World Wide Fund for Nature (WWF)
Hungarian Programme Office

Government Commissioner
for the Tisza and Szamos Rivers

ACCIDENTAL TRANSBOUNDARY WATER POLLUTION: PRINCIPLES AND PROVISIONS OF THE MULTILATERAL LEGAL INSTRUMENTS

Tibor Faragó
World Wide Fund for Nature (WWF),
Hungarian Programme Office

Zsuzsanna Kocsis-Kupper
Office of the Government Commissioner
for the Tisza and Szamos Rivers,
Hungarian Prime-Minister's Office

2000

The manuscript was reviewed by
Boldizsár Nagy
Eötvös Loránd University of Sciences, Budapest
Department of International Law

Cover page photo: *László Haraszthy*

The authors also thank *Ellen Townsend*
for proofreading the manuscript

Published by
World Wide Fund for Nature (WWF), Hungarian Programme Office
and
Office of the Government Commissioner for the Tisza and Szamos Rivers

WWF Hungary Publication Series No. 16 (E), 2000

CONTENTS

1. MULTILATERAL LEGAL INSTRUMENTS IN CONTEXT OF ACCIDENTAL WATER POLLUTION: BACKGROUND, SCOPE AND BASIC TERMS

1.1. The problem of accidental transboundary water pollution, general legal approach, purpose and scope of the overview

The pollution of the Rhine in 1986, Doñana national park in 1998, and the toxic spill which contaminated the Tisza river in January/February 2000 and the consequent environmental damage are "just" a few of the several recent severe environmental accidents which occurred in Europe and remind us of the potential of catastrophic consequences of careless human interference with nature. Extensive industrial activities, the accumulating amounts of hazardous wastes, the use of toxic substances have increased the threat to human health and ecosystems.

The situation in case of severe hazards and their harmful consequences becomes even more complicated when it has a transboundary context and the settlement of the problems depends on international relations and mechanisms of cooperation, (existence or lack of valid) bilateral and/or multilateral legal instruments.

The growing number of cases with severe transboundary environmental impacts of human activities have forced States to recognize that they should change the historical views on national sovereignty and they should accept liability for the adverse transboundary impacts of the activities carried out within the area of their jurisdiction.

Such responsibility or liability is accepted in general terms and is already reflected in many international documents, agreements, conventions. Various international and intergovernmental institutions have also been established which facilitate the collaboration of States to prevent or at least mitigate the transboundary and global consequences of the environmentally hazardous activities.

The improved political climate during and after the 1980s was also a prerequisite to speed up cooperation on environmental matters at pan-European and global scales. The establishment of the World Commission on Environment and Development and the adoption of its report on "Our Common Future" by the UN General Assembly (resolution 42/187 of 11 December 1987) was a milestone in reaching consensus on the urgent matter of developing a proper legal framework and taking concrete actions in order to cope with growing environmental hazards.

In Europe, the intensified activities of the UNECE (United Nations Economic Commission for Europe) and the CSCE (Conference on Security and Cooperation in Europe) in the second half of 1980s, and in particular, the outcomes of the CSCE Meeting on the Protection of the Environment (Sofia, 1989) resulted in a productive collaboration among the concerned countries. The legal instruments and comprehensive programmes adopted or initiated at the beginning of the 1990s

symbolized the start of this new era both at global level (global environmental conventions or Agenda-21 as outcomes of the UNCED, 1992) and at pan-European level (e.g., three new UNECE-conventions in 1991 and 1992 or the "Lucerne" process on the "Environment for Europe").

Despite this progress, the most critical issues remain politically sensitive and unresolved, such as the proper consideration of interests of the potentially affected countries in context of planned or existing activities and plants which might cause significant transboundary environmental impact, or the compensation for such environmental damage. Moreover, in the case of several legal instruments of critical importance, the long period of entry into force after their adoption also indicates these difficulties.

Some of the critical issues and the relevant (or less relevant) provisions of bilateral and multilateral legal instruments are briefly summarized by Kiss (2000) and Nagy (2000) with a view to seek options of legal measures in response to the toxic spill which caused significant transboundary environmental damage along the upper part of the Tisza River. As a follow-up to that accident, a UNEP-OCHA mission was launched and the report of the mission (UNEP-OCHA, 2000) contains also important conclusions and recommendations particularly in relation to those issues analyzed in the present study (see chapter 5).

These problems were also considered and put in a much broader framework by the Second World Water Forum. The Ministerial Declaration adopted by the Forum identified among the challenges the protection of ecosystems and risk management (i.e. to provide security from floods, droughts and other hazards) and called for actions which are based on integrated water resources management (IWRM) whose success depends on partnerships between stakeholders, governments and the public (SWWF, 2000).

Another important aspect is the existence of complex environmental law (acquis) of the European Union including legally binding instruments for the member states which also address various questions of transboundary pollution. The transposition of these requirements is now a prerequisite for the candidate countries. In this respect, the further development of environmental legislation and other actions announced by the Commissioner of the European Union (after her recent visit to Romania and Hungary; Wallström, 2000) will significantly contribute to the collaboration among a large group of the European countries.

Polluting substances emitted to the environment can be transmitted by air and surface waters for long distances and can cause adverse effects rather far from their origin (source of the pollution). In this respect, the transboundary watercourses and international lakes as (potential) pollution transmitting media have a special role from the environmental and legal point of view. Since these are specific habitats and freshwater sources, their pollution lead to a direct threat to aquatic life and to human health.

We should distinguish between "continuous" or chronic pollution and the extraordinary pollution caused by accidents (with much higher concentration of the pollutants and/or with particularly hazardous substances for a relatively short time period). For various reasons, in the case of accidental release of hazardous substances, a special approach is necessary from the point of view of risk management (including the use of monitoring and early warning systems, emergency response measures etc.), the mitigation of the adverse consequences

and coping with the liability question. We limit our focus to these issues in the present study and the scope of the overview is also limited to the pan-European region.

Obviously, there are more multilateral legal instruments in the field of pollution of international waters than those reviewed in this study: those dealing either with the pollution problems of the particular international lakes and transboundary rivers (like the Rhine Convention, 1976 and there are also various water agreements among non-European countries) or with the pollution prevention / mitigation of the seas, inter alia, from land-based sources (as the 1992 Convention on the Black Sea or the 1976 Barcelona Convention on the Mediterranean Sea).

This overview of the various international instruments can serve several purposes. It can raise awareness about their objectives, provisions, instruments of implementation and actual operation. It can also reveal the weaknesses of these instruments and identify those elements which should be further developed. At the end of our study, we draw several such conclusions and present some proposals.

Technically (in Chapter 3), our intention is to highlight the objectives and summarize those general and concrete provisions from the relevant conventions which are directly or indirectly applicable in the context of accidental transboundary water pollution.

For that reason, generally, we draw exact quotations from these instruments (by exact indication of the referenced articles or paragraphs in square brackets; e.g., [2.5] in section 3.6. of this paper means a reference to the paragraph 5 of Article 2 of the Aarhus Convention). A similar approach for the inventory of the relevant international conventions and their provisions was already used in another subject area (Faragó and Lakos, 1996).

Moreover, in the case of concrete occurrences, the corresponding provisions from all relevant instruments should be taken into account *jointly and/or simultaneously*. Therefore, we think it reasonable and useful to put together and match the principal provisions and commitments from various conventions under certain titles which are typically encountered when the preventive measures are projected or an accident happens. These issues (covered in Chapter 4) are as follows: responsibility, liability and compensation for transboundary damages; precaution and prevention of the accidents; notification and public information; disputes and their settlement.

1.2. Basic terms and definitions used in the legal instruments

Relevant basic terms/definitions are listed below drawn from the legal instruments reviewed in this study, which are of particular importance for the adequate interpretation of the relevant provisions of these instruments in relation to our subject area. These terms are grouped in several categories.

Waters and related areas

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. *[Convention on Non-navigational Uses of Watercourses]*

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. *[Convention on Transboundary Watercourses]*

Catchment area of the Danube River means the hydrological river basin as far as it is shared by the Contracting Parties. *[Convention on Protection of the Danube River]*

Hazardous substances

Hazardous substances means substances which are toxic, carcinogenic, mutagenic, teratogenic or bio-accumulative, especially when they are persistent. *[Convention on Transboundary Watercourses]*

Hazardous substances means substances which have toxic, carcinogenic, mutagenic, teratogenic or bioaccumulative effects, in particular those being persistent and having significant adverse impact on living organisms. *[Convention on Protection of the Danube River]*

Substances hazardous to water means substances the hazard potential of which to water resources is extraordinarily high so that their handling requires special preventive and protective measures. *[Convention on Protection of the Danube River]*

Dangerous substance means *(a)* substances or preparations which have properties which constitute a significant risk for man, the environment or property. A substance or preparation which is explosive, oxidizing, extremely flammable, highly flammable, flammable, very toxic, toxic, harmful, corrosive, irritant, sensitizing, carcinogenic, mutagenic, toxic for reproduction or dangerous for the environment within the meaning of Annex I, Part A to this Convention shall in any event be deemed to constitute such a risk; *(b)* substances

specified in Annex I, Part B to this Convention. .... *[Convention on Civil Liability for Damage]*

Hazardous activities

Hazardous activity means any activity in which one or more hazardous substances are present or may be present in quantities at or in excess of the threshold quantities listed in Annex I hereto, and which is capable of causing transboundary effects. *[Convention on Industrial Accidents]*

Dangerous activity means one or more of the following activities provided that it is performed professionally, including activities conducted by public authorities: *(a)* the production, handling, storage, use or discharge of one or more dangerous substances or any operation of a similar nature dealing with such substances; *(b)* the production, culturing, handling, storage, use, destruction, disposal, release or any other operation dealing with one or more: - genetically modified organisms ...; - micro-organisms ...; *(c)* the operation of an installation or site for the incineration, treatment, handling or recycling of waste ...; *(d)* the operation of a site for the permanent deposit of waste. *[Convention on Civil Liability for Damage]*

Proposed activity means any activity or any major change to an activity subject to a decision of a competent authority in accordance with an applicable national procedure. *[Convention on Environmental Impact Assessment]*

Accidents, emergencies, incidents, pollution

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. *[Convention on Non-navigational Uses of Watercourses; 21.1]*

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 ... or from human conduct, such as industrial accidents. *[Convention on Non-navigational Uses of Watercourses; 28.1]*

Industrial accident means an event resulting from an uncontrolled development in the course of any activity involving hazardous substances either *(i)* In an installation, for example during manufacture, use, storage, handling, or disposal; or *(ii)* During transportation ... *[Convention on Industrial Accidents]*

Incident means any sudden occurrence or continuous occurrence or any series of occurrences having the same origin, which causes damage or creates a grave and imminent threat of causing damage. *[Convention on Civil Liability for Damage]*

Impacts, effects, damages

Impact means any effect caused by a proposed activity on the environment including human health and safety, flora, fauna, soil, air, water, climate,

landscape and historical monuments or other physical structures or the interaction among these factors; it also includes effects on cultural heritage or socio-economic conditions resulting from alterations to those factors. *[Convention on Environmental Impact Assessment]*

Effects means any direct or indirect, immediate or delayed adverse consequences caused by an industrial accident on, *inter alia*: *(i)* Human beings, flora and fauna; *(ii)* Soil, water, air and landscape; *(iii)* The interaction between the factors in (i) and (ii); *(iv)* Material assets and cultural heritage, including historical monuments. *[Convention on Industrial Accidents]*

Transboundary impact means any impact, not exclusively of a global nature, within an area under the jurisdiction of a Party caused by a proposed activity the physical origin of which is situated wholly or in part within the area under the jurisdiction of another Party. *[Convention on Environmental Impact Assessment]*

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 ... *[Convention on Transboundary Watercourses]*

Transboundary impact means any significant adverse effect on the riverine environment resulting from a change in the conditions of waters caused by human activity and stretching out beyond an area under the jurisdiction of a Contracting Party. Such changes may effect life and property, safety of facilities and the aquatic ecosystems concerned. *[Convention on Protection of the Danube River]*

Transboundary effects means serious effects within the jurisdiction of a Party as a result of an industrial accident occurring within the jurisdiction of another Party. *[Convention on Industrial Accidents]*

Damage means: *(a)* loss of life or personal injury; *(b)* loss of or damage to property other than to the installation itself or property held under the control of the operator, at the site of the dangerous activity; *(c)* loss or damage by impairment of the environment in so far as this is not considered to be damage within the meaning of sub-paragraphs (a) or (b) above provided that compensation for impairment of the environment, other than for loss of profit from such impairment, shall be limited to the costs of measures of reinstatement actually undertaken or to be undertaken; *(d)* the costs of preventive measures and any loss or damage caused by preventive measures, to the extent that the loss or damage referred to in sub-paragraphs (a) to (c) of this paragraph arises out of or results from the hazardous properties of the dangerous substances, genetically modified organisms or micro-organisms or arises or results from waste. *[Convention on Civil Liability for Damage]*

Parties

Riparian Parties means the Parties bordering the same transboundary waters. *[Convention on Transboundary Watercourses]*

Party of origin means any Party or Parties under whose jurisdiction an industrial accident occurs or is capable of occurring. *[Convention on Industrial Accidents]*

Party of origin means the Contracting Party or Parties to this Convention under whose jurisdiction a proposed activity is envisaged to take place. *[Convention on Environmental Impact Assessment]*

Affected Party means any Party or Parties affected or capable of being affected by transboundary effects of an industrial accident. *[Convention on Industrial Accidents]*

Affected Party means the Contracting Party or Parties to this Convention likely to be affected by the transboundary impact of a proposed activity. *[Convention on Environmental Impact Assessment]*

"Actors"

Operator means any natural or legal person, including public authorities, in charge of an activity, e.g. supervising, planning to carry out or carrying out an activity. *[Convention on Industrial Accidents]*

Operator means the person who exercises the control of a dangerous activity. *[Convention on Civil Liability for Damage]*

Competent authority means the national authority or authorities designated by a Party as responsible for performing the tasks covered by this Convention and/or the authority or authorities entrusted by a Party with decision-making powers regarding a proposed activity. *[Convention on Environmental Impact Assessment]*

The public means one or more natural or legal persons. *[Convention on Environmental Impact Assessment; C. on Industrial Accidents]*

Sustainable management and several types of measures

Sustainable water management means the use of the "criteria of a stable, environmentally sound development, which are at the same time directed to: maintain the overall quality of life; maintain continuing access to natural resources; avoid lasting environmental damage and protect ecosystems; exercise preventive approach." *[Convention on Protection of the Danube River; 2.5]*

Environmental impact assessment means a national procedure for evaluating the likely impact of a proposed activity on the environment *[Convention on Environmental Impact Assessment]*

Preventive measures mean any reasonable measures taken by any person, after an incident has occurred to prevent or minimize loss or damage as referred to in paragraph 7 [see definition of “damage“ above], sub-paragraphs a to c of this article. *[Convention on Civil Liability for Damage]*

Measures of reinstatement means any reasonable measures aiming to reinstate or restore damaged or destroyed components of the environment, or to introduce, where reasonable, the equivalent of these components into the environment. Internal law may indicate who will be entitled to take such measures. *[Convention on Civil Liability for Damage]*

2. DEVELOPMENT, PRINCIPLES AND SOURCES OF INTERNATIONAL ENVIRONMENTAL LAW REGULATING TRANSBOUNDARY IMPACTS

2.1. Development and guiding principles of the international environmental law

Although certain principles (such as “rules of neighborhood“ connected to the protection of one’s territory and the environment) were to be found even in Roman law and even though different national norms concerning environmental protection were adopted already in the 19th century, signs of international environmental law emerged only at the beginning of the twentieth century. The first multilateral convention in the field of nature conservation was adopted in 1902 (Paris Convention for the Protection of Birds Useful to Agriculture). It was followed by other international conventions on nature conservation and protecting various species.

