontier pollution problems;

On the proposal of the Environment Committee:

Recommends that Member Countries in regard to each other, take into account the principles concerning transfrontier pollution set forth in the Annex to this Recommendation, which is an integral part of it, in their domestic legislation possibly on the basis of reciprocity, notably regarding individual rights, and in bilateral or multilateral international agreements.

Annex

Introduction

This Annex sets out a number of principles intended to promote the implementation between Member Countries of a regime of equal right of access and non-discrimination in matters of

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1 Text in: Organization for Economic Cooperation and Development doc. C(77)28 (Final).
2 C(74)224 and C(76)55 (Final).
3 Appendix I to C(77)28.

transfrontier pollution, while containing a fair balance of rights and obligations between Countries concerned by such pollution.

These principles do not prejudice any more favourable measures for the protection of the environment and of persons whose property, rights or interests are or could be affected by pollution the origin of which is situated within the area under the jurisdiction of a Member Country.

For the purposes of this Recommendation:

(a) "pollution" means any introduction by man, directly or indirectly, of substance or energy into the environment resulting in deleterious effects of such a nature as to endanger human health, harm living resources and ecosystems, impair, amenities or interfere with other legitimate uses of the environment;

(b) "domestic pollution" means any intentional or unintentional pollution, the physical origin of which is situated wholly within the area under the national jurisdiction of one Country and which has effects within that area only;

(c) "transfrontier pollution" means any intentional or unintentional pollution whose physical origin is subject to, and situated wholly or in part within the area under, the national jurisdiction of one Country and which has effects in the area under the national jurisdiction of another Country;

(d) "Country" means any Member Country which participates in this Recommendation;

(e) "Country of origin" means any Country within which, and subject to the jurisdiction of which, transfrontier pollution originates or could originate in connection with activities carried on or contemplated in that Country;

(f) "exposed Country" means any Country affected by transfrontier pollution or exposed to a significant risk of transfrontier pollution;

(g) "Countries concerned" means any Country of origin of transfrontier pollution and any Country exposed to such pollution;

(h) "Regions concerned by transfrontier pollution" means any region of origin of transfrontier pollution in the Country of origin and any regions of the Country of origin and of any exposed Country where such pollution produces or might produce its effects;

(i) "persons" means any natural or legal person, either private or public;

(j) "regime of environmental protection" means any set of statutory and administrative measures related to the protection of the environment, including those concerning the property, rights or interests of persons.

Title A
Principles to facilitate the solution at inter-state level of transfrontier pollution problems

1. When preparing and giving effect to their policies affecting the environment, Countries should, consistent with their obligations and rights as regards the protection of the environment, take fully into consideration the effects of such policies on the environment of exposed Countries so as to protect such environment against transfrontier pollution.

2. With a view to improved protection of the environment, Countries should attempt by common agreement to:

(a) make their environmental policies mutually compatible, particularly those bearing on regions concerned by transfrontier pollution;

(b) bring closer together quality objectives and environmental standards adopted by Countries, apply them systematically to cases of transfrontier pollution and, where necessary, improve those already in force;

(c) work out additional rules of conduct of States to be applied in matters of transfrontier pollution.

3. (a) pending the implementation of the objectives laid down in paragraph 2, and without prejudice to more favourable measures taken in accordance with paragraphs 1 and 2 above, each Country should ensure that its regime of environmental protection does not discriminate between pollution originating from it which affects or is likely to affect the area under its national jurisdiction and pollution originating from it which affects or is likely to affect an exposed Country;

(b) thus, transfrontier pollution problems should be treated by the Country of origin in an equivalent way to similar domestic pollution problems occurring under comparable conditions in the Country of origin.

(c) in the event of difficulties arising between Countries concerned because the situations resulting from transfrontier pollution and domestic pollution are manifestly not comparable, for example as a result of uncoordinated land use policies in regions concerned by transfrontier pollution, those Countries should strive to arrive at a mutually agreed arrangement which ensures to the largest extent possible the application of the principle referred to in subparagraph (a) of this paragraph.

Title B
Legal protection of persons

4. (a) countries of origin should ensure that any person who has suffered transfrontier pollution damage or is exposed to a significant risk of tranfrontier pollution, shall at least receive equivalent treatment that afforded in the Country of origin in cases of domestic pollution and in comparable circumstances, to persons of equivalent condition or status.

(b) from a procedural standpoint, this treatment includes the right to take part in, or have resort to, all administrative and judicial procedures existing within the Country of origin, in order to prevent domestic pollution, to have it abated and/or to obtain compensation for the damage caused.

5. Where in spite of the existence of a liability ceiling instituted by an international agreement, there exists in a Country a system of additional compensation financed or administered by the public authorities, then such Country should not be required in the absence of reciprocal arrangements to grant entitlement to such additional compensation to victims of transfrontier pollution, but it should in advance inform the exposed Countries of the particular situation.

6. (a) where the domestic law of Countries permits private non-profit legal persons that are resident within their own territories, such as environmental defence associations, to commence proceedings to safeguard environmental interests which it is their aim to protect, those Countries should grant the same right for comparable matters to similar legal persons resident in exposed Countries, provided that the latter satisfy the conditions laid down for the former in the Country of origin.

(b) when some of the conditions concerning matters of form laid down in the County of origin cannot reasonably be imposed on legal persons resident in an exposed Country, these latter should be entitled to commence proceedings in the Country of origin if they satisfy comparable conditions.

7. When the law of a Country of origin permits a public authority to participate in administrative or judicial proceedings in order to safeguard general environmental interests, the Country of origin should consider, if its legal system allows it, providing, by means of international agreement if it deems it necessary, competent public authorities of exposed Countries with access to such proceedings.

Title C
Exchange of information and consultation

8. (a) the Country of origin, on its own initiative or at the request of an exposed Country, should communicate to the latter appropriate information concerning it in matters of transfrontier pollution or significant risk of such pollution and enter into consultations with it[1].

(b) in order to enable a Country of origin to implement adequately that principles set out in Title A of this Recommendation, each exposed Country should, on its own initiative or at the request of the Country of origin, supply appropriate information of mutual concern.

(c) each Country should designate one or more authorities entitled to receive directly information communicated under subparagraphs (a) and (b) of this paragraph.

[1] The Delegate for Spain reserved his position on the last six words of paragraph 8 (a).

9. (a) countries of origin should take any appropriate measures to provide persons exposed to a significant risk of transfrontier pollution with sufficient information to enable them to exercise in a timely manner the rights referred to in this Recommendation. As far as possible, such information should be equivalent to that provided in the Country of origin in cases of comparable domestic pollution.

(b) exposed Countries should designate one or more authorities which will have the duty to receive and the responsibility to disseminate such information within limits of time compatible with the exercise of existing procedures in the Country of origin.

10. Countries should encourage and facilitate regular contacts between representatives designated by them at regional and/or local levels in order to examine such transfrontier pollution matters as may arise.

3.2.1.5 Recommendation of the Council on Water Management Policies and Instruments[1] - Paris, 5 April 1978

The Council,

Having regard to Article 5 b) of the Convention on the Organisation for Economic Co-operation and Development of 14th December 1960;

Having regard to the Recommendations of the Council of 14th November 1974 on Strategies for Specific Water Pollutants Control [C(74)221] and on Principles concerning Transfrontier Pollution [C(74)224];

Having regard to the Recommendation of the Council of 26th May 1972 on Guiding Principles concerning International Economic Aspects of Environmental Policies [C(72)128];

Having regard to the principles of the Stockholm Declaration on Human Environment, and notably principles 21 and 22;

Considering that:

- in Member Countries, the total expenditure allocated for water management is considerable in absolute terms and can be of the order of 1 per cent of GNP;

- regional and national development schemes are often limited by water resources availability;

- planning is an essential tool of water management and must be harmonized with plans and developments in other sectors;

- in Member Countries, waste water treatment facilities are a major step in water pollution control, requiring a high capital investment and significant operating cost, and yet many of these facilities frequently operate much below design efficiency;

- the main objectives of water management are: to protect water resources against pollution and excessive use; to preserve the water environment and ecology; to safeguard and improve the hydrological cycle in general; and to provide adequate water supply, in quality and quantity, for domestic, industrial and agricultural purposes, account being taken of long-term demands.

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[1] Text in: Organization for Economic Cooperation and Development, doc. C(78)4 (Final).

Recommends that,

Member Countries in their national and, where possible, their international water management policies take into account the following principles:

1. Water resources, both surface (lakes, rivers, estuaries and coastal waters) and underground, should be managed on the basis of long-term water management plans, so as to follow an integrated approach regarding all relevant aspects of water quantity and quality, abstraction and discharge, supply and protection.

2. Authorities should promote the rational and equitable allocation of water resources among all users by applying appropriate regulatory and economic instruments including licensing systems, and taking into account a hierarchy of real requirements in terms of quality and quantity as well as any potential effects on the environment.

3. Highest priority should be given to reserving and protecting high quality waters for potable use where there is either present or potential demand for this purpose. There is a basic need to try to preserve an acceptable level of aquatic life.

4. River basin oriented management should be encouraged as providing an effective solution to water problems beyond the scope of local management, and where advisable this should be considered in an international framework. Adequate co-ordination of the regional approach is required at a state and national level within the framework of a national water management policy.

5. An appropriate combination of regulatory and economic instruments (for example standards and charges) should be applied so as to provide continuing incentive for water users to control both pollution and wastage of water resources. Charges for water abstraction and waste water discharge should thus be set at a sufficient level to have a significant incentive effect, and their proceeds should be allocated to water resources development and pollution control.

6. Pollution control measures should be applied as close to the source as possible. Particularly strict regulatory, economic and technical controls should be enforced for certain categories of hazardous pollutants, on the basis of their ecologically significant characteristics, especially toxicity, persistence and bio-accumulation, with a view to preventing their dispersion into the environment.

7. Authorities should ensure that the water pollution control measures they implement do not lead to uncontrolled pollution transfers to other water resources or to soil or air systems.

8. Assessment of water and effluent quality should not be limited to a few classical measurements such as BOD, COD and suspended solids, but should also include the relevant physical, chemical, biological and toxicity parameters. Effluent components should be expressed not only in terms of concentrations, but also in terms of total amounts of pollutants discharged. Monitoring is an essential tool of pollution control and should be developed adequately.

9. All the required financial, managerial and technical measurements to ensure that waste water treatment plants are always operated in an efficient manner, should be urgently adopted.

10. Authorities should facilitate public information and participation to promote more informed decision-making and to enlist public support for proposed activities.

Appendix
Explanatory notes to the recommendation on water management policies and instruments

1. Underground and surface waters constitute a closely inter-related hydrologic system which should be managed as a single entity in order to prevent uncontrolled pollution and depletion of these resources. In particular, all quantitative and qualitative aspects and activities of abstraction and discharge are so interdependent that they should be managed in an integrated manner and should not be dissociated; thus they should whenever possible be under the same authority and fully co-ordinated. In certain countries, traditional practices and structures such as water rights and similar privileges have built up attitudes and customs which are generally incompatible with a modern and rational water policy, and should be progressively amended.

2. When demand on resources is high, an order of priority should be established, and especially a hierarchy of the different quality requirements. Such a rational allocation of water entails good knowledge of the qualitative and quantitative requirements of the various uses as well as the environmental role of the resource. Existing water allocation procedures still frequently lack a competent rational basis. Pre-existing settlements and different forms of water rights commonly confer to certain users the right or possibility to abstract and use at will the water resources, at the expense of the other users. Furthermore, high quality waters, such as underground waters, are frequently abstracted in large quantities for purposes which do not require this quality, whilst very demanding requirements, such as potable water, increasingly have to utilise low quality raw waters. Such an irrational use of limited water resources is clearly unacceptable. The solution of these problems is mainly a legal one and many countries are adopting compulsory licensing systems under the control of water authorities.

3. In large urban and industrial areas, polluted waters are increasingly being used for potable water supply purposes; water treatment is then becoming more and more costly, whilst final quality after treatment is frequently unsatisfactory from the taste, odour and health viewpoints. These problems are generally due to large numbers of trace pollutants which pass in solution or fine particulate form through treatment plants, and cannot be removed, or are formed during the treatment itself (halogenated organics formed during chlorination). Under present technological and financial conditions of operation of the treatment plants, the situation is not likely to be substantially improved unless special efforts are made to greatly enhance the quality of the raw waters themselves. As recovery of polluted resources in many cases is likely to take considerable time, particular attention should be given to a reallocation of waters on a regional basis, reserving only the best quality for drinking purposes.

In recent decades, many OECD countries have seen a considerable deterioration in the quality of their water resources and natural environment. At the same time natural waters, including estuaries and coastal waters, have been in increasing demand for recreation and amenity purposes such as bathing, fishing, boating, etc., which represent the most popular outdoor activities in OECD countries. It is important to maintain adequate and varied fish populations in surface waters for their value as a natural resource and their significance in the ecological equilibrium. Further, satisfactory fishlife indicates, and can be used as a monitor for the quality of the aquatic environment.

4. An operational structure, organised on a hydrological river basin system is particularly favourable for water management, because the resource being managed has rationally defined hydrological boundaries; water supply and demand can be more realistically balanced, and pollution controlled more effectively. Such systems have already been adopted successfully in an increasing number of Member Countries. The national water management structure should consist of a limited number of sizeable regions which should be large enough to justify the employment of the multi-disciplinary skills necessary for effective modern management. However, certain Member Countries, either for geographical, historical or administrative reasons, may find it difficult to change radically to such a system and may develop flexible systems which adapt the pre-existing administrative framework to an overall river basin concept.

In order to co-ordinate the regional basin management authorities and to harmonize their policies, there should be a co-ordinating body responsible for water policy at a state and national level. Further, in order to balance water policies within the framework of other national priorities and to resolve potential conflicts, this body should be in close liaison with the various Ministries which may have common interests in water matters. This body would also play an effective role in the harmonization of water management policies at an international level. As already practised in various Member Countries, the tasks of this body may lie with the Minister in charge of the environment, or the Minister for the Environment if such a ministry exists.

5. There is a permanent conflict between the competing requirements of the various water users, and also between the maximum exploitation of the resource and its conservation for its environmental functions. In general, it is not very likely that on its own a single instrument will solve satisfactorily the complex management problems particularly in densely populated and industrial river basins. A judicious choice of complementary instruments, both regulatory and economic, will generally permit more efficient management by responsible authorities at a minimum cost for society. These instruments should normally be applied simultaneously in order to provide mutual backing. In certain cases, a progressive approach for both economic and regulatory instruments may be appropriate in order to reach the desirable level of control without economic disturbance.

Regulatory and economic instruments should be adapted to have a continuing incentive for more rational utilisation of the resource, by saving on consumption and decreasing pollution; this is a fundamental element of dynamic water management. Such a policy is also likely to constitute a constant stimulus to progress in water technology and research. In principle, instruments based on a flat rate or "lump sum" arrangement should be avoided, for in practice they are an inducement for uncontrolled abstraction and pollution. Effluent standards should be set for discharges from municipal treatment plants and from different industrial sectors. Charges, if fixed at a sufficiently high rate, have a good incentive effect, and can be used as a helpful complement to regulations by reinforcing their efficiency and providing greater flexibility. Charges moreover generate an essential income which may provide water management authorities with useful financial capability to support, for the benefit of the community, pollution control and water resource development projects which are considered most appropriate and urgent.

6. Prevention of pollution at source is by far the most effective and safest means of control. This can be carried out, in relation to each case considered, by different strategies, e.g. by banning of undesirable processes and products and by replacement with less polluting ones; by the use of

closed systems including recycling; by the early segregation of industrial effluents with application of specific treatment, etc. Furthermore, early prevention and control procedures can considerably diminish the risk of accidental spills. In effect, the later the stage of control the less effective it is likely to be due to wider dispersion of the contaminants. Experience shows that diffusion of pollutants with dilution and mixing makes their removal in general more costly and uncertain and increases the risk of synergistic effects.

Particularly strict measures of control should be enforced for certain categories of hazardous pollutants with a view to preventing their dispersion into the environment. This applies especially to toxic substances which are very persistent in the environment and/or subject to bioaccumulation in living organisms and concentration through the food chain. Examples include heavy metals (cadmium, mercury, lead, etc.) and their organic compounds; halogenated organic compounds (organochlorines in general, PCBs, DDT); radioactive substances, etc. The strict control of these substances must, in general, take place at their initial stages of occurrence: i.e. their production, importation, sale and use, as control in later stages proves to be practically impossible. Possibilities range from complete banning to restriction to limited uses. Finally, controlled regeneration or disposal such as is often carried out in specialised centres for treatment of toxic wastes should be ensured.

7. Experience shows that the polluter will, in general, attempt to discharge waste where the operation is least costly and the controls less stringent (e.g. direct discharge of effluents through ground waters; incineration with generation of air pollution, etc.). In order to combat uncontrolled discharge and undesirable transfers of pollution, authorities responsible for environmental protection should ensure that economic and regulatory instruments and controls, both for the different types of water resources and for other media (air, soil), are comprehensive and correctly balanced.

8. Water quality parameters have hitherto mainly been limited to measurements of oxidisable matter (BOD, COD) and suspended solids. These measurements, although very useful in the past, are now recognised as being insufficiently specific to monitor the increasing quantity and variety of pollutants, e.g. toxic and persistent pollutants (including radioactive substances); thermal pollution and microbiological (including viral) pollution. Where this is not already done, these additional pollution parameters should be regularly taken into account in evaluating water quality and effluent discharges, and should be incorporated into the framework of the regulatory and economic instruments. Often the technical capability for measuring and monitoring these additional elements of pollution will have to be considerably improved. The relative importance of these different parameters may also vary in relation to the functions of the receiving waters (drinking water, fishing and recreation, etc.). Strict monitoring of progress towards water policy objectives should be regularly carried out.

In certain countries, parameters for effluent discharge are still specified only in terms of concentrations (e.g. grams of pollutants per litre or cubic metre of effluent). This is useful in preventing a "Shock effect" in rivers where discharges might otherwise exceed toxicity limits. Nevertheless, this is clearly insufficient and encourages easy circumvention of pollution control regulations by diluting the effluent. It is thus fundamental that each parameter be expressed also in terms of (daily or monthly) "total discharge" and that total flows of effluents be indicated. Further, for industrial effluents, the total discharge should not only be expressed as a function of time but also as a function of industrial production. This latter means of expressing the amount

of pollution can rather easily be checked in relation to the technology used and also indicates the degree of sophistication of treatment being applied by industry.

9. For a number of reasons waste water treatment plants are frequently operated much below design standards. Common problems include inadequate operating funds, mismanagement, and poorly trained personnel. These treatment plants, which are a fundamental tool of pollution control, require high capital investment. Consequently, poor operation means both very unsatisfactory pollution abatement and the wastage of an important investment. Fundamental guidelines which could help reduce the problems include:

- recognition that regular and continuous financing is absolutely necessary to ensure proper operation throughout the life of the plant. The necessary provisions should be formally planned at the initial investment stage and guaranteed by a strict financing scheme. For instance, an appropriate charge levied at municipal level from all users proportionally to abstraction and discharge, might guarantee, where necessary, this regular and sufficient financing.

- adequate management of treatment plants requires operators with suitable technical qualification. So far this has not always been the case. The skill of operators should be improved by the organisation of regular training programmes leading to professional certification; this certification should become compulsory for all operators. Moreover, it would be desirable that the operation and inspection of treatment plants become progressively the responsibility of a specially trained corps of inspectors and operators. As a first step to this permanent arrangement, inspections should be carried out at all plants at frequent intervals.

- a frequent cause of deficiency in municipal plants is their overloading and the poisoning of the biological treatment of domestic sewage by toxic effluents from industrial plants. Industrial sewers likely to contain regularly or accidentally such toxic pollutants capable of affecting treatment should not be directly connected to municipal treatment plants unless they receive rigorous pre-treatment.

10. Action needs to be taken to familiarise the public and water users with water management problems. This action ranges from straightforward campaigns for public information to open discussion forums in which the public can actively participate. The categories of people concerned with water problems are the decision-makers, and expert advisers (e.g. hydrologists, engineers, chemists, economists) who constitute "management", and the water "users" comprising the general public, industrial and agricultural consumers. There is a need within water management organisations for some formalised machinery for the exchange of views between all categories.

3.2.2 Pan-American Union, Organization of American States

3.2.2.1 Declaration concerning the Industrial and Agricultural Use of International Rivers[1] - Montevideo, 24 December 1933

The Seventh International Conference of American States declares:

1. In the case that, in order to exploit the hydraulic power of international waters for industrial or agricultural purposes, it may be necessary to make studies with a view to their utilization, the States on whose territories the studies are to be carried on, if not willing to make them directly, shall facilitate by all means the making of such studies on their territories by the other interested States and for its account.

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. In consequence, no State may, without the consent of the other riparian State, introduce into water courses of an international character, for the industrial or agricultural exploitation of their waters, any alteration which may prove injurious to the margin of the other interested State.

3. In the cases of damage referred to in the foregoing article an agreement of the Parties shall always be necessary. When damages capable of repair are concerned, the works may only be executed after adjustment of the incident regarding indemnity, reparation or compensation of the damages, in accordance with the procedures indicated below.

4. The same principles shall be applied to successive rivers as those established in Articles 2 and 3, with regard to contiguous rivers.

5. In no case either where successive or where contiguous rivers are concerned shall the works of industrial or agricultural exploitation performed cause injury to the free navigation thereof.

6. In international rivers having a successive course the works of industrial or agricultural exploitation performed shall not injure free navigation on them but, on the contrary, try to improve it insofar as possible. In this case, the State or States planning the construction of the works shall communicate to the others the result of the studies made with regard to navigation, to the sole end that they may take cognisance thereof.

7. The works which a State plans to perform in international waters shall be previously announced to the other riparian or co-jurisdictional States. The announcement shall be accompanied by the necessary technical documentation in order that other interested States

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[1] Text in: Pan American Union, Seventh International Conference of American States, Plenary Sessions, Minutes and antecedents, Montevideo, 1933, p. 114.

may judge the scope of such works, and by the name of the technical expert or experts who are to deal, if necessary, with the international side of the matter.

8. The announcement shall be answered within a period of three months, with or without observations. In the former case, the answer shall indicate the name of the technical expert or experts to be charged by the respondent with dealing with the technical experts of the applicant, and shall propose the date and place for constituting the Mixed Technical Commission of technical experts from both sides to pass judgement on the case. The Commission shall act within a period of six months, and if within this period no agreement has been reached, the members shall set forth their respective opinion, inform the governments thereof.

9. In such cases, and if it is not possible to reach an agreement through diplomatic channels, recourse shall be had to such procedure of conciliation as may have been adopted by the Parties beforehand, or, in the absence thereof, to the procedure of any of the multilateral treaties or conventions in effect in America. The tribunal shall act within a period of three months, which may be extended, and shall take into account, in the award, the proceedings of the Mixed Technical Commission.

10. The Parties shall have a month to state whether they accept the conciliatory award or not. In the latter case and at the request of the interested Parties the disagreement shall then be submitted to arbitration, the respective tribunal being constituted by the procedure provided in the Second Hague Convention for the peaceful solution of international conflicts.

Reservations[1]

(Extracts)

. . .

Venezuela - The delegation of Venezuela desires to record:

(1) That, with respect to the industrial and agricultural use of international rivers, Venezuela subjects the regulation of this matter to existing partial agreements previously entered into with neighbouring States.

. . .

Mexico - The delegation of Mexico records expressly that it makes a general reservation on the resolutions of the Conference regarding the following:

First: Industrial and agricultural use of international rivers.

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[1] Text in: The Carnegie Foundation for International Peace, The International Conferences of American States, First Supplement, 1933-1940, Wash., D.C. 1940, pp.105 and 106.

Declaration[1]

(Extract)

. . .

United States of America - 1. The delegation of the United States of America, believing that the Declaration on the Industrial and Agricultural Use of International Rivers is not sufficiently comprehensive in scope to be properly applicable to the particular problems involved in the adjustment of its rights in the international rivers in which it is interested, refrains from giving approval to (that) Declaration.

[1] See Footnote 1 on previous page.

3.2.2.2 Inter-American Economic and Social Council, Resolution 24-M/66 on Control and Economic Utilization of Hydrographic Basins and Streams in Latin America[1] - Buenos Aires, 1966

The Inter-American Economic and Social Council, at its fourth annual session, adopted resolution 24-M/66, which reads as follows:

Whereas:

Control and better utilization of the hydrographic basins and streams that, in various regions of Latin America, make up a part of the common patrimony of the member countries of the Alliance for Progress will help to speed up the integration and multiply the potential capacity for development of those countries.

The Fourth Annual Meeting of the Inter-American Economic and Social Council at the Ministerial Level

Recommends:

To the member countries of the Alliance for Progress that, with the technical and financial assistance of international agencies, they begin or continue joint studies looking toward the control and economic utilization of the hydrographic basins and streams of the region of which they are part, for the purpose of promoting, through multinational projects, their utilization for the common good, in 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 rises in the level of their waters and consequent floods.

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[1] Text in: Final Report of the Fourth Annual Meeting of the Inter-American Economic and Social Council, Vol. I (OEA/Ser. H/XII-11), Washington, D.C. Pan-American Union, 1966, p. 48.

3.2.3 Council of Europe

3.2.3.1 European Water Charter[1]- Strasbourg, 1967

Preamble

The Committee of Ministers,

Having regard to Recommendation 436 (1965) of the Consultative Assembly on Fresh Water Pollution Control in Europe;

Bearing in mind resolution 10 (XXI) (1965) of the United Nations Economic Commission for Europe containing the ECE declaration of policy on water pollution control in Europe; and also the international standards for drinking water, particularly the European standards established by the World Health Organization;

Persuaded that the advance of modern civilization leads in certain cases to an increasing deterioration in our natural heritage;

Conscious that water holds a place of prime importance in that natural heritage;

Considering that the demand for water is increasing, largely because of the rapid development of industrialization in the main urban centres of Europe, and that steps must be taken for the qualitative and quantitative conservation of water resources;

Considering, furthermore, that collective action on a European scale on water problems is necessary and that a Water Charter constitutes an effective instrument for creating a better understanding of these problems;

Adopts and proclaims the principles of this Charter, prepared by the European Committee for the Conservation of Nature and Natural Resources of the Council of Europe, which reads as follows:

I. There is no life without water. It is a treasure indispensable to all human activity.

Water falls from the atmosphere to the earth mainly in the form of rain and snow. Streams, rivers, glaciers and lakes are the principal channels of drainage towards the oceans. During its cycle, water is retained by the soil, vegetation and animals. It returns to the atmosphere

[1] Text in: Legal problems relating to the non navigational water-courses: Supplementary Report by the Secretary-General, Doc. A/CN.4/274, United Nations, Yearbook of the International Law Commission, 1974, Vol. II, pp. 342-343. Text of the European Water Charter was adopted by the Consultative Assembly on 22 April 1967 (Recommendation 493 (1967)) and by the Committee of Ministers on 26 May 1967 (Resolution (67) 10). The European Water Charter was proclaimed in Strasbourg on 6 May 1968.

principally by means of evaporation and plant transpiration. Water is the first need of man, animals and plants.
Water constitutes nearly two-thirds of man's weight and about nine-tenths of that of plants.

Man depends on it for drinking, food supplies and washing, as a source of energy, as an essential material for production as a medium for transport, and as an outlet for recreation which modern life increasingly demands.

II. Fresh water resources are not inexhaustible. It is essential to conserve, control, and whenever possible, increase them.

The population explosion and the rapidly expanding needs of modern industry and agriculture are making increasing demands on water resources. It will be impossible to meet these demands and to achieve rising standards of living, unless each one of us regards water as a precious commodity to be preserved and used wisely.

III. To pollute water is to harm man and other living creatures which are dependent on water.

Water in nature is a medium containing beneficial organisms which help to keep it clean. If we pollute the water, we risk destroying those organisms, disrupting this self-purification process, and perhaps modifying the living medium unfavourably and irrevocably.

Surface and underground waters should be preserved from pollution.

Any important reduction of quantity and deterioration of quality of water, whether running or still, may do harm to man and other living creatures.

IV. The quality of water must be maintained at levels suitable for the use to be made of it and, in particular, must meet appropriate public health standards.

These quality levels may vary according to the different uses of water, namely food supplies, domestic, agricultural and industrial needs, fisheries and recreation. Nevertheless, since all life on earth in its infinite variety depends upon the manifold qualities of water, arrangements should be made to ensure as far as possible that water retains its natural properties.

V. When used water is returned to a common source it must not impair the further uses, both public and private, to which the common source will be put.

Pollution is a change, generally man-made, in the quality of water which makes it unusable or dangerous for human consumption, industry, agriculture, fishing, recreation, domestic animals and wildlife.

The discharge of residue (wastage) or of used water which causes physical, chemical, organic, thermal or radioactive pollution, must not endanger public health and must take into account the capacity of the receiving waters to assimilate (by dilution or self-purification) any waste matter discharged. The social and economic aspects of water-treatment methods are of great importance in this connection.

VI. The maintenance of an adequate vegetation cover, preferably forest land, is imperative for the conservation of water resource.

It is necessary to conserve vegetation cover, preferably forests, and wherever it has disappeared to reconstitute it as quickly as possible.

The conservation of forests is a factor of major importance for the stabilisation of drainage basins and their water regime. As well as their economic value, forests provide opportunities for recreation.

VII. Water resources must be assessed.

Fresh water that can be put to good use represents less than one per cent of the water on our planet and it is distributed in very unequal fashion.

It is essential to know surface and underground water resources, bearing in mind the water cycle, the quality of water and its utilisation.

Assessment, in this context, involves the survey, recording and appraisal of water resources.

VIII. The wise husbandry of water resources must be planned by the appropriate authorities.

Water is a precious resource requiring planning which combines short- and long-term needs.

A viable water policy is needed, which should include various measures for the conservation, flow-control and distribution of water resources. Furthermore, maintenance of quality and quantity calls for development and improvement of utilisation, recycling and purification techniques.

IX. Conservation of water calls for intensified scientific research, training of specialists and public information services.

Research with regard to water in general and waste water in particular should be encouraged in every way possible. Means of providing information should be increased and international exchanges facilitated; at the same time, the technical and biological training of qualified personnel is necessary in the various fields of activity involved.

X. Water is a common heritage, the value of which must be recognised by all. Everyone has the duty to use water carefully and economically.

Each human being is a consumer and user of water and is therefore responsible to other users. To use water thoughtlessly is to misuse our natural heritage.

XI. The management of water resources should be based on their natural basins rather than on political and administrative boundaries.

Surface waters flow away down the steepest slopes, converging to form watercourses. A river and its tributaries are like a many-branched tree, and they serve an area known as a watershed or drainage basin.

Within a drainage basin, all uses of surface and underground waters are interdependent and should be managed bearing in mind their interrelationship.

XII. Water knows no frontiers; as a common resource it demands international co-operation.

International problems arising from the use of water should be settled by mutual agreement between the States concerned, to conserve the quality and quantity of water.

3.2.3.2 Consultative Assembly, Recommendation 629 (1971) on the Pollution of the Rhine Water-Table[1] - Strasbourg, 22 January 1971

The Assembly,

1. Having regard of the report on the pollution of the Rhine valley water-table presented by its Committee on Regional Planning and Local Authorities (Doc. 2904);

2. Recalling its earlier views on fresh water pollution control, in particular Recommendation 436 (1965) calling for a Water Charter and Recommendation 555 (1969) on the conclusion of a draft European Convention on the protection of fresh water against pollution;

3. Welcoming the adoption by the Committee of Ministers of Resolution (70) 30 on 24 October 1970, on planning of the management of water resources, while regretting that this resolution makes no mention of the problems peculiar to water-tables;

4. Considering that the efficacity of fresh water pollution control depends on the acceptance of certain principles by as many countries as possible, and at least by the countries of Western Europe, and in general calls for concerted action within a given drainage basin in accordance with the eleventh principle of the European Water Charter;

5. Reaffirming that most environment problems, including water pollution, are of an international character;

6. Noting in this connection that the Rhine valley water-table is not only the most important fresh water reservoir in Europe but also the indivisible asset of a number of European countries;

7. Noting that, although it is not immediately apparent to the public, pollution increasingly threatens this vital fresh water reserve;

8. Noting further that the management of this water reserve and its safeguarding against pollution are tasks whose effective accomplishment can only be ensured jointly by all the countries bordering on it: Germany, France, Switzerland, Luxembourg and the Netherlands;

9. Emphasising the urgent need for such co-operation, which is a proof of both the solidarity existing between frontier regions and the practical nature of the problems calling for common action.

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[1] Text in: Consultative Assembly of the Council of Europe, Report on the Pollution of the Rhine Water-Table (doc. 2904).

10. Recommends that the Committee of Ministers:

(a) invite the governments concerned to institute such co-operation in regard to the Rhine valley water-table and to refer the question to the European Conference of Ministers responsible for Regional Planning through their Committee of Senior Officials, in accordance with the Bonn resolution which urges, *inter alia,* co-ordinated action in frontier areas with a view to "the tracing of courses of pollution whose effects extend beyond the frontier";

(b) initiate concrete action on their own Resolution (68) 36 concerning studies on groundwater deposits, adopted in November 1968 by taking the following decisions, which are calculated to promote international co-operation in regard to research into pollution control and to lead to joint management of the Rhine valley water-table:

(i) to invite the governments directly concerned to initiate such co-operation among themselves and to entrust the “Institut de mécanique des fluides” in Strasbourg with the task of co-ordinating research work;

(ii) to authorise the Secretary-General of the Council of Europe to grant his patronage and administrative aid to such an international institute for co-ordination and research in regard to the Rhine valley water-table, as a first step towards co-operation between the Council of Europe and technical bodies specialising in research into surface and underground water resources;

(iii) to instruct the Secretary-General of the Council of Europe to seek ways and means of co-operating with the International Commission for the Protection of the Rhine against Pollution;

(iv) to transmit this recommendation and the report of the Committee on Regional Planning and Local Authorities (Doc. 2904) to:

- the Committee on Co-operation in Municipal and Regional Matters, with the request that it be taken into account by the latter body in its study of transfrontier co-operation, a subject included in its work programme;

- the European Committee for the Conservation of Nature and Natural Resources, for the attention of its Ad Hoc Study Group on Water Pollution;

- the European Ministerial Conference on the Environment which will be held in Vienna in 1972.

3.2.3.3 Consultative Assembly, Recommendation 1052 (1987) on the Pollution of the Rhine River[1] - Strasbourg, 29 January 1987

The Council of Europe:

(a) supports the appeal to the Committee of Ministers by the Secretary-General and the President of the Standing Conference of Local and Regional Authorities of Europe for a speedy and final adoption of the draft convention on the protection of international watercourses against pollution (section 16);

(b) requests the signatory states to the European Outline Convention on Transfrontier Co-operation between Territorial Communities or Authorities to instruct their competent authorities to fully implement its provisions, in particular with regard to an early warning and information system for all the populations concerned (section 17);

(c) recommends that the Committee of Ministers:

(i) examine the problems of international liability linked to the occurrence of transfrontier disasters of this kind, and take all legal action necessary to secure both the safeguard of the environment and the maintenance of a high-quality water supply;

(ii) consider the drafting of a European convention on the protection of the environment, providing effective international control and stating strict rules to establish the right to a healthy environment, whilst stressing the "polluter pays" principle even at the international level;

(iii) urge the Governments of Member States to intensify research at the national and European level regarding the short- and long-term effects of river pollution on fish life and, through consumption, on human health;

(iv) invite the Governments of Member States to review most urgently their legislation, in particular with regard to the production, storage, transport and disposal of chemicals, and to report to the Council of Europe, so that common measures can be adopted at the European level;

(v) explore the possibility of declaring certain particularly affected rivers and seas, among them the Rhine estuary and adjacent parts of the North Sea, as "special protected areas" requiring particularly stringent anti-pollution measures (section 18).

[1] Text in: Consultative Assembly of the Council of Europe, Report on the Pollution of the Rhine River.

3.2.4 International Conference on Water and the Environment

3.2.4.1 The Dublin Statement[1] - Dublin, 31 January 1992

(Extracts)

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The Action Agenda

. . .

Resolving water conflicts

The most appropriate geographical entity for the planning and management of water resources is the river basin, including surface and groundwater. Ideally, the effective integrated planning and development of transboundary river or lake basins has similar institutional requirements to a basin entirely within one country. The essential function of existing international basin organizations is one of reconciling and harmonizing the interests of riparian countries, monitoring water quantity and quality, development of concerted action programmes, exchange of information, and enforcing agreements.

In the coming decades, management of international watersheds will greatly increase in importance. A high priority should therefore be given to the preparation and implementation of integrated management plans, endorsed by all affected governments and backed by international agreements.

[1] Text in: International Conference on Water and the Environment. The Dublin Statement and Report of the Conference, 26-31 January 1992.

3.2.5 Asian-African Legal Consultative Committee

3.2.5.1 Draft Proposition on the Law of International Rivers[1] - New Delhi, 18 January 1973

Proposition I

The general rules set forth in these propositions are applicable to the use of waters of an international drainage basin except as may be provided otherwise by convention, agreement or binding custom among the basin states.

Proposition II

1. An international drainage basin is a geographical area extending over two or more states determined by the watershed limits of the system of waters, including surface and underground waters, flowing into a common terminus.

2. A "basin state" is a state the territory of which includes a portion of an international drainage basin.

Proposition III

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.

3. relevant factors which are to be considered include in particular:

(a) the economic and social needs of each basin state, and the comparative costs of alternative means of satisfying such needs;

(b) the degree to which the needs of a basin state may be satisfied without causing substantial injury to a co-basin state;

(c) the past and existing utilization of the waters;

(d) the population dependent on the waters of the basin in each basin state;

(e) the availability of other water resources;

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

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[1] Text in Asian-African Legal Consultative Committee, Report of the Fourteenth Session, held in New Delhi (10-18 January 1973), pp. 7-14.

(g) the practicability of compensation to one or more of the co-basin states as a means of adjusting conflicts among uses;
(h) the geography of the basin;

(i) the hydrology of the basin;

(j) the climate affecting the basin.

Proposition IV

1. Every basin state shall act in good faith in the exercise of its rights on the waters of an international drainage basin in accordance with the principles governing good neighbourly relations.

2. A basin state may not therefore undertake works or utilizations of the waters of an international drainage basin which would cause substantial damage to another basin state unless such works or utilizations are approved by the states likely to be adversely affected by them or are otherwise authorized by a decision of a competent international court or arbitral commission.

Proposition V

In determining preferences among competing uses by different co-basin states of the waters of an international drainage basin, special weight should be given to uses which are the basis of life, such as the consumptive uses.

Proposition VI

A basin state may not be denied the present reasonable use of the waters of an international drainage basin to reserve for a co-basin state a future use of such waters.

Proposition VII

1. An existing reasonable use may continue in operation unless the factors justifying its continuance are outweighed by other factors leading to the conclusion that it be modified or terminated so as to accommodate a competing but more important incompatible use.

2. (a) a we that is in fact operational is deemed to have been an existing use from the time of the initiation of construction directly related to the use or, where such construction is not required, the undertaking of comparable acts of actual implementation;

(b) such a use continues to be an existing use until such time as it is discontinued with the intention that it be abandoned.

3. A use will not be deemed an existing use if at the time of becoming operational it is incompatible with an already existing reasonable use.

Proposition VIII

1. Consistent with the principle of equitable utilization of the waters of an international drainage basin, a state must prevent any new form of water pollution or any increase in the degree of existing water pollution in an international drainage basin, which would cause substantial damage in the territory of a co-basin state, regardless of whether or not such pollution originates within the territory of the state.

2. Water pollution, as used in this proposition, refers to any detrimental change resulting from human conduct in the natural composition, content or quality of the waters of an international drainage basin.

Proposition IX

Any act or omission on the part of a basin state in violation of the foregoing rules may give rise to state responsibility under international law. The state responsible shall be required to cease the wrongful conduct and compensate the injured co-basin state for the injury that has been caused to it, unless such injury is confined to a minor inconvenience compatible with good neighbourly relations.

Proposition X

A state which proposes a change of the previously existing uses of the waters of an international drainage basin that might seriously affect utilization of the waters by another co-basin state, must first consult with the other interested co-basin states. In case agreement is not reached through such consultation, the states concerned should seek the advice of a technical expert or commission. If this does not lead to agreement, resort should be had to the other peaceful methods provided for in Article 33 of the United Nations Charter and, in particular, to international arbitration and adjudication.

4. SUMMARY OF DECISIONS BY INTERNATIONAL TRIBUNALS INCLUDING ARBITRAL AWARDS

4.1 INTERNATIONAL TRIBUNALS

4.1.1 Permanent Court of International Justice

4.1.1.1 Jurisdiction of the European Commission of the Danube between Galatz and Braila, Advisory Opinion of 8 December 1927[1]

Introduction

The Danube is the second longest river in Europe. It is formed by two headstreams (each about 25 miles long), the Brigach River and Brege River, which rise in the Black Forest in Germany and unite below Donaueschingen only 20 miles await from Schaffhausen on the Rhine. Thereafter, it enters the Black Sea in a wide, marshy delta.

Entering Germany, it flows through Wüttemberg, past Ulm, and enters Austria, continues through Upper and Lower Austria. Near Vienna it forms a short frontier, and a longer frontier between Austria and Czechoslovakia. It passes Hungary (Komárno), Budapest and enters Yugoslavia, past Novi Sad, Belgradee, then reaches Romania, enters the great Walachian plain and forms most of the Rumanian-Bulgarian border. Below Galati (Romania) it receives the Prut River at the border of the Ukraine. Near Tulcea it forms three main arms: the Kilija, the Sulina and the St. George. The Sulina, the central arm of the delta, enters the Black Sea at town of Sulina.

Facts

Under the Treaty of Paris of 1856, the Danube was subjected to an international regime which applied the principles of river law embodied in the Final Act of the Congress of Vienna in 1815. By the Treaty of Paris of 1856, two Commissions were established: a permanent riparian Commission (which never actually became operative), and a European Commission as a temporary technical body. The powers of the European Commission were extended to the Romanian seaport of Galatz, a seat being granted to that country by the Treaty of Berlin of 1878.

The Treaty of London of 1883 extended this jurisdiction to Braila, another port in Romania; but Romania had not signed this Treaty. The Treaty of Versailles of 1919 declared the Danube an international river from Ulm to the sea and confirmed the jurisdiction of the European Commission in the powers vested in it before the war.

This Commission consisted of representatives of Great Britain, France, Italy and Romania.

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[1] Text in: Permanent Court of International Justice, Series B, No. 14, Series C, Nos. 13-IV(V), (II), (III), (IV). Request for an advisory opinion made by the Council of the League of Nations on 9 December 1926.

Parties: France, Great Britain, Italy and Romania.

The Definitive Statute of the Danube was signed on 23 July 1921 at an international conference meeting in Paris, and provided as follows:

"Article 5

The European Commission retains the powers which it possessed before the war. No alteration is made in the rights, prerogatives and privileges which it possesses in virtue of the treaties, conventions, international acts and agreements relative to the Danube and its mouths.

Article 6

The authority of the European Commission extends, under the same conditions as before, and without any modification of its existing limits, over the maritime Danube, that is to say, from the mouths of the river to the point where the authority of the International Commission commences."

Article 9 of the Statute extended the jurisdiction of the International Commission from Ulm to Braila. Romania expressed different view with regard to the powers of the Commission in the sector Galatz-Braila from that of France, Great Britain and Italy. The matter was submitted by the Special Committee to the Permanent Court of International Justice for an advisory opinion.

Request for the Advisory Opinion

Three questions were put by the Special Committee:

"1) Under the law at present in force, has the European Commission of the Danube the same powers on the maritime sector of the Danube from Galatz to Braila as on the sector below Galatz? If it has not the same powers, does it possess powers of any kind? If so, what are these powers? How far upstream do they extend?

2) Should the European Commission of the Danube possess either the same powers on the Galatz-Braila sector as on the sector below Galatz, or certain powers, do these powers extend over one or more zones, territorially defined and corresponding to all or part of the navigable channel to the exclusion of other zones territorially defined and corresponding to harbour zones subject to the exclusive competence of the Romanian authorities? If so, according to what criteria shall the line of demarcation be fixed as between territorial zones placed under the competence of the European Commission and zones placed under the competence of the Romanian authorities?

3) If the contrary is the case on what non-territorial basis is the exact dividing line between the respective competence of the European Commission of the Danube and of the Romanian authorities to be fixed?"

Summary of the Advisory Opinion

1. As for the first question, in the opinion of the Court, the law in force is the Definitive Statute of 1921. All Parties concerned, i.e. France, Great Britain, Italy and Romania have signed and ratified both the Treaty of Versailles and the Definitive Statute. The Definitive

Statute placed the entire navigable Danube under an international regime, and the jurisdiction of the European Commission extended from Ulm to Braila (Article 9) that is to say, as far as Braila.

2. As for the second question, as to whether the Commission should exercise all the powers in the sector Galatz-Braila in the same way as they are exercised in the sector below Galatz, according to the view of France, Great Britain and Italy, or only strictly technical powers in the disputed sector (Galatz-Braila) according to the view of Romania, the Court finds that Article 6 of the Statute of 1921 is not a new draft conferring only technical powers on the Commission, because the preparatory works cannot change the interpretation of the text of Article 6. The Interpretative Protocol is not part of the Statute and that is why it cannot prevail against the Definitive Statute. So the Court concludes that before the war, the Commission had the same powers with respect to the Galatz-Braila sector as in the sector below Galatz.

The Court follows functional criteria to delimit the powers of the European Commission and Romania in the Galatz-Braila sector. Taking into account the principles of freedom of navigation and equality of flags, the Court establishes two criteria:

(a) in the ports of Galatz and Braila, "the European Commission alone has jurisdiction over navigation, that conception being taken to mean any movement of vessels forming part of their voyage";

(b) "with regard to vessels moved or otherwise at rest in these ports, and with regard to the use by vessels of the installations and services of these ports ... the powers of regulation and jurisdiction belong to the territorial authorities; the right of supervision, with a view to ensuring freedom of navigation and equal treatment of all flags, belongs to the European Commission."

4.1.1.2 Case relating to the Territorial Jurisdiction of the International Commission of the River Oder, Judgement of 10 September 1929[1]

Introduction

The Oder River is the second longest river of Poland. It rises in Czechoslovakia in the Oder Mountains, 10 miles East-Northeast of Olomouc. It flows through the Moravian Gate, past Nový, Bohumin, into Poland, then past Opole, Wroclaw. It enters the Oder Marshes, dividing into two arms, the East Oder and the West Oder (Berlin-Stettin Canal). Fifteen miles north of Stettin, it empties into the Baltic. The Oder forms the northern part of the Oder-Neisse Line, the border between Poland and East Germany determined in 1945 by the Potsdam Conference.

Facts

Under the Treaty of Versailles of 1919 (first paragraph of Article 331), the Oder was declared an international river. The second paragraph of that Article declared as possessing international status "all navigable parts of these river systems which naturally provide more than one State with access to the sea, with or without transhipment from one vessel to another; together with lateral canals and 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."

By Article 341 of the Treaty, the Oder was placed under the administration of an International Commission consisting of representatives of Poland, Germany, Great Britain, Czechoslovakia, France, Denmark and Sweden. The task of this Commission was to "define the sections of the river or its tributaries to which the international regime shall be applied."

The differences between Poland and other members of the Commission concerned the question as to at what point the jurisdiction of the Commission should end in respect of two tributaries of the Oder: the Netze (Notec) and the Marthe (Warta). In the view of Poland, the jurisdiction of the Commission ended at the point where each river crossed the Polish frontier, while the other members of the Commission considered that it should be the point where each river ceased to be navigable, even if that point was situated within the Polish territory.

The Governments represented on the International Commission of the Oder drew up a Special Agreement asking the Court:

"Does the jurisdiction of the International Commission of the Oder extend, under the provisions of the Treaty of Versailles, to the sections of the tributaries of the Oder, Warthe (Warta) and Netze (Notec), which are situated in the Polish territory, and, if so, what is the

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[1] Text in: Permanent Court of International Justice, Series A, No. 23, Series C, No. 17 (II), Document instituting proceedings: Special Agreement of 30 October 1928.