The regulation of territorial boundaries (especially boundary waters) and related environmental questions also became a “typical” subject of treaties from the beginning of the century. One of the earliest conventions of this type was the 1909 Agreement between the United States and Great Britain with respect to boundary waters between the USA and Canada. Actually, the primary aim of such conventions was not only the protection of environment but that of establishing territorial regimes. Due to many territorial changes in the 1940s, the international aspects of the utilization of waters became strategically important and the number of boundary water agreements multiplied.

The international norms concerning different types of environmental pollution were only adopted in the fifties, primarily in the water sector. One of the first examples of such instruments was the International Convention for the Prevention of the Pollution of the Sea by Oil (1954, London) prohibiting the disposal of oil into the sea. Furthermore, in order to provide an institutional framework for the growing importance of the protection of territorial waters, several commissions were set up in this regard, such as in Europe for the rivers Rhine, Mosel and lakes Constance and Leman.

It is not surprising that first the protection of species representing economic values was emphasized and then the question of international (boundary) waters became important as issues for international negotiations and agreements; it happened only afterwards that attention was paid to other, more complex issues and various forms of pollution.

Parallel to these developments, there was a growing concern within the international community about the use of chemicals, hazardous materials and certain hazardous activities endangering the environment. Several international conventions were adopted from the second half of the fifties, as, for instance, the 1958 Geneva Convention on the High Seas (prohibiting ocean pollution by oil and by radioactive waste), or the 1960 Paris Convention on Third Party Liability in the Field of Nuclear Energy.

Following environmental catastrophes such as the 1967 Torrey Canyon oil tanker disaster and based on new scientific results in the environmental field on possible global environmental implications of the human activities, the concern for the endangered environment became even stronger in the early seventies. In addition, several international organizations started to play a more active role in protecting the environment: in this respect, one may recall the 1968 Declaration of the Council of Europe on Air Pollution Control, its 1968 European Water Charter, 1968 African Convention on the Conservation of Nature and Natural Resources adopted in the framework of the Organization of African Unity, or the 1972 United Nations Conference on the Human Environment.

These achievements clearly indicated that the transboundary, the continental-scale and even the global environmental hazards were recognized and there was a growing consensus to handle and regulate jointly and in an integrated way the relevant issues, to formulate and agree upon the common principles and measures in order to adequately tackle these hazards. By virtue of these steps a rapidly growing new legal subject area, i.e., *international environmental law* was established and accepted by the international community.

The UN Conference on the Human Environment held in 1972 in Stockholm is usually considered as the event marking the beginning of a new era of international environmental cooperation. The Declaration adopted by the participants formulates the "universal" principles of environmental protection which should guide the nations and the international community to prevent the further deterioration of the Earth's environment, to effectively manage the solution of environmental problems and to prevent and/or reduce further environmental hazards.

One of its most frequently quoted principles clarifies the responsibility of states for the transboundary environmental impacts. According to this 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."

The UN Commission on Environment and Development in its final report to the UN General Assembly produced a detailed analysis of global environmental degradation and interrelated problems and perspectives of economic development, social progress and environmental protection. Their recommendations were based on the general principles of sustainable development and they also identified the most critical areas where the development and intensification of the international collaboration, formulation and implementation of well-coordinated concrete programmes, elaboration and enforcement of new legal instruments were necessary.

As regards the critical assessment and future work in the field of legislation, the Commission made clear:

> "National and international law has traditionally lagged behind events. Today, legal regimes are being rapidly outdistanced by the accelerating pace and expanding scale of impacts on the environmental base of development. Human

laws must be reformulated to keep human activities in harmony with the unchanging and universal laws of nature. There is an urgent need: ... *to strengthen and extend the application of existing laws and international agreements in support of sustainable development, and to reinforce existing methods and develop new procedures for avoiding and resolving environmental disputes*." (Brundtland, 1987)

The comprehensive report of the Commission with the proposed agenda for future work was adopted in 1987 by the corresponding UN resolution. The General Assembly decided also to convene the UN Conference on Environment and Development in 1992.

Simultaneously in Europe, the "Helsinki process" namely the extensive cooperation under the aegis of the Conference for European Security and Cooperation (CSCE) offered a good basis for the dialogue on environmental issues and it apparently served also as a catalyst to a better collaboration in Central Europe. In particular, the Danubian States adopted a "Declaration on the co-operation of the Danube countries on water management and especially water pollution control issues of the river Danube" in 1985 (NWA, 1987). In this declaration the governments expressed the readiness "to *safeguard the water of the Danube from pollution*, with special regard to dangerous and radioactive substances and to a gradual decrease of the degree of pollution, *taking into account also the ecological requirements* ..." [Art.1] In this document, two basic principal elements are noteworthy for our specific subject, namely, those on the prevention of environmental pollution and on the notification on accidents:

- The Governments continue to strive for "taking measures for *protecting, preserving and improving the environment* and for the enforcement of increased responsibility, particularly in the field of *protecting waters from pollution*." [5]

- The Governments "... designate their organs to which the results and evaluations regarding the water quality of the Danube as well as urgent informations connected with accidental pollution and measures aiming at their removal, mutually have to be reported" [2.2].

From a legal point of view, the adoption of the Convention on Long-range Transboundary Air Pollution in 1979 (and later on, the elaboration of its protocols) was the first substantial product of this era within the framework of the pan-European environmental cooperation. The terms (e.g., the definition of the transboundary pollution), approach and specific elements used in that convention provided essential guidance for the subsequent UNECE and other conventions reviewed in this study.

The Rio Declaration on Environment and Development was adopted by the Earth Summit (i.e., the high-level segment of the United Nations Conference on Environment and Development) in 1992 with the goal of establishing a new and equitable global partnership through the creation of new levels of cooperation among States, key sectors of societies and people and by recognizing the integral and interdependent nature of the Earth. It proclaimed inter alia the following principles (which have a direct relevance for the subject of our study):

- *Sovereignty and responsibility:* [Principle 2] "States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own

environmental and developmental policies, and *the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States* or of areas beyond the limits of national jurisdiction". It is just the reiteration of the principle 21 of the Stockholm Declaration.

- *Public participation:* [Principle 10] "Environmental issues are best handled with the *participation of all concerned citizens*, at the relevant level. At the national level, each individual shall have *appropriate access to information concerning the environment* that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided." Obviously, access to information and public participation in the context of accidents are of particular importance.

- *Liability and compensation:* [Principle 13] "States shall develop national law regarding liability and compensation for the victims of pollution and other environmental damage. States shall also cooperate in an expeditious and more determined manner to develop further international law regarding *liability and compensation for adverse effects of environmental damage caused by activities within their jurisdiction or control to areas beyond their jurisdiction*."

- *Precaution:* [Principle 15] "In order to protect the environment, the *precautionary approach* shall be widely applied by States according to their capabilities. *Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation*."

- *Notification in case of emergencies*: [Principle 18] "*States shall immediately notify other States of any natural disasters* or other emergencies that are likely to produce sudden harmful effects on the environment of those States. Every effort shall be made by the international community to help States so afflicted."

- *Prior information and early consultation:* [Principle 19] "States shall provide *prior and timely notification and relevant information to potentially affected States on activities that may have a significant adverse transboundary environmental effect* and shall consult with those States at an early stage and in good faith."

- *Dispute settlement:* [Principle 26] "*States shall resolve all their environmental disputes* peacefully and *by appropriate means* in accordance with the Charter of the United Nations."

- *Partnership:* [Principle 27] "*States and people shall cooperate in good faith and in a spirit of partnership in the fulfillment of the principles* embodied in this Declaration *and in the further development of international law* in the field of sustainable development."

These declarations and principles are not legally binding, nevertheless they have become generally accepted and referred to in other international legal instruments adopted afterwards. The same principles were guiding national legislation on environmental matters – in accordance with Principle 11 "States

shall enact *effective environmental legislation*. ...", which can also be considered as a clear reference to the "domestic" duties of all states in a broad sense so that they should have all necessary legal provisions, in particular, for prevention and adequate management of the environmental hazards.

Besides the principles selected above from the Rio Declaration, two more broadly accepted principles should be mentioned:

- *Polluter-pays:* Whilst the principle 2 above mentions responsibility of states not to cause damage to the environment of other States, in case when such transboundary damage has been caused, the reference to the *polluter-pays principle* is the most common one as it presents the clearest form of solution of liability and compensation issues.

- *Prevention:* Whilst the integration principle is a basic element of the Rio Declaration (it is its principle 4 not quoted above), it is generally accepted that the most effective solution is the use of the *prevention principle*, i.e. the prevention of the pollution or any other activities with adverse environmental impacts at the source.

The conventions reviewed in this study are either clearly based on these principles with explicit references to one or more of them, or indirectly implement the normative content of them by promoting precaution, prevention, impact assessment and public participation in the decision making, notification, consultation, co-operation (both before and after the pollution), and the settlement of disputes based on the polluter pays and other applicable principles. Obviously, all these conventions are guided by the *partnership principle*.

More concretely, for instance, the Convention on Transboundary Watercourses refers to the *precautionary principle* and the *polluter-pays principle*; Convention on Industrial Accidents also mentions the *polluter-pays principle* in its preamble as a general principle of international environmental law. The Convention on Biological Diversity repeats the principle 2 of the Rio Declaration. There are important rules on *notification* in the Convention on Transboundary Watercourses, the Convention on Protection of the Danube River, the Convention on Industrial Accidents. Obviously, matters of *prior information and consultation* are dealt with in most detail by the Convention on Environmental Impact Assessment. Similarly, the Convention on Access to Information and Public Participation is the "best source" of provisions to facilitate *public participation* in environmental matters.

2.2. Sources of international environmental law

Due to the fact that international environmental law forms part of general public international law, its basic sources are those, identified in the Statute of the International Court of Justice [Art. 38, paragraph 1], namely: *general or particular conventions* (treaties), *international customary law*, *general principles* of law. Resolutions of international organizations – although not mentioned in the Statute – may contain binding rules, as well.

Apart from these categories, there are three further kinds of instruments which play a subsidiary but nevertheless an important role: *judicial decisions, teachings* of the most highly qualified publicists and *soft law documents*, i.e. instruments containing rules which are of paramount importance because of the political, moral and legal authority of the drafters.

Treaties

Among the traditional sources of international law, treaties are found in the most conventional form. It is due to the fact that traditionally states preferred to express their views and requests in a most definite format avoiding misinterpretation and also because according to the positivist approach states could not have been bound without a clear expression of their consent, therefore, there was a need for an exact request and obligation put it in an agreed, written form. The above facts demonstrate the reasons why treaties are the most frequently used tools for creating binding obligations to the parties even today.

Different types of treaties

A treaty can be characterized in numerous ways depending on its nature: it can be bilateral or multilateral depending on the number of parties, it can be local, regional, continental and global depending on the issue, the objective and spatial scale, it can be established under an international organization, such as the United Nations or the Council of Europe, or can be concluded without such a facilitating and "hosting" international body.

The different environment-related treaties can also be classified according to their *subject-topic*: there are treaties on nature conservation (in particular, about the protection of different species); on the protection of certain environmental elements such as air, water, soil; on certain forms of pollution; on different actions, such as waste management and nuclear activities or other specific subjects (e.g., liability for causing environmental pollution / damage).

More specifically, in the field of water protection one can also find different regimes: there are treaties concerning boundary waters; there are treaties on navigation; treaties regulating the drainage basin (e.g., the 1976 Rhine Convention); treaties concerning international watercourses (like the 1997 New York Convention).

Furthermore, there is a difference between the treaties depending on the *methods* they use, even though this kind of differentiation is not so obvious as

those mentioned above, and the fact that these techniques can be applied jointly in the same treaty makes classification even more complicated. Apart from a definite, simple norm or order, a request for a certain act or omission, the most frequently used techniques in an environmental regulation are the following: licensing, setting up a list and setting up standards (Kiss-Shelton, 1991).

Usually the *licensing technique* is used in relation to certain activities, procedures and is important because several factors are investigated for the interest of the environment prior to the issue of the permit. *Lists* help making strict regulations more flexible in the light of individual circumstances and also make the task of differentiating between certain materials easier. For this reason, lists are usually applied in the case of management of waste and dangerous substances, furthermore, in relation to the protection of species. *Standards* are classified into different groups, namely: quality standards fixing the maximum permissible level of pollution in the different sectors; emission standards specifying the quantity of pollutants or their concentration in discharges, which can be emitted by a certain source; process standards determining certain specifications to installations; product standards fixing the chemical or physical composition of items.

Binding nature

The 1969 Vienna Convention on the law of treaties in its Article 1(a) defines "*treaty" as an international agreement concluded between States in written form and governed by international law, whether embodied in a single instrument or in two or more related instruments and whatever its particular designation*. Apart from the above-mentioned narrow interpretation (which is due to the specific effect of the above Treaty), international agreements can be concluded either between states, or between states and international organizations and can be called differently – such as treaty, agreement, covenant, convention, protocol, memorandum etc.

With respect to all treaties, the crucial question is the involved parties' intention to achieve a binding obligation. The binding character of the treaties is embodied in the *principle of pacta sunt servanda*, (Article 26 of the above mentioned convention) stating that *every treaty in force is binding upon the parties to it and must be performed by them in good faith.*

The consent of the state to be bound by the treaty may be expressed by signature, exchange of instruments constituting a treaty, ratification, acceptance, approval or accession (the instrument used depends on the treaty itself). However, unless the parties specifically agree to be bound by signature, the treaty only enters into force and becomes binding on the parties following a formal ratification (usually requiring the decision of the national parliaments or other organs) or any other requirements determined by the treaty, for example the request for a certain number of ratifications (Birnie and Boyle, 1992).

It is a critical element for the above actions that the person acting on behalf of the state shall have full authorization, because the lack of authorization for signature, or the lack of confirmation (if requested in the treaty) from the state afterwards would result in that the treaty would not bind the state.

Even though the treaty only enters into force after fulfilling certain requirements determined by the treaty itself, the parties to the treaty shall not do anything which undermine the object of the treaty in the meantime, as Article 18 of the Vienna Convention states: *the State is obliged to refrain from acts which would defeat the object and purpose of the treaty after it signed the treaty (or exchanged instruments constituting the treaty subject to ratification, acceptance or approval) until is shall have made its intention clear not to became a party to the treaty; or it has expressed its consent to be bound by the treaty, pending the entry into force of the treaty and provided that such entry into force is not unduly delayed.*

Signature, ratification, entry into force

Prior to signature there is usually a long-lasting negotiating period after which the treaty can be signed demonstrating the agreement of the parties over a certain version of the text. There is a possibility to sign the treaties following the closing session as well, but only to a determined period, after which time a third State can only accede or adhere to the treaty, following a certain procedure set out by the treaty itself. Referring to the above differences between signature and ratification it shall be mentioned that obviously once a State is determined to sign a treaty and provided it does, the acceleration of the ratification process would be highly preferred avoiding uncomfortable situations and interpretations of the acts carried out by the given State. However, it is not always the case and there are several treaties waiting to be ratified long after the states have previously signed them.

Due to the fact that several treaties only enter into force after a certain period (e.g., ninety days) following the determined number of deposit instruments of ratification, acceptance, approval or accession; if the requested further actions are not taken by the States, the treaty cannot enter into force yet which somewhat demonstrate that its original aim and objective has been slightly weakened.

General rules of interpretation

Taken the fact that treaties are most commonly used for determining and setting up obligations between parties, the interpretation of the words and phrases used in the text play a rather important role.

The Vienna Convention on the Law of Treaties in its Art. 31-33 provides the general rules for this matter as the following: “A Treaty shall be interpreted in good faith in accordance with the ordinary meaning given to the terms of the treaty in their context and in the light of its object and purpose.” That is the reason why for example the preamble and the annexes of the treaty play a special role in understanding the text. In case the wording remains ambiguous, the preparatory work of the treaty and the circumstances of its conclusion shall also be taken into consideration. Provided that a treaty has been authenticated into two or more languages, the text is equally authoritative in each language, unless the treaty provides or the parties agree that, in case of divergence, a particular text shall prevail. Naturally, the terms of the treaty are presumed to have the same meaning in each authentic text.