Parties: Germany, Denmark, France, Great Britain, Sweden, Czechoslovakia and Poland.

principle laid down which must be adopted for the purpose of determining the upstream limits of the Commission's jurisdiction?"

Submissions of the Parties

As to the first question, Germany, Denmark, France, Great Britain, Sweden and Czechoslovakia asked the Court to declare that the jurisdiction of the International Commission extended to the sections of the Warthe and the Netze situated in Polish territory. For the juridical bases of their position, they cited the Barcelona Statute of 1921 (definition of navigable waterways of international concern), and the Treaty of Versailles (Article 331 - conditions of navigability). As to the second question, the upstream limits of the Commission's jurisdiction they submitted, should include all sections of the above two tributaries.

The Polish Government took the contrary view and asked the Court to declare that the jurisdiction of the International Commission did not extend to those two sections (of the Warthe and the Netze) situated in Polish territory.

Summary of the Judgement

Before rendering its judgement, the Court had to clarify two questions. The first of these related to Article 341 of the Treaty of Versailles stating that:

"The Oder shall be placed under the administration of an International Commission."

In the Polish view, the tributaries of the river were not placed under the authority of the Commission. The Court however rejoined that the Special Agreement expressly mentioned the Warthe and the Netze. This meant that the Commission's jurisdiction extended to the tributaries.

The second question related to the applicability of the Statute Annexed to the Barcelona Convention of 20 April 1921, on which the Six Governments (except Poland) based their arguments. The Court observed that Poland had ratified neither the Convention nor the Statute of Barcelona, and that neither therefore could be cited against Poland, and accordingly based its judgement exclusively on the Treaty of Versailles.

In order to answer the first question, the Court had to interpret the second paragraph of Article 331 of the Treaty of Versailles stating as follows:

"All navigable parts of those river systems which naturally provide more than one State with access to the sea."

The difference between an international and national river is that the first must be navigable and naturally provide more than one State with access to the sea. There was no question as to the navigability of the Warthe or the Netze, but Poland considered that the sections of the Warthe and the Netze in Polish territory provided only Poland with access to the sea, whereas the six Governments maintained the contrary (access to the sea for other States). The Court based its judgement on the concept of a "community of interest" of riparian States, thus:

"When consideration is given to the manner in which States have regarded the concrete situations arising out of the fact that a single waterway traverses or separates the territory of more than one State, and the possibility of fulfilling the requirements of justice and the considerations of utility which this fact places in relief, it is at once seen that a solution of the problem has been sought not in the idea of a right of passage in favour of upstream States, but in that of a community of interest of riparian States. This community of interest in a navigable river becomes the basis of a common legal right, the essential features of which are the perfect equality of all riparian States in the use of the whole course of the river and the exclusion of any preferential privilege of any riparian State in relation to others."

The Court went on to affirm that the jurisdiction of the International Commission of the Oder extended to the sections of the tributaries of the Oder, Warthe and Netze, situated in Polish territory.

Regarding the second question, namely, what is the principle laid down which must be adopted for the purpose of determining the upstream limits of the Commission's jurisdiction, the Court based its decision on Article 331 of the Treaty of Versailles. The Court had this to say:

"The jurisdiction of the Commission extends up to the points at which the Warthe (Warta) and the Netze (Notec) cease to be either naturally navigable or navigable by means of lateral channels or canals which duplicate or improve naturally navigable sections or connect two naturally navigable sections of the same river."

4.1.1.3 The Oscar Chinn Case, Judgement of 12 December 1934[1]

Introduction

The Congo River, the second longest river in Africa, rises in the Katanga plateau in the southeastern part of what was at the time of the dispute the Belgian Congo (now Zaire) across the Central African depression and turns, reaching the Atlantic Ocean through a narrow gorge in the Crystal Mountains. With its numerous tributaries, it drains a basin of some 1,450,000 sq. miles (the second largest basin in the world). The Congo is the chief thoroughfare for trade in the Belgian Congo (now Zaire).

Facts

The river transport company "Union nationale des transports fluviaux" (Unatra), with majority capital held by the State was set up in 1925 in the Belgian Congo (now Zaire, at Leopoldville). Four years later, in 1929, a British national, Oscar Chinn also established a river transport company in the Belgian Congo. As a result of the depression of 1930/31, the prices of raw materials of tropical origin fell, and the Belgian Government, by decision of 20 June 1931, ordered the lowering of the transport companies rates to a nominal level. Any loss would be reimbursed. Other private transporters, both Belgian and foreign, including Chinn, were excluded from this régime on the grounds of its temporary character.

In October 1932, the Belgian Government offered refunds to the private companies. Oscar Chinn however did not avail himself of this provision because he had gone out of business in July 1931. Instead, he sought the protection of the British Government, considering that he had been forged to go out of business following the decision of 20 June 1931 by which the Belgian Government had established a de facto monopoly in favour of Unatra.

According to the British Government, this decision violated the provisions of the Convention of Saint-Germain of 10 September 1919 on the Status of the Congo, claiming on these grounds reparation by the Belgian Government for the losses suffered by Oscar Chinn.

The matter was brought before the Permanent Court of International Justice by a special agreement signed at Brussels on 13 April 1934 between the two Governments (British and Belgian). Then put to the Court the following questions:

"1. Having regard to all the circumstances of the case, were the above-mentioned measures complained of by the Government of the United Kingdom in conflict with the international obligations of the Belgian Government towards the Government of the United Kingdom?

2. If the answer to question 1 above is in the affirmative, and if Mr. Oscar Chinn has suffered damage on account of the non-observance by the Belgian Government of the above-mentioned obligations, what is the reparation to be paid by the Belgian Government to the Government of the United Kingdom?"

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[1] Text in: Permanent Court of International Justice, Series A/B, No. 63, Series C, No. 75.

Parties: Great Britain, Belgium.

Submissions of the Parties

The United Kingdom asked the Court to declare that the Belgian Government, by its decision of 20 June 1931, violated obligations toward the Government of the United Kingdom under the Convention of Saint-Germain and general international law and that the Belgian Government should pay the reparation for the damage suffered by Chinn.

Summary of the Judgement

First, the Court analysed the basis on which these obligations arose, namely the Convention of Saint-Germain of 1919, and the general principles of international law.

Article 1 of the Convention of Saint-Germain reads:

"The signatory powers undertake to maintain between their respective nationals and those of States, Members of the League of Nations, which may adhere to the present Convention a complete commercial equality in the territories under their authority within the area defined by Article 1 of the General Act of Berlin of 26 February 1885, set out in the Annex hereto, but subject to the reservation specified in the final paragraph of that Article."

This Article makes it clear that the Convention of Saint-Germain abrogated the General Act of Berlin of 1885 and the General Act and Declaration of Brussels of 1890. The law applicable to this item case was the Convention of Saint-Germain, which confirmed the principle of free navigation and the principle of freedom of trade. But, for the Court, freedom of trade "does not mean the abolition of commercial competition; it presupposes the existence of such competition."

Taking into account the temporary character of the measures taken by the Belgian Government and the special circumstances (the depression of 1930/31), the Court did not consider these like a violation of the Convention of Saint-Germain.

As for any violation of general international law to the effect that all States have a duty to respect the vested rights of foreigners - the Court could not accept this argument, since no vested right was violated by the Belgian Government.

4.1.1.4 The Diversion of Water from the Meuse, Judgement of 28 June 1937[1]

Introduction

The River Meuse rises in northeastern France, flows through Belgium and Holland into the North Sea, where it forms a common delta with the Rhine. The Rhine-Meuse delta is formed by the Upper Merwede, which has two tributaries, the New Merwede and the Lower Merwede. From its source in the Plateau of Langres, six miles west-northwest of Bourbone-les-Bains, it passes Neufchâteau au Troussey, entering Belgium below Givet. Passing Liège, it forms the Netherlands-Belgian border. At Maastricht it is wholly in the Netherlands.

Facts

The Netherlands and Belgium concluded a Treaty on 12 May 1863 in order to "settle permanently and definitively the régime governing diversions of water from the Meuse for the feeding of navigation canals and irrigation channels."

By Article 1 of this Treaty, the construction of the new intake has been provided in the Netherlands, below Maastricht, and it would constitute "the feeding conduct for all canals situated below that town and for irrigation in the Campine and in the Netherlands."

In 1925, the two States signed a new agreement designed to settle all differences concerning the construction or the enlargement of new canals. The Netherlands First Chamber however refused to ratify. Following this, the Netherlands started to construct the Juliana Canal, the Bosscheveld Lock and the Borgharen barrage, while Belgium began to construct the Albert Canal, a barrage at Monsin and a lock at Neerhaeren. The Netherlands seized the Court with a unilateral application under Article 36(2) of the Court's Statute (compulsory jurisdiction).

Submission of the Parties

The Netherlands asked the Court to declare that the construction of the new canals by Belgium was contrary to the Treaty of 1863, and to order Belgium:

"a) to discontinue all the works and to restore to a condition consistent with the Treaty of 1863 all works constructed in breach of that Treaty; and

b) to discontinue any feeding held to be contrary to the said Treaty and to refrain from any further feeding."

Belgium asked the Court to declare that the Netherlands' submission was ill-founded, that the Borgharen barrage had been constructed in breach of the Treaty of 1863 and that the Juliana Canal too, was subject to the provisions of that same Treaty.

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[1] Text in: Permanent Court of International Justice, Series A/B, No. 70, Series C, No. 81.

Parties: Belgium, Netherlands.

Summary of the Judgement

The Court rejected the Netherlands' submission with effect that the Article 1 of the Treaty of 1863 gave it the right to supervise and control all the intakes, situated not only in Netherlands' territory, but also in Belgium. The text of this article provided for only one, single feeder in the Netherlands.

With regard to the construction by Belgium of the Albert Canal (water taken from the Meuse in Netherlands territory), the origin of the water was irrelevant, In the opinion of the Court, the two States could modify, enlarge, transform, fill the canals and increase the volume of water in them on condition that the canals did not leave their territories and the volume of water was not affected.

The Court rejected the first Belgian submission concerning the Borgharen barrage, stating that the Treaty of 1863 did not forbid the Netherlands to alter the depth of water in the Meuse at Maastricht without the consent of Belgium, if the discharge of water, the volume and the current were not affected.

The second Belgian submission was also rejected by the Court on the ground that the construction of the Juliana Canal which was situated on the right bank of the Meuse did not come under the régime of water supply provided for by the Treaty of 1863, which was designed to regulate the supply of water to the canals situated on the left bank of the Meuse.

4.1.2 International Court of Justice

4.1.2.1 Case concerning the Gabcíkovo - Nagymaros Project (Hungary/Slovakia), Judgment of 25 September 1997[1]

Introduction

The sector of the Danube river with which this case is concerned is a stretch of approximately 200 kilometres, between Bratislava in Slovakia and Budapest in Hungary. Below Bratislava, the river gradient decreases markedly, creating an alluvial plain of gravel and sand sediment. The boundary between the two States is constituted, in the major part of that region, by the main channel of the river. Cunovo and, further downstream, Gabcíkovo, are situated in this sector of the river on Slovak territory, Cunovo on the right bank and Gabcíkovo on the left. Further downstream, after the confluence of the various branches, the river enters Hungarian territory. Nagymaros lies in a narrow valley at a bend in the Danube just before it turns south, enclosing the large river island of Szentendre before reaching Budapest.

Facts

The present case arose out of the signature, on 16 September 1977, by the Hungarian People's Republic and the Czechoslovak People's Republic, of a treaty "concerning the construction and operation of the Gabcíkovo-Nagymaros System of Locks" (hereinafter called the "1977 Treaty"). The names of the two contracting States have varied over the years; they are referred to as Hungary and Czechoslovakia. The 1977 Treaty entered into force on 30 June 1978.

It provides for the construction and operation of a System of Locks by the parties as a "joint investment". According to its Preamble, the system was designed to attain "the broad utilization of the natural resources of the Bratislava-Budapest section of the Danube river for the development of water resources, energy, transport, agriculture and other sectors of the national economy of the Contracting Parties". The joint investment was thus essentially aimed at the production of hydroelectricity, the improvement of navigation on the relevant section of the Danube and the protection of the areas along the banks against flooding. At the same time, by the terms of the Treaty, the contracting parties undertook to ensure that the quality of water in the Danube was not impaired as a result of the Project, and that compliance with the obligations for the protection of nature arising in connection with the construction and operation of the System of Locks would be observed.

The 1977 Treaty provides for the building of two series of locks, one at Gabcíkovo (in Czechoslovak territory) and the other at Nagymaros (in Hungarian territory), to constitute "a single and indivisible operational system of works". The Treaty further provided that the

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[1] Text in: International Court of Justice, Communiqué (unofficial) No. 97/10 bis of 25 September 1997 and Judgement. Both available from the ICJ Internet Home Page.

Parties: Hungary and Slovakia.

technical specifications concerning the system would be included in the "Joint Contractual Plan" which was to be drawn up in accordance with the Agreement signed by the two Governments for this purpose on 6 May 1976. It also provided for the construction, financing and management of the works on a joint basis in which the Parties participated in equal measure.

The Joint Contractual Plan, set forth, on a large number of points, both the objectives of the system and the characteristics of the works. It also contained "Preliminary Operating and Maintenance Rules", Article 23 of which specified that "The final operating rules [should] be approved within a year of the setting into operation of the system."

The Court observed that the Project was thus to have taken the form of an integrated joint project with the two contracting parties on an equal footing in respect of the financing, construction and operation of the works. Its single and indivisible nature was to have been realized through the Joint Contractual Plan which complemented the Treaty. In particular, Hungary would have had control of the sluices at Dunakiliti and the works at Nagymaros, whereas Czechoslovakia would have had control of the works at Gabcíkovo.

The schedule of work had for its part been fixed in an Agreement on mutual assistance signed by the two parties on 16 September 1977, at the same time as the Treaty itself. The Agreement made some adjustments to the allocation of the works between the parties as laid down by the Treaty. Work on the Project started in 1978. On Hungary's initiative, the two parties first agreed, by two Protocols signed on 10 October 1983 to slow the work down and to postpone putting into operation the power plants, and then, by a Protocol signed on 6 February 1989 to accelerate the Project.

As a result of intense criticism which the Project had generated in Hungary, the Hungarian Government decided on 13 May 1989 to suspend the works at Nagymaros pending the completion of various studies which the competent authorities were to finish before 31 July 1989. On 21 July 1989, the Hungarian Government extended the suspension of the works at Nagymaros until 31 October 1989, and, in addition, suspended the works at Dunakiliti until the same date. Lastly, on 27 October 1989, Hungary decided to abandon the works at Nagymaros and to maintain the status quo at Dunakiliti.

During this period, negotiations took place between the parties. Czechoslovakia also started investigating alternative solutions. One of them, an alternative solution subsequently known as "Variant C", entailed a unilateral diversion of the Danube by Czechoslovakia on its territory some 10 kilometres upstream of Dunakiliti. In its final stage, Variant C included the construction at Cunovo of an overflow dam and a levee linking that dam to the south bank of the bypass canal. Provision was made for ancillary works.

On 23 July 1991, the Slovak Government decided "to begin, in September 1991, construction to put the Gabcíkovo Project into operation by the provisional solution". Work on Variant C began in November 1991. Discussions continued between the two parties but to no avail, and, on 19 May 1992, the Hungarian Government transmitted to the Czechoslovak Government a Note Verbale terminating the 1977 Treaty with effect from 25 May 1992. On 15 October 1992, Czechoslovakia began work to enable the Danube to be closed and, starting on 23 October, proceeded to the damming of the river.

The Court finally took note of the fact that on 1 January 1993 Slovakia became an independent State; that in a Special Agreement thereafter concluded between Hungary and Slovakia, signed at Brussels on 7 April 1993, the Parties agreed to establish and implement a temporary water management régime for the Danube; and that finally they concluded an Agreement in respect of it on 19 April 1995, which would come to an end 14 days after the Judgment of the Court. The Court also observes that not only the 1977 Treaty, but also the "related instruments" are covered in the preamble to the Special Agreement and that the Parties, when concentrating their reasoning on the 1977 Treaty, appear to have extended their arguments to the "related instruments".

Proceedings had been instituted on 2 July 1993 by a joint notification of the Special Agreement. After setting out the text of the Agreement, the Court recited the successive stages of the proceedings, referring, among other things, to its visit, on the invitation of the parties, to the area, from 1 to 4 April 1997. It further set out the submissions of the Parties.

Submission of the Parties

1. In terms of Article 2, paragraph 1 (a), of the Special Agreement, the Court is requested to decide first

"whether the Republic of Hungary was entitled to suspend and subsequently abandon, in 1989, the works on the Nagymaros Project and on the part of the Gabcíkovo Project for which the Treaty attributed responsibility to the Republic of Hungary".

2. By the terms of Article 2, paragraph 1 (b), of the Special Agreement, the Court is asked in the second place to decide

"(b) whether the Czech and Slovak Federal Republic was entitled to proceed, in November 1991, to the 'provisional solution' and to put into operation from October 1992 this system".

3. By the terms of Article 2, paragraph 1 (c), of the Special Agreement, the Court is asked, thirdly, to determine

"what are the legal effects of the notification, on 19 May 1992, of the termination of the Treaty by the Republic of Hungary".

Summary of the Judgement

In relation to the first point the Court found that Hungary was not entitled to suspend and subsequently abandon, in 1989, the works on the Nagymaros Project and on the part of the Gabcíkovo Project for which the 1977 Treaty and related instruments attributed responsibility to it.

In relation to the second point the Court found that Czechoslovakia was entitled to proceed, in November 1991, to Variant C in so far as it then confined itself to undertaking works which did not predetermine the final decision to be taken by it. On the other hand, Czechoslovakia was not entitled to put that Variant into operation from October 1992.

In relation to the third point during the proceedings, Hungary presented five arguments in support of the lawfulness, and thus the effectiveness, of its notification of termination. These were the existence of a state of necessity; the impossibility of performance of the Treaty; the occurrence of a fundamental change of circumstances; the material breach of the Treaty by Czechoslovakia; and, finally, the development of new norms of international environmental law. Slovakia contested each of these grounds.

- State of necessity

The Court observed that, even if a state of necessity is found to exist, it is not a ground for the termination of a treaty. It may only be invoked to exonerate from its responsibility a State which has failed to implement a treaty.

- Impossibility of performance

The Court found that it was not necessary to determine whether the term "object" in Article 61 of the Vienna Convention of 1969 on the Law of Treaties (which speaks of "permanent disappearance or destruction of an object indispensable for the execution of the treaty" as a ground for terminating or withdrawing from it) can also be understood to embrace a legal régime as in any event, even if that were the case, it would have to conclude that in this instance that régime had not definitively ceased to exist. The 1977 Treaty - and in particular its Articles 15, 19 and 20 - actually made available to the parties the necessary means to proceed at any time, by negotiation, to the required readjustments between economic imperatives and ecological imperatives.

- Fundamental change of circumstances

In the Court's view, the prevalent political conditions were not so closely linked to the object and purpose of the Treaty that they constituted an essential basis of the consent of the parties and, in changing, radically altered the extent of the obligations still to be performed. The same holds good for the economic system in force at the time of the conclusion of the 1977 Treaty. Nor did the Court consider that new developments in the state of environmental knowledge and of environmental law can be said to have been completely unforeseen. What is more, the formulation of Articles 15, 19 and 20 is designed to accommodate change. The changed circumstances advanced by Hungary were thus, in the Court's view, not of such a nature, either individually or collectively, that their effect would radically transform the extent of the obligations still to be performed in order to accomplish the Project.

- Material breach of the Treaty

Hungary's main argument for invoking a material breach of the Treaty was the construction and putting into operation of Variant C. The Court pointed out that it had already found that Czechoslovakia violated the Treaty only when it diverted the waters of the Danube into the bypass canal in October 1992. In constructing the works which would lead to the putting into operation of Variant C, Czechoslovakia did not act unlawfully. In the Court's view, therefore, the notification of termination by Hungary on 19 May 1992 was premature. No breach of the Treaty by Czechoslovakia had yet taken place and consequently Hungary was not entitled to invoke any such breach of the Treaty as a ground for terminating it when it did.

- Development of new norms of international environmental law

The Court noted that neither of the Parties contended that new peremptory norms of environmental law had emerged since the conclusion of the 1977 Treaty; and the Court will consequently not be required to examine the scope of Article 64 of the Vienna Convention on the Law of Treaties (which treats of the voidance and termination of a treaty because of the emergence of a new peremptory norm of general international law (jus cogens)). On the other hand, the Court wishes to point out that newly developed norms of environmental law are relevant for the implementation of the Treaty and that the parties could, by agreement, incorporate them through the application of Articles 15, 19 and 20 of the Treaty. These articles do not contain specific obligations of performance but require the parties, in carrying out their obligations to ensure that the quality of water in the Danube is not impaired and that nature is protected, to take new environmental norms into consideration when agreeing upon the means to be specified in the Joint Contractual Plan. By inserting these evolving provisions in the Treaty, the parties recognized the potential necessity to adapt the Project. Consequently, the Treaty is not static, and is open to adapt to emerging norms of international law. By means of Articles 15 and 19, new environmental norms can be incorporated in the Joint Contractual Plan. The awareness of the vulnerability of the environment and the recognition that environmental risks have to be assessed on a continuous basis have become much stronger in the years since the Treaty's conclusion. These new concerns have enhanced the relevance of Articles 15, 19 and 20. The Court recognizes that both Parties agree on the need to take environmental concerns seriously and to take the required precautionary measures, but they fundamentally disagree on the consequences this has for the joint Project. In such a case, third-party involvement may be helpful and instrumental in finding a solution, provided each of the Parties is flexible in its position.

Finally, the Court was of the view that although it has found that both Hungary and Czechoslovakia failed to comply with their obligations under the 1977 Treaty, this reciprocal wrongful conduct did not bring the Treaty to an end nor justify its termination.

In the light of the conclusions it has reached above, the Court found that the notification of termination by Hungary of 19 May 1992 did not have the legal effect of terminating the 1977 Treaty and related instruments.

In relation to the dissolution of Czechoslovakia, the Court found that the 1977 Treaty created rights and obligations "attaching to" the parts of the Danube to which it relates; thus the Treaty itself could not be affected by a succession of States. The Court therefore concluded that the 1977 Treaty became binding upon Slovakia on 1 January 1993.

Legal consequences of the Judgment

The Court observed that the part of its Judgment which answers the questions in Article 2, paragraph 1, of the Special Agreement has a declaratory character. It deals with the past conduct of the Parties and determines the lawfulness or unlawfulness of that conduct between 1989 and 1992 as well as its effects on the existence of the Treaty. Now the Court has, on the basis of the foregoing findings, to determine what the future conduct of the Parties should be. This part of the Judgment is prescriptive rather than declaratory because it determines what the rights and obligations of the Parties are. The Parties will have to seek agreement on the

modalities of the execution of the Judgment in the light of this determination, as they agreed to do in Article 5 of the Special Agreement.

In this regard it is of cardinal importance that the Court has found that the 1977 Treaty is still in force and consequently governs the relationship between the Parties. That relationship is also determined by the rules of other relevant conventions to which the two States are party, by the rules of general international law and, in this particular case, by the rules of State responsibility; but it is governed, above all, by the applicable rules of the 1977 Treaty as a lex specialis. The Court observed that it cannot, however, disregard the fact that the Treaty has not been fully implemented by either party for years, and indeed that their acts of commission and omission have contributed to creating the factual situation that now exists. Nor can it overlook that factual situation - or the practical possibilities and impossibilities to which it gives rise - when deciding on the legal requirements for the future conduct of the Parties. What is essential, therefore, is that the factual situation as it has developed since 1989 shall be placed within the context of the preserved and developing treaty relationship, in order to achieve its object and purpose in so far as that is feasible. For it is only then that the irregular state of affairs which exists as the result of the failure of both Parties to comply with their treaty obligations can be remedied.