The question of interpretation is an important matter in relation to this paper, since as it will be shown further, certain principles and definitions are included in numerous treaties sometimes with a different meaning.

Customary international law

Beside treaties another important source of international law (and particularly, that of international environmental law) is the customary norms. The reason for applying customary norms in the field of environmental law is that customs are rather flexible, much less formal and rather spontaneous even if it is more difficult to prove the normative content of such a norm than in the treaties. In order to establish a customary norm, one has to prove the following two elements: *state practice*, *repetition of actions* and a more subjective psychological element: *opinio juris*, meaning that the actions of a given state is motivated by a sense of legal obligation (Kiss and Shelton, 1991). Therefore, both the conduct and the conviction on the part of the state is required for a norm to become a customary norm, and following this prerequisite another question arises, namely whether the norm formed is of a global, regional or a particular nature existing only between certain states.

To identify which norms have reached a certain level of customary norm, the frequency and uniformity of their application and the different related actions of the states and the international organizations can also be examined. Such examples in the related field are: the duty not to cause damage to the environment of another state, the duty to notify other states in case of emergency: both norms which were found in international declarations and also in the actions of States.

Judicial decisions

We present below several selected cases and the judicial decisions which significantly contributed to the legal approach and interpretation of the liability issue related to transboundary environmental pollution or other adverse environmental impacts (Kiss and Shelton, 1991; Birnie and Boyle, 1992; Kupper, 1995; Kiss, 1997; Gündling, 1998).

Duty to prevent harm: the "Trail Smelter" case

The case is one of the leading cases establishing the old roman principle of sic utere tuo in modern international environmental law. A Canadian company (Consolidated Smelting Company of Canada Ltd) operated a smelter in British Columbia, on the Columbia River close to an international boundary. The smelter emitted sulphur dioxide which drifted down to Columbia River Valley and caused harm to crops, fisheries and woodlands in the State of Washington.

The dispute was referred to an *ad hoc* arbitral tribunal set up by the United States and Canada. Lacking decisions relevant to the precise facts, the tribunal referred to the broader principles of international law of state responsibility. Some of the conclusions of the tribunal have often been quoted as relevant international prescriptions on the injurious use of resources. The tribunal in 1941 held that: "under the principle of international law, as well as the law of the U.S., no State has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another state or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence."

In its decision the tribunal found Canada responsible for the conduct of the Trail Smelter and declared that "a State owes at all times a duty to protect other States against injurious acts by individuals from within its jurisdiction."

The tribunal went on to impose on the smelter a regime "which would allow the continuance of the operation of the Trail Smelter but under such restrictions and limitations as would, as far as foreseeable, prevent damage in the United State." The importance of the case is particularly found in the fact that the tribunal held that the responsibility of a state for extraterritorial injury existed as a matter of general international law.

Prior consent, obligation to inform and to negotiate in good faith: the case of "Lake Lanoux"

The case concerned a dispute stemming from a 1950 French project to build a hydro-electric dam and divert water from Lake Lanoux, which lies near the French border with Spain. The lake itself lies wholly in the territory of France, but the river Carol, which originates at the lake, flows into Spain. The French Government proposed a special scheme by which water from another French river would re-establish the level of flow of the Carol in the territory of France, since it was aware that the planned project would reduce the volume of the river in Spain. The Government of Spain disagreed with the plan, claiming that its activity would violate the provisions of the agreements concluded with France in the 1866 Treaty of Bayonne and its Additional Act.

The Arbitral Tribunal in its 1957 decision, concluded that the project planned by France violated neither the Treaty of Bayonne nor its Additional Act, however the decision also stated that "It could have been argued that the works would bring about a definite pollution of waters of the Carol or that the returned waters would have a chemical composition or a temperature or some other characteristic which could injure Spanish interests. Spain could then have claimed that her rights had been impaired in violation of the Additional Act."

The decision thus made clear that a riparian state is entitled to exercise her rights, but cannot ignore its neighbours interest: the upstream state is prohibited to change the waters of a river in a way that seriously damages the downstream state.

Apart from the above general rule, the Tribunal also made reference to special norms concerning notification and cooperation, stating that a state proposing a new development project which may change the regime or the volume of an adjacent watercourse is required to inform other states which may be affected by the proposed development project, as the court stated: "A state wishing to do that which will affect an international watercourse cannot decide whether another state's interest will be affected: the other state is sole judge of that and has the right to information on the proposals."

Polluter pays, strict liability: "Gut Dam"

The case concerned arbitration between the United States and Canada in regard to damage caused to U.S. citizens by the Canadian Government by building a dam between Adams Island in Canadian territory and Les Galops in American territory in 1903. The dam was designed to stop the flow of water through the

channel between the two island and to improve navigation. The water level of the St. Lawrence river and Lake Ontario increased between 1904-1915 as a result of the Canadian diversion of water into the Great Lakes to increase hydro-electric power generation and caused extensive flooding and erosion damage in the area.

The Lake Ontario Claims Tribunal set up for resolving the question of compensation established Canada's liability for damages attributable to the dam, and following further negotiations and decisions the Canadian Government had to pay USD 350.000 to the U.S.A. for final settlement.

Equitable and reasonable use: "River Oder"

One of the earliest cases in which the Permanent Court of International Justice applied the principle of equitable and reasonable use was the River Oder case. The question before the PCIJ was whether the jurisdiction of the Oder Commission should extend to two tributaries of the Oder situated in Poland. The issue in the case concerned the Oder Commission in particular and navigation rights in general.

The Court held: "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 ... it is at once seen that

> a solution of the problem has been sought not in the idea of a right of a 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 one riparian in relation to others*."

Scholarly writing

Among the above mentioned sources, the teachings of the most highly qualified publicists are considered subsidiary sources of law and can sum up and point out the development of international law.

The works of scientific associations and organizations can also identify emerging norms, such as: the International Law Association in its 1966 Helsinki Rules on the water use of international rivers or the International Law Institute with its 1979 Athens Resolution on pollution of rivers and lakes in international law (Bruhács, 1993).

Non traditional sources: soft law

Apart from the classical sources of international law, new sources are emerging and being recognized, especially in the field of international environmental law. Even if they do not match the sources listed by the ICJ Statute, they can play an important role in the development of environmental law due to their declarative nature.

These pieces of norms are mostly adopted by numerous international organizations and usually they do not have a binding character. (except certain

resolutions issued by international organizations that can possess a binding character like the UN Security Council, OECD, EU legislation – but these items are not under scrutiny for this study).

Most non-traditional sources are non-binding resolutions of different international organizations in different forms: *declarations*, *principles*, *recommendations* and *programmes/plans of action*. The importance of the these special pieces of international environmental law (such as for example the Stockholm Declaration and the Rio Declaration) is that they represent the aims of the states, reflect the development of international practice and can therefore act to direct national and international law making. For the latter reason it is not surprising that sooner or later all principles declared in different kinds of soft law instrument, will reappear in binding international treaties and also form part of customary norms (see section 2.1 and chapters 3 and 4).

3. INTERNATIONAL CONVENTIONS ON ENVIRONMENTAL PROTECTION AND NATURE CONSERVATION

Multilateral legal instruments are reviewed below which include provisions directly or indirectly relevant either for the prevention of accidental transboundary water pollution or, in the case of such accidents, for special emergency operations to mitigate the damages caused by them and for "post-effect" procedures.

We focus on the following conventions:

- Convention on the Protection and Use of Transboundary Watercourses and International Lakes
- Convention on Cooperation for the Protection and Sustainable Use of the Danube River
- Convention on the Transboundary Effects of Industrial Accidents
- Convention on the Law of the Non-navigational Uses of International Watercourses
- Convention on Environmental Impact Assessment in a Transboundary Context
- Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters
- Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment
- Convention on Biological Diversity

The legal text of these conventions and other related information (on their status etc.) are available from the convention secretariats and the Internet websites operated by them, whose addresses are also provided by us in the respective sections below.

In addition, several other instruments will be briefly demonstrated which have at least one or a few provisions that might be taken into account with respect to our subject-area; these are the following conventions: Convention on measures to combat pollution of the Tisza river and its tributaries; Convention on Wetlands of International Importance Especially as Waterfowl Habitat; Convention on the Conservation of European Wildlife and Natural Habitats.

The critical appraisal of these legal instruments is essential for at least two purposes:

- firstly, there is the need for a better understanding of their objectives, general considerations and the exact formulation of provisions which actually express the commitments by the Parties;

- secondly, in light of recent experiences, we should think carefully about the improvement of these provisions or find completely new and alternative instruments.

The brief overview of the international conventions below follows a common structure. A similar overview and structure was already used for various environmental conventions in another context (Bándi, Faragó, Lakos, 1994; Faragó and Lakos, 1996). For each of them in this chapter four categories are presented, namely:

(a) background, general status;

(b) objectives, principles, comprehensive provisions;

(c) concrete provisions and commitments;

(d) institutional arrangements and contacts.

In accordance with the basic purpose of the overview, under the sections (b) and (c) primarily those elements of the conventions are highlighted which are applicable in case of accidental transboundary water pollution at least in an indirect way.

A summary table listing all the referred conventions is found in Annex B; the status of the conventions reviewed in this chapter is presented in Annex D.

3.1. Convention on the Protection and Use of Trans-boundary Watercourses and International Lakes

(a) Background, general status

Convention on the Protection and Use of Transboundary Watercourses and International Lakes					
place of adoption	*year of adoption*	*entry into force*	*organization*	*scope*	*depositary*
Helsinki	1992	1996	UNECE	pan-European	SG*-UN

*Secretary-General

Numerous bilateral and multilateral transboundary water agreements have already been adopted in Europe by riparian countries, but these differed greatly in depth and scope. It became evident that the overall threats to the quality of transboundary watercourses or the specific concern of the downstream countries can only be met by strengthening the cooperation among the European countries and by accepting common principles and rules for actions. In response to these requirements the Convention on the Protection and Use of Transboundary Watercourses has been elaborated under the auspices of the UN Economic Commission for Europe. This legal instrument includes several principles and provisions which explicitly address the issue of accidental pollution, however, these provisions are only of general character.

The convention entered into force in 1996 and its present status is shown in Annex D where the Parties are listed with the date of ratification (acceptance, approval or accession); if a country has only signed but has not yet ratified, then “s” stands for signature. There are still many countries of the UNECE region which are not Parties to this legal instrument. A protocol to this convention on water and health was also adopted and signed by many states in 1999.

(b) Objectives, principles, comprehensive provisions

Parties to this convention “shall take all appropriate measures to prevent, control and reduce any transboundary impact” [2.1], i.e. significant adverse effect on environment.

In particular, they take all appropriate measures “to prevent, control and reduce pollution of waters causing or likely to cause transboundary impact” [2.2.a], to ensure a use with the aim of "ecologically sound and rational water management" [2.2.b], “to ensure conservation and, where necessary, restoration of ecosystems” [2.2.d]. The measures for the prevention, control and reduction of water pollution shall be taken, where possible, at source [2.3].

The convention refers to the *precautionary principle* [2.5.a] and the *polluter-pays principle* [2.5.b] as the basis for all necessary measures.

(c) Concrete provisions and commitments

From the point of view of prevention and control of the accidental transboundary water pollution, the following specific provisions of the convention should be mentioned:

- Parties should ensure that the emission of pollutants is *prevented, controlled and reduced at source* through the application of, inter alia, low- and non-waste technology [3.1.a];

- contingency planning is developed [3.1.j]; *the risk of accidental pollution is minimized* [3.1.l].

Being a kind of a framework convention, it is made clear that more concrete commitments should be adopted within the framework of agreements among the relevant riparian countries which are based on the general provisions of this convention [9.l]. Such agreements shall also provide for the establishment of joint bodies inter alia with the following tasks: to collect, compile and evaluate data in order to identify pollution sources likely to cause transboundary impact [9.2.a]; to establish warning and alarm procedures [9.2.g]; 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 [9.2.h].

As concerns the accidents the Parties should without delay inform each other about any critical situation that may have transboundary impact [14] and for this purpose they set up and operate coordinated or joint communication, warning and alarm systems.

The importance of informing the public is also acknowledged by the convention:

> 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 ... is made available to the public" [16.1]; this includes also information on "permits issued and the conditions required to be met", and on "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."

The Convention refers to the question of responsibility and liability [7] in most general terms (see section 4.1). The convention includes also general provisions on dispute settlement [22] and general rules of arbitration [Annex IV] which is one of the possible means of dispute settlement (see section 4.4).

(d) Institutional arrangements and contacts

The Meeting of the Parties (MOP) is the decision making body of the convention. The secretariat functions are carried out by the Executive Secretary of the UNECE (practically, by the Environment and Human Settlements Division of the UNECE). The office of the Executive Secretary is located in Geneva, in the Palace of Nations at the address "United Nations Economic Commission for Europe, Palais des Nations, CH 1211 Geneva 10, Switzerland" (fax: 41-22-907-0107, -917 0123). The secretariat operates also an Internet website (http://www.unece.org/env/water) where one can find further and updated information on the convention, related events and documents.

3.2. Convention on Cooperation for the Protection and Sustainable Use of the Danube River

(a) Background, general status

Convention on Cooperation for the Protection and Sustainable Use of the Danube River					
place of adoption	*year of adoption*	*entry into force*	*organization*	*scope*	*depositary*
Sofia	1994	1998		regional*	Romania

*[group of Danubian States as defined in Art.1]

Besides the bilateral agreements by the neighbouring countries in the region of the Danube basin, there are several multilateral instruments which can be seen as forerunners of the Danube River Protection Convention and/or have essential provisions which were taken into account in course of elaboration of this convention. In terms of these linkages, the provisions of the Helsinki Convention on transboundary watercourses (1992) and the "Convention on the Protection of the Black Sea against Pollution" (1992) are the most essential ones. As a matter of fact, the riparian states signed already a "Declaration on the co-operation of the Danube countries on water management and especially water pollution control issues of the river Danube" in 1985 and a "Convention on measures to combat pollution of the Tisza river and its tributaries" was also adopted by the relevant "subgroup" of the countries (see section 3.9).

After such precedents, the Danube River Protection Convention was formulated and adopted in order to adequately respond to the increasing concern over the *occurrence and threats of adverse effects of changes in conditions of watercourses within the Danube river basin on the environment*, economies and well-being of the Danubian states, to strengthen the measures *to prevent, control and reduce significant adverse transboundary impact from the release of hazardous substances* into the aquatic environment, and to achieve *lasting improvement and protection of Danube river and of the waters within its catchment area in particular in the transboundary context* and at sustainable water management.

The present status of the convention is shown in Annex D, where the Parties are listed with the date of ratification (acceptance, approval or accession); in addition to the ten Parties, one country has signed but has not yet ratified it and there are two further Danubian states whose accession would strengthen the efficiency of this convention.

(b) Objectives, principles, comprehensive provisions

The basic objectives adequately reflect the above mentioned ideas; we mention only those which may have close relation to prevent environmental impactsof accidents:

- to achieve the goals of a sustainable and equitable water management ... to "make all efforts to control the hazards originating from accidents involving substances hazardous to water ..." [2.1];

- to cooperate "on fundamental water management issues and take all appropriate legal, administrative and technical measures, to at least maintain and improve the current environmental and water quality conditions of the Danube River and of waters in its catchment area and to prevent and reduce as far as possible adverse impacts and changes occurring or likely to be caused." [2.2]

According to the Convention, *the polluter-pays and the precautionary principle, goals of sustainability and the preventive approach* should guide all necessary measures [2.4, 2.5]. The multilateral cooperation should also basically pursue these principles and the following objective, namely:

> "The Contracting Parties shall develop, adopt and implement relevant legal, administrative and technical measures as well as provide for the domestic preconditions and basis required in order to ensure efficient water quality protection and sustainable water use and thereby *also to prevent, control and reduce transboundary impact*." [5.1].