The Court pointed out that the 1977 Treaty is not only a joint investment project for the production of energy, but it was designed to serve other objectives as well: the improvement of the navigability of the Danube, flood control and regulation of ice-discharge, and the protection of the natural environment. In order to achieve these objectives the parties accepted obligations of conduct, obligations of performance, and obligations of result. The Court is of the opinion that the Parties are under a legal obligation, during the negotiations to be held by virtue of Article 5 of the Special Agreement, to consider, within the context of the 1977 Treaty, in what way the multiple objectives of the Treaty can best be served, keeping in mind that all of them should be fulfilled.

It is clear that the Project's impact upon, and its implications for, the environment are of necessity a key issue. The numerous scientific reports which have been presented to the Court by the Parties - even if their conclusions are often contradictory - provide abundant evidence that this impact and these implications are considerable.

In order to evaluate the environmental risks, current standards must be taken into consideration. This is not only allowed by the wording of Articles 15 and 19, but even prescribed, to the extent that these articles impose a continuing - and thus necessarily evolving - obligation on the parties to maintain the quality of the water of the Danube and to protect nature. The Court is mindful that, in the field of environmental protection, vigilance and prevention are required on account of the often irreversible character of damage to the environment and of the limitations inherent in the very mechanism of reparation of this type of damage.

Throughout the ages, mankind has, for economic and other reasons, constantly interfered with nature. In the past, this was often done without consideration of the effects upon the environment. Owing to new scientific insights and to a growing awareness of the risks for mankind - for present and future generations - of pursuit of such interventions at an unconsidered and unabated pace. New norms and standards have been developed, set forth in a great number of instruments during the last two decades. Such new norms have to be taken

into consideration, and such new standards given proper weight, not only when States contemplate new activities but also when continuing with activities begun in the past. For the purposes of the present case, this means that the Parties together should look afresh at the effects on the environment of the operation of the Gabcíkovo power plant. In particular they must find a satisfactory solution for the volume of water to be released into the old bed of the Danube and into the side-arms on both sides of the river.

It is not for the Court to determine what shall be the final result of these negotiations to be conducted by the Parties. It is for the Parties themselves to find an agreed solution that takes account of the objectives of the Treaty, which must be pursued in a joint and integrated way, as well as the norms of international environmental law and the principles of the law of international watercourses. The Court will recall in this context that, as it said in the North Sea Continental Shelf cases:
"[the Parties] 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" (I.C.J. Reports 1969, p. 47, para. 85).

What is required in the present case by the rule pacta sunt servanda, as reflected in Article 26 of the Vienna Convention of 1969 on the Law of Treaties, is that the Parties find an agreed solution within the co-operative context of the Treaty. Article 26 combines two elements, which are of equal importance. It provides that "Every treaty in force is binding upon the parties to it and must be performed by them in good faith". This latter element, in the Court's view, implies that, in this case, it is the purpose of the Treaty, and the intentions of the parties in concluding it, which should prevail over its literal application. The principle of good faith obliges the Parties to apply it in a reasonable way and in such a manner that its purpose can be realized.

The 1977 Treaty not only contains a joint investment programme, it also establishes a régime. According to the Treaty, the main structures of the System of Locks are the joint property of the Parties; their operation will take the form of a co-ordinated single unit; and the benefits of the project shall be equally shared. Since the Court has found that the Treaty is still in force and that, under its terms, the joint régime is a basic element, it considers that, unless the Parties agree otherwise, such a régime should be restored. The Court is of the opinion that the works at Cunovo should become a jointly operated unit within the meaning of Article 10, paragraph 1, in view of their pivotal role in the operation of what remains of the Project and for the water-management régime. The dam at Cunovo has taken over the role which was originally destined for the works at Dunakiliti, and therefore should have a similar status. The Court also concludes that Variant C, which it considers operates in a manner incompatible with the Treaty, should be made to conform to it.

Re-establishment of the joint régime will also reflect in an optimal way the concept of common utilization of shared water resources for the achievement of the several objectives mentioned in the Treaty, in concordance with Article 5, paragraph 2, of the Convention on the Law of the Non-Navigational Uses of International Watercourses, according to which:
"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 Convention." (General Assembly, Doc. A/51/869 of 11 April 1997.)

Having thus far indicated what in its view should be the effects of its finding that the 1977 Treaty is still in force, the Court turned to the legal consequences of the internationally wrongful acts committed by the Parties, as it had also been asked by both Parties to determine the consequences of the Judgment as they bear upon payment of damages.

The Court has not been asked at this stage to determine the quantum of damages due, but to indicate on what basis they should be paid. Both Parties claimed to have suffered considerable financial losses and both claim pecuniary compensation for them.

In the Judgment, the Court has concluded that both Parties committed internationally wrongful acts, and it has noted that those acts gave rise to the damage sustained by the Parties; consequently, Hungary and Slovakia are both under an obligation to pay compensation and are both entitled to obtain compensation. The Court observes, however, that given the fact that there have been intersecting wrongs by both Parties, the issue of compensation could satisfactorily be resolved in the framework of an overall settlement if each of the Parties were to renounce or cancel all financial claims and counter-claims. At the same time, the Court wishes to point out that the settlement of accounts for the construction of the works is different from the issue of compensation, and must be resolved in accordance with the 1977 Treaty and related instruments. If Hungary is to share in the operation and benefits of the Cunovo complex, it must pay a proportionate share of the building and running costs.

4.2 ARBITRAL AWARDS

4.2.1 Helmand River Delta Case

Arbitral Awards of 19 August 1872 and 10 April 1905[1]

Introduction

The Helmand River rises in the mountains, 35 miles west of Kabul in Afghanistan and flows for 700 miles in Afghan territory. Downstream, about 40 miles to the north at Kohak, the river divides into two channels, flowing north and northwest into the Seistan lakes depression. The easterly tributary at Kohak, referred to as the Common River (in Afghanistan) and Rud-i-Pariun (in Iran) forms the boundary between the two countries for 12 miles and divides, flowing into lakes in Afghanistan and Iran. The other tributary at Kohak is the Rud-i-Seistan, which flows west and north-west to the Seistan lakes in Iran.

4.2.1.1 Award of 19 August 1872 rendered by General Goldsmid

Facts

A first dispute between Afghanistan and Persia arose in connection with the delimitation of their boundary and the use of the waters of the Helmand River in the delta region (below Band-i-Kamal Khan) called Sistan or Seistan. In 1872, the dispute was submitted to the arbitration of a British Commissioner, General Goldsmid.

Summary of the arbitral award

On 19 August 1872, General Goldsmid gave his award at Teheran in the following terms:

"Persia should not possess land on the right bank of the Helmand. It appears therefore beyond doubt indispensable that ... both banks of the Helmand above the Kohak Band be given up to Afghanistan ... The main bed of the Helmand therefore below Kohak should be the eastern boundary of Persian Sistan ... It is moreover to be well understood that no works are to be carried out on either side calculated to interfere with the requisite supply of water for irrigation on the banks of the Helmand."

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[1] Text in: Mayors St. John, Lovett, and Evan Smith and Mayor-General Sir Frederick John Goldsmid, Eastern Persia, An Account of the Journeys of the Persian Boundary Commission, 1870-71-72, (London, 1876), Vol. I, p. 413.

Parties: Afghanistan, Persia.

4.2.1.2 Award of 10 April 1905 rendered by Colonel MacMahon

Facts

In 1902, the second dispute was submitted to the arbitration of a British Commissioner, Colonel MacMahon, who on 10 April 1905 rendered an award, defining what amount of water fairly represented a requisite supply for irrigation provided on behalf of Persia by the award of 1872. The Mission in Seistan had been created in order to determine this requisite supply for Persian needs and it has been stated that one third of the water which reached Seistan would suffice for irrigation in Persian Seistan, leaving at the same tire a requisite supply for Afghan requirements as well.

Summary of the Arbitral Award

The award contained eight clauses, the first and the seventh being the most relevant for the question under dispute. Thus:

"Clause I - No irrigation works are to be carried out on either side calculated to interfere with the requisite supply of water for irrigation on both banks of the river, but both sides have the right, within their own territories, to maintain existing canals, to open out old or disused canals, and to make new canals, from the Helmand river, provided that the supply of water requisite for irrigation on both sides is not diminished.

Clause VII - It will be noted that the rights to the Helmand river which its geographical position naturally gives to Afghanistan as owner of the Upper Helmand, have been restricted to the extent stated above in favour of Persia in accordance with Sir Frederick Goldsmid's award. It follows, therefore, that Persia has no right to alienate to any other power the water rights thus acquired without the consent of Afghanistan."[1]

[1] On 7 September 1950, the two Governments signed an agreement "Terms of Reference of the Helmand River Delta Commission and an interpretative statement relative thereto, agreed by Conferees of Afghanistan and Iran" (text in: ST/LEG/SER.B/12, 270), and established the Helmand River Delta Commission for the elaboration of the technical methods concerning the share of the water of the Helmand River for Iran (Seistan) and Afghanistan (Chakhansur).

4.2.2 San Juan River Case

Award of 22 March 1888 rendered by President Grover Cleveland[1]

Introduction

San Juan River forms an outlet of Lake Nicaragua on the Nicaragua-Costa Rica border and issues from the southwest end of the lake at San Carlos, the river past El Castillo reaching the Caribbean Sea at An Juan del Norte (Greytown). To the right, it receives the San Carlos and Sarapiqui rivers. Near its mouth it forms three main arms: the Juanillo (in the north), the San Juan proper and the Rio Colorado (in the South).

Facts

Costa Rica and Nicaragua concluded a Treaty (Cañas-Jerez Treaty) on 15 April 1858, for the delimitation of their boundary. Article II fixed the dividing line between the two countries as:

"Starting from the Caribbean Sea , shall begin at the end of Punta de Castilla, at the mouth of the San Juan de Nicaragua river, and shall run along the right bank of the said river up to a point three English miles distant from Castillo Viejo, the said distance to be measured between the exterior works of the said castle and the above-named point."

Article VI reads as follows.

"The Republic of Nicaragua shall have exclusively the dominion and sovereign jurisdiction over the waters of the San Juan river from its origin in the Lake to its mouth in the Atlantic; but the Republic of Costa Rica shall have the perpetual right of free navigation on the said waters, between the said mouth and the point, three English miles distant from Castillo Viejo."[2]

A dispute arose as to the validity of this Treaty and the Parties concluded on 24 December 1886 a compromise and submitted this dispute to the arbitration of the President of the United States of America. If the arbitrator decided that the Treaty was valid, he would have to interpret certain doubtful points in it.

Summary of the Arbitral Award

The award rendered on 22 March 1888 by Grover Cleveland, President of the United States of America, stated that the Boundary Treaty of 15 April 1858 was valid. With regard to the special rights of both Countries, the arbitrator next observed:

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1 Text in: Moore, History and Digest of International Arbitration to which the United States has been a party, Washington, 1898, Vol. V, p. 4706.

2 See text under footnote (2) on next page.

Parties: Costa Rica, Nicaragua.

"Second. The Republic of Costa Rica under said Treaty and the stipulations contained in the sixth article thereof, has not the right of navigation of the River San Juan with vessels of war."[1]

"Third. The Republic of Costa Rica cannot prevent the Republic of Nicaragua from executing at her own expense and within her own territory such works of improvement, provided such works of improvement do not result in the occupation or flooding or damage of Costa Rica territory, or in the destruction or serious impairment of the navigation of the said River or any of its branches at any point where Costa Rica is entitled to navigate the same. The Republic of Costa Rica has the right to demand indemnification for any places belonging to her on the right bank of the River San Juan which may be occupied without her consent, and for any lands on the same bank which may be flooded or damaged in any other way in consequence of works of improvement."[2]

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1 See text under footnote 2.

2 For the text, see: Moore, op. cit. Vol. 2, p. 1964; the interpretation of article VIII of the Cañas-Jerez Treaty of 15 April 1858 and of certain passages of this award were the subject of a decision rendered on 30 September 1916 between Costa Rica and Nicaragua by the Central American Court of Justice. For the text of this decision, see American Journal of International Law (1917), Vol. 11, p. 181, and La Gaceta, Costa Rica, 7 October 1916.

4.2.3 Kushk River Case

Award of 22 August (3 September) 1893 rendered by an Anglo-Russian Commission[1]

Introduction

The Kushk River forms the boundary between northwest Afghanistan and southeast Turkmen. It rises in Paropamisus Mountains, 55 miles east-northeast of Herat, flows 150 miles northwest, past Kushk and empties into Murgab River (in Afghanistan).

Facts

On 10 September 1885, Great Britain and Russia concluded a Protocol for the delimitation of the boundary between Afghanistan and Russia. A joint commission was established in order to examine and determine the details concerning this boundary.

Under Clause III of the final Protocol No. 4, signed by this Commission at St. Petersburg on 10 (22) July 1887:

"The clause in Protocol No. 4 of the 14th (26th) December 1805, prohibiting the Afghans from making use of the irrigating canals in the Kushk Valley below Chahil Dukhter which were not in use at that time, remains in force, but it is understood that this clause can only be applied to the canals supplied by the Kushk. The Afghans shall not have the right to make use of the waters of the Kushk for their agricultural works north of Chahil Dukhter; but the waters of the Moghur belong exclusively to them, and they may carry out any works they may think necessary in order to make use of them."

A new Commission was established in order to settle a dispute concerning the application of this clause.

Summary of the Arbitral Award

On 22 August (3 September) 1893, the Commission drew us a final protocol and decided that:

"III. In order to elucidate and complete Clause III of Protocol No. 4 of 10th (22nd) July 1887, the Commissioners have established that the Afghans shall not be able to take off water from the river Kushk, north of the ruins of the Chahil Dukhteran bridge (Pul-i-Kishti), for irrigation by means of either new or disused or closed canals; the Afghans shall not have the right to carry on, below the parallel of Chahil Dukhteran fronting pillar No. 23, for irrigation, the branches of the canals which take off from the Kushk south of the ruins of the Chahil Dukhteran bridge (Pul-i-Kishti), but they shall have the right to make use of the said branches to irrigate their cultivation as far as the parallel of the Chahil Dukhteran frontier pillar No. 23."

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[1] Text in: G.F. de Martens, Nouveau Recueil Général de traités, 1888, 2e série, t. XIII, p. 566.
Parties: Great Britain, Russia.

4.2.4 Faber Case

Award of 1903 rendered by Henry M. Duffield[1]

Introduction

The Zulía River rises in the Cordillera Oriental, west of Pamplona in Colombia. It flows North, past Puerto Villamizar, and across the international line, to Catatumbo River in the Maracaibo basin 4 miles West of Encontrados.

The Catatumbo River rises in the Cordillera Oriental of Colombia, southeast of Ocaña, and flows North through foothills, then East into the Maracaibo lowlands of Venezuela, where it receives Zulía River, and then into Lake Maracaibo.

Facts

The claimant Faber was a German subject, not domiciled in Venezuela, residing and having his place of business in Cúcuta, in Colombia. When Venezuela, by Executive decrees, suspended in 1900, 1901 and 1902 the navigation of the rivers Zulía and Catatumbo, Germany intervened, forcing Venezuela to open the river traffic on these two rivers (the Zulía route) stating that there were German merchants in Cúcuta who were injured by the Venezuelan decrees. By the Washington protocol of 13 February 1903, Germany and Venezuela established the Mixed Claims Commission, with Henry M. Duffield as umpire.

Summary of the Arbitral Award.

The umpire Henry M. Duffield, appointed by a German-Venezuelan Mixed Claims Commission, stated that:

"The Catatumbo, so far as it is navigable, is entirely within the boundaries of Venezuela after the confluence of the Zulía River with it."

After explaining the physical and political conditions of Venezuela, he said that:

"Venezuela had the right to suspend the traffic on these rivers by the closing of these ports. She was in full possession of them and they were actually under her sovereignty."

He added that Venezuela, by thus exercising her sovereignty, excluded from her internal commerce boats of other nationalities, and she had the right to regulate the internal navigation over its rivers and lakes, according to the principle of the free use of rivers running to the sea, because:

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[1] Text in: Reports of International Arbitral Awards, Vol. X, p. 466.

Parties: Germany, Venezuela.

"It must be considered as an international doctrine that the navigation of rivers passing through the territory of several States together with all their affluents must be free from the point where they begin to be navigable to the point where they empty into the sea."

As to the right of innocent use, the umpire stated that:

"Most of the advocates of the innocent use of rivers base their claim upon the grounds that inhabitants of lands traversed by another portion of the stream have a special right of use of the other portions because such use is highly advantageous to them. If the proprietary right of the State to the portion of the river within its boundaries be conceded, as it must be generally, there can be no logical defense of this position. It certainly is a novel proposition that because one may be so situated that the use of the property of another will be of special advantage to him he may on that ground demand such use as a right. The rights of an individual are not created or determined by his wants or even his necessities."

4.2.5 Tacna-Arica Case

Award of 4 March 1925 rendered by President Calvin Coolidge[1]

Introduction

The Camarones River rises in the Andes, in the Northern part of Chile, southeast of Arica, and flows about 65 miles west to the Pacific.

The Ucayali River is situated in the Eastern part of Peru. It is one of the Amazon's main headstreams, formed by the union of Apurimac (Tambo) and Urubamba rivers; it flows about 1,000 miles North, past Masisea, Pucallpa, and Contamana and joins the Marañon River, to form the Amazon for 55 miles of its course. The main affluents are: the Pachitea (left) and the Tapiche (right) rivers.

The Sama River is formed by the confluence of the river Chaspaya and the river Tala, west of Tarata, the capital of the Peruvian province. From this junction the river Sama flows to the sea cutting across the Northern portion of the Peruvian province of Tacna.

Facts

A dispute arose between Chile and Peru as to the Northern and Southern boundary of the territory covered by Article 3 of the Treaty of Ancon, signed on 20 October 1883.

Article 3 stated as follows:

"The territory of the provinces of Tacna and Arica, bounded on the North by the river Sama from its source in the Cordilleras on the frontier of Bolivia to its mouth at the sea, on the South by the ravine and river Camarones, on the East by the Republic of Bolivia, and on the West by the Pacific Ocean, shall continue in the possession of Chile subject to Chilean laws and authority during a period of ten years, to be reckoned from the date of the ratification of the present treaty of peace."

Chile contends that the treaty established a river line, that is the river Sama from its source to its mouth, that treaty of Ancon dealt with the Peruvian provinces of Tacna and Arica and with a portion of another Peruvian province, of Tarata. In the view of Peru, Article 3 dealt only with provinces of Tacna and Arica, the province of Tarata is not included. The problem arose as regards the river line, because there was no such river line as the treaty described. The river Sama is formed by the confluence of the river Chaspaya and the river Tala, west of the capital of the Peruvian province of Tarata; but there is no river Sama that had "its source in the Cordilleras on the frontier of Bolivia."

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[1] Text in: Reports of International Arbitral Awards, Vol. II, pp. 921-958.

Parties: Chile, Peru.

Summary of Arbrital Award

By a Special Agreement of 20 June 1922, the two Countries submitted the controversy to arbitration. The Arbitrator, President Calvin Coolidge, stated:

"There is a dispute as to which of the tributaries of the river Sama east of the junction of the rivers Chaspaya and Tala should be regarded as the main affluent or the continuation of the river Sama, but neither the Chaspaya nor the Tala, nor their tributaries, conform to the description of the treaty and enable the Arbitrator to establish any line of the river Sama as described from its source in the Cordilleras on the frontier of Bolivia to its mouth at the sea."

The President, rendered his award on 4 March 1925, as follows:

"The Arbitrator decides that no part of the Peruvian province of Tarata is included in the territory covered by the provisions of Article 3 of the Treaty of Ancon; that the territory to which Article 3 relates is exclusively that of the Peruvian provinces of Tacna and Arica as they stood on 20 October 1883; and that the Northern boundary of that part of the territory covered by Article 3 which was within the Peruvian province of Tacna is the river Sama.

The Arbitrator decides that the Southern boundary of the territory covered by Article 3 of the Treaty of Ancon is the provincial boundary between the Peruvian provinces of Arica and Tarapaca as they stood on 20 October 1883."

Finally, a treaty between Chile and Peru was concluded at Lima on 3 June 1929, with the assistance of President Hoover, giving Tacna to Peru, and Arica to Chile.

4.2.6 Zarumilla River Case

Arbitral Award of 14 July 1945 rendered by the Chancellery of Brazil[1]-[2]

Introduction

Zarumilla is a province in Northwest Peru. East-Northeast of Tumbes, department in Peru, the Zarumilla river starts (it is a very short river), on the border between Peru and Ecuador.

The Santiago River is situated between Ecuador and Peru, formed by the Paute and the Zamora Rivers in Santiago-Zamora province (Ecuador). It flows about 150 miles South to the Marañon river at the Western end of Pongo de Manseriche.

The Zamora River rises in the Andes, Southeastern part of Ecuador, South of Loja city, and flows about 150 miles East and North through tropical forests to join the Paute (Namangoza) River.

The Paute River rises in the Andes, Southeastern part of central Ecuador, South of Cuenca, flows Northeast, past Paute, then Southeast to join the Zamora. It is about 125 miles long. Its lower course is called Namangoza.

The Marañon River is one of the Amazon's main headstreams in Peru. It rises in the Andes from a series of small lakes, and flows North-Northwest along high Andean ranges, almost reaching Ecuador border, and turns Northeast to break through the famous Pongo de Manseriche gorge into Amazon basin.

Facts

In 1938 Peruvian forces occupied the provinces of El Oro and Loja in Ecuador. By intervention of Argentina, Brazil, Chile and the United States of America, Ecuador and Peru concluded a protocol of peace in Rio de Janeiro on 29 January 1942. By Article 8 of this protocol, the borderline in Eastern Ecuador started in the conloir of San Francisco, following a divortium aquarum between the rivers Zamora and Santiago, up to the junction of the Zamora and Yaupi.

The difficulties arose as to the delimitation of the Western section of the border between the two Countries. By exchange of notes of 22 May 1944, they accepted the mediation of Brazil as proposed by dr. Oswaldo Aranha, Brazilian Foreign Secretary. For the Southern part of the border, both Parties accepted a divortium aquarum, but in the North-Eastern part, the line of watershed divided into several branches. The post-captain Brazilian Braz Dias de Aguiar was chosen to act in his capacity as technician arbitrator, in order to resolve difficulties in the sector of Lagartococha-Guspi.

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1 The "Aranha formula".

2 Text in: Informe del Ministro de las Relaciones Exteriores a la Nación, p. 623, (Quito, 1946).

Parties: Ecuador, Peru.

Summary of the Arbitral Award

Braz Dias de Aguiar rendered award the 14 July 1945, accepted by both Parties, declared:

"Peru undertakes, within three years, to divert a part of the Zarumilla River so that it may run in the old bed, so as to guarantee the necessary aid for the subsistence of the Ecuadorian populations located along its banks, thus ensuring Ecuador the codominion over the waters in accordance with International practice."

4.2.7 Lake Lanoux Case

Award of 16 November 1957 rendered by an Arbitral Tribunal[1]

Introduction

Lake Lanoux is situated on the Southern slope of the Pyrénées, In French territory (the department of Pyrénées-Orientales). The lake is fed by streams, all of which rise on French territory and traverse only that territory. The lake waters flow out through a single stream, the Fontvive, which IS one of the sources of the Carol River. The latter, after about twenty-five kilometres from Lake Lanoux in French territory, crosses the Spanish border at Puigcerda and continues its course in Spain t for about six kilometres before joining the Segre river, which ultimately empties into the Ebro. Before entering Spain, the waters of the Carol teed the Puigcerda canal, which is the private property of the Spanish town of Puigcerda

Facts

France and Spain signed at Bayonne on 26 May 1866 the Additional Act to the Boundary Treaties concluded on 2 December 1856, 14 April 1862 and 26 May 1866 for the regulation of waters of common use.

On 21 September 1950, Electricité de France applied to the French Ministry of Industry to divert the waters of the Lake Lanoux to the River Ariège. The waters so diverted were to be completely returned to the River Carol by means of a tunnel connecting the rivers Ariège and Carol above the outlet to the Puigcerda Canal. France accepted the principle that waters diverted had to be returned, and that the quantity of water to be returned should correspond only to the actual needs of the Spanish riparian users.

On the basis of the Arbitration Treaty of 10 July 1929, between France and Spain, the two Countries signed a Compromis at Madrid, on 19 November 1956, by virtue of which the Arbitral Tribunal met in Geneva to pronounce on the following:

"Is the French Government justified in its contention that in carrying out, without a preliminary agreement between the two Governments, works for the use of the waters of Lake Lanoux on the terms laid down in the project and in the French proposals mentioned in the preamble to this compromis, it would not commit a violation of the provisions of the Treaty of Bayonne of 26 May 1866 and of the Additional Act of the same date?"

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[1] Text in: International Law Reports, 1957, p. 101.

Parties: Spain, France.

Summary of the Arbitral Award

The Arbitral Tribunal rendered its award on 16 November 1957, as follows:

"1. The public works envisaged in the French scheme are wholly situated in France; the most important part if not the whole of the effects of such works will be felt in French territory; they would concern waters which Article 8 of the Additional Act submits to French territorial sovereignty as follows:

Article 8 - All standing and flowing waters, whether they are in the private or public domain, are subject to the sovereignty of the State in which they are located, and therefore to that State's legislation, except for the modifications agreed upon between the two Governments. Flowing waters change jurisdiction at the moment when they pass from one country to the other, and, when the watercourses constitute a boundary, each State exercises its jurisdiction up to the middle of the flow."

The Tribunal held that this Act imposed a reservation to the principle of territorial sovereignty, but could not accept that these amendments should be interpreted strictly, because they derogated from sovereignty. It stated:

"Territorial sovereignty plays the part of a presumption. It must bend before all international obligations, whatever their origin, but only before such obligations."

Later, the Tribunal determined the French obligations in this matter. Spain based its arguments on the text of the Treaty and of the Additional Act of 1866, but in addition:

"The Spanish Government bases its contention on both the general and traditional features or the régime or the Pyrenean boundaries and on certain rules of customary international law (droit international commun) in order to proceed to the interpretation of the Treaty and the Additional Act of 1866."

The Tribunal next considered the following two questions:

(a) did the French project constitute a violation of the Treaty of Bayonne and of the Additional Act?

(b) if not, could the execution of such works constitute a violation of the Treaty and of the Additional Act, because it had been subject to preliminary agreement between the two Countries, or because other provisions of Article 11 of the Additional Act concerning the negotiations between the two Countries had not been observed?

As to the first question (a) the Tribunal stated that Spain based its claim on two grounds: a prohibition, in the absence of agreement, of compensation between two basins, despite the equivalence between diversion and restitution, and a prohibition, in the absence of agreement, of any act which would create a de facto inequality with a physical possibility of a violation of rights.

In connection with a first ground the Tribunal considered that the diversion-with-restitution envisaged in the French project was not contrary to the Treaty and to the Additional Act of 1866, because:

"The unity of a basin is sanctioned at the juridical level only to the extent that it corresponds to human realities. The water which by nature constitutes a fungible item may be the object of a restitution which does not change its qualities in regard to human needs. A diversion with restitution, such as that envisaged by the French project, does not change a state of affairs organized for the working of the requirements of social life."

In regard to the second ground, the Tribunal declared:

"In any case, we do not find either in the Treaty and the Additional Act of 26 May 1866, or in customary international law, any rule that prohibits one State, acting to safeguard its legitimate interests, to put itself in a situation that would permit it in effect, in violation of its international pledges to injure a neighbouring State even seriously."

The Tribunal replied in the negative to the first question (a), to the effect that the French project did not constitute a violation of the Treaty of Bayonne and of the Additional Act.

As to the second question (b), the Tribunal examined the Spanish argument, namely, that the French project had been subject to the prior agreement. Spain made reference to the system of joint community grazing rights or to the generally accepted principles of international law, but the Tribunal rejected this argument, because:

"The pasturage rights that the Spanish Commune of Llivia possesses on French territory, in no way touch the waters of Lake Lanoux or of the Carol"

and that:

"... the rule according to which States may utilize the hydraulic force of international watercourses only on condition of a prior agreement between the interested States cannot be established either as a custom or, even less, as a general principle of law."

The Tribunal cited Article 1 of the multilateral Convention of Geneva of 9 December 1923, relative to the utilization of hydraulic forces of interest to several States to the effect that:

"The present Convention in no way alters the freedom of each State, within the framework of international law, to carry out on its territory all operations for the development of hydraulic power which it desires."

With respect to the other obligations arising from Article 11 of the Additional Act, the tribunal stated:

"Article 11 of the Additional Act imposes on the States in which it is proposed to erect words or to grant new concessions likely to change the course or the volume of a successive watercourse a double obligation. One is to give a prior notice to the competent authorities of the frontier district; the other is to set up machinery for dealing with compensation claims and safeguards for all interests involved on either side."

France had given notice of its projects in relation to Lake Lanoux, and this was not contested. The Tribunal noted:

"In the case of Lake Lanoux, France has maintained to the end the solution which consists in diverting the waters of the Carol to the Ariège with full restitution. By making this choice, France is only making use of a right; the development works of Lake Lanoux are on French territory, the financing of and responsibility for the enterprise fall upon France, and France alone is the judge of works of public utility which are to be executed on her own territory, save for the provisions of Articles 9 and 10 of the Additional Act, which, however, the French scheme does not infringe."

The Tribunal took the view that the French project satisfied the obligations of Article 11 of the Additional Act, and that France in carrying out, without a preliminary agreement between the two Countries, works for the use of the waters of Lake Lanoux did not commit a violation of the provisions of the Treaty of Bayonne of 26 May 1866 or of the Additional Act.

4.2.8 Gut Dam Case

Decisions of 1968 rendered by the Lake Ontario Claims Tribunal[1]

Introduction

The St. Lawrence River is one of the principal rivers in North America and chief outlet for the Great Lakes. The St. Lawrence proper issues from the Northeastern end of Lake Ontario and flows 744 miles Northeast to its mouth on the Gulf of St. Lawrence. Below Lake Ontario, the river forms about 114 miles of international boundary. Later, it widens into Lake St. Francis and then into St. Louis at mouth of the Ottawa River. It links up with the Atlantic Ocean through the Gulf of St. Lawrence.

Lake Ontario is situated between the United States and Canada. It is the smallest of the Great Lakes. It receives the drainage of entire Great Lakes system through the Niagara River and discharges through the St. Lawrence.

Facts

In 1874, Canada proposed to construct a dam between Adams Island in Canadian territory and Les Galops Island in United States territory in the St. Lawrence River, in order to improve navigation. The dam was to stop the flow of water through the channel (known as the Gut Channel) which passed between these two islands. The Government of Canada requested the consent of the United States to the construction of a dam, which was given in 1903 under two conditions:

"1. That if, after said dam has been constructed, it is found that it materially affects the water levels of Lake Ontario or the St. Lawrence River or causes any injury to the interests of the United States, the Government of Canada shall mane such changes therein, and provide such additional regulation works in connection therewith as the Secretary of War may order.

2. That if the construction and operation of said dam shall cause damage or detriment to the property owners of Les Galops Island or to the property or any other citizens of the United States, the Government of Canada shall pay such amount of compensation as may be agreed upon between the said Government and the Parties damaged, or as may be awarded the said Parties in the proper court of the United States before which claims for damage may be brought."

Canada constructed the dam, but it was too low. So in 1904 a fresh consent was sought to increase the height of the dam. The United States duly consented. Between 1904 and 1951, as a result of certain changes, the flow of water in the Great Lakes - St. Lawrence River Basin was affected. They did not affect Gut Dam, but did affect the quantity of water flowing into Lake Ontario and the St. Lawrence River.

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[1] Text in: International Legal Materials, 1969. pp. 118-143.

Parties: U.S.A., Canada.

In 1951-1952 the level of Lake Ontario and the St. Lawrence River reached unprecedented heights, which caused flooding and erosion damage to the North and South shores of the Great Lakes, including Lake Ontario, belonging to the United States citizens. In 1962, the Congress of the United States authorized the Foreign Claims Settlement Commission of the United States to adjudicate claims of the U.S. citizens against Canada for damage caused to their property by Gut Dam. The United States and Canada by agreement signed on 25 March 1965, established the Lake Ontario Claims Tribunal. Both Parties chose as Chairman of the Tribunal Dr. Lambertus Erades, Vice-President of the District Court of Rotterdam (Netherlands).

4.2.8.1 Decision of 15 January 1968

Facts

The first question concerned the liability of Canada for damages caused by the Gut Dam. Canada extended its liability only to a small class of persons, the owner of Galops Island, i.e. the island on the United States side of the river which the dam abutted. The United States argued that under the 1903 agreement, Canada was required to compensate any citizen of the United States whose property was damaged.

The second question arose whether the obligation was limited not only to persons but also as to time.

Summary of the decision

The decision found in favour of the United States position, to the effect that Canada should be liable to compensate for damages Caused by the Gut Dam, is as follows:

"The obligation extended not only to the owners of Les Galops Island but to any citizen of the United States."

4.2.8.2 Decision of 12 February 1968

Facts

The Tribunal next decided the second question, as to whether there was a time limitation on the obligation of Canada to compensate United States citizens for damage caused by the Gut Dam.

Canada argued that the time for such compensations expired in 1908. The United States rejoined that there was no time limit, and that Canada by sending a diplomatic note to the

United States Government in 1952, acknowledging liability for damage caused by the dam, could not argue that its obligation expired in 1908.

Summary of the decision

The Tribunal held:

"In official diplomatic representations the Canadian Government clearly recognized its obligation to pay compensation so far as the 1951-1952 claims are concerned ... . It is clear to the Tribunal that the only issues which remain for its consideration are the questions whether Gut Dam caused the damage for which claims have been filed and the quantum of such damages."

The Tribunal recommended a compromise settlement.

4.2.8.3 Decision of 27 September 1903

Facts

The negotiations were undertaken between the two Countries, and an agreement was reached, namely that Canada would pay to the United States $350,000 for damage caused by the Gut Dam to American nationals.

Summary of the decision

The Tribunal recorded a joint communication concerning the compromise settlement and thereafter dissolved.

4.2.9 Landmark 62 - Mount Fitz Roy Case

Award of 21 October 1994 rendered by an Arbitral Tribunal[1]

Introduction

The area between landmark 62 and Mount Fitz Roy is quasi-rectangular, with three main mountain ranges from north-northeast to south-southwest. In the second (towards the east) mountain range there are two headwaters: Río Obstáculo, draining towards the Pacific; and a tributary of the Laguna Larga-Laguna del Desierto-Río Las Vueltas (or Gatica)-lake Viedma system, on the Atlantic watershed. Total surface area is approximately 481 Km.

Facts

In 1902 a dispute on the boundary line was submitted to the arbitration of Great Britain. The arbitral award stated that the terms of the Treaty of Friendship, Commerce and Navigation and Protocols between the two countries were inapplicable to their geographical conditions and subsequently would base its decision on the best interpretation of the diplomatic instruments submitted to it.
It divided the eastern (Argentina) and western (Chile) basins of lakes Buenos Aires, Pueyrredon (or Cochrane), and San Martin; “and the dividing ranges carrying the lofty peaks known as Mounts San Lorenzo and Fits Roy”. A stone landmark (No. 62) was placed at the Southern shore of Lake San Martin. The boundary in that sector corresponded to a line drawn from landmark 62 to Mount Fitz Roy. There was general agreement on the placement of the extreme points of the boundary. However, there were differences on the demarcation of the connecting line on the ground.
In 1984 a Treaty of Peace and Friendship was signed at the Vatican setting, among other things, legal mechanisms for differences regarding the boundary and the placement of landmarks.

In 1991, Argentina and Chile decided to subject the differences on the boundary line in the sector located between landmark 62 and Mount Fits Roy to arbitration. The decision of the Tribunal was to be based on the interpretation and application of the Arbitral Award of 1902.

Summary of the Arbitral Award

The Tribunal found that demarcation works taking place after the 1902 award were irrelevant to determine the intention of the arbitration in relation to the sector determined by landmark 62 and Mount Fitz Roy.

The Tribunal decided that the drawing of the limit between landmark 62 and Mount Fitz Roy is the local water-parting. This divide consists of a line from landmark 62 to Mount Martinez

[1] Text in: Tribunal Arbitral Internacional, Sentencia del 21 de Octubre de 1994, Controversia sobre el recorrido de la traza entre Hito 62 y el Monte Fitz Roy.

Parties : Argentina, Chile.

de Rosas. From there the divide continues towards the South-Southwest following the summits of the Martinez de Rosas chain. Then it descends to the pass between lagoons Redonda and Larga. It continues towards until Mount Treno. The water-divide turns to the Demetrio Mount, then to the Tambo Pass to reach the summit of Mount Melanasio or Ventisquero. The line turns to Mount Gorra Blanca, and it reaches the Marconi Pass. Thereafter, it ascends to the Marconi Norte Mountain, continuing south to the Rincón Mount. Finally, it divides runs towards the east, separating the Electric River to the north and the Fitz Roy river and Viedna Glacier to the south, ending up to the summit of Mount Fitz Roy.

5. STUDIES AND DECLARATIONS MADE BY INTERNATIONAL NON-GOVERNMENTAL ORGANIZATIONS

5.1 INSTITUTE OF INTERNATIONAL LAW

5.1.1. International Regulation on River Navigation[1]

Resolution of Heidelberg, 9 September 1887

General Provisions

Article 1

The riparian States of a navigable river are obliged, in the general interest, to regulate, by common agreement, everything relating to the navigation of such river.

Article 2

The navigable affluents of international rivers are, in every respect, subject to the same régime as the rivers whose tributaries they are, in conformity with the agreement unclouded between the riparian States, and with the present Regulation.

Article 3

The navigation on the whole course of international rivers, from the point where each of them becomes navigable, to the sea, is entirely free, and cannot, as regards commerce, be forbidden to any flags.

The boundary line of the States separated by the river is marked by the thalweg, that is to say, by the middle line of the channel.

Article 4

The subjects and flags of all nations are in every respect on the footing of perfect equality. No distinction shall be made between the subjects of riparian States and those of non-riparian States.

Article 5

The navigation dues levied on international rivers shall have, for their exclusive object, that of covering the cost of the works for the improvement of these rivers and of the maintenance of their navigability in general.

Article 6

In time of war, the navigation of international rivers shall be free for the flags of neutral nations, subject to such restrictions as may be imposed by the force of circumstances.

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[1] Text in: Annuaire de l'Institut de droit international, Session de Heidelberg 1887, p. 535. English translation in Kaeckenbeeck, International Rivers, A monograph based on diplomatic documents, London, 1920, pp. 46-58.

Article 7

All the works and establishments created in the interest of navigation, notably the offices for the collection of dues, and their safes, as also the staff permanently in the service of these establishments, are placed under the safeguard of permanent neutrality, and shall, in consequence, be respected and protected by the belligerent States.

Particular Provisions

Article 8

Any sailing vessel or steamer, without distinction of nationality, is free to carry passengers or goods, or to tow other vessels between all the ports situated along international rivers.

Foreign vessels, whether fluvial or sea-going, shall not be admitted to the regular exercise of small coasting trade (petit cabotage), i.e. the continuous and exclusive traffic between ports of the same riparian State, except in virtue of a special authorization by that State.

Article 9

Vessels and goods in transit on international rivers are not subject to any transit duty, whatever their origin or destination.

Article 10

The navigation of international rivers is exempt from staple dues, port dues (échelle), storehouse dues (dépôt), compulsory breaking bulk or forced harbour dues. No tolls, whether maritime or fluvial, shall be levied.

Article 11

There may be levied dues or duties having the character of a reimbursement for the actual use of harbour establishments, such as cranes, weighing machines, wharves, and warehouses.

Article 12

The customs duties, octroi duties, or taxes on consumable articles established by the riparian States shall not in any way hinder navigation.

Article 13

The harbour dues for the actual use of cranes, weighing machines, etc. as also the dues for pilotage, lighthouse, lighting and buoying, destined to cover the technical and administrative expenses incurred in the interest of navigation shall be determined by tariffs officially published in all the ports of international rivers.

Article 14

The tariffs above mentioned shall be drawn up by the "mixed commission" of the riparian States.

Article 15

The tariffs shall not involve any differential treatment.

Article 16

The tariffs of the dues mentioned in Article 13 shall be calculated on the cost of construction and maintenance of the local establishments, and according to the tonnage of the vessels as indicated in the ships' papers.

Article 17

The riparian States may not levy customs duties on merchandise in transit on international rivers, except when it is to be introduced into the territory of these States.

Article 18

Vessels are not allowed to unload their cargoes, either wholly or in part, except in ports and other places on the banks provided with a custom-house, save in case of force majeure.

Article 19

Vessels proceeding on their voyage and provided with the prescribed papers may not be stopped under any pretext by the customs officers of the riparian States, if the two banks belong to different States.

Article 20

Vessels entering into a part of an international river where the two banks belong to the same State, have to pay the customs duties imposed by the local tariff upon merchandise imported into the territory of that State.

Goods in transit are only subject to the placing of seals and to the custody of customs officers.

Article 21

The riparian States shall agree among themselves upon a body of policy regulations destined to regulate the use of the river in the special interest of security and public order.

Article 22

Special tribunals of navigation, or the ordinary courts existing in the riparian countries, shall, on appeal, be competent to adjudge the penalties for infractions of the police regulations

established on a footing of perfect equality for all vessels, without any distinction of nationality whatever.

Article 23

Quarantine establishments shall be created, by the initiative of the riparian States, at the mouths of international rivers; control is to be exercised over vessels both when they enter and when they leave the river.

Sanitary control over vessels, while they are navigating the river is exercised on the basis of the special provisions established by the riparian commissions.

Article 24

The works necessary to ensure the navigability of international rivers, are to be undertaken either directly by the States or on the initiative of the riparian Commissions.

Article 25

Each riparian State shall be free to take such steps as it may think necessary to maintain and improve, at its own expense, the navigability of the sections of international rivers subject to its sovereignty.

Article 26

In every case, it shall be forbidden to undertake works which may modify the actual condition of the common waterway or impede its navigation, and against which the other riparians have protested.

Article 27

The authorities set over the navigation of international rivers are:

(1) the authorities of the riparian States;

(2) the riparian Commission, composed of the delegates of the sovereign States.

Article 28

Each riparian State retains its sovereign rights over the sections of international rivers subject to its sovereignty, within the limits laid down by the stipulations of this Regulation and by the Treaties and Conventions.

Article 29

The riparian Commission arrives at its decisions by a majority of votes. In case of equality, the president has the casting vote.

However, a vote dose not bind the States whose representatives form the minority, if, beforehand, the delegates of these States have formally objected to the execution of the measure proposed.

Article 30

The riparian Commission is a permanent authority over international rivers; it has the following functions:

(1) to designate the works indispensable for improving and developing the navigability of the rivers, and cause them to be executed;

(2) to draw up and put in force the tariffs of navigation and other dues mentioned in Articles 13 to 18;

(3) to elaborate the regulations for river police;

(4) to watch over the maintenance in good condition of the works, and the strict observance of the provisions of these international regulations;

(5) to appoint the chief inspector of the navigation of the international river.

Article 31

The Chief Inspector exercises his functions as the organ of the riparian Commission and under its direction. He exercises his authority over all flags without distinction.

Article 32

The Chief Inspector watches over the application of this international regulation and of the river regulation, and supervises the police of navigation.

Article 33

This functionary has the right, in the performance of his duty, directly to demand the assistance of the military posts or of the local riparian authorities.

Article 34

The local inspectors, the quarantine officials and the employees of the offices for the collection of dues are appointed by each riparian State; but they perform their duties under the orders of the Chief Inspector, and have, like him, an international character.

Article 35

Two or more riparian States may make mutual agreements for the nomination of the same delegate to the riparian Commission or of the same local inspector, or of the employees of the offices for the collection of dues, of the quarantine officials, of the judges of the tribunals, etc.

Article 36

The Chief Inspector pronounces, in first instance, the penalties to be inflicted for infractions of the regulations of navigation and police.

Article 37

Appeals against his judgements must be brought either before a tribunal of navigation created for that purpose, or before a local court specially designated by each riparian State, or before the riparian Commission.

Article 38

Each riparian State appoints the engineers charged with supervising the maintenance and improvement of the section of the river subject to its sovereignty.

Article 39

The Powers shall fix by common agreement the system of measuring river and sea-going vessels for the purpose of ascertaining their tonnage, this system being obligatory for all nations.

Article 40

In case of war between the riparian States, all property afloat on an international river, without distinction between neutral and enemy property, shall be accorded similar protection to that granted to enemy property in case of war on land.

5.1.2 International Regulation regarding the Use of International Watercourses for Purposes other than Navigation[1]

Declaration of Madrid, 20 April 1911

Statement of Reasons

Riparian States with a common stream are in a position of permanent physical dependence on each other which precludes the idea of the complete authonomy of each State in the section of the natural watercourse under its sovereignty.

International law has dealt with the right of navigation with respect to international rivers but the use of water for the purposes of industry, agriculture, etc. was not foreseen by international law.

It therefore seems expedient to remedy this lack by noting the rules of law resulting from the interdependence which undoubtedly exists between riparian States with a common stream and between States whose territories are crossed by a common stream.

With the exception of the right of navigation, as already established or to be established by international law:

The Institute of International Law is of the opinion that the following regulations should be observed from the point of view of (any) use of international streams.

I. When a stream forms the frontier of two States, neither of these States may, without the consent of the other, and without special and valid legal title, make or allow individuals, corporations, etc. to make alterations therein detrimental to the bank of the other State. On the other hand, neither State may, on its own territory, utilize or allow the utilization of the water in such a way as to seriously interfere with its utilization by the other State or by individuals, corporations, etc. thereof.

The foregoing provisions are likewise applicable to a lake lying between the territories of more than two States.

II. When a stream traverses successively the territories of two or more States:

1. The point where this stream crosses the frontiers of two States, whether naturally, or since time immemorial, may not be changed by establishments of one of the States without the consent of the other;

2. All alterations injurious to the water, the emptying therein of injurious matter (from factories, etc.) is forbidden;

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[1] Text in: Annuaire de l'Institut de Droit International, Madrid Session 1911, (Paris 1911) Vol. 24, pp. 365-365.

3. No establishment (especially factories utilizing hydraulic power) may take so much water that the constitution, otherwise called the utilizable or essential character of the stream shall, when it reaches the territory downstream, be seriously modified;

4. The right of navigation by virtue of a title recognized in international law may not be violated in any way whatsoever;

5. A State situated downstream may not erect or allow to be erected within its territory constructions or establishments which would subject the other State to the danger of inundation;

6. The foregoing rules are applicable likewise to cases where streams flow from a lake situated in one State, through the territory of another State, or the territories of other States;

7. It is recommended that the interested States appoint permanent joint commissions, which shall render decisions, or at least shall give their opinion, when, from the building of new establishments or the making of alterations in existing establishments, serious consequences might result in that part of the street situated in the territory of the other States.

5.1.3 Regulation governing Navigation on International Rivers[1]

Resolution of Paris, 19 October 1934

Article 1

These Regulations shall apply:

1. To rivers referred to as international, i.e. to those waterways which, in the naturally navigable part of their course, traverse or separate two or more States, and to any tributaries having the same characteristics;

2. To waterways which, though not international in the sense defined above, come under the following categories:

(a) navigable waterways referred to as intermediate waters between two international rivers;

(b) artificial navigable waterways or other man-made facilities that are, or are to be, established on or between certain sections of the same international river with a view to making good the deficiencies of the naturally navigable waterway.

Article 2

Movement on an international waterway shall be free. This freedom shall comprise:

(a) the right for all vessels, boats, timber-trains and other means of water transport to circulate freely throughout the navigable length of the waterway, on condition that they comply with these Regulations and, as appropriate, with any additional rules or enforcement rules to be prescribed by the riparian States. Such rules may not conflict with these Regulations;

(b) the right of users to make use, in addition, for themselves and their merchandise, of the waterways and facilities referred to in Regulation 2 (a) and (b).

Article 3

On one and the same international waterway the citizens, property and flags (whether maritime or fluvial) of all nations shall, in all matters of direct or indirect concern to navigation, be treated on a footing of perfect equality and in conformity with international law.