(c) Concrete provisions and commitments

In terms of risk reduction and control of accidental transboundary impacts, one finds very few but significant provisions in various articles of this convention. According to these provisions,

- "The Contracting Parties shall ... minimize by preventive and control measures the *risks of accidental pollution*" [6.c]; and

- "They shall ensure that regulations and permits for prevention and control measures in case of new or modernized industrial facilities, *in particular where hazardous substances are involved, are oriented on the best available techniques and are implemented with high priority*" [7.5.c];

- the "competent authorities *surveille, that activities likely to cause transboundary impacts are carried out in compliance with the permits* and provisions imposed" [7.5.e]; and

- for the above mentioned planned activities, in the phase of their planning, licensing and implementing, "the competent authorities *take into account risks of accidents involving substances hazardous to water by imposing preventive measures and by ordering rules of conduct for post accident response measures*" [7.5.g]

The Convention also lists the requirements of information exchange by the Parties and providing information to the public with special (or less explicit) reference to the accidental situations. These are as follows:

- Parties shall exchange reasonably available data, inter alia, on "accidents involving substances hazardous to water" [12.1.f];

- competent authorities are required to make available information concerning the state/quality of riverine environment in the Danube Basin to any natural or legal person in response to any reasonable request *as soon as* possible. [14.1];

- the Parties should designate competent authorities or contact points and in case of emergencies or accidents likely to cause serious transboundary impact these authorities are responsible to immediately inform the contact points of other Parties [16.2, 16.3].

Furthermore, for the sake of more efficient response measures: “the competent authorities shall cooperate to establish *joint emergency plans*, where necessary, supplementary to existing plans on the bilateral level” [16.2].

This convention includes similar general provisions on dispute settlement [24] as it is done in case of the Convention on transboundary watercourses, and likewise, one of its annexes [annex V] lists the terms of procedures for arbitration.

(d) Institutional arrangements and contacts

The Conference of the Parties (COP) is the decision making body of the convention. The overall coordinating role and other functions are carried out by the International Commission for the Protection of the Danube River (ICPDR) which secretariat is located in Vienna; its address: ICPDR, Vienna International Centre, Vienna, P.O.Box 500, A-1400, Austria (43-1-26-060-5738). The secretariat also operates an Internet website (http://www.icpdr.org) where one can find further and updated information on the convention, related events and documents.

3.3. Convention on the Transboundary Effects of Industrial Accidents

(a) Background, general status

Convention on the Transboundary Effects of Industrial Accidents					
place of adoption	*year of adoption*	*entry into force*	*organization*	*scope*	*depositary*
Helsinki	1992	2000[+]	UNECE	pan-European	SG*-UN

[+]entered into force in April 2000 *Secretary-General

The legal instrument was elaborated in response to the need to promote international cooperation before, during and after an industrial accident with severe transboundary implications, and to reinforce and co-ordinate actions for promoting the prevention of, preparedness for and response to the transboundary effects of such accidents.

This convention refers to the most concrete measures (as commitments by its Parties) which in particular are applicable in cases of transboundary water pollution caused by industrial accidents.

The convention entered into force after a rather long period since its adoption and form within the UNECE region there are only 18 countries plus the EC which are Parties to this legal instrument. The status of the convention is presented in Annex D where the Parties are listed with the date of ratification (acceptance, approval or accession); if a country has only signed but has not yet ratified, then "s" stands for signature.

(b) Objectives, principles, comprehensive provisions

Parties to this convention commit themselves to "take appropriate measures and cooperate ... to protect human beings and the environment against industrial accidents *by preventing such accidents as far as possible, by reducing their frequency and severity and by mitigating their effects"*; to this end, preventive, preparedness and response measures, including restoration measures, shall be applied [3.1].

Under the convention, these measures concern the industrial accidents capable of causing transboundary effects, including the effects of such accidents caused by natural disasters [2.1]. It also promotes mutual assistance, research and development, exchange of information and technology.

As a general commitment, Parties shall "without undue delay, develop and implement policies and strategies for reducing the risks of industrial accidents and improving preventive, preparedness and response measures, including restoration measures ..." [3.2].

In terms of accidents in relation to water bodies, there is a limitation of the scope that reads:

> "This Convention shall not apply to ... "*dam failures, with the exception of the effects of industrial accidents caused by such failures*" [2.1.c]; however, for its proper interpretation, the definition of the industrial accident should also be recalled [1.a]: it is "an event *resulting from an uncontrolled development in the course of any activity involving hazardous substances* either in an installation, for example during manufacture, use, storage, handling, or disposal; or during transportation ...".

The convention refers to the *polluter-pays principle* [Preamble] as a general principle of international environmental law and apparently, the *prevention principle* is the overall basis for all measures described in its various articles.

(c) Concrete provisions and commitments

The concrete commitments primarily mean the compliance with the following measures:

- *Identification*. Parties *identify hazardous activities within their jurisdiction* and ensure that affected Parties are notified of any such proposed and existing activities [4.1]; moreover, at the request of any Party, *discussions on the identification* of those hazardous activities can take place that are, reasonably, capable of causing transboundary effects and if there is no agreement on such qualification of an activity, an *inquiry commission* should be established which will formulate its opinion on the question [4.2; Annex II].

- *Environmental impact assessment*. There is an essential reference to the Espoo Convention on Environmental Impact Assessment: "When a hazardous activity is subject to an environmental impact assessment ... and that *assessment includes an evaluation of the transboundary effects of industrial accidents from the hazardous activity* ..., the final decision taken for the purposes of the Convention on Environmental Impact Assessment in a Transboundary Context shall fulfill the relevant requirements of this Convention." [4.4]

- *Prevention*. Measures should be taken for the prevention of industrial accidents, which include *measures to induce appropriate actions by operators* and even the requirement of demonstration of the safe performance of the hazardous activity by its operator [6.1, 6.2; Annex IV]. In the latter case, the operator should provide information on the activity which is necessary for analysis and evaluation whose details are also provided [Annex V]. It should include points on emergency planning, decision-making on siting, information to public, preventive measures (for a list a scenarios for various types of accidents).

- *Emergency preparedness*. Emergency preparedness to respond to industrial accidents should be established and maintained which include on-site duties and measures to mitigate the transboundary effects [8.1, Annex VII]; on-site and off-site contingency plans should be elaborated and information on them should be provided to other Parties concerned [8.2, 8.3].

- *Response*. In the event of an accident adequate response measures should be taken as soon as possible and using the most efficient practices to minimize the effects [11.1].

There are notification and information requirements for the Parties. The Parties should establish and operate compatible and efficient *Accident Notification Systems* [10.1]. Parties also designate points of contact, to whom industrial accident notifications and requests for assistance should be addressed [17]. The public in the areas "capable of being affected by an industrial accident" should also receive adequate *information* and should also be provided with the opportunity to *participate* "in relevant procedures with the aim of making known its views and concerns of prevention and preparedness measures" [9.1, 9.2].

Parties shall also provide the natural and legal persons with access to administrative and judicial proceedings [9.3]. Obviously, in a broader context, similar provisions were included in the Aarhus Convention (section 3.6).

The Manual of Industrial Accidents was developed which includes the following areas: safety policies and strategies, a list of contact institutions and persons to facilitate the necessary notification and to assist in the event of industrial accidents, the list of already operating national centers, bodies and programmes, national coordinating organizations, bilateral and multilateral agreements dealing with industrial accidents.

This Convention refers to the *liability* issue [13] and treats in more details the responsibilities and duties of the operators which fulfillment should be ensured by the relevant Party (see (section 4.1). There are general provisions for *dispute settlement* [21] and detailed rules for the procedure of arbitration are included in a separate appendix to the convention [App. XIII].

Obviously, this convention is of crucial importance for the area covered by its scope in preventing and controlling the industrial accidents and mitigating their transboundary impacts.

Because it entered into force only in April 2000 and there are still many countries which are not Parties to this convention, significant efforts are necessary to implement its substantial provisions to their full extent.

(d) Institutional arrangements and contacts

The Conference of the Parties is the decision making body of the convention. The secretariat functions are carried out by the Executive Secretary of the UNECE. The office of the Executive Secretary is located in Geneva, in the Palace of Nations at the address "United Nations Economic Commission for Europe, Palais des Nations, CH 1211 Geneva 10, Switzerland (fax: 41-22-917-0107). The secretariat operates also an Internet website (http://www.unece.org/env/teia) where one can find further and updated information on the convention, points of contact (in case of accidents), related events and documents.

3.4. Convention on the Law of the Non-navigational Uses of International Watercourses

(a) Background, general status

Convention on the Law of the Non-navigational Uses of International Watercourses					
place of adoption	*year of adoption*	*entry into force*	*organization*	*scope*	*depositary*
New York	1997		ILC	global	SG*-UN

*Secretary-General

The convention did not enter into force (only a few states ratified it by June 2000: Finland, Hungary, Jordan, Lebanon, Norway, South Africa, Syria; for its entry into force thirty-five instruments of ratification, acceptance, approval or accession should be received by the depositary). The International Law Commission prepared the draft of the convention which was subsequently adopted in 1997 by the UN General Assembly.

As a matter of fact, it is a global "framework" convention: as such, on the one hand it generalizes the elements of various existing regional (bilateral and multilateral) legal instruments on the subject, on the other hand, it serves as a basis for the further development and/or elaboration of newer multilateral legal instruments: "Watercourse States may enter into one or more agreements ..., which apply and adjust the provisions of the present Convention to the characteristics and uses of a particular international watercourse or part thereof" [3.3].

Besides systematic provisions on the planned activities and prevention of significant harm to other states [7.1, 7.2], it has a specific article on *emergency situations* [28].

(b) Objectives, principles, comprehensive provisions

As mentioned above the basic aim of this convention is to provide comprehensive guidance for watercourse agreements [3] – with such general principles as equitable and reasonable utilization of the watercourses [5], prevention of significant harms to other watercourse states [7.1], the "polluter-compensates" [7.2], obligation to cooperate and exchange of information [8, 9]. In this regard, the overarching objectives of this convention and the relevant agreements include the following elements:

- "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." [8.1]

- "Watercourse States shall, individually and, where appropriate, jointly, protect and preserve the ecosystems of international watercourses." [20]

- "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." [21.2] "Watercourse States shall, individually and, where appropriate jointly, *take 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 ..." [27].

(c) Concrete provisions and commitments

Again, we turn attention to those elements of this convention which have certain implications, in one way or another, in context of accidental water pollution.

Stage of planning. States are obliged to provide information (including results of EIA) and consult/negotiate on possible effects of planned measures which may have a significant adverse effect upon other watercourse States [11, 12]. The fulfillment of this obligation is a prerequisite for the potentially affected states to evaluate the possible transboundary effects of the planned activities including the adverse impacts in case of accidents.

General prevention/reduction of transboundary water pollution and prevention/control of emergency situations. Measures necessary for prevention, reduction and control, furthermore, for the management of the watercourse, the regulation of the flow of waters, the maintenance of installations are presented in part IV of the convention [21-26], whilst more concrete provisions on emergency situations are given in part V. In the latter case, there are specific notification, prevention/mitigation and contingency planning obligations, namely:

- "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." [28.2]

- "A watercourse State within whose territory an emergency originates shall, in cooperation with potentially affected States and, where appropriate, competent international organizations, immediately take all practicable measures necessitated by the circumstances to prevent, mitigate and eliminate harmful effects of the emergency." [28.3]

- When necessary, watercourse States shall jointly develop contingency plans for responding to emergencies, in cooperation, where appropriate, with other potentially affected States and competent international organizations." [28.4]

General rules for dispute settlement are included in Art. 33 which allows also for establishing a fact-finding commission [33.4] if the concerned parties are unable to settle their dispute after six months (see 4.5).

(d) Institutional arrangements and contacts

The contact address of the International Law Commission is as follows: Codification Division, Office of Legal Affairs (S-3460A), United Nations, New York, NY 10017 U.S.A.; fax: 1-212-963-1963. The web-side of the ILC is to be found at http://www.un.org/law/ilc/index.htm.

3.5. Convention on Environmental Impact Assessment in a Transboundary Context

(a) Background, general status

Convention on Environmental Impact Assessment in a Transboundary Context					
place of adoption	*year of adoption*	*entry into force*	*organization*	*scope*	*depositary*
Espoo	1991	1997	UNECE	regional	SG*-UN

*Secretary-General

Obviously, prevention of adverse impacts of human activities can be best achieved if due consideration is given to the possible environmental impacts already in the early phase of planning of any proposed activities. It is particularly important in the case of potential transboundary impacts. This concept lies at the basis of the convention as its introductory part clearly states: "The Parties to this Convention, ... Mindful of the need and importance to develop *anticipatory policies* and of preventing, mitigating and monitoring significant adverse environmental impact in general and more specifically in a transboundary context..., Conscious of the need to give explicit *consideration to environmental factors at an early stage in the decision-making process* by applying environmental impact assessment ..." [Preamble]

The present status of the convention is shown in Annex D, where the Parties are listed with the date of ratification (acceptance, approval or accession); if a country has only signed but has not yet ratified it, then "s" stands for signature.

(b) Objectives, principles, comprehensive provisions

The fundamental objective of the Convention is to "*prevent, reduce and control significant adverse transboundary environmental impacts from proposed activities*" [2.1]. To that end the Convention specifies the following tasks of general nature:

- Parties shall take legal, administrative or other measures to establish the *procedure of environmental impact assessment* (EIA) for proposed activities that are likely to cause significant adverse transboundary impact; the procedure should permit the public participation [2.2];

- the Party of origin (the country where the activity is planned) has to ensure that the environmental impact assessment will be undertaken in conformity with the provisions of the Convention *before licensing the proposed activities and must also ensure the notification of the affected Parties* about the planned activity [2.3-2.4];

Activities on which an EIA should be undertaken [2.3] and the affected Party should be notified are listed in App. I; there is also a possibility to discuss by the concerned Parties whether an activity not listed in that Appendix is likely to cause significant adverse transboundary impact [2.5, App. III]. List of activities in App. I includes, inter alia, following items: crude oil refineries, thermal power stations, installations for production of nuclear fuels, integrated chemical installations, construction of motorways, large-diameter oil and gas pipelines, waste-disposal

installations, large dams and reservoirs, major mining, on-site extraction and processing of metal ores or coal, deforestation of large areas.

(c) Concrete provisions and commitments

Concrete measures in accordance with the convention arise when a Party (the Party of origin) plans to perform an activity which might have significant transboundary impact. Then the basic obligations of the Parties are related *notification and consultations.*

Whilst the term of "notification" is generally used in this overview in the context of accidents (i.e., timely provision of information by the Party of origin on the accident), *criteria of notification in case of the Espoo Convention are specifically applied for the proposed activities*. Such notification is provided by the Party of origin in order to ensure adequate and effective consultations with the representatives (authorities and public) of the affected Party/Parties before the final decision on that activity [3.1]. The *consultations* aim at taking into account the no-action alternative and measures to mitigate significant adverse transboundary impact by the Party of origin before and/or in the framework of the final decision based on the EIA and the comments by the affected Party/Parties [5, 6.1]. The adverse impacts can also be determined in a post-project analysis at the request of any concerned Party [7.1].

The basic elements (as a minimum) of the EIA documentation furnished to the affected Party are listed in App. II (4.1) and those include:

- descriptions of the proposed activity, the environment is likely to be significantly affected, *the potential environmental impact and an estimation of its significance*, the mitigation measures to keep adverse environmental impact to a minimum,
- explicit indication of *predictive methods and underlying assumptions*, *identification of gaps in knowledge and uncertainties* encountered in compiling the required information.