In particular, no distinction shall be made between them whether by reason of their provenance or by reason of their destination or, again, by reason of ports or of sea or other

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[1] Text in: Annuaire de l'Institut de droit international, Session de Paris, October 1934, Brussels 1934, pp. 713-719.

lines, entrepôts or other installations made use of en route, before or after their passage over international waterway.

No monopoly or privilege shall be granted on international waterways in respect of navigation or in the use of public ports and other facilities or their installations or equipment.

If any State deems it appropriate to impose for the transport of persons or merchandise from one port to another subject to its authority, restrictions similar to those that a State may impose on coastal navigation, it may do so only in such a way that does not entail the cessation of navigation for other flags on the river.

Article 4

Any vessel plying on an international waterway have a flag.

For the purposes of enfircing this Regulation, the flag of each and every vessel shall be determined by its place of registry.

In the case of any State having no coastline or international river bank, it shall be sufficient that the place of registry be situated on its territory.

Article 5

No taxes or dues may be levied whether on the course or at the mouth of any international waterway other than those in the nature of payment for services rendered to navigation, for the upkeep of navigability or for the improvement of the waterway.

These navigations dues shall be calculated in such a way as to cover only costs and disbursements effectively sustained and established in such a way as to render any detailed examination of the cargo unnecessary.

Article 6

Each riparian State may levy for the use of the equipment and installation of its ports, taxes and dues which shall be the same for all and reflect the expenditure effectively sustained for their establishment, upkeep and operation.

Article 7

Any public service established in the interest of navigation on any part of an international waterway or in any port thereon shall, if it is not free of charge, entail tariffs that are made public and are calculated in such a way as not to exceed the reasonable cost of the service rendered.

These provisions shall apply in particular to pilotage, warning, tug, towage and lock-keeping services.

Article 8

Customs formalities shall be limited to those strictly necessary in order to delay navigation as little as possible.

Transit on sections where the river forms a frontier shall be exempt from any dues or formalities no indispensable in order to prevent contraband or to safeguard public health; at the mouths and on other sections, formalities affecting transit shall be regulated by agreement between the riparian States.

For imports and exports through any port on the international waterway, customs formalities shall be regulated by the general legislation of the State of the said port, with due regard to the observance of the general principles of freedom and equality of flags.

Save where exceptional reasons of economic necessity justify departure from this rule, customs dues levied on imports and exports by any of the ports referred to in this regulation may not exceed these levied at the customs frontiers of the State in question on similar merchandise of the same provenance and having the same destination.

Each riparian State shall nevertheless remain free to determine its customs tariffs and to take all appropriate measures with a view to safeguarding public order and public health, while maintaining as far as possible freedom of navigation and equality of treatment.

No vessel may be seized by reason of a customs offence committed by a member of the crew or a passenger on any of the waterways contemplated in these Regulations.

Article 9

Riparian States shall determine among themselves the rules necessary in order to guarantee freedom and safety of navigation. This consideration shall apply in particular to rules governing capacities in terms of persons and materials on board.

The uniform application of these rules shall be assured by each of the States concerned with navigation. Policing and operation of ports shall remain within the exclusive jurisdiction of the State under whose sovereignty those ports are placed, with due regard to the observance of these Regulations.

Article 10

Riparian States shall, each on its own territory, take:

(a) Police and inspection measures designed to regulate the use of the navigable waterway in the interest of public order and safety;

(b) measures conducive to safeguarding the interests of navigation as regards the construction of bridges and other works affecting such navigation;

(c) measures for the upkeep and improvement of the navigable waterway, and the buoyage and signalling, thereof.

Whenever their agreement its necessary, they shall first consult with a view in particular to securing uniformity of the legal and technical régime of navigation, the observance of the provisions of these Regulations, the uniformity of the rules concerning the imposition, collection and destination of taxes on navigation and the settlement of any conflicts that may arise out of the different uses made of the river.

Article 11

Riparian States shall have regard to the needs of navigation in their choice of the place of their courts appointed to hear cases affecting such navigation.

The procedure followed by such courts shall be as summary as possible.

Article 12

The police and navigation rules in force on any section of the river shall apply to military vessels or those assigned to a non-commercial public service on that section.

Article 13

All provisions of these Regulations shall apply to vessels, other than those referred to in the previous regulation, which are the property of the State on which are charted to or requisitioned by it.

Article 14

States signatory to these Regulations shall be free to adopt, by means of special convention, a régime that is more favourable to navigation.

Article 15

Disputes arising as to the interpretation of these Regulations shall be submitted, failing amicable settlement between the States concerned, to conciliation procedures, arbitration or judicial ruling.

5.1.4 Resolution on the Use of International Non-Maritime Waters[1]

Salzburg, 11 September 1961

The Institute of International Law,

Considering that the economic value of the use of waters has been modified by modern techniques and that the application of said techniques to the waters of a river basin extending upon the territory o, several States generally affects the whole of these States, and that this evolution requires an adjustment in the legal field;

Considering that there is a common interest in maximizing the use of available natural resources;

Considering that the obligation not to cause an unlawful prejudice to a third party is one of the basic principles governing general relations between neighbouring countries;

Considering that this principle also applies to relations deriving from the various uses of waters;

Considering that, for the use of waters involving several States, each of the above-mentioned States may obtain, through consultations, joint planning and reciprocal concessions, the benefits of a more efficient development of natural resources;

Notes the existence of the following rules in international law and makes the following recommendations:

Article I

The present rules and recommendations apply to the use of waters which are part of a river or of a watershed extending upon the territory of two or more States.

Article II

Every State has the right to make use of the waters flowing across or bordering its territory subject to the limitations imposed by international law and in particular those which result from the following legal dispositions. That right is limited by the right of use by the other States concerned with the same river or watershed.

Article III

If the various States disagree upon the extent of their rights of use, the disagreement shall be settled on the basis of equity, taking into consideration the respective needs of the States, as well as any other circumstances relevant to any particular case.

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[1] Text in: Annuaire de l'Institut de droit international, Vol. 49, II, Salzburg Session, September 1961, (Basle 1961), pp. 381-384.

Article IV

Each State may only proceed with works or to use the waters of a river or watershed that may affect the possibilities of use of the same waters by other States on condition of preserving for those States the benefit of the advantages to which they are entitled by virtue of Article III, as well as adequate compensation for any losses or damages incurred.

Article V

The works or uses referred to in the above-mentioned article may only be initiated after due advance notice has been given to the States concerned.

Article VI

If objections are raised, the States shall enter in negotiations in view of reaching an agreement within a reasonable time. To this end, it is desirable that the States involved make use of technical expertises and if need be of appropriate commissions and organizations to reach solutions ensuring maximum benefits for all concerned.

Article VII

During the negotiations, every State should, according to the principle of good faith, refrain from proceeding with the works or uses in dispute, or from taking any other measures likely to aggravate the conflict or to make a settlement more difficult.

Article VIII

If the States involved cannot reach an agreement within a reasonable time, it is recommended to submit to judicial or arbitral settlement the question whether the intended development runs counter to the above-mentioned rules. If the State raising objections to the projected works or uses is opposed to any judicial or arbitral settlement, the other State remains free, under its own responsibility, to proceed with said works or uses, while remaining obligated by the provisions of Articles II to IV.

Article IX

It is recommended to the States concerned by particular watersheds to consider whether it would not be appropriate to set up joint organizations for the preparation of water utilization plans to facilitate their economic development, as well as to prevent or settle any disputes that might occur.

5.1.5 Resolution on the Pollution of Rivers and Lakes and International Law[1]-[2]

Athens, 12 September 1979

The Institute of International Law,

Recalling its Resolutions of Madrid in 1911 and of Salzburg in 1961;

Conscious of the multiple potential uses of international rivers and lakes and of the common interest in a rational and equitable utilization of such resources through the achievement of a reasonable balance between the various interests;

Considering that pollution spread by rivers and lakes to the territories of more than one State is assuming increasingly alarming and diversified proportions whilst protection and improvement of the environment are duties incumbent upon States;

Recalling the obligation to respect the sovereignty of every State over its territory, as a result of which each State has the obligation to avoid any use of its own territory that causes injury in the territory of another State;

Hereby adopts the following articles:

Article I

1. For the purpose of this Resolution, "pollution" means any physical, chemical or biological alteration in the composition or quality of waters which results directly or indirectly from human action and affects the legitimate uses of such waters, thereby causing injury.

2. In specific cases, the existence of pollution and the characteristics thereof shall, to the extent possible, be determined by referring to environmental norms established through agreements or by the competent international organizations and commissions.

3. This Resolution shall apply to international rivers and lakes and to their basins.

Article II

In the exercise of their sovereign right to exploit their own resources pursuant to their own environmental policies, and without prejudice to their contractual obligations, States shall be under a duty to ensure that their activities or those conducted within their jurisdiction or under their control cause no pollution in the waters of international rivers and lakes beyond their boundaries.

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1 Text in: Annuaire de l'Institut de droit international, vol. 58, T.I, Athens Session, September 1979, Basel München, 1980, pp. 197-ff.

2 This is a translation of the authentic French text.

Article III

1. For the purpose of fulfilling their obligation under Article II, States shall take, and adapt to the circumstances, all measures required to:

(a) prevent any new form of pollution or any increase in the existing degree of pollution; and

(b) abate existing pollution within the best possible time limits.

2. Such measures shall be particularly strict in the case of ultra-hazardous activities or activities which pose a danger to highly exposed areas or environments.

Article IV

In order to comply with the obligations set forth in Articles II and III, States shall in particular use the following means:

(a) at national level, enactment of all necessary laws and regulations and adoption of efficient and adequate administrative measures and judicial procedures for the enforcement of such laws and regulations;

(b) at international level, cooperation in goodfaith with the other States concerned.

Article V

States shall incur international liability under international law for any breach of their international obligations with respect to pollution of rivers and lakes.

Article VI

With a view to ensuring an effective system of prevention and of compensation for victims of transboundary pollution, States should conclude international conventions concerning in particular:

(a) the jurisdiction of courts, the applicable law and the enforcement of judgements;

(b) the procedure for special arrangements providing in particular for objective liability systems and compensation funds with regard to pollution brought about by ultrahazardous activities.

Article VII

1. 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:

(a) inform co-riparian States regularly of all appropriate data on the pollution of the basin, its causes, its nature, the damage resulting from it and the preventive procedures;

(b) notify the States concerned in due time of any activities envisaged in their own territories which may involve the basin in a significant threat of transboundary pollution;

(c) promptly inform States that might be affected by a sudden increase in the level of transboundary pollution in the basin and take all appropriate steps to reduce the efforts of any such increase;

(d) consult with each other on actual or potential problems of transboundary pollution of the basin so as to reach, by methods of their own choice, a solution consistent with the interests of the States concerned and with the protection of the environment;

(e) coordinate or pool their scientific and technical research programmes to combat pollution of the basin;

(f) establish by common agreement environmental norms, in particular quality norms for the whole or part of the basin;

(g) set up international commissions with the largest terms of reference for the entire basin, providing for the participation of local authorities if this proves useful, or strengthen the powers or coordination of existing institutions;

(h) establish harmonized, coordinated or unified networks for permanent observation and pollution control;

(i) develop safeguards for individuals who may be affected by polluting activities, both at the stages of prevention and compensation, by granting on a non-discriminatory basis the greatest access to judicial and administrative procedures in States in which such activities originate and by setting up compensation funds for ecological damage the origin of which cannot be clearly determined or which is of exceptional magnitude.

Article VIII

In order to assist developing States in the fulfilment of the obligations and in the implementation of the recommendation referred to in this Resolution, it is desirable that developed States and competent international organizations provide such States with technical assistance or any other assistance as may be appropriate in this field.

Article IX

This Resolution is without prejudice to the obligations which fundamental human rights impose upon States with regard to pollution occurring in their own territories.

5.2 INTERNATIONAL LAW ASSOCIATION

5.2.1 Statement of Principles[1]

Resolution of Dubrovnik, 1956

I. An international river, is one which flows through or between the territories of two or more States.

II. A State must exercise its rights over the waters of an international river within its jurisdiction in accordance with the principles stated below.

III. While each State has sovereign control over the international rivers within its own boundaries, the State must exercise this control with due consideration for its effect upon other riparian States.

IV. A State is responsible, under international law, for public or private acts producing change in the existing régime of a river to the injury of another State, which it could have prevented by reasonable diligence.

V. In accordance with the general principle stated in No. III above, the States upon an international river should in reaching agreements, and States or tribunals in settling disputes, weigh the benefit to one State against the injury done to another through a particular use of the water. For this purpose, the following factors, among others, should be taken into consideration:

(a) The right of each to a reasonable use of the water;

(b) The extent of the dependence of each State upon the waters of that river;

(c) The comparative social and economic gains accruing to each and to the entire river community;

(d) Pre-existent agreements among the States concerned;

(e) Pre-existent appropriation of water by one State.

VI. A State which proposes new works (construction, diversion, etc.) or change of previously existing use of water, which might effect utilization of the water by another State, must first consult with the other State. In case agreement is not reached through much consultation, the States concerned should seek the advice of a technical commission; and, if this does not lead to agreement, resort should be had to arbitration.

VII. Preventable pollution of water in one State, which does substantial injury to another State, renders the former State responsible for the damage done.

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[1] Text in: International Law Association, Report of the Forty-Seventh Conference, held in Dubrovnik 1956, London, 1957, pp. 241-243.

VIII. So far as possible, riparian States should join with each other to make full utilization of the waters of a river both from the viewpoint of the river basin as an integrated whole, and from the viewpoint of the widest variety of uses of the water, so as to assure the greatest benefit to all.

5.2.2 Resolution on the Use on the Waters of International Rivers[1]

New York, 1958

Heads of Unanimous Agreement

It is agreed that our immediate purpose is to put forward some principles and some recommendations on which there is unanimous agreement.

It is agreed that there are rules of conventional and customary international law governing the uses of waters of drainage basins that are within the territories of two or more States.

It is agreed that there may be issues not adequately covered by recognized rules of international law and also that there are rules as to which there exist differences as to their meaning.

As used in this statement, a drainage basin is an area within the territories of two or more States in which all the streams of flowing surface water, both natural and artificial, drain a common watershed terminating in a common outlet or common outlets either to the sea or to a lake or to some inland place from which there is no apparent outlet to a sea[2].

Agreed Principles of International Law

1. A system of rivers and lakes in a drainage basin should be treated as an integrated whole (and not piecemeal).

2. Except as otherwise provided by treaty or other instruments or customs binding upon the parties, each co-riparian State is entitled to a reasonable and equitable share in the beneficial uses of the waters of the drainage basin. What amount to a reasonable and equitable share is a question to be determined in the light of all the relevant factors in each particular case.

3. Co-riparian States are under a duty to respect the legal rights of each co-riparian State in the drainage basin.

4. The duty of a riparian State to respect the legal rights of a co-riparian State includes the duty to prevent others, for whose acts it is responsible under international law, from violating the legal rights of the other co-riparian States

Agreed Recommendations

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1 Text in: International Law Association, Report to the Forty-Eighth Conference, held in New York, 1-7 September 1958, London 1959, pp. viii-x.

2 Statement of Some Principles of International Law governing, and Recommendations respecting, the Uses of the Waters of Drainage Basins with the Territories of two or more States, as to which the Members of the Committee present at the New York Conference save reached unanimous agreement.

1. Co-riparian States should refrain from unilateral acts or omissions that affect adversely the legal rights of a co-riparian State in the drainage basin so long as such co-riparian State is willing to resolve differences as to their legal rights within a reasonable time by consultation. In the eventuality of a failure of these consultations to produce agreement within a reasonable time, the parties should seek a solution in accordance with the principles and procedures (other than consultation) set out in the Charter of the United Nations and the procedures envisaged in Article 33 thereof.

2. The action of the United Nations and its specialized agencies looking towards the assembling, exchange and dissemination of information concerning drainage basins is welcomed, and the hope is expressed that this work will be undertaken with the addition of the assembling, exchange and dissemination of legal information.

3. Co-riparian States should make available to the appropriate agencies of the United Nations and to one another hydrological, meteorological and economic information, particularly as to streamflow, quantity and quality of water, rain and snowfall, water tables and underground water movements.

4. Riparian States should by agreement constitute permanent or ad hoc agencies for the continuous study of all problems arising out of the use, administration and control of the waters of drainage basins. These agencies should be instructed to submit reports upon all matters within their competence to the appropriate authorities of the riparian States.

5. Since priorities in the kinds of uses of waters may differ from basin to basin and from one part of a basin to another, in case of differences as to the proper order of priority, the advice of technical experts should be sought.

6. The appropriate authorities of the co-riparian States should endeavour to resolve by agreement all matters concerning which recommendations are made by technical agencies.

7. In view of the variety of conditions of climate, hydrological facts, demographic and economic conditions in the various drainage basins, and the varieties of possible uses and needs for water, it is observed that regional agreements may serve the needs of riparian States and communities in many situations and it is recommended that every effort should be made to reach agreements on a regional basis.

8. Co-riparian should take immediate action to prevent further pollution and should study and put into effect all practicable means of reducing to a leas harmful degree present uses which lead to pollution.

9. It is desirable that there be further study of the hydrological engineering, economic and legal matters bearing on the prospective operation of the existing and desired rules of international law relating to the uses of the waters of a drainage basin.

10. Funds should be sought from foundations likely to be interested in this subject, and it should be considered how, and to what extent, the work can be carried further in harmony with the similar work of the Institut de Droit International and of the Inter-American Bar Association.

5.2.3 Recommendations on the Procedures concerning the Non-Navigational Uses[1]

Hamburg, August 1960

The International Law Association, having taken into consideration the importance of resolving by peaceful means differences between co-riparian States as regards their rights in respect of the waters of a drainage basin, and in furtherance of the second sentence of the first agreed recommendation of the 1958 New York Resolution on the Uses of the Waters of International Rivers, recommends, in the absence of other agreement, the following procedures:

1. In case of a difference as to the legal rights or other interests of co-riparian States they should consult one another.

2. If such consultation has not produced agreement, the States should agree to form an ad hoc Commission which shall endeavour to find a solution, likely to be accepted by the States involved, of differences as to their rights.

3. (a) The members of the Commission and among them the President of the Commission shall be appointed by the States involved.

(b) If the States involved do not agree about these appointments, each State shall appoint two members. The members thus appointed shall choose one more member who shall be the President of the Commission. If the appointed members do not agree, the member-president, shall be appointed, at the request of any State involved, by the President of the International Court of Justice or, if he does not make an appointment, by the Secretary-General of the United Nations.

(c) If a member of the Commission dies or abstains from performing his office, such member shall be replaced by the procedure set out in paragraph (a) or paragraph (b) of this recommendation, according to the manner in which he was originally appointed. If, in the case of:

(i) a member originally appointed under paragraph (a) of this recommendation, the States fail to agree as to a replacement; or

(ii) a member originally appointed under paragraph (b) of this recommendation, the State involved fails to replace the member;

a replacement shall be chosen, at the request of any State involved, by the President of the International Court of Justice or, if he does not choose a replacement, by the Secretary-General of the United Nations.

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[1] Text in: International Law Association, Report of the Forty-Ninth Conference, held in Hamburg, 8-12 August 1960 (London, 1961), pp. xvi-xviii.

(d) The States involved shall determine the place of the meetings of the Commission and settle the rules of procedure. If they do not agree, the Commission shall determine these matters.

4. If within a reasonable time a Commission has not been formed or has not been able to find a solution to be recommended or a solution recommended has not been accepted by the States involved nor an agreement between them has been otherwise arrived at, the States should agree to submit the dispute to an arbitral tribunal to be formed or to a permanent court of arbitration or, if they do not do so, to the International Court of Justice.

5. If the dispute is submitted to the arbitration of a tribunal to be formed, the rules of recommendation 3(d) concerning the method of determining the place of meetings and of settling the rules of procedure shall apply to the method of the formation of the arbitral tribunal and of determining its meetings and procedure. No person who has been a member of the Commission may be a member of the arbitral tribunal.

6. The Award of the Arbitral Tribunal shall be rendered in writing and signed by the President of the Tribunal. The Tribunal shall in the Award give reasons for its decision.

The Award, besides giving a decision on the dispute, shall liquidate expenses and decide which of the States shall have to bear their payments or in which proportion the expenses shall be borne by the States.

The compensation of the arbitrators shall be fixed by the Tribunal.

7. Recourse to arbitration implies the undertaking by the States involved to consider the award to be given as final and to submit in good faith to its execution.

5.2.4 Recommendation on Pollution Control[1]

Hamburg. August 1960

1. For the control of water pollution in accordance with New York Recommendation 8, pollution-control commissions should be set up for each separate basin by agreement among the co-riparian States of that basin.

2. To define the scope and responsibilities of pollution-control commissions for a drainage basis, preliminary studies should be made by the appropriate agencies dealing with the control and abatement of water pollution.

[1] Text in: International Law Association, Report of the Forty-Ninth Conference, held in Hamburg, 8-12 August 1960 (London, 1961), pp. xvi-xviii.

5.2.5 The Helsinki Rules

5.2.5.1 The Helsinki Rules on the Uses of the Waters of International Rivers[1] - Helsinki, 1966

Chapter 1
General

Article I

The general rules of international law as set forth in these chapters are applicable to the use of the waters of an international drainage basin except as may be provided otherwise by convention, agreement or binding custom among the basin States.

Article II

An international drainage basin is a geographical area extending over two or more States determined by the watershed limits of the system of waters, including surface and underground waters, flowing into a common terminus.

Article III

A "basin State" is a state the territory of which includes a portion of an international drainage basin.

Chapter 2
Equitable utilization of the waters of an international drainage basin

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.

Article V

(l) 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;

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[1] Text in: International Law Association, Report of the Fifty-Second Conference, Helsinki, 14-20 August 1966, (London, 1967), pp. 484-532.

(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.

Article VI

A use or category of uses is not entitled to any inherent preference over any other use or category of uses.

Article VII

A basin State may not be denied the present reasonable use of the waters of an international drainage basin to reserve for a co-basin State future use of such waters.

Article VIII

(1) An existing reasonable use may continue in operation unless the factors justifying its continuance are outweighed by other factors leading to the conclusion that it be modified or terminated so as to accommodate a competing incompatible use.

(2) a. a use that is in fact in operation is deemed to have been existing use from the time of the initiation of construction directly related to the use or, where such construction is not required, the undertaking of comparable acts of actual implementation.

b. such a use continues to be an existing use until such time as it is discontinued with the intention that it be abandoned.

(3) A use will not be deemed an existing use if at the time of becoming operational it is incompatible with an already existing reasonable use.

Chapter 3
Pollution

Article IX

As used in this Chapter, the term "water pollution" refers to any detrimental change resulting from human conduct in the natural composition, content, or quality of the waters of an international drainage basin.

Article X

(1) Consistent with the principle of equitable utilization of the waters of an international drainage basin, a State:

(a) must prevent any new form of water pollution or any increase in the degree of existing water pollution in an international drainage basin which would cause substantial injury in the territory of a co-basin State, and

(b) should take all reasonable measures to abate existing water pollution in an international drainage basin to such an extent that no substantial damage is caused in the territory of a co-basin State.

(2) The rule stated in paragraph (1) of this Article applies to water pollution originating:

(a) within a territory of the State; or

(b) outside the territory of the State, if it is caused by the State's conduct.

Article XI

(1) In the case of a violation of the rule stated in paragraph (l) a. of Article X of this Chapter, the State responsible shall be required to cease the wrongful conduct and compensate the injured co-basin State for the injury that has been caused to it.

(2) In a case falling under the rule stated in paragraph (l) b. of Article X, if a State fails to take reasonable measures, it shall be required promptly to enter into negotiations with the injured State with a view toward reaching a settlement equitable under the circumstances.

Chapter 4
Navigation

Article XII

(1) This Chapter refers to those rivers and lakes portions of which are both navigable and separate or traverse the territories of two or more States.

(2) Rivers or lakes are "navigable" if in their natural or canalized state they are currently used for commercial navigation or are capable by reason of their natural condition of being so used.

(3) In this Chapter the term "riparian State" refers to a State through or along which the navigable portion of a river flows or a lake lies.