The general criteria for the determination of environmental significance of activities not listed in App. I are included in App. III. Those also have certain relevance for prevention of accidental adverse impacts in transboundary context and refer among others to

- the potentially adverse effects: "Effects: proposed activities with particularly complex and *potentially adverse effects*, including those giving rise to serious effects on humans or on valued species or organisms ..." [App. III, 1.c]; and
- far-reaching effects: "The concerned Parties shall consider for this purpose proposed activities which are located close to an international frontier *as well as more remote proposed activities which could give rise to significant transboundary effects far removed from the site of development*." [App. III, 2].

There is no clear distinction in the convention between the potential "chronic" and accidental environmental impacts from the proposed activities. In this relation, the general guidelines for the EIAs can be applied. Based on legislation and practices of various countries with respect to EIA implementation, a comprehensive analysis was issued by the UNECE which also covers this problem. The judgment on the *significance of adverse transboundary impact* should also deal with the probability aspect (UNECE, 1996; pp. 49-50):

- This will serve to categorize the continuum of impacts, ranging from those that would arise with certainty to those *which are unlikely, but which do represent risks related to the activity*. Impacts which are highly likely to occur are usually those which arise due to continuos emissions or due to an immediate physical restructuring of the environment as a consequence of the activity. Impacts which are much less likely to occur would require a different type of consideration.
- *Some impacts may occur only in the event of an accident or abnormal operation*, whereas others may occur due to normal emissions which under special circumstances cause extensive impacts.
- If environmental risks in relation to a proposed activity are relevant, the trans-boundary EIA would have to involve discussions on *acceptable levels of risk*.
- Many risks related to transboundary impacts are characterized by *low probability*. Thus, there would be no or very little empirical justification for an analysis based on frequencies. For example, estimates of risks of nuclear accidents, explosions at integrated chemical installations or the breaking of dams could only to a limited extent be based on empirical data for frequency of occurrence. A systematic evaluation of potential impacts of low probability and of factors influencing the probability is likely to be important.

The convention is of a general nature. More concrete and specific provisions to ensure the fulfillment of the general commitments under this Convention can be formulated within the framework of bilateral and multilateral agreements on transboundary environmental impacts for the concerned parties]2.8]. Despite its framework nature, the significance of this convention is explained by the fact that this is the first multilateral treaty to specify the procedural rights and duties of Parties with regard to transboundary impact of proposed activities and to provide procedures, in a transboundary context, for the consideration of environmental impacts in decision-making procedures. Several other international conventions (such as the Convention on Transboundary Watercourses (section 3.1) or the Convention on the Industrial Accidents (section 3.3) make reference to the procedure set out in this legal instrument and require that an EIA as defined by that procedure shall be carried out (UNECE, 1996).

General provisions for dispute settlement [15] and detailed rules for the arbitration are included in a separate appendix to the convention [App. VII].

(d) Institutional arrangements and contacts

The Meeting of the Parties (MOP) is the decision making body of the convention. The secretariat functions are carried out by the Executive Secretary of the UNECE (practically by the Environment and Human Settlements Division). The office of the Executive Secretary is located in Geneva at the address “United Nations Economic Commission for Europe, Palais des Nations, CH 1211 Geneva 10, Switzerland” (fax: 41-22-907-0107; homepage: http://www.unece.org/env/eia/). Furthermore, a special database “EnImpAs” was developed and designated to facilitate the implementation of this convention (http://www.mos.gov.pl/enimpas/).

3.6. Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters

(a) Background, general status

Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters					
place of adoption	*year of adoption*	*entry into force*	*organization*	*scope*	*depositary*
Aarhus	1998		UNECE	regional	SG*-UN

*Secretary-General

At the Third Ministerial Conference "Environment for Europe" held in Sofia in 1995, environment ministers from the UNECE countries agreed on a possibility to create a convention on public participation in environmental matters and they endorsed a set of guidelines on access to environmental information and public participation in environmental decision-making. The issue was pressing, since from Stockholm to Rio and then to Lucerne numerous attempts were made to promote transparency and public participation in environmental law (Hallo, 1996).

The convention was adopted in 1998, however, it has not yet entered into force: many countries signed it right in Aarhus, but only a few countries have ratified (or acceded to) the convention; its present status is shown in Annex D where the Parties are listed with the date of ratification (acceptance, approval or accession); if a country has only signed but has not yet ratified it, then "s" stands for signature.

(b) Objectives, principles, comprehensive provisions

Principle 10 of the Rio Declaration on the access to information, on public participation in the decision-making process and on the access to judicial and administrative proceedings is the guiding principle of this convention. According to the convention these rights are considered as prerequisite to assert the right for a healthy environment and to observe the duty to protect the environment:

> "every person has the right to live in an environment adequate to his or her health and well-being, and the duty ... to protect and improve the environment ..." and "... to be able to assert this right and observe this duty, citizens must have access to information, be entitled to participate in decision-making and have access to justice in environmental matters ..." [Preamble]

The objective of the convention is just a concise expression of these links among the rights and duties:

> "In order to contribute to the protection of the right of every person of present and future generations to live in an environment adequate to his or her health and well-being, each Party shall guarantee the rights of access to information, public participation in decision-making, and access to justice in environmental matters in accordance with the provisions of this Convention." [1]

(c) Concrete provisions and commitments

We consider those elements of the convention which include certain obligations for the Parties in case of accidental environmental pollution, its impacts on the state of the environment (in particular, in the transboundary context) and prevention of and/or planning for such accidents (in order to minimize their adverse effects). The convention basically includes the obligations of the national authorities to provide information (and to facilitate public involvement) in environmental matters in the broadest sense of this term, however, there are several more concrete provisions which are more closely related to measures in case of "imminent threat".

Provisions on access to information. Apparently, the basic provisions establish the general approach, however, they might not be directly applicable in case of accidents, whilst another article directly addresses the obligation to disseminate information in case of imminent threat:

- "Each Party shall ensure that ... public authorities, in response to a request for environmental information, make such information available to the public, within the framework of national legislation ..." [4.1] "The environmental information .. shall be made available as soon as possible ..." [4.2] (In case of emergency situations, the public needs the information without requesting it and without any delay as it is provided by Art. 5.1.c – see below)

- "Each Party shall ensure that ... in the event of any imminent threat to human health or the environment, whether caused by human activities or due to natural causes, all information which could enable the public to take measures to prevent or mitigate harm arising from the threat and is held by a public authority is disseminated immediately and without delay to members of the public who may be affected." [5.1.c]

Information on pollution sources. Identification and development of inventories of the pollution sources are considered to be an essential commitment under the convention (however, there is no clear distinction between the potential sources, the "hotspots" and the actual sources of pollution):

- "Each Party shall take steps to establish progressively, taking into account international processes where appropriate, a coherent, nationwide system of pollution inventories or registers on a structured, computerized and publicly accessible database compiled through standardized reporting. Such a system may include inputs, releases and transfers of a specified range of substances and products, including water, energy and resource use, from a specified range of activities to environmental media and to on-site and off-site treatment and disposal sites." [5.9]

Public participation in decision-making contributes to enhancing the measures to prevent and/or mitigate environmental damages; in this respect, the provisions of the convention are also essential for the subject of the present study. We refer to those provisions which have a closer relation to that subject, namely:

- "The public concerned shall be informed ... early in environmental decision-making procedure, and in an adequate, timely and effective manner, inter alia, of: (a) The proposed activity and the application on which a decision will be

taken; ... (d) the envised procedure, including, as and when this information can be provided: ... (vi) An indication of what environmental information relevant to the proposed activity is available; and (e) The fact that the activity is subject to a national or transboundary environmental impact assessment procedure.“ [6.2]

- “... The relevant information shall include at least ...: (a) A description of the site and the physical and technical characteristics of the proposed activity, including an estimate of the expected residues and emissions; (b) A description of the significant effects of the proposed activity on the environment; (c) A description of the measures envisaged to prevent and/or reduce the effects, including emissions; ...” [6.6]

Basic rules for dispute settlement are included in the Article 16 and Annex II of the convention.

(d) Institutional arrangements and contacts

The Meeting of the Parties (MOP) is the decision making body of the convention. The secretariat functions are carried out by the Executive Secretary of the UNECE. The office of the Executive Secretary is located in Geneva, in the Palace of Nations at the address “United Nations Economic Commission for Europe, Palais des Nations, CH 1211 Geneva 10, Switzerland” (fax: 41-22-907-0107). The secretariat operates also an Internet website (http://www.unece.org/env/pp) where one can find further and updated information on the convention, related events and documents.

3.7. Convention on civil liability for damage resulting from activities dangerous to the environment

(a) Background, general status

Convention on civil liability for damage resulting from activities dangerous to the environment					
place of adoption	*year of adoption*	*entry into force*	*organization*	*scope*	*depositary*
Lugano	1993		Council of Europe	regional	SG*-CE

*Secretary-General

This convention could be a very efficient instrument to tackle critical legal problems which emerge from accidental transboundary environmental pollution and its adverse consequences, however, it has remained a "paper": States are reluctant to join this convention obviously because of its rather explicit and rigid provisions on the liability issues.

The convention is also open for non-member-states and it would enter into force after that three States (including at least two member States of the Council of Europe) had expressed their consent to be bound by the convention. Actually, no country has yet deposited an instrument of ratification, acceptance or approval yet. The present status of the convention is shown in Annex D (in its last but one column; there are altogether nine signatories: eight countries signed it in 1993, one more in 1997: there is a special marker for the non-member states of the Council of Europe).

(b) Objectives, principles, comprehensive provisions

With a clear reference to the polluter-pays-principle and the principle 13 of the 1992 Rio Declaration in the Preamble, this legal instrument can be considered as a "response" to the call for action formulated in that principle. Accordingly, the objective of the convention reads:

> "This Convention aims at ensuring adequate compensation for damage resulting from activities dangerous to the environment and also provides for means of prevention and reinstatement." [1]

(c) Concrete provisions and commitments

Exceptions and exemptions. Before turning to various concrete commitments in the context of the subject area of the present study, it should be noted that there are important exceptions (for damages arising from carriage [4.1] or those caused by a nuclear substance [4.2]) and specific arrangements for determining the liability in case of incidents consisting of a continuous occurrence [6.2], of series of occurrences [6.3], and for sites for the permanent deposit of waste [7]. Moreover, there are certain cases of exemptions and factors reducing/disallowing the compensation for the damage:

- "The operator shall not be liable under this Convention for damage which he proves: (a) was caused by an act of war, hostilities, civil war, insurrection or *a natural phenomenon of an exceptional, inevitable and irresistible character*; ... (c) resulted necessarily from compliance with a specific order or compulsory measure of a public authority; ..." [8]

- "If the person who suffered the damage or a person for whom he is responsible under internal law, has, by his own fault, *contributed to the damage*, the compensation may be reduced or disallowed having regard to all the circumstances." [9]

(In this convention, "person" means any individual or partnership or any body governed by public or private law, whether corporate or not, including a State or any of its constituent subdivisions. [2.6])

Participation in compulsory financial security scheme is required in order to cover the liability for an environmental damage:

- "Each Party shall ensure that where appropriate, taking due account of the risks of the activity, operators conducting a dangerous activity on its territory be *required to participate in a financial security scheme or to have and maintain a financial guarantee* up to a certain limit, of such type and terms as specified by internal law, to cover the liability under this Convention." [12]

Provision of information on environment is a general obligation of the parties and more specific information may be needed for the person who suffered the damage:

- "Any person shall, at his request and without his having to prove an interest, have *access to information relating to the environment held by public authorities*. The Parties shall define the practical arrangements under which such information is effectively made available." [14.1] "A public authority shall respond to a person requesting information as soon as possible and at the latest within two months. The reasons for a refusal to provide the information requested must be given." [14.4]

- The person who suffered the damage may, at any time, request the court to order an operator to provide him with *specific information, in so far as this is necessary to establish the existence of a claim for compensation* under this Convention. [16.1]

Actions for compensation and other claims are dealt with in Chapter 4 of the convention. The basic concrete provisions include the following:

- *Limitation periods*. "Actions for compensation under this Convention shall be subject to a *limitation period of three years* from the date on which the claimant knew or ought reasonably to have known of the damage and of the identity of the operator. ...." [17.1]

- *Requests by organizations*. "*Any association or foundation which according to its statutes aims at the protection of the environment* and which complies with any further conditions of internal law of the Party where the request is submitted may, at any time, request: (a) the prohibition of a dangerous activity which is unlawful and poses a grave threat of damage to the environment; (b) that the

operator be ordered to take measures to prevent an incident or damage; (c) that the operator be ordered to take measures, after an incident, to prevent damage; or (d) that the operator be ordered to take measures of reinstatement.“ [18.1]

- *Jurisdiction*. “Actions for compensation under this Convention may only be brought within a Party at the court of the place: (a) where the damage was suffered; (b) where the dangerous activity was conducted; or (c) where the defendant has his habitual residence.“ [19.1]

- *Recognition and enforcement. “Any decision given by a court with jurisdiction* in accordance with Article 19 above where it is no longer subject to ordinary forms of review, *shall be recognized in any Party* ...” [23.1]

(d) Institutional arrangements and contacts

The Standing Committee [26] is the decision making body of the convention, which meetings are convened by the Secretary General of the Council of Europe (Counseil de l’Europe, F-67075 Strasbourg Cedex, France; fax: 33-3-8841-2781). There is a special homepage dedicated to the treaties elaborated under the aegis of the Council of Europe: http://conventions.coe.int/treaty where the serial number of the convention reviewed in this section is as follows: ETS No. 150.

3.8. Convention on Biological Diversity

(a) Background, general status

Convention on Biological Diversity					
place of adoption	*year of adoption*	*entry into force*	*organization*	*scope*	*depositary*
Rio de Janeiro	1992	1993	UNEP	global	SG*-UN

*Secretary-General

The loss of biological diversity is rapidly increasing under the increased pressure from various human activities (agriculture, deforestation, urbanization, development of transport infrastructure, pollution etc.). Toxic pollution of the water bodies is a direct threat to those species which are dependent on wetlands in such areas. In this regard, the international legal instruments on nature conservation (including the Bern Convention on the Conservation of European Wildlife or the Ramsar Convention on Wetlands, see section 3.9) should be taken into account, however, the Convention on Biological Diversity is the only one which pays attention to several aspects of transboundary damages of hazardous activities to natural environment, moreover refers to the necessary preventive and rehabilitation measures.

The present status of the convention is shown in Annex D, where the Parties only from the UNECE region are listed with the date of ratification (acceptance, approval or accession); if a country only has signed but has not yet ratified, then “s” stands for signature.

(b) Objectives, principles, comprehensive provisions

The fundamental objectives of the Convention are the *conservation of biological diversity, the sustainable use of its components*, and equitable sharing of benefits derived from utilizing the genetic resources [1].

The convention is explicitly based on the principles of prevention and precaution as it is stated in its preamble; the principle of partnership appears also by underlying the importance of cooperation among all interested parties (states, intergovernmental organizations, non-governmental sector).

Moreover, the famous principle 2 of the Rio Declaration is also referred to, which is substantial from the point of view of the adverse transboundary impacts on biodiversity:

> ”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.” [3]

(c) Concrete provisions and commitments

Transboundary water pollution, i.e. the toxic or other hazardous substances emitted to and transmitted by water bodies may cause serious damages to biodiversity in areas beyond the limits of national jurisdiction.

Identification of hazardous activities, mitigation of damages. This convention includes several provisions whose application is also essential from the point of view of prevention and/or mitigation of such damages.

- Each Party shall "*Identify processes and categories of activities which have or are likely to have significant adverse impacts* on the conservation and sustainable use of biological diversity, and monitor their effects through sampling and other techniques"; [7.c]

- *Rehabilitate and restore degraded ecosystems* and promote the recovery of threatened species, *inter alia*, through the development and implementation of plans or other management strategies; [8.f]

- Where a significant adverse effect on biological diversity has been determined pursuant to Article 7, *regulate or manage the relevant processes and categories of activities.* [8.l]

Provision of information on hazardous activities, especially in case of imminent danger is of crucial importance for the Parties concerned. Therefore, Parties are obliged to promote the exchange of information on hazardous activities which may cause damage to biodiversity [14.1.c], moreover, they *should immediately notify the potentially affected Parties in case of imminent danger* [14.1.d] (see chapter 4, section 4.4.) and initiate actions to prevent/minimize such danger or damage.

Emergency responses and contingency plans are also referred to with the relevant national and international aspects:

- Promote national *arrangements for emergency responses* to activities or events, whether caused naturally or otherwise, which present a grave and imminent danger to biological diversity and encourage *international cooperation to supplement such national efforts* and ... to establish joint contingency plans. [14.1.e]

The liability problem for transboundary damages is also mentioned in the convention without any concrete measures or details [14.2] (see ch. 4, section 4.1). Article 27 is dedicated to the issue of dispute settlement; "usual" rules of arbitration are found in Annex II.

(d) Institutional arrangements and contacts

The Conference of the Parties is the decision making body of the convention. A subsidiary body for the provision of scientific, technical and technological advice was established to assist the work of the COP. The secretariat is located in Montreal (Quebec, Canada) at the address: World Trade Centre, 393 St. Jacques Str., Office 300, Montreal, Quebec, Canada, H2Y1N9 (fax: 1-514-288-6588). The secretariat operates also an Internet website (http://www.biodiv.org) where one can find further and updated information on the convention, related events and documents.

3.9. Other legal instruments

Convention on measures
to combat pollution of the Tisza river and its tributaries

Convention on measures to combat pollution of the Tisza river and its tributaries					
place of adoption	*year of adoption*	*entry into force*	*organization*	*scope*	*depositary*
Szeged	1986	1991		subregional	Hungary

Background. The convention was elaborated by the representatives of the water conservation authorities of the relevant riparian countries (NWA, 1987). The following countries adopted/signed the text of this convention in 1986: Czechoslovakia, Hungary, Romania, USSR and Yugoslavia. This legal instrument is rather formal and "outdated" (in light of the political changes in the region); nevertheless, it includes several noteworthy provisions.

Its objective was the prevention of pollution of the Tisza and its tributaries and for that purpose, the Parties agreed to take steps in context of their own legal systems and according to their own technical and economic resources [2.1]. We underline again those provisions which have a direct or indirect relevance for accidental water pollution and its transboundary consequences.

Coordinated monitoring. Parties agreed to reach a better coordination of the monitoring programmes and methods: "The Parties ... within two years from the day when the Convention becomes effective..., develop and consolidate the programme of monitoring the properties in the convened areas, the method of comparing and analyzing the collected data and a system of evaluating the changes in water purity. ..." [3.3].

Emergency situations and the necessary measures by the Party of origin are treated in the most general language: "In case of any unforeseen event of importance, natural catastrophe or other calamity leading to pollution of the Tisza and/or its tributaries in the border areas, the *Party concerned will take steps to eliminate the pollution and its possible effects*, and information will be passed to the other Parties to the Convention who might be involved in the consequences of the event." [6.1]

The possible disputes and the means of their settlement are mentioned by the instrument in an "implicit" way: "To discuss and resolve questions arising from and in connection with the Convention or its implementation, the governmental bodies of the countries involved will meet at least once every two years or sooner, if the need arises, upon request of any Party." [9.1] "Items left undecided by such a meeting will be submitted to a conference at governmental level ... This conference shall decide by consensus." [9.2]

In light of the recent toxic spill and other pollution accidents contaminating the Tisza river, some of the conclusions and recommendations reflected in the report of the UNEP-OCHA (2000) mission are noteworthy. According to that report, inter alia, there is a need for agreement by all countries in the Tisza catchment area on

a set of common baseline indicators for water and sediment quality monitoring, and improvement and harmonization of their monitoring systems; moreover, there is a strong need for a broad, longer term environmental management plan and sustainable development strategy for the entire catchment area.

Convention on Wetlands of International Importance Especially as Waterfowl Habitat

Convention on Wetlands of International Importance Especially as Waterfowl Habitat					
place of adoption	*year of adoption*	*entry into force*	*organization*	*scope*	*depositary*
Ramsar	1971	1975	IUCN	global	DG*-UNESCO

*Director-General

Background. With respect to our subject, the Ramsar Convention has its relevance in such cases when there are "Ramsar areas" in the region affected or possibly affected by transboundary water pollution. (Obviously, pollution may also endanger such areas within the borders of the country of origin of the pollution.) These areas are designated by the Parties for inclusion in a List of Wetlands of International Importance.

Objective. The objective of the convention is the protection of such areas: "The Contracting Parties shall formulate and implement their planning so as to promote the conservation of the wetlands included in the List, and as far as possible the wise use of wetlands in their territory." [3.1]

Wetlands, water systems shared by several countries. Special attention is paid to areas shared by more than one Party: "The Contracting Parties shall consult with each other about implementing obligations arising from the Convention *especially in the case of a wetland extending over the territories of more than one Contracting Party or where a water system is shared by Contracting Parties*. They shall at the same time endeavor to coordinate and support present and future policies and regulations concerning the conservation of wetlands and their flora and fauna." [5.1]

Status. The present status of the convention is as follows (as of May 2000): there are altogether 119 contracting parties; as concerns the UNECE region, the following countries from the region are not Parties to this convention: Azerbaijan, Bosnia and Herzegovina, Cyprus, Kazakstan, Kyrgyzstan, Republic of Moldova, Tajikistan, Turkmenistan, Uzbekistan.

Convention on the Conservation of European Wildlife and Natural Habitats

Convention on the Conservation of European Wildlife and Natural Habitats					
place of adoption	*year of adoption*	*entry into force*	*organization*	*scope*	*depositary*
Bern	1979	1982	Council of Europe	regional	SG*-CE

*Secretary-General

Objective. The objective of the Convention is to protect wild animal and plant species and their habitats with particular attention to threatened species (including migrating species) and their threatened habitats, and to that end facilitate the collaboration among nations.

Major obligations. The concrete provisions specify the consideration of measures to maintain flora and fauna and their stocks in the process of planning and development; and contain guidelines to perform these tasks. The convention includes more specific provisions on the conservation of habitats and their *protection against potential deteriorating activities*:

> "Each Contracting Party shall take appropriate and necessary legislative and administrative measures to ensure the conservation of the habitats of the wild flora and fauna species, especially those specified in Appendices I and II, and the conservation of endangered natural habitats." [4.1] "The Contracting Parties in their planning and development policies shall have regard to the conservation requirements of the areas protected under the preceding paragraph, so as *to avoid or minimize as far as possible any deterioration of such areas*." [4.2]

Rehabilitation measures. From the perspectives of ecological rehabilitation (in context of possible post-accident measures), the following specific provisions of this convention are also noteworthy:

> "Each Contracting Party undertakes: (a) to encourage the reintroduction of native species of wild flora and fauna when this would contribute to the conservation of an endangered species, provided that a study is first made in the light of the experiences of other Contracting Parties to establish that such reintroduction would be effective and acceptable; (b) to strictly control the introduction of non-native species." [11.2]

General rules of dispute settlement ("friendly settlement of any difficulty" by the Standing Committee of the convention; disputes to be submitted to arbitration) are also included [18].

Dispute settlement. General rules of dispute settlement ("friendly settlement of any difficulty" by the Standing Committee of the convention; disputes to be submitted to arbitration) are also included [18].

Status. The present status of the convention is as follows (as of March 2000): there are altogether 42 parties; Member states of the Council of Europe are Parties to this convention (except the following countries: Andorra, Croatia, Georgia, Russia, San Marino), the convention is open for accession to other countries, as well (of which only Azerbaijan and Monaco acceded to it from the UNECE region).

4. CRITICAL PRINCIPLES AND PROVISIONS ON PREVENTION AND MITIGATION OF POLLUTION ACCIDENTS

In case of concrete accidents, subsequent environmental damage and disputes, the “simultaneous” reference to and consideration of all corresponding and possibly applicable elements of the relevant multilateral legal instruments are necessary. The critical principal provisions or components of these conventions are summarized below in order to assist the comparative and crosscutting analysis, identification of the applicability (for our subject area) and effective selection or application in the case of a concrete incidence/accident.

For these purposes, special attention is paid to the following topics in the present chapter:

- responsibility, liability, compensation for transboundary environmental damage;
- precaution and prevention of accidents;
- early warning systems and notification;
- disputes and their settlement.

Of course, there might be other essential subject areas for prevention and control of emergency situations, but we confine our presentation to the above mentioned ones as such which are commonly encountered in case of accidental water pollution with significant transboundary environmental implications.

4.1. Responsibility, liability, compensation

General approach

The famous principle 21 of the Stockholm Declaration (1972) or the equivalent principle 2 of the Rio Declaration (1992) sets the new basis for environmentally conscious interpretation of the sovereign rights of States. According to the principle, their actions should not result in any environmental damage to other States. When despite of all efforts such transboundary environmental damage occurs, then the State of origin of the pollution or other activity leading to an adverse transboundary effect (or more broadly, the polluter) should bear the responsibility in accordance with the polluter-pays principle. For the utilization of these principles further general guidance was provided by principle 13 of the Rio Declaration. This underlined the need for the States to cooperate in an expeditious and more determined manner to develop further international law regarding liability and compensation for adverse effects of environmental damage caused by activities within their jurisdiction or control to areas beyond their jurisdiction.

The States might be responsible for such environmental damage in several regards: their national legislation or its implementation and enforcement may be "weak" (or not enacted at all) to force operators of hazardous activities to minimize the risk of causing significant harm within and/or beyond the areas of national legislation (in particular, it can mean "soft" rules for EIA and granting permits for hazardous activities) or to terminate such illegal activity; they may neglect or only partially fulfill their obligations on prompt notification on emergencies which may cause significant environmental damage to other countries; they may also "forget" to provide assistance to the affected country to mitigate the adverse effects and/or to execute rehabilitation measures.

In principle, a State will incur State responsibility in the case of an infringement of an international obligation incumbent upon that State, i.e. when the State committed an internationally wrongful act. Under general international law a State will only incur responsibility for conduct which is attributable to the State under international law and constitutes a breach of obligation of the State. Apart from the above-mentioned traditional obligation, new approaches developed since it was recognized that responsibility should be established for lawful activities as well in cases where injurious consequences occur. There are at least three alternative regimes: fault responsibility for breach of due diligence obligation; objective responsibility to be applied for wrongful activities and objective liability for lawful activities based on causal link (Francioni and Scovazzi, 1992; Kupper, 1995).

In light of the key importance of the responsibility and liability issue, it is crucial to draw and properly interpret the exact provisions from the relevant conventions.

Convention on Transboundary Watercourses

Being a framework type instrument, one can expect at least setting the baseline for the liability and compensation question. Indeed, the *polluter-pays principle* is fundamental for this convention: it is clearly stated at the outset that by virtue of that principle "costs of pollution prevention, control and reduction measures shall be borne by the polluter" [2.5.b]. Not much further "clarification" is given on this important issue in one of its shortest paragraphs, namely: "The Parties shall support appropriate international efforts to elaborate rules, criteria and procedures in the field of *responsibility and liability*." [7] It is actually a simplified version of principle 13 of the Rio Declaration.

Convention on Protection of the Danube River

Unfortunately, this convention deals with this issue more simply (despite its much more specific scope/subject): "*The Polluter pays principle* and the Precautionary principle constitute *a basis for all measures aiming at the protection of the Danube River and of the waters within its catchment area*." [2.4]

Convention on Industrial Accidents

The question of international responsibility and liability by the Parties is also treated by this legal instrument in most general terms: "The Parties take account of the *polluter-pays principle* as a general principle of international environmental

law" [Preamble]; "Parties shall support appropriate international efforts to elaborate rules, criteria and procedures in the field of *responsibility and liability*." [13], where the latter one is identical to the language of the Convention on Transboundary Watercourses (these UNECE conventions were elaborated simultaneously).

At the same time this convention defines more explicitly the *"internal" responsibility* of the Parties (i.e. the respective States) in relation to all operators being in charge of hazardous activities:

- "The Parties shall ensure that the operator is obliged to take all measures necessary for the safe performance of the hazardous activity and for the prevention of industrial accidents" [3.3].

- Even more, the Parties are committed "to induce action by operators to reduce the risk of industrial accidents" [6.1]; and they should also "require the operator to demonstrate the safe performance of the hazardous activity by the provision of information such as basic details of the process ..." [6.2]

Consequently, in the case of a significant transboundary pollution caused by an operator, the question arises whether all the above obligations of the relevant Party were duly fulfilled.

Convention on Non-navigational Uses of Watercourses

A new language is introduced for coupling "sovereignty and responsibility" in this convention:

> "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*." [7.1]

The question of responsibility for causing damage to other states is also dealt with in a new and to some extent more sophisticated way; instead of reiterating the polluter-pays principle, the general term of the compensation is used:

> "Where significant harm nevertheless is caused to another watercourse State, the States whose use causes such harm shall ... take all appropriate measures ... in consultation with the affected States, to eliminate or mitigate such harm and, where appropriate, to *discuss the question of compensation*." [7.2]

Convention on Environmental Impact Assessment

The *responsibility of a Party for a planned activity* that is likely to cause significant adverse transboundary environmental impacts is clearly expressed in this convention by setting the obligation to provide notification on that planned activity, to distribute the document on EIA to the authorities and public of the affected Party, and to conduct consultations on measures to reduce those impacts.

Post-project analysis. Beside the need for careful planning and due consideration of the environmental requirements, from the point of view of accidental transboundary pollution caused by that activity, it is noteworthy, that post-project analysis can also be carried out. It is determined upon the request of

any concerned Party [7.1], moreover, “When, as a result of post-project analysis, the Party of origin or the affected Party has reasonable grounds for concluding that there is a significant adverse transboundary impact or factors have been discovered which may result in such an impact, it shall immediately inform the other Party. ...” [7.2]. Appendix V lists the objectives of the post-project analysis: “Objectives include: *(a) Monitoring compliance with the conditions* as set out in the authorization or approval of the activity ...; *(b)* review of an impact for proper management and *in order to cope with uncertainties*; ...”

Convention on Civil Liability for Damage

Matters of *civil liability* are best treated by this convention; however, it is far from being enforced since no country has acceded to it yet.

It is worked out to ensure adequate *compensation* for environmental damages from hazardous activities and it is guided by the *polluter-pays principle*. We have drawn all essential provisions on *exceptions and exemptions* from liability and on actions for compensation in section 3.7.

Convention on Biological Diversity

As regards the sovereignty-responsibility link, the principle 2 of the Rio Declaration is reiterated: “States have ... 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.” [3]

This convention authorizes the Conference of the Parties to deal with the problems of liability and compensation for transboundary damages: “Conference of the Parties shall examine, on the basis of studies to be carried out, the *issue of liability and redress, including restoration and compensation*, for damage to biological diversity, except where such liability is a purely internal matter.” [14.2]

4.2. Precaution and prevention of accidents

General approach

The application of the *precautionary principle* is especially important for the prevention of ecological disasters from accidental water pollution (contamination) where the likelihood or the cause-effect relations of the processes cannot be adequately foreseen from scientific point of view. Such a principle should be used for implementing cost-effective measures in case of threats of serious or irreversible damage even if there is a lack of full scientific certainty [Principle 15 of the Rio Declaration]. The precautionary principle is "simply" quoted in a context-related way in several conventions analyzed in this study.

There are more concrete provisions for the application of the *prevention approach* in several conventions; some of these provisions are especially remarkable for preventing accidental pollution and/or the subsequent transboundary environmental damages.