Article XIII

Subject to any limitations or qualifications referred to in these Chapters, each riparian State is entitled to enjoy rights of free navigation on the entire course of a river or lake.

Article XIV

"Free navigation", as the term is used in this Chapter, includes the following freedom for vessels of a riparian State on a basis of equality:

(a) freedom of movement on the entire navigable course of the river or lake;

(b) freedom to enter ports and to make use of plants and docks; and,

(c) freedom to transport goods and passengers, either directly or through transhipment, between the territory of one riparian State and the territory of another riparian State and between the territory of a riparian State and the open sea.

Article XV

A riparian State may exercise rights of police, including but not limited to the protection of public safety and health, over that portion of the river or lake subject to its jurisdiction, provided the exercise of such rights does not unreasonably interfere with the enjoyment of the rights of free navigation defined in Articles XIII and XIV.

Article XVI

Each riparian State may restrict or prohibit the loading by vessels of a foreign State of goods and passengers in its territory for discharge in such territory.

Article XVII

A riparian State may grant rights of navigation to non-riparian States on rivers or lakes within its territory.

Article XVIII

Each riparian State is, to the extent of the means available or made available to it, required to maintain in good order that portion of the navigable course of a river or lake within its jurisdiction.

Article XVIII bis[1]

1. A riparian State intending to undertake works to improve the navigability of that portion of a river or lake within its jurisdiction is under a duty to give notice to the co-riparian States.

2. If these works are likely to affect adversely the navigational uses of one or more co-riparian States, any such co-riparian State may, within a reasonable time, request consultation. The concerned co-riparian States are then under a duty to negotiate.

3. If a riparian State proposes that such works be undertaken in whole or in part in the territory of one or more other co-riparian States, it must obtain the consent of the other co-riparian State or States concerned. The co-riparian State or States from whom this consent is required are under a duty to negotiate.

Article XIX

The rules stated in this Chapter are not applicable to the navigation of vessels of war or of vessels performing police or administrative functions, or, in general, exercising any other form of public authority.

Article XX

In time of war, other armed conflict, or public emergency constituting a threat to the life of the State, a riparian State may take measures derogating from its obligations under this Chapter to the extent strictly required by the exigencies of the situation, provided that such measures are not inconsistent with its other obligations under international law. The riparian State shall in any case facilitate navigation for humanitarian purposes.

Chapter 5
Timber floating

Article XXI

The floating of timber on a watercourse which flows through or between the territories of two or more States is governed by the following Articles except in cases in which floating is governed by rules of navigation according to applicable law or custom binding upon the riparians.

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[1] Approved by the 56th Conference of the International Law Association New Delhi, 1974. Text in: Report of the Committee on International Water Resources Law of the International Law Association, Report of the 56th Conference, p. 15.

Article XXII

The States riparian to an international watercourse utilized for navigation may determine by common consent whether and under what conditions timber floating may be permitted upon the watercourse.

Article XXIII

(1) It is recommended that each State riparian to an international watercourse not used for navigation should, with due regard to other uses of the watercourse, authorize the co-riparian States to use the watercourse and its banks within the territory of each riparian State for the floating of timber.

(2) This authorization should extend to all necessary work along the banks by the floating crew and to the installation of such facilities as may be required for the timber floating.

Article XXIV

If a riparian State requires permanent installation for floating inside a territory of a co-riparian State or if it is necessary to regulate the flow of the watercourse, all questions connected with these installations and measures should be determined by agreement between the States concerned.

Article XXV

Co-riparian States of a watercourse which is, or is to be used for floating timber should negotiate in order to come to an agreement governing the administrative régime of floating, and if necessary to establish a joint agency or commission in order to facilitate the regulation of floating in all aspects.

Chapter 6
Procedures for the prevention and settlement of disputes

Article XXVI

This Chapter relates to procedures for the prevention and settlement of international disputes as to the legal rights or other interests of basin States and of other States in the waters of an international drainage basin.

Article XXVII

(1) Consistently with the Charter of the United Nations, States are under an obligation to settle international disputes as to their legal rights or other interests by peaceful means in such a manner that international peace and security, and justice are not endangered.

(2) It is recommended that States resort progressively to the means of prevention and settlement of disputes stipulated in Articles XXIX to XXXIV of this Chapter.

Article XXVIII

(1) States are under a primary obligation to resort to means of prevention and settlement of disputes stipulated in the applicable treaties binding upon them.

(2) States are limited to the means of prevention and settlement of disputes stipulated in treaties binding upon them only to the extent provided by the applicable treaties.

Article XXIX

(1) With a view to preventing disputes from arising between basin States as to their legal rights or other interest, it is recommended that each basin State furnish relevant and reasonably available information to the other basin States concerning the waters of a drainage basin within its territory and its use of, and activities with respect to each waters.

(2) A State, regardless of its location in a drainage basin, should in particular furnish to any other basin State, the interests of which may be substantially affected, notice of any proposed construction or installation which would alter the régime of the basin in a way which might give rise to a dispute as defined in Article XXVI. The notice should include such essential facts as will permit the recipient to make an assessment of the probable effect of the proposed alteration.

(3) A State providing the notice referred to in paragraph (2) of this Article should afford to the recipient a reasonable period of time to make an assessment of the probable effect of the proposed construction or installation and submit its views thereon to the State furnishing the notice.

(4) If a State has failed to give the notice referred to in paragraph (2) of this Article, the alteration by the State in the régime of the drainage basin shall not be given the weight normally accorded to temporal priority in use in the event of a determination of what is a reasonable and equitable share of the waters of the basin.

Article XXX

In case of a dispute between States as to their legal rights or other interests, as defined in Article XXVI, they should seek a solution by negotiation.

Article XXXI

(1) If a question or dispute arises which relates to the present or future utilization of the waters of an international drainage basin, it is recommended that the basin States refer the question or dispute to a joint agency and that they request the agency to survey the international drainage basin and to formulate plans or recommendations for the fullest and most efficient use thereof in the interests of all such States.

(2) It is recommended that the joint agency be instructed to submit reports on all matters within its competence to the appropriate authorities of the member States concerned.

(3) It is recommended that the member States of the joint agency in appropriate cases invite non-basin States which by treaty enjoy a right in the use of the waters of an international drainage basin to associate themselves with the work of the joint agency or that they be permitted to appear before the agency.

Article XXXII

If a question or a dispute is one which is considered by the States concerned to be incapable of resolution in the manner set forth in Article XXXI, it is recommended that they seek the good offices, or jointly request the mediation of a third State, of a qualified international organization or of a qualified person.

Article XXXIII

(l) If the States concerned have not been able to resolve their dispute through negotiation or have been unable to agree on the measures described in Article XXXI and XXXII, it is recommended that they form a commission of inquiry or an ad hoc conciliation commission, which shall endeavour to find a solution, likely to be accepted by the States concerned, of any dispute as to their legal rights.

(2) It is recommended that the conciliation commission be constituted in the manner set forth in the Annex.

Article XXIV

It is recommended that the States concerned agree to submit their legal disputes to an ad hoc arbitral tribunal, to a permanent arbitral tribunal or to the International Court of Justice if:

(a) a commission has not been formed as provided in Article XXXIII; or
(b) the commission has not been able to find a solution to be recommended; or
(c) a solution recommended has not been accepted by the States concerned; and
(d) an agreement has not been otherwise arrived at.

Article XXXV

It is recommended that in the event of arbitration the States concerned have recourse to the Model Rules on Arbitral Procedure prepared by the International Law Commission of the United Nations at its tenth session in 1958.

Article XXXVI

Recourse to arbitration implies the undertaking by the States concerned to consider the award to be given as final and to submit in good faith to its execution.

Article XXXVII

The means of settlement referred to in the preceding Articles of this Chapter are without prejudice to the utilization of means of settlement recommended to, or required of, members of regional arrangements or agencies and of other international organizations.

Annex
Model rules for the constitution of the conciliation commission for the settlement of a dispute
(In implementation of Article XXXIII of Chap. 6)

Article I

The members of the Commission, including the President, shall be appointed by the States concerned.

Article II

If the States concerned cannot agree on these appointments, each State shall appoint two members. The members thus appointed shall choose one more member who shall be the President of the Commission, If the appointed members do not agree, the member-president shall be appointed, at the request of any State concerned, by the President of the International Court of Justice, or, if he does not make the appointment, by the Secretary-General of the United Nations.

Article III

The membership of the Commission should include persons who, by reason of their special competence, are qualified to deal with disputes concerning international drainage basins.

Article IV

If a member of the Commission abstains from performing his office or is unable to discharge his responsibilities, he shall be replaced by the procedure set out in Article I or Article II of this Annex, according to the manner in which he was originally appointed. If, in the case of:

(1) a member originally appointed under Article I, the States fail to agree as to a replacement; or

(2) a member originally appointed under Article II, the State involved fails to replace the member;

a replacement shall be chosen, at the request of any State concerned, by the President of the International Court of Justice, or, it he does not choose the replacement, by the Secretary-General of the United Nations.

Article V

In the absence of agreement to the contrary between the parties, the Conciliation Commission shall determine the place of its meetings and shall lay down its own procedure.

5.2.5.2 Articles on Flood Control[1] - New York, 1972

Article 1

In the context of the following Articles,

1. "Floods" means the rising of water levels which would have detrimental effects on life and property in co-basin States.

2. "Flood control" means the taking of all appropriate steps to protect land areas from floods or to minimize damage therefrom.

Article 2

Basin States shall co-operate in measures of flood control in a spirit of good neighbourliness, having due regard to their interests and well-being as co-basin States.

Article 3

Co-operation with respect to flood control may, by agreement between basin States, include among others:

(a) collection and exchange of relevant data;

(b) preparation of surveys, investigations and studies and their mutual exchange;

(c) planning and designing of relevant measures;

(d) execution of flood control measures;

(e) operation and maintenance of works;

(f) flood forecasting and communication of flood warnings;

(g) setting up of a regular information service charged to transmit the height of water levels and the discharge quantities.

Article 4

1. Basin States should communicate amongst themselves as soon as possible on any occasion such as heavy rainfalls, sudden melting of snow or other events likely to create floods and of dangerous rises of water levels in their territory.

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[1] Text in: International Law Association, Report of the Fifty-Fifth Conference, New York, 21-26 August 1972, London 1974, pp. xvi-xvii.

2. Basin States should set up an effective system of transmission in order to fulfil the provisions contained in paragraph 1, and should ensure priority to the communication of flood warnings in emergency cases. If necessary a special system of translation should be built up between the basin States.

Article 5

1. The use of the channel of rivers and lakes for the discharge of excess waters shall be free and not subject to any limitation provided this is not incompatible with the object of flood control.

2. Basin States should maintain in good order their portions of water courses including works for flood control.

3. No basin State shall be prevented from undertaking schemes of drainage, river draining, conservation of soil against erosion and dredging, or from removal of stones, gravel or sand from the beds of its portions of watercourses provided that, in executing any of these schemes, it avoids any unreasonable interference with the object of flood control, and provided that such schemes are not contrary to any legal restrictions which may exist otherwise.

4. Basin States should ensure the prompt execution of repairs or other emergency measures for minimization of damage by flooding during periods of high waters.

Article 6

1. Expenses for collection and exchange of relevant data, for preparation of surveys, investigations and studies, for flood forecasting and communication of flood warnings, as well as for the setting-up of a regular information service shall be borne jointly by the basin States co-operating in such matters.

2. Expenses for special works undertaken by agreement in the territory of one basin State at the request of another basin State shall be borne by the requesting State, unless the cost is distributed otherwise under the agreement.

Article 7

A basin State is not liable to pay compensation for damage caused to another basin State by floods originating in that basin State unless it has acted contrary to what could be reasonably expected under the circumstances, and unless the damage caused is substantial.

Article 8

In case of dispute, Articles XXX to XXXVII of the Helsinki Rules are, so far as may be, applicable.

5.2.5.3 Articles on Marine Pollution of Continental Origin[1] - New York, 1972

Article I

As used in this chapter "Continental sea-water pollution" means any detrimental change in the natural composition, content or quality of sea water resulting from human conduct taking place within the limits of the national jurisdiction of a State.

This conduct shall include, *inter alia*, the discharge or introduction of substances directly into the sea from pipelines, extended outlets, or ships, or indirectly through rivers or other watercourses whether natural or artificial, or through atmospheric fall-out.

Article II

Taking into account all relevant factors referred to in Article III a State:

(a) shall prevent any new form of continental sea-water pollution or any increase in the degree of existing continental sea-water pollution which would cause substantial injury in the territory of another State or to any of its rights under international law or to the marine environment, and

(b) shall take all reasonable measures to abate existing continental sea-water pollution to such an extent that no substantial injury of the kind referred to in paragraph (a) is caused.

Article III

(a) States should establish, as soon as possible, international standards for the control of sea-water pollution, having regard to all relevant factors, including the following:

- the geography and hydrography of the area (inland waters, territorial sea, contiguous zone and continental shelf);
- climatological conditions;
- quality and composition of affected sea waters;
- the conservation of the maritime environment (flora and fauna);
- the sources of the sea-bed and the subsoil and their economic value for present and potential users;
- the recreational facilities of the coastal area;

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[1] Text in: International Law Association, Report of the Fifty-Fifth Conference, New York 21-26 August 1972, (London 1974), pp. xvii-xviii.

- the past, present and future utilization of the coastal area and sea water;

- the economic and social needs of the (coastal) States involved;

- the existence of alternative means for waste disposal;

- the adaptation of detrimental changes to beneficial human uses;

- the avoidance of unnecessary waste-disposal;

(b) until such standards are established, the existence of substantial injury from pollution shall be determined by taking into consideration all relevant factors, including those referred to in paragraph (a).

(c) the weight to be given to each other factor is to be determined by its importance in comparison with that of other relevant factors.

Article IV

When it is contended that the conduct of a State is not in accordance with its obligations under these Articles, that State shall promptly enter into negotiations with the complainant with a view to reaching a solution that is equitable under the circumstances.

Article V

In the case of violation of the rules in Article II, the State responsible shall cease the wrongful conduct and shall compensate the injured State for the injury that has been caused to it.

Article VI

In case of a dispute, Articles XXXI to XXXVII of the Helsinki Rules are, so far as may be, applicable.

5.2.5.4 Articles on the Maintenance and Improvement of Naturally Navigable Waterways Separating or Traversing Several States[1] - New Delhi, 1975

The following is the text of the Articles included in the report on Maintenance and Improvement of Naturally Navigable Waterways separating or traversing several States, which are to be added to the "Helsinki Rules" as Article XVIII bis:

1. A riparian State intending to undertake works to improve the navigability of that portion of a river or lake within its jurisdiction is under a duty to give notice to the co-riparian States;

2. If these works are likely to affect adversely the navigational uses of one or more co-riparian States, any such co-riparian State may, within a reasonable time, request consultation. The concerned co-riparian States are then under a duty to negotiate;

3. If a riparian State proposes that such works be undertaken in whole or in part in the territory of one or more other co-riparian States, it must obtain the consent of the other co-riparian State or States concerned. The co-riparian State or States from whom this consent is required are under a duty to negotiate.

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[1] Text in: International Law Association, Report of the Fifty-Sixth Conference, New Delhi, 29 December 1974 - 4 January 1975, Resolutions of the Conference, p. xiii.

5.2.5.5 Resolution on the Protection of Water Resources and Water Installations in Times of Armed Conflict[1] - Madrid, 1976

Article I

Water which is indispensable for the health and survival of the civilian population should not be poisoned or rendered otherwise unfit for human consumption.

Article II

Water supply installations which are indispensable for the minimum conditions of survival of the civilian population should not be cut off or destroyed.

Article III

The diversion of waters for military purposes should be prohibited when it would cause disproportionate suffering to the civilian population or substantial damage to the ecological balance of the area concerned. A diversion that is carried out in order to damage or destroy the minimum conditions of survival of the civilian population or the basic ecological balance of the area concerned or in order to terrorize the population should be prohibited in any case.

Article IV

The destruction of water installations containing dangerous forces, such as dams and dykes, should be prohibited when such destruction may involve grave dangers to the civilian population or substantial damage to the basic ecological balance.

Article V

The causing of floods as well as any other interference with the hydrological balance by means not mentioned in Articles II to IV should be prohibited when it involves grave dangers to the civilian population or substantial damage to the ecological balance of the area concerned.

Article VI

1. The prohibitions contained in Articles I to V above should be applied also in occupied enemy territories.

2. The occupying power should administer enemy property according to the indispensable requirements of the hydrologic balance.

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[1] Text in: International Law Association, Report of the Fifty-Seventh Conference, Madrid 30 August - 4 September 1976, (London 1978), pp. xxv-xxxvi.
Adopting this Resolution, the Conference of ILA stated that "these rules should be applied also with respect to other conduct intended to damage or destroy the water resources of a State or Area".

3. In occupied territories, seizure, destruction or intentional damage to water installations should be prohibited when their integral maintenance and effectiveness would be vital to the health and survival of the civilian population.

Article VII

The effect of the outbreak of war on the validity of treaties or of parts thereof concerning the use of water resources should not be termination but only suspension. Such suspension should take place only when the purpose of the war or military necessity imperatively demand the suspension and when the minimum requirements of subsistence for the civil population are safeguarded.

Article VIII

1. It should be prohibited to deprive, by the provisions of a peace treaty or similar instrument, a people of its water resources to each an extent that a threat to the health or to the economic or physical conditions of survival is created.

2. When, as the result of the fixing of a new frontier, the hydraulic system in the territory of one State is dependent on works established within the territory of another State, arrangements should be made for the safeguarding of uninterrupted delivery of water supplies indispensable for the vital needs of the people.

5.2.5.6 Resolution on International Water Resources Administration[1] - Madrid, 1976

Article 1

As used in this Chapter, the term "international water resources administration" refers to any form of institutional or other arrangements established by agreement among two or more basin States for the purpose of dealing with the conservation, development and utilisation of the waters of an international drainage basin.

Article 2

1. With a view to implementing the principle of equitable utilisation of the waters of an international drainage basin, and consistent with the provisions of Chapter VI of the Helsinki Rules relating to the procedures for the prevention and settlement of disputes, the basin States concerned and interested should negotiate in order to reach agreement on the establishment of an international water resources administration.

2. The establishment of an international water resources administration in accordance with paragraph 1 above is without prejudice to the existence or subsequent designation of any joint agency, conciliation commission or tribunal formed or referred to by co-basin States pursuant of Article XXXI of the Helsinki Rules in the case of a question or dispute relating to the present or future utilization of the waters of an international drainage basin.

Article 3

Member States of an international water resources administration in appropriate cases should invite other States including non-basin States or international organizations, which by treaty, other instrument or binding custom enjoy a right or have an interest in the use of the waters of an international drainage basin, to participate in the activities of the international water resources administration.

Article 4

1. In order to provide for an effective international water resources administration, the agreement establishing that administration should expressly state, among other things, its objective or purpose, nature and composition, form and duration, legal status, area of operation, functions and powers, and financial implications of such an international water resources administration.

2. The Guidelines Annexed to these Articles should be taken into account when an international water resources administration is to be established.

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[1] Text in: International Law Association, Report of the Fifty-Seventh Conference, Madrid, 30 August - 4 September 1976, (London 1978), pp. xxxvii-xii.

Annex

Guidelines for the Establishment of an International Water Resources Administration

(In implementation of Article IV, paragraph 2 on International Water Resources Administration)

In establishing an international water resources administration, Member States should consider, on the basis of the requirements of each particular case, the elements contained in the following guidelines:

1. Form and duration of an International Water Resources Administration will depend on all relevant factors identified in these guidelines, including:

(a) its duration, which may be ad hoc or permanent; and

(b) its constitution which may take the form of:

(i) separate national commissions or agencies;

(ii) a joint commission or agency composed of national representatives, interest groups or representatives of users;

(iii) a mixed commission or agency;

(iv) a commission or agency vested with supranational decision-making powers.

2. Procedures for decision-making will include:

(a) a quorum (for the validity of the meeting) which will depend on the importance of the decisions to be taken;

(b) the principle of either unanimity, simple or qualified majority or an other combined form of decision-making.

3. The legal status of an International Water Resources Administration vis-à-vis both its Member States and other States not parties to the administration as well as vis-à-vis international and other organizations should be defined; such legal status will cover:

(a) the managing body,

(b) the staff,

(c) assets, equipment and other properties,

(d) the whole administration as such, including the powers to sue and to be sued.

4. The territorial competence (ratione loci) of an international water resources administration should be defined. The choice will depend on a number of factors, such as: the extent of the

drainage area with respect to each Members State; the contribution of water by each basin State to the hydrology of the basin; the economic and social requirements of the basin States; local interests; the other relevant factors to be considered in each particular case, having regard to Article V of the Helsinki Rules.

Territorial competence may include:

(a) the whole drainage basin, including surface water, underground waters or both;

(b) more than one drainage basin (multi-basin);

(c) part of a drainage basin (sub-basin);

(d) an area otherwise defined and clearly delimited; and

(e) all or part of boundary waters.

5. The functions and powers of an international water resources administration should be defined. These may vary from case to case, depending upon various factors, including:

(a) the kind of co-operation envisaged;

(b) the desired degree of involvement in international administration;

(c) the specific fields for which it is proposed to establish the administration.

Such functions and powers may include, without being limited to, one or more of the following:

A. Advisory, consultative, co-ordinating, or policy-making functions. In these cases, the agreement should specify the procedural rules for deciding on conflicting rights and interests, including notification, objections and timing.

B. Executive function, which may include carrying out of studies, exploration, investigation and surveys, preparation of feasibility reports, inspection and control construction, operation, maintenance or financing.

C. Regulatory function, including the implementation of the decisions of the administration, as well as lawmaking. Decisions in these matters may take effect directly or after acceptance by Member States.

D. Judicial function, which may include arbitration or final dispute settlement.

6. As regards the objects and purposes (ratione materiae) of an international water resources administration, these may include one or more of the following:

(a) collection and exchange of hydrological technical and other data, which may be undertaken by Member States separately or jointly, and their standardization;

(b) plan formulation, which may include the exchange of plans prepared separately by Member States or jointly formulated plans;

(c) co-ordination of plans;

(d) construction of waterworks, which may be undertaken by Member States separately or jointly, or which may be entrusted to a non Member State or to some organization;

(e) waterworks operation and maintenance, which may be entrusted to each Member State concerned separately or to joint administration;

(f) control of one or more beneficial uses of water which may include:

(i) domestic and community uses;

(ii) agricultural uses, including the watering of animals and agro-allied industrial uses;

(iii) industrial uses, including cooling;

(iv) hydropower generation and transmission;

(v) navigation;

(vi) timber floating;

(vii) fishing; and

(viii) other beneficial uses of common interest;

(g) control of one or more harmful effects of water which may include:

(i) flood control measures, which may imply flow regulations and river training;

(ii) embankment construction and maintenance;

(iii) drought warning, prevention, reduction and control;

(iv) soil erosion control;

(v) land reclamation, including salinity control and drainage;

(vi) dredging, maintenance and improvement of the navigable sections of an international watercourse;

(vii) siltation control;

(viii) other harmful effects of common interest;

(h) water quality control including such coastal sea areas of the Member States, which may be adversely affected, and which may include:

(i) prevention and abatement of water pollution resulting from one or more beneficial uses, and harmful effects, and the measures to be taken separately or jointly by Member States;

(ii) health preservation, including human beings and genetic resources (animals and plants), and the measures to be taken separately or jointly by Member States;

(iii) environment protection, with reference to the waters of the basin, including minimum standards and measures to be taken separately or jointly by Member States.

8. In establishing an international water resources administration, one or more of the following financial and economic matters should be considered:

(a) internal financing of the administration, including cost sharing and sharing criteria;

(b) development financing of projects and works in particular including:

(i) cost sharing and criteria for sharing (based on i.e. at-site benefit analysis, system development); procedures and criteria for compensation;

(ii) sharing of benefits including the assessment and collection of revenues, and criteria for sharing;

(c) external financing, with particular reference to the powers of the administration necessary to enter into agreement for this purpose.

9. The agreement establishing an international water resources administration should contain provisions for the settlement of disputes arising out of its interpretation and implementation.