The legal instruments under review basically deal with the *planned and ongoing activities* which have or may have transboundary impacts. Obviously, the fulfillment of the obligations related to EIA, the use of best available technologies (BATs), the decrease of the "regular" release of hazardous substances at the source, the control of hazardous activities by adhering to rigid environmental requirements and other procedures reduce the risk of accidents, so that these effectively contribute to the prevention.

Much less attention has been paid to the *preparation for accidents, emergency actions during their occurrences and prevention/mitigation of the damaging consequences*. Most typically, only the "abstract" need to prevent such cases and the general terms on actions in case of emergencies and on assistance are mentioned. The experience clearly shows that specific provisions are necessary for risk planning/management (either in the framework of the "customary" planning process or separately) and for adequate bi- and/or multilaterally coordinated "prompt" response measures besides the general arrangements for environmentally conscious planning, operation, monitoring, information exchange etc.

Convention on Transboundary Watercourses

This convention refers to the *precautionary principle* [2.5.a] ("by virtue of which action to avoid the potential transboundary impact of the release hazardous substances shall not be postponed on the ground that scientific research has not fully proved a causal link between those substances ... and the potential transboundary impact"). Obviously the wise use of this principle will promote to prevent accidental releases of dangerous substances to the aquatic environment and the consequent adverse impacts on human health and ecosystems.

General clarifications are also provided on the *preventive approach*, for instance, by requiring that Parties should ensure that the emission of pollutants is prevented, controlled and reduced at source through the application of, inter alia, low- and non-waste technology" [3.1.a]. The convention also includes a reference to

the need of contingency planning [3.1.j] and the minimization of risk of accidental pollution [3.1.l] – without any further details on the implementation of these obligations.

Convention on Protection of the Danube River

The Danube Convention does not refine the interpretation and use of the *precautionary principle*, but merely refers to it as a guiding principle for all measures: "The Polluter-pays principle and the Precautionary principle constitute a *basis for all measures* aiming *at the protection* of the Danube River and of the waters within its catchment area." [2.4]. Accordingly, the scope of the convention is also extended to "the handling of substances hazardous to water and the precautionary prevention of accidents." [3.2.e]

The reference to prevention is one of the important components of the general description of sustainable water management: "Water management cooperation shall be oriented on sustainable water management, that means on the criteria of a stable, environmentally sound development, which are at the same time directed to: ... *avoid lasting environmental damage and protect ecosystems; exercise preventive approach*." [2.5] Further details on the application of that principle are found in part II of the convention on multilateral cooperation. More specifically, in order to prevent accidents (i.e. accidental pollution and transboundary environmental damages): Parties "shall take appropriate measures aiming at the prevention or reduction of transboundary impacts, especially: ... minimize by preventive and control measures the risks of accidental pollution" [6.c]; and in the phase of the planning, licensing and implementing of the relevant activities [3], the Parties shall ensure that "the competent authorities *take into account risks of accidents involving substances hazardous to water by imposing preventive measures and by ordering rules of conduct for post accident response measures*" [7.5.g]. (Some other related provisions are also mentioned in section 3.2.)

Convention on Industrial Accidents

Whilst there is no explicit reference to precaution, the risk minimization of industrial accidents is the main focus of this convention and in that respect, a series of concrete provisions on relevant *preventive measures* are included in various articles. Besides these duties of the Parties such as taking "appropriate legislative, regulatory, administrative and financial measures for the prevention of, preparedness for and response to industrial accidents" [3.4], their obligations are basically oriented towards ensuring that the operators take the necessary actions, specifically with the aim of preventing accidents:

- "The Parties shall ensure that the operator is obliged to take all measures necessary for the safe performance of the hazardous activity and for the prevention of industrial accidents." [3.3]

- "The Parties shall take appropriate measures for the prevention of industrial accidents, including measures to induce action by operators to reduce the risk of industrial accidents. ..." [6.1]

- The relevant preventive measures *may* (!) include: "The *evaluation of risk analysis or of safety studies* for hazardous activities and an action plan for the implementation of necessary measures."; "The undertaking, in order to prevent

industrial accidents, of the appropriate *education and training* of all persons engaged in hazardous activities *on-site under both normal and abnormal conditions*." [Annex IV; 4, 7]

- With regard to any hazardous activity, the Party of origin shall require the operator to demonstrate the safe performance of the hazardous activity ... " [6.2[; in this context such important matters should be covered, as e.g., "A list of the *scenarios for the types of industrial accidents* with serious effects ..."; "For each scenario, a description of the events which could initiate an industrial accident and the steps whereby it could escalate"; "*A description of the preventive measures ... designed to minimize the likelihood of each step occurring*"; "An assessment of the effects that *deviations from normal operating conditions* could have, and the consequent arrangements for safe shut-down of the hazardous activity or any part thereof in an emergency, and of the *need for staff training to ensure that potentially serious deviations are recognized* at an early stage and appropriate actions taken." [Annex V, 11-15].

Convention on Non-navigational Uses of Watercourses

There are general and several specific provisions to prevent harmful pollution, to tackle emergency situations, to prevent/mitigate at least the adverse effects of an emergency:

- "Watercourse States shall ... take all appropriate measures to prevent the causing of significant harm to other watercourse States." [7.1]

- "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." [21.2]

- "A watercourse State within whose territory an emergency originates shall, in cooperation with potentially affected States and, where appropriate, competent international organizations, immediately take all practicable measures necessitated by the circumstances to *prevent, mitigate and eliminate harmful effects of the emergency*." [28.3]

Convention on Civil Liability for Damage

This convention primarily includes arrangements once an incident has occurred, yet in accordance with the subject, prevention is mentioned in terms of avoidance/minimization of harmful consequences of an incident (see definition of preventive measures in section 1.2). In this regard, there is an essential obligation of the Party (of origin), as follows: "Any association or foundation which according to its statutes aims at the protection of the environment and which complies with any further conditions of internal law of the Party where the request is submitted may, at any time, request: ... (c) that the operator be ordered to take measures, *after an incident, to prevent damage* ..." [18.1]

Convention on Biological Diversity

The precautionary and the prevention principles are recognized as fundamental pillars for the objective of this convention: "... it is vital to anticipate, *prevent and attack the causes of significant reduction or loss of biological diversity at source*, ... where there is a threat of significant reduction or loss of biological diversity, *lack of full scientific certainty should not be used as a reason for postponing measures* to avoid or minimize such a threat, ..." [Preamble].

There is also a general provision on actions in case of emergencies in order to prevent/minimize the danger and/or the subsequent transboundary damage to biodiversity: "*In the case of imminent or grave danger or damage*, originating under its jurisdiction or control, to biological diversity within the area under jurisdiction of other States or in areas beyond the limits of national jurisdiction ... initiate action to prevent or minimize such danger or damage" [14.1.d].

4.3. Early warning systems and notification

General approach

In case of an accident endangering human health and environment within and beyond the area of jurisdiction of a State, the prompt and correct information to authorities and public of other possibly affected States is of key importance. The affected States and people have the right to know about such dangers, they should make reasonable preparations for avoiding or minimizing adverse impacts, they can take part efficiently in relevant mitigation, emergency and rehabilitation actions only if they are timely and properly informed. This idea was broadly expressed by principles 18 and 10 of the Rio Declaration (see section 2.1).

Of course, the existence and operation of monitoring systems, development and regular maintenance of the early warning systems and contingency plans, reliable ways and means of communication and consultation among the respective authorities of the States concerned are the technical prerequisites for providing efficient notification and information in case of emergencies.

The conventions reviewed include the general obligations for the Parties to provide information on the implementation of various commitments (usually by reporting through the secretariats or other coordinating entities), usually there is also a requirement to inform other Parties on planned hazardous activities, however, more concrete and refined notification and public information measures in case of accidents can be found only in the two "dedicated" legal instruments, namely, in the Convention on industrial accidents, Convention on protection of the Danube River.

Consequently, in this section we focus on the following set of obligations, tasks and mechanisms:

- duties to develop / maintain *warning mechanisms*;
- *notification on emergencies* to other Parties, their respective authorities;
- *information to the public* in case of accidents.

General arrangements

Only general arrangements on one or more of the above mentioned obligations can be found in the following conventions:

- We find principal provisions on establishment / operation of early warning systems and on notification duties in the *Convention on Transboundary Watercourses*, according to which the Riparian Parties shall "*without delay inform each other about any critical situation* that may have transboundary impact"; "shall set up, where appropriate, and operate coordinated or joint *communication, warning and alarm systems* with the aim of obtaining and transmitting information; shall also agree upon compatible data transmission and treatment procedures and facilities for the operation of these systems; and

"shall inform each other about competent authorities or points of contact designated for this purpose." [14]

- The *Convention on Non-navigational Uses of Watercourses* uses a general statement on the notification duties similar to the one under the Convention on Transboundary Watercourses. According to that paragraph, a watercourse State shall, *without delay* notify other potentially affected States and competent international organizations of any emergency originating within its territory. [28.2]

- As regards the *Convention on Access to Information and Public Participation*, the Parties should ensure that in the event of any imminent threat to human health or the environment all information which could enable the public to take measures to prevent or mitigate harm arising from the threat and is held by a public authority is disseminated immediately and without delay to members of the public who may be affected. [5.1.c]

- One article of the *Convention on Civil Liability for Damage* provides for public information that can also be used in principle in relation to accidents and their environmental impacts, too: "Any person shall, at his request and without his having to prove an interest, have *access to information relating to the environment held by public authorities*. ... " [14.1]

- At last, the *Convention on Biological Diversity* mentions also the general duty of the States to give notification in case of emergencies related to the subject and objective of this convention: "In the case of imminent or grave danger or damage, originating under its jurisdiction or control, to biological diversity within the area under jurisdiction of other States or in areas beyond the limits of national jurisdiction, *notify immediately the potentially affected States of such danger or damage*, as well as initiate action to prevent or minimize such danger or damage;" [14.1.d]

Convention on Protection of the Danube River

This convention gives further clarification on the necessary emergency-related notification measures. The Parties should coordinate the development/operation of the warning systems, establish a mechanism for rapid information transmission and issue notification:

- "The Contracting Parties shall provide for *coordinated or joint communication, warning and alarm systems* in the basin-wide context to the extent this is necessary to supplement the systems established and operated at a bilateral level. They shall consult on ways and means of harmonizing domestic communication, warning and alarm systems ...". [16.1]

- "The Contracting Parties shall ... inform each other about *competent authorities or points of contact designated for this purpose in case of emergency events* such as accidental pollution, other critical water conditions ... " [16.2]

- "If a competent authority identifies a sudden increase of hazardous substances in the Danube River or in waters within its catchment area or receives note of a *disaster or of an accident likely to cause serious impact* on the water quality of

Danube River and to affect downstream Danubian States this authority shall *immediately inform the contact points* designated and the International Commission ...” [16.3]

As regards the information services to the public, the provisions are more careful, namely: “competent authorities are required to make available information concerning the state or the quality of riverine environment in the Danube Basin to any natural or legal person ... *in response to any reasonable request ... as soon as possible.*“ [14.1]

Convention on Industrial Accidents

Notification of affected Parties in case of accidents and information to the public concerned on hazardous activities is discussed in much more detail by the *Convention on industrial accidents*.

For effective action in emergency cases, due preparations are necessary already in the planning process; commitments of the Parties on *emergency preparedness* include information-related tasks, as well [8, 10]. The emergency preparedness measures are formulated in on-site and off-site contingency plans and they should also include arrangements for warning and notification:

- “Arrangements for providing early warning of industrial accidents to the public authority responsible for the off-site emergency response, including the type of information which should be included in an initial warning and the arrangements for providing more detailed information as it becomes available” [Annex VII, 4.d].

- The off-site contingency plans could also cover “Arrangements for ensuring that prompt industrial notification is made to affected or potentially affected Parties and that the liaison is maintained subsequently” [Annex VII, 5.d].

- Moreover, the convention requires the operation of notification systems by the Parties: “The Parties shall ... provide for the establishment and operation of compatible and efficient *industrial accident notification systems* at appropriate levels.“ [10.1] There are also requirements for the Parties to regularly test these systems and training the personnel on its operation. [Annex IX, 4]

When an accident occurred (or is likely to occur), the Party of origin is responsible for immediate notification of other Parties:

- “In the event of an industrial accident, or imminent threat thereof, which causes or is capable of causing transboundary effects, the Party of origin shall ensure that affected Parties are, *without delay*, notified at appropriate levels through the industrial accident notification systems.” [10.1]

- Such notification includes information on the type, magnitude, time and location of the accident, hazardous substances involved, forecast of the possible effects [Annex IX, 2].

The affected or possibly affected public should also receive adequate information in case of accidents:

- “Parties shall ensure that adequate information is given to the public in the areas capable of being affected by an industrial accident arising out of a hazardous activity. This information shall be transmitted through such channels as the Parties deem appropriate ...” [9.1]

- This “prior” information set refers only to the requirements in case of actual occurrence of an accident: the above mentioned adequate information should also include information “on how the affected population will be warned and kept informed in the event of an industrial accident” and “on the actions the affected population should take and on the behaviour they should adopt in the event of an industrial accident”. [Annex VIII: 6, 7]

4.4. Disputes and their settlement

General approach

Disputes may arise between two or more Parties to any international convention either about the interpretation or the application of its provisions. Multilateral environmental conventions usually apply common principles, modes and mechanisms of dispute settlement for international affairs. The basic principle in such cases is that the disputes (in particular the environmental disputes) should be resolved peacefully (see e.g., principle 26 of the Rio Declaration). The concerned states can decide to use various international mechanisms for dispute settlement if they fail to resolve the problems on liability, damage assessment, compensation, assistance, rehabilitation etc. by means of bilateral arrangements.

Concerning the evolution of the mechanisms of dispute settlement in environmental matters, the judicial processes and decisions in environment-related cases have had a significant role. Several of these cases were briefly presented in our study (see section 2.2).

The legal instruments reviewed in the present study usually include specific chapters, articles, annexes on dispute settlement which are based on similar terms and rules. We present below the essence of and references to the typical options and rules for dispute settlement outlined in the reviewed conventions.

General arrangements

Such “typical” general provisions are enclosed in the (i) Convention on Transboundary Watercourses [22, Annex IV], (ii) the Convention on Protection of the Danube River [24, Annex V], (iii) the Convention on Industrial Accidents [21, Annex XIII], or (iv) the Convention on Non-navigational Use of Watercourses [33, Annex on Arbitration]. In case of such disputes Parties should seek a solution primarily by negotiation or if it fails then by submission of the dispute to the International Court of Justice or through arbitration, which general procedure is also described in the relevant annexes to these conventions.

The steps to be followed in such cases – including, for instance, the case when damage has occurred in the area of one Party because of or likely due to accidental water pollution in the area of another Party – are as follows:

- Parties should *seek solution by negotiation* or by other means of dispute settlement acceptable to the parties to the dispute [(i) 22.1, (ii) 24.1, (iii) 21.1, (iv) 33.2]; if the dispute is not resolved then

- dependent on the declaration of the Parties they can accept one or both of the following means: submission of the dispute to the ICJ or arbitration [(i) 22.2, (ii) 24.2], (iii) 21.2, (iv) 33.2]; consequently, as a general rule, *the application of any of these mechanisms depends on the (prior) consent of the Parties concerned.*;

- *in case of arbitration*, a notification should be received by the secretariat of the convention by indicating the subject-matter and the articles of the convention

whose interpretation or application led to the disagreement between the parties; then a three-member *arbitral tribunal* is set up which after establishing the facts and conducting relevant procedures shall render its *final decision* (by majority vote) *that is binding upon all parties to the dispute*. [(i) Annex IV, (ii) Annex V, (iii) Annex XIII, (iv) Annex on Arbitration]

There are similar provisions for dispute settlement in the Convention on Environmental Impact Assessment [15, App. VII], the Convention on Access to Information and Public Participation [16, Annex II], Convention on Biological Diversity [27, Annex II: part I] and the Convention on the Conservation of European Wildlife [18].