5.2.5.7 Regulation of the Flow of Water of International Watercourses[1] - Belgrade, 1980

Article 1

For the purpose of these Articles, "regulation" means 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.

Article 2

Consistent with the principle of equitable utilization, basin states shall cooperate in a spirit of good faith and neighbourliness in assessing needs and possibilities and preparing plans for regulation. When appropriate, the regulation should be undertaken jointly.

Article 3

When undertaking a joint regulation, basin states should settle all matters concerning its management and administration by agreement. When necessary, a joint agency or commission should be established and authorized to manage all relevant aspects of the regulation.

Article 4

Unless otherwise agreed, each basin state party to a regulation shall bear a share of its costs proportionate to the benefits it derives from the regulation.

Article 5

1. The construction of dams, canals, reservoirs or other works and installations and the operation of such works and installations required for regulation by a basin state in the territory of another can be carried out only by agreement between the basin states concerned.

2. Unless otherwise agreed, the costs of such works and their operation should be borne by the basin states concerned.

Article 6

A basin state shall not undertake regulation that will cause other basin states substantial injury unless those states are assured the enjoyment of the beneficial uses to which they are entitled under the principle of equitable utilization.

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[1] Text in: International Law Association, Belgradee Conference, 1980 - Committee on International Water Resources Law, pp. 5-15.

Article 7

1. A basin state is under a duty to give the notice and information and to follow the procedures set forth in Article XXIX of the Helsinki Rules.

2. When appropriate, the basin state should invite other basin states concerned to participate in the regulation.

Article 8

In the event of objection to the proposed regulation, the states concerned shall use their best endeavours with a view to reaching an agreement. If they fail to reach an agreement within a reasonable time, the states should seek a solution in accordance with Chapter 6 of the Helsinki Rules.

Article 9

The application of these Articles to regulation for controlling floods is without prejudice to the application of the relevant articles on Flood Control adopted by the International Law Association in 1972.

5.2.5.8 Articles on the Relationship between Water, Other Natural Resources and the Environment[1] - Belgrade, 1980

Article 1

Consistent with Article IV of the Helsinki Rules, States shall ensure that:

(a) the development and use of water resources within their jurisdiction do not cause substantial damage to the environment of other States or of areas beyond the limits of national jurisdiction; and

(b) the management of their natural resources (other than water) and other environmental elements located within their own boundaries does not cause substantial damage to the natural condition of the waters of other States.

Article 2

Articles XXVI and XXXVII of the Helsinki Rules, duly expanded with the addition of the consideration of acts or omissions concerning natural resources other than water and of other environmental elements in their reciprocal relationships with water resources, are applicable to the States referred to in Article 1.

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[1] Text in: International Law Association, Belgradee Conference, 1980 - Committee on International Water Resources Law, pp. 17-18.

5.2.5.9 Rules on the Water Pollution in an International Drainage Basin[1] - Montreal, 1982

Article 1

Consistent with the Helsinki Rules on the equitable utilization of the waters on an international drainage basin, states shall ensure that activities conducted within their territory or under their control conform with the principles set forth in these Articles concerning water pollution in an international drainage basin. In particular, States shall:

a) prevent new or increased water pollution that would cause substantial injury in the territory of another state;

b) take all reasonable measures to abate existing water pollution to such an extent that no substantial injury is caused in the territory of another state; and

c) attempt to further reduce any such water pollution to the lowest level that is practicable and reasonable under the circumstances.

Article 2

Notwithstanding the provision of Article 1, states shall not discharge or permit the discharge of substances generally considered to be highly dangerous into the waters of an international drainage basin.

Article 3

In order to give effect to Articles 1 and 2 above, states shall enact all necessary laws and regulations and adopt efficient and adequate administrative measures and judicial procedures for the enforcement of these laws and regulations.

Article 4

In order to give effect to the provisions of these Articles, states shall cooperate with the other states concerned.

Article 5

Basin states shall:

(a) inform the other states concerned regularly of all relevant and reasonably available data, both qualitative and quantitative, on the pollution of waters of the basin, its causes, its nature, the damage resulting from it, and the preventive procedures;

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[1] Text in: International Law Association, Montreal Conference, 1982 - Committee on International Water Resources, pp. 535-546. For full text with commentary, see INTERNATIONAL LAW ASSOCIATION - REPORT OF THE MONTREAL CONFERENCE.

(b) notify the other states concerned in due time of any activities envisaged in their own territories that may involve a significant threat of, or increase in, water pollution in the territories of those other states; and

(c) promptly inform states that might be affected, of any sudden change of circumstances that may cause or increase water pollution in the territories of those other states.

Article 6

Basin states shall consult one another on actual or potential problems of water pollution in the drainage basin so as to reach, by methods of their own choice, a solution consistent with their rights and duties under international law. This consultation, however, shall not unreasonably delay the implementation of plans that are the subject of the consultation.

Article 7

In order to ensure an effective system of prevention and abatement of water pollution of an international drainage basin, basin states should set up appropriate international administrative machinery for the entire basin. In any event, they should:

(a) coordinate or pool their scientific and technical research programmes to combat water pollution;

(b) establish harmonized, coordinated, or unified networks for permanent observation and pollution control; and

(c) establish jointly water quality objectives and standards for the whole or part of the basin.

Article 8

States should provide remedies for persons who are or may be adversely affected by water pollution in an international drainage basin. In particular, states should, on a non-discriminatory basis, grant these persons access to the judicial and administrative agencies of the state in whose territory the pollution originates, and should provide, by agreement or otherwise, for such matters as the jurisdiction of courts, the applicable law, and the enforcement of judgments.

Article 9

In the case of a breach of a state's international obligations relating to water pollution in an international drainage basin, that state shall cease the wrongful conduct and shall pay compensation for the injury resulting therefrom.

Article 10

When it is contended that the conduct of a state is not in accordance with its obligations under these Articles, that state shall promptly enter into negotiations with the complaining state with a view of reaching a solution that is equitable under the circumstances.

Article 11

In the case of a dispute concerning water pollution in an international drainage basin, Articles XXXI to XXXVII of the Helsinki Rules shall, as far as possible, be applicable.

5.2.5.10 Rules on International Groundwaters[1] - Seoul, 1986

Article 1
The waters of international aquifers[2]

The waters of an aquifer that is intersected by the boundary between two or more States are international groundwaters and such an aquifer with its waters forms an international basin or part thereof. Those States are basin States within the meaning of the Helsinki Rules whether or not the aquifer and its waters form with surface waters part of a hydraulic system flowing into a common terminus.

Article 2
Hydraulic interdependence

1. An aquifer that contributes water to, or receives water from,. surface waters of an international basin constitutes part of that international basin for the purposes of the Helsinki Rules.

2. An aquifer intersected by the boundary between two or more States that does not contribute water to, or receive water from, surface waters of an international drainage basin constitutes an international drainage basin for the purpose of the Helsinki Rules.

3. Basin States, in exercising their rights and performing their duties under international law, shall take into account any interdependence of the groundwater and other waters, including any interconnections between aquifers, and any leaching into aquifers caused by activities in areas under their jurisdiction.

Article 3
Protection of groundwater

1. Basin States shall prevent or abate the pollution of international groundwaters in accordance with international law applicable to existing, new, increased and highly dangerous pollution. Special consideration shall be given to the long-term effects of the pollution of groundwater.

2. Basin States shall consult and exchange relevant available information and data at the request of any one of them:

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[1] Text in: International Law Association, Seoul Conference, 1986 - Committee on International Water Resources, pp. 251-274. For full text with commentary, see INTERNATIONAL LAW ASSOCIATION - REPORT OF THE SEOUL CONFERENCE.

[2] The term "aquifer" as here employed comprehends all underground water bearing strata capable of yielding water on practicable basis, whether these are in other instruments or contexts called by another name such as "groundwater reservoir", "groundwater catchment area", etc. including the waters in fissured or fractured rock formations and structures containing deep, so-called "fossil waters".

(a) for the purpose of preserving the groundwaters of the basin from degradation and protecting from impairment the geologic structure of the aquifers, including recharge areas;

(b) for the purpose of considering joint or parallel quality standards and environmental protection measures applicable to international groundwaters and their aquifers.

3. Basin States shall co-operate, at the request of any one of them, for the purpose of collecting and analyzing additional needed information and data pertinent to the international groundwaters or their aquifers.

Article 4
Groundwater management and surface waters

Basin States should consider the integrated management, including conjunctive use with surface waters, of their international groundwaters at the request of any one of them.

5.2.5.11 Complementary Rules Applicable to International Water Resources[1] - Seoul, 1986

Article I
Substantial injury

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 does not justify an exception in a particular case. Such an exception shall be determined in accordance with Article V of the Helsinki Rules.

Article II
Measures within the territory of other basin States

If an undertaking, to be executed by a basin State, requires works or installations within the territory of a co-basin State, or the utilization of water resources in that territory, all questions connected with these measures are to be determined by agreement. The States concerned shall use their best endeavours to reach a just and reasonable agreement in accordance with the principle of equitable utilization.

Article III
Notification and objection

1. When a basin State proposes to undertake, or to permit the undertaking of, a project that may substantially affect the interests of any co-basin State, it shall give such State or States notice of the project. The notice shall include information, data and specifications adequate for assessment of the effects of the project.

2. After having received the notice required by paragraph 1, a basin State shall have a reasonable period of time, which shall be not less than six months, to evaluate the project and to communicate its reasoned objection to the proposing State. During that period the proposing State shall not proceed with the project.

3. If a basin State does not object to the project within the time permitted under paragraph 2, the proposing State may proceed with the project in accordance with the notice.

4. If a basin State objects to the project, the States concerned shall make every effort expeditiously to settle the matter consistent with the procedures set forth in Chapter 6 of the Helsinki Rules. The proposing State shall not proceed with the project while these efforts are continuing provided that they are not unduly protracted. If these efforts become unduly protracted, or an objecting State has refused to have resort to third party procedures for settlement of the remaining differences, the proposing State may, on its own responsibility, proceed with the project in accordance with the notice.

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[1] Text in: International Law Association, Seoul Conference, 1986 - Committee on International Water Resources, pp. 272-292. For full text with commentary, see INTERNATIONAL LAW ASSOCIATION - REPORT OF THE SEOUL CONFERENCE.

5. The notice and other communications referred to in this Article shall be transmitted through appropriate official channels unless otherwise agreed.

5.2.5.12 Rules on Cross-Media Pollution[1] - Buenos Aires, 1994

Article 1

Consistent with the Helsinki Rules and the rules on international water resources subsequently adopted by the International Law Association, States, in taking measures to prevent, reduce, or control water pollution in an international drainage basin, shall refrain from transferring, or allowing the transfer of, such pollution to land, air or other natural resources in such a way as to cause substantial injury beyond their territory.

Article 2

A State, individually or jointly with co-basin States, shall insofar as technically and economically feasible, manage the waters of an international drainage basin within their jurisdiction so that waste, pollutants and hazardous substances are handled, treated, and disposed of in the manner which produces the least transboundary harm.

Article 3

States should co-operate to achieve integrated management of water and related resources, including prior assessment of ecological impacts.

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[1] Ext in: International Law Association, Buenos Aires Conference, 1994 - Committee on International Water Resources, pp. 230-235. For full text with commentary, see INTERNATIONAL LAW ASSOCIATION - REPORT OF THE BUENOS AIRES CONFERENCE.

5.2.5.13 Articles on Cross-Media Pollution Resulting from the Use of the Waters of an International Drainage Basin[1] - Helsinki, 1996

Article 1

In using the waters of an international drainage basin, States shall, consistent with the Helsinki Rules and the rules on international water resources subsequently adopted by the International Law Association, individually or jointly, take all reasonable measures to prevent minimize significant transboundary pollution of another environmental medium.

Article 2

Consistent with applicable international rules and standards, States shall, insofar as technically and economically feasible, ensure that waste, pollutants, and hazardous substances are handled, treated, and disposed of in the manner that produces the least transboundary environmental harm.

Article 3

In using the waters of an international drainage basin, States, individually or jointly as appropriate, shall ensure prior assessment of the impact of programmer or projects that may have a significant transboundary effect on the environment or on the sustainable use of the waters.

Article 4

States shall use their best efforts to achieve integrated management of the water resources of their international drainage basins.

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[1] Text in: International Law Association, Helsinki Conference, 1996 - Committee on International Water Resources. For full text with commentary, see INTERNATIONAL LAW ASSOCIATION - REPORT OF THE HELSINKI CONFERENCE.

5.2.5.14 Articles on Private Law Remedies for Transboundary Damage in International Watercourses[1] - Helsinki, 1996

Article 1

(1) For the purposes of these articles "damage" includes *inter alia*:

(a) loss of life or personsl injury;

(b) loss of or injury to property; and

(c) the costs of reasonable measures to prevent or minimize such loss or injury.

(2) For the purposes of these Article, "damage to the environment" means:

(a) harm to the environment of the drainage basin, the costs of reasonable measures to prevent or minimize such harm, and any further loss or damage caused by such measures; and

(b) the costs of reasonable measures of reinstatement or restoration of the environment of the drainage basin actually undertaken or to be undertaken.

(3) Except where these articles otherwise provide, "person" means any natural or juridical person.

Article 2

(1) States, individually or jointly, shall ensure the availability of prompt, adequate, and effective administrative and judicial remedies for persons in another State who suffer or may suffer damage arising from the inequitable or unreasonable use of the waters of an international drainage basin in their territories.

(2) For the purpose of giving effect to these articles, States shall ensure cooperation between their competent courts and authorities, and shall take measures to ensure that any persons who suffer or may suffer damage resulting from the use in another State of the waters of an international drainage basin shall have access to such information as is necessary to enable them to exercise their rights under these articles in a prompt and timely manner.

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[1] Text in: International Law Association, Helsinki Conference, 1996 - Committee on International Water Resources. For full text with commentary, see INTERNATIONAL LAW ASSOCIATION - REPORT OF THE HELSINKI CONFERENCE.

Article 3

(1) Any person who suffers or may suffer damage resulting from the use in another State of the waters of an international drainage basin shall be entitled in that State to the same extent and on the same conditions as a person in that State:

(a) to participate in any environmental impact assessment procedure;

(b) to institute proceedings before an appropriate court or administrative authority of that other State in order to determine whether the damaging use or activity should be permitted;

(c) to obtain preventive remedies;

(d) to obtain prompt and adequate compensation; and

(e) to obtain information necessary to establish such claims.

(2) Public bodies and non-governmental associations established in a State which are or may be affected by damage, including damage to the environment, caused by the use of waters of an international drainage basin in another State shall be entitled on condition of reciprocity to initiate proceedings or participate in procedures in that other State to the same extent and on the same conditions as public bodies and non-governmental associations established in that State.

5.3 INTER-AMERICAN BAR ASSOCIATION

5.3.1 Declaration of Buenos Aires[1]

19 November 1957

The Tenth Conference of the Inter-American Bar Association

Resolves

I. That the following general principles which form part of existing international law, are applicable to every water-course or system of rivers or lakes (non-maritime waters) which may traverse or divide the territory of two or more States; such a system will be referred to hereinafter as a "system of international waters".

1. every state having under its jurisdiction a part of a system of international waters, has the right to make use of the waters thereof insofar as such use does not affect adversely the equal right of the States having under their jurisdiction other parts of the system;

2. states having under their jurisdiction a part of a system of international waters are under a duty, in the application of the principle of equality of rights, to recognize the right of the other States having jurisdiction over a part of the system to share the benefits of the system taking as the basis the right of each State to the maintenance of the status of its existing beneficial uses and to enjoy, according to the relative needs of the respective States, the benefits of future developments. In cases where agreement cannot be reached, the States should submit their differences to an international court or an arbitral commission.

3. states having under their jurisdiction part of a system of international waters are under a duty to refrain from making changes in the existing régime that might affect adversely the advantageous use by one or more other States having a part of the system under their jurisdiction except in accordance with: (i) an agreement with the State or States affected; or (ii) a decision of an international court or arbitral commission.

4. the foregoing principles do not alter the norm of international law that if the territory over which flow the waters of an international system is of such a nature as to provide a particular benefit, that benefit may be enjoyed exclusively by the State having jurisdiction over that territory, it being understood that such enjoyment will be in conformity with principle 3.

Recommends:

II. That a permanent committee of the Inter-American Bar Association be established to examine further the general juridical principles in this field, which commission should correspond with other international associations and organizations (U.N., O.A.S., etc.)

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[1] Text in: Inter-American Bar Association, Proceedings of the Tenth Conference, Buenos Aires 14-21 November 1957, (Buenos Aires 1958), Vol. I, pp. 246-248.

devoting their attention to the study of the principles of law governing the uses of international rivers.

III. That this permanent committee study and prepare for the Eleventh Conference of the Inter-American Bar Association a report dealing, among other matters that it considers of interest, with the following:

1. the question of the rights, if any, of non-riparian States which may have interests dependent upon a system of international waters;

2. the question of indemnification and of preventing unlawful acts in the use of waters of international systems that might cause irreparable damage or might even lead to a situation likely to endanger the peace or constitute a threat to the peace;

3. the question of sharing costs in the operation, maintenance and development of a system of international waters;

4. the question of pollution and flood control;

5. the question of the priorities as between different uses of the waters system of international waters and the relation of these priorities to the specific characteristics of the system;

6. the question of the differences in legal treatment of the right of dominion over as distinguished from the right to the use of a system of international waters;

7. the possibility of systematizing the practical rules put into effect by the States to achieve the most advantageous use of systems of interstate or international waters;

8. the difference, if any, arising in the application of general principles of international law as between international boundary water systems and successive water systems;

9. the possibility of creating general and/or regional commissions and tribunals in order to facilitate the most advantageous use of the waters and the solution of conflicts relating to the régime of systems of international waters.

IV. That the Committee be requested to collect, classify and analyse the precedents from every part of the world evidencing practices accepted as law governing the use of international waters.

V. That States with an interest in an international water system ought to participate, as soon as possible, in the collection and exchange of physical and economic data essential for the planning and realization of the rational use of the waters.

5.3.2 Resolution of San Jose[1]

15 April 1967

No. 1

Whereas:

1. International developments show, especially during the recent years, the permanent and gradual improvement of the laws governing the use of international rivers and lakes;

2. The above-mentioned improvement requires a continued study of the facts, of the agreements entered into and the attempts to establish general principles for the common use;

3. International waters have for America unique importance to the extent that it is difficult to imagine a social and economic development and integration of the continent without an equitable and adequate usage of such waters, in achieving which the law has a substantial function;

4. The "Permanent Committee on Use of International Rivers and Lakes", created at the X Conference in Buenos Aires, has produced important reports up to this present Conference, about studies in America and the Western Hemisphere on this subject.

Resolves

That the Permanent Committee on Use of International Rivers and Lakes continue its studies on the use of such waters for industrial, agricultural, commercial and other purposes and inform the XVI Conference as to the result of such studies.

No. 2

Whereas:

1. The work carried out by the Organization of American States in studying the juridical régime for the use of international rivers and lakes is worthy of prominence, and likewise made use of by statesmen, lawyers, or professors interested in the juridical problems and issues raised by the use of these rivers and lakes;

2. The task which the Organization of American States proposes to undertake in this connection has an extraordinary importance as it proposes to equip the American countries with adequate legal instruments for the solution of issues arising from the use of those waters.

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[1] Text in: Inter-American Bar Association, Resolution; Recommendations and Declarations approved by the XV Conference, San Jose, Costa Rica, 10-15 April 1967, pp. 1-2, 190.

Resolves

1. To suggest to the Organization of American States to call a Specialized Conference on the use of international rivers and lakes for industrial, agricultural and commercial purposes, at the earliest possible date, as called for by Resolution X of the Second Special Conference held in Rio de Janeiro in 1965.

2. To express the desire that the General Secretariat of the OAS continue the studies on the use of international rivers and lakes with the above-mentioned purposes, and that it publish up-to-date editions of the studies already prepared.

5.3.3 Resolution of Caracas[1]

8 November 1969

Whereas:

The industrial and agricultural use of international rivers and lakes can contaminate the waters of the same, causing damages and harm to the riparian States;

The increasing development of the countries of the Western Hemisphere will cause an increase in the industrial and agricultural utilization of international rivers and lakes, as well as of the underground waters related to them;

Said use will create social and economic problems in the affected countries, with serious repercussions on the health of human beings and animals, as well as on the productivity of the land;

The solution of these problems should be within the framework of the law, taking into consideration both the general principles and the standards that have been applied in regulating the utilization of said waters by the riparian States; and

The Inter-American Bar Association, concerned about this matter, established as early as 1957 a Permanent Committee on the use of international rivers and lakes in America.

Resolves

1. To recommend that the laws of the American countries on the industrial and agricultural utilization of rivers and lakes be unified or harmonized in order to avoid international controversies.

2. To recommend that in the law schools of the various universities of America there be established courses on comparative water law, especially in those countries which have rivers and lakes in common interest with others, so that better knowledge and comparison of existing legislation will result, with a view to obtaining in the near future the unification or harmonization of legislation.

3. To urge the American States to avoid the contamination of waters of international rivers and lakes, because this affects the health and economy of riparian states, and the avoidance of such contamination is indispensable for a peaceful international life.

4. To make this resolution known to the Organization of American States, to the Latin American Free Trade Association, and to the Secretariat of the Central American Common Market, suggesting to them that it be taken into consideration when said international organizations make studies on the subject.

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[1] Text in: Inter-American Bar Association, Resolutions, Recommendations and Declarations approved by the XVI Conference, Caracas, Venezuela, 1-8 November 1969.

5.4 INTERNATIONAL ASSOCIATION FOR WATER LAW

5.4.1 Recommendations of the Caracas Conference on Water Law and Administration[1]

14 February 1976

(Extract)

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II. Recommendations for International Action

48. It is recommended that international organizations:

(a) make every effort to support the creation of the appropriate legal régimes and of institutional machinery for the effective realization of the required multi-disciplinary data base with respect to water resources;

(b) strengthen, by means of technical assistance, the national and regional centres dedicated to independent research, training and advisory services aimed at the achievement of integrated management of all water resources, suited to existing and anticipated future conditions, and support the publication and dissemination, on a worldwide basis, of the knowledge, techniques and experience acquired by such centres;

(c) in their assistance efforts of every kind to the various countries, with respect to the utilization of water resources special attention be given to the relevance of said activities to the environment;

(d) adopt to the extent applicable by reason of their contents the recommendations formulated to Governments in the field of planning;

(e) take into account recommendations No. 30 to 40 in implementing their technical assistance programs.

49. It would be desirable to recapitulate and systematize the legal norms pertaining to the use of international water resources.

50. It is recommended that the International Law Commission of the United Nations:

(a) continue its progress in its current codification work regarding the rules of international law applicable to "non-navigational uses of international watercourses";

(b) that the legal criteria identified by this Conference concerning national water laws and more effective water management be duly considered by the ILC in its aforementioned codification efforts particularly those referring to the interdependence of resources and to their use within international hydrologic systems.

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[1] Text in: International Association for Water Law, Recommendations of the Caracas Conference on Water Law and Administration, 8-14 February 1976, pp. 16-18.

51. It is recommended that the United Nations University and other pertinent international organs be invited to take note of recommendations 46 and 47.

52. With respect to their international action, it is recommended that governments, in the cases where they share international basins:

(a) try to establish agreements that contain common basic planning principles;

(b) establish mechanisms for cooperation among interested countries, which should include:

  (i) the principle of non-discrimination in arriving at the solution of the problems of pollution and other harmful effects, as well as with respect to free access to justice for all interested parties;

  (ii) the need to exchange information among interested States with respect to the projects and activities that may cause pollution or other harmful effects in another state.

(c) mindful of the fact that the total benefits to be obtained from international water resources are greater where cooperative arrangements among co-basin countries exist, governments may consider:

  (i) that ways and means be sought to establish or improve international cooperation among co-basin countries in the form of appropriate legal and administrative institutions keeping in mind the principle of limited territorial sovereignty over international water resources;

  (ii) giving attention to improving avenues of conflict resolution where agreement between co-basin countries is difficult to attain;

  (iii) that universities and other scientific institutions pay increasing attention to social science research in the fields of public administration, political science, law and economics concerning the specific management problems of international water resources.