Specific arrangements

In addition to the aforementioned general elements of dispute settlement, there are a few considerable additional provisions in several conventions in this context. First of all, we should mention two exceptions from the general rule, according to which the application of any of the mechanisms mentioned above (turning to the ICJ or arbitration) depends on the (prior) consent of the Parties concerned:

- The Convention on the Protection of the Danube River has an essential additional provision which is applicable when a Party has not made a declaration (on accepting one or both of those procedures) or whose declaration is no longer in force, then that Party is considered to have accepted the arbitration [24.2.e].

- The Convention on Biological Diversity stipulates a different alternative, namely: if the parties to the dispute have not accepted the same or any procedure, the dispute shall be submitted to conciliation in accordance with Part 2 of Annex II unless the parties otherwise agree [27.4].

Besides the general mechanisms for dispute settlement, the Convention on Non-navigational Uses of Watercourses allows also for establishing a fact-finding commission [33.4] if the concerned parties are unable to settle their dispute after six months.

From our point of view, the most relevant instrument is the Convention on Civil Liability for Damage (if and when it enters into force), which relevant provisions on compensation for the damages are quoted in section 3.7.

5. CONCLUSIONS AND RECOMMENDATIONS

Multilateral legal instruments were reviewed in this study in order to identify their provisions applicable in the case of accidental transboundary water pollution and its adverse environmental impacts. We were primarily interested in the pan-European region. Based on this analysis, we have drawn the following conclusions:

- The international cooperation in the environmental field rapidly developed from the late 1980s at regional and global level, as well. It has resulted in the establishment of an extensive framework of organizations, institutions, programmes and in convening various forums which addressed inter alia the general problems of transboundary water pollution, and agreed on principles, goals and action plans. However, many critical issues have remained unresolved.

- Multilateral legal instruments have been elaborated and adopted. The reviewed global and pan-European conventions include significant commitments for the Parties and provide a solid basis for concrete and coordinated actions to prevent and control the transboundary accidents that endanger human health and the environment. Other conventions deal with more specific nature conservation objectives and have an important but indirect relevance in case of such accidents. An important fact concerning the different legal instruments is that they recently tend to apply an integrated approach and use tools which are applicable to all kind of pollution and adverse impacts. These tools (such as contingency plans, preparedness measures, early warning systems, EIA, use of BATs, mechanisms for public information and participation etc.) are appropriate to address all activities endangering the environment and to contribute to prevention and/or mitigation of unwanted environmental degradation.

- Unfortunately, many countries have not yet acceded to the conventions which are of key importance, essential commitments under these conventions are not met or fulfilled only in rather formal terms. In certain cases, it means that the conventions cannot enter into force for a long time, as in the case of the Convention on Industrial Accidents which is enforced only eight years after its adoption or in the case of the Convention on Civil Liability which is still only a “hypothetical“ document.

We conclude our analysis with the following recommendations:

- Substantial progress could be achieved with the *effective implementation of the existing conventions*, commitments and the related programmes. This would require from the Parties to effectively transpose the international obligations into their domestic legal system and to develop and maintain the required national institutional mechanisms.

- Obviously, in the case of transboundary watercourses and international lakes, the effective implementation of these conventions is possible if and only *if all concerned states become Parties* to them. Consequently, all such states that are not yet acceded to these legal instruments should be urged to do so and to undertake the fulfillment of the corresponding commitments.

- We reiterate a recommendation made by the UNEP-OCHA mission (UNEP-OCHA, 2000) in general form, namely: it is of utmost importance to ensure the development and operation of an *effective early warning and response mechanisms*, preparation of on-site and off-site contingency plans by all riparian countries sharing a river basin in line with the relevant provisions of the Convention on Industrial Accidents. This would, among others, require: the concrete definition and regulation of the specific tasks of national and local authorities, terms of their cooperation and the division of labour in the case of an emergency; provision of the necessary assistance and resources, especially, for the local authorities; joint training of these local authorities; harmonization of the contingency plans between the neighboring countries.

- Based on the general principles and provisions of international environmental law, the existing bilateral and multilateral agreements on environmental protection, nature conservation, water management and/or prevention and control of accidents with significant transboundary impacts could be improved or *new legal instruments (agreements, protocols etc.) with more concrete and more stringent commitments could be elaborated*, as appropriate. The specific areas for such additional and reinforced provisions may include: more precise elaboration of certain terms and obligations of critical importance (such as the terms of notification, significant harm etc.), the harmonization of the monitoring systems, exchange of information on hazardous activities and their environmental impacts, scientific and technological cooperation, public information etc.

- More attention should be paid to *sanctioning the breach of an obligation under an international environmental convention*. At national level, this could be done, inter alia, with respect to the operators of hazardous activities so that the penal sanctions for causing significant environmental harm (especially, significant transboundary pollution) can be incorporated into the domestic legal system.

- One of the most "sensitive" problems is the *settlement of the liability and compensation questions* which clearly arise in all cases of adverse transboundary impacts caused by accidental and/or chronic water pollution. In this regard, the UNEP-OCHA (2000) report has made a remarkable point by mentioning that: "the issue of liability and compensation would be easier settled if there were an international regime. Support should be given to the proposal to develop a protocol on liability and compensation on accidents with transboundary impact, to the UN/ECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes and the UN/ECE Convention on the Transboundary Effects of Industrial Accidents." Apart from such an additional legal instrument, the issue of setting up an adequate insurance and guarantee system and the question of establishing an international fund for compensating the victims of environmental disasters could also be examined.

- *Public awareness* of these hazards, national and international response programmes and policies, and legal instruments should be considered as a key factor for their efficient implementation. Consequently, the role of public information, including the media, education and training at all levels should be acknowledged and assisted. This will also enhance the opportunities and means for access to adequate information and for public participation in affairs related to the reduction of hazards and adverse impacts from accidental transboundary water pollution.

Annex A

REFERENCES

Bándi Gy., T. Faragó, A. Lakos, 1994: International conventions on environment protection and nature conservation (in Hungarian; Nemzetközi környezetvédelmi és természetvédelmi egyezmények). Ministry for Environment and Regional Policy, Budapest

Birnie, W. P. and A. E. Boyle, 1992: International Law and the Environment. Clarendon Press, Oxford

Brundtland, G. H. et al., 1987: Our common future. The World Commission on Environment and Development. Oxford University Press

Faragó T. and A. Lakos (Eds.), 1996: Approval and implementation of international conventions on environmental protection and nature conservation in Hungary. (Nemzetközi környezetvédelmi és természetvédelmi egyezmények jóváhagyása és végrehajtása Magyarországon, 1995) Ministry for Environment and Regional Policy, Budapest

Francioni, F. and T. Scovazzi, 1991 (Eds.): International Responsibility for Environmental Harm. International Environmental Law and Policy Series, Graham & Trotman, London

Fülöp S. and J. Péter, 1995: The conditions of ratifying the Espoo convention in the Hungarian legal system. (in Hungarian; Az Espoo-i egyezmény ratifikálásának feltételei a magyar jogrendszerben). Környezetvédelmi jogi tanácsadó szolgálat, Budapest

Gündling, L., 1998: International Environmental Law. UNITAR Programme of Training for the Application of Environmental Law, Course 7. UNITAR, Geneva

Hallo, R., 1995 (ed.): Access to environmental information in Europe. International Environmental Law and Policy Series. Kluwer Law International, London

Kiss, A. and D. Shelton, 1991: International Environmental Law. Graham & Trotman, London

Kiss, A., 1997: Introduction to International Environmental Law. UNITAR Programme of Training for the Application of Environmental Law, Course 1. UNITAR, Geneva

Kiss, A., 2000: Legal aspects and consequences of the accidental pollution of Baia Mare. Preprint, Budapest

Kupper Zs., 1995: The current status of equitable utilization and the duty of harm prevention in the field of international environmental law. ELTE, Budapest

Nagy B., 2000: The cyan-fish brighting in gold. (in Hungarian; Az aranyfényû ciánhal.) Preprint, Budapest

NWA, 1987: Basic documnets for multilateral international co-operation on the Danube and Tisza rivers. National Water Authority of Hungary, Budapest

SWWF, 2000: Ministerial Declaration of the Hague on Water Security in the 21st Century. Second World Water Forum, Hague

UN, 1972: Declaration of the United Nations Conference on Human Environment. Stockholm, 16 June 1972

UN, 1989: Resolution on the “United Nations Conference on Environment and Development”, 44/228 (22 December 1989), United Nations General Assembly

UNCED, 1992: Agenda 21. UN Conference on Environment and Development

UNECE, 1996: Current policies, strategies and aspects of environmental impact assessment in a transboundary context. ECE/CEP/9, UNECE, Geneva

UNEP, 1991: Register of international treaties and other agreements in the field of the environment. UNEP, Nairobi (UNEP/GC.16)

UNEP-OCHA, 2000: Cyanide spill at Baia Mare, Romania. UNEP-OCHA Assessment Mission, Report. UNEP, Geneva

Wallström, 2000: Cyanide pollution – Statement by Commissioner Wallström, European Commission, Brussels, BIO/00/32

Annex B

LIST OF CONVENTIONS

(reviewed or mentioned in this paper)

Convention on the Law of the Non-navigational Uses of International Watercourses		
international adoption, entry into force	New York	1997; not yet
Convention on Cooperation for the Protection and Sustainable Use of the Danube River		
international adoption, entry into force	Sofia	1994, 1998
Convention on the Protection and Use of Trans-boundary Watercourses and International Lakes		
international adoption, entry into force	Helsinki	1992, 1996
Convention on measures to combat pollution of the Tisza river and its tributaries		
international adoption, entry into force	Szeged	1986, 1987
Convention Concerning Fishing in the Waters of the Danube		
international adoption, entry into force	Bucharest	1958, 1958
Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters		
international adoption, entry into force	Aarhus	1998; not yet
Convention on civil liability for damage resulting from activities dangerous to the environment		
international adoption, entry into force	Lugano	1993; not yet
Convention on the Transboundary Effects of Industrial Accidents		
international adoption, entry into force	Helsinki	1992, 2000
Convention on Environmental Impact Assessment in a Transboundary Context		
international adoption, entry into force	Espoo	1991, 1997
Convention on Biological Diversity		
international adoption, entry into force	Rio de Janeiro	1992, 1993
Convention on the Conservation of European Wildlife and Natural Habitats		
international adoption, entry into force	Berne	1979, 1982
Convention on Wetlands of International Importance Especially as Waterfowl Habitat		
international adoption, entry into force	Ramsar	1971, 1975
Convention on the Protection of the Black Sea against Pollution	Bucharest	1992
Convention on the Protection of the Marine Environment of the Baltic Sea Area	Helsinki	1992
The Convention for the Protection of the Mediterranean Sea against Pollution	Barcelona	1976
Convention on the Protection of the Rhine against Chemical Pollution	Bonn	1976

Annex C

ABBREVIATIONS, ACRONYMS

BAT..... best available technology

CBD..... Convention on Biological Diversity

CE ..... Council of Europe

COP ..... Conference of the Parties

CSCE ..... Conference on Security and Cooperation in Europe

ECE ..... Economic Commission for Europe

EIA..... environmental impact assessment

EC ..... European Community

EU ..... European Union

GEF ..... Global Environment Facility

ICPDR..... International Commission for the Protection of the Danube River

IDNDR ..... International Decade of Natural Disaster Reduction

ICJ..... International Court of Justice

ILC..... International Law Commission

MOP..... Meeting of the Parties

OCHA ..... Office for the Co-ordination of Humanitarian Affairs

PCIJ..... Permanent Court of International Justice

UN ..... United Nations

UNCED ..... United Nations Conference on Environment and Development

UNECE ..... UN Economic Commission for Europe

UNESCO..... UN Educational, Scientific and Cultural Organization

UNDP..... UN Development Programme

UNEP..... UN Environment Programme

Annex D

STATUS OF THE CONVENTIONS

Party	C. on Tranb Water-courses	C. on Protect. of the Danube	C. on Industrial Accidents	C. on Law on Non-navig. Uses	C. on Env. Impact Assessment	C. on Access to Information	C. on L[1]	C. on Biological Diversity
adopted	*1992*	*1994*	*1992*	*1997*	*1991*	*1998*		*1992*
venue	*Helsinki*	*Sofia*	*Helsinki*	*New York*	*Espoo*	*Aarhus*		*Rio de J.*
in force	*1996*	*1998*	*2000*	*....*	*1997*	*....*		*1993*
status as of	*Jun/2000*	*May/2000*	*Jun/2000*	*Jun/2000*	*Jun/2000*	*Jun/2000*		*Feb/2000*
scope	*UNECE*	*subreg.*	*UNECE*	*global [2]*	*UNECE*	*UNECE*	*g*	*global [2]*
Albania	05/01/1994	---	05/01/1994		04/10/1991	s		05/01/1994
Andorra		---						
Armenia		---	21/02/1997		21/02/1997	s	*	14/05/1993
Austria	25/07/1996	13/09/1996	04/08/1999		27/07/1994	s		18/08/1994
Azerbaijan		---			25/03/1999	23/03/2000	*	s
Belarus		---			s	09/03/2000	*	08/09/1993
Belgium	s	---	s		02/07/1999	s		22/11/1996
Bosnia and Herzegovina							*	
Bulgaria	s	04/05/1999	12/05/1995		12/05/1995	s		17/04/1996
Canada		---	s		13/05/1998		*	04/12/1992
Croatia	08/07/1996	04/02/1997	20/01/2000		08/07/1996	s	*	07/10/1996
Cyprus		---				s	s	10/07/1996
Czech Republic	12/06/2000	30/05/1995	12/05/2000		s	s		03/12/1993
Denmark	28/05/1997	---	s		14/03/1997	s		21/12/1993
Estonia	16/06/1995	---	17/05/2000			s		27/07/1994
Finland	21/02/1996	---	13/09/1999	23/01/1998	10/08/1995	s	s	27/07/1994
France	30/06/1998	---	s		s	s		01/07/1994
Georgia		---				11/04/2000		02/06/1994
Germany	30/01/1995	16/08/1996	09/09/1998	s	s	s		21/12/1993
Greece	06/09/1996	---	24/02/1998		24/02/1998	s	s	04/08/1994
Holy See		---					*	
Hungary	02/09/1994	19/01/1996	02/06/1994	26/01/2000	11/07/1997	s		24/02/1994
Iceland		---			s	s	s	12/09/1994
Ireland		---			s	s		22/03/1996
Israel		---					*	07/08/1995
Italy	23/05/1996	---	s		19/01/1995	s	s	15/04/1994
Kazakstan		---				s	*	06/09/1994
Kyrgyzstan		---					*	06/08/1996
Latvia	10/12/1996	---	s		31/08/1998	s		14/12/1995
Liechtenstein	19/11/1997	---			09/07/1998	s	s	19/11/1997
Lithuania	28/04/2000	---	s			s		01/02/1996
Luxembourg	07/06/1994	---	08/08/1994	s	29/08/1995	s	s	09/05/1994
Malta		---				s		s
Monaco		---				s	*	20/11/1992
Netherlands	14/03/1995	---	s	s	28/02/1995	s	s	12/07/1994
Norway	01/04/1993	---	01/04/1993	30/09/1998	23/06/1993	s		09/07/1993
Poland	15/03/2000	---	s		12/06/1997	s		18/01/1996
Portugal	12/12/1994	---	s	s	06/04/2000	s	s	21/12/1993
Republic of Moldova	04/01/1994	31/05/1999	04/01/1994		04/01/1994	09/08/1999		20/10/1995
Romania	31/05/1995	10/03/1995			s	s		17/08/1994
Russian Federation	02/11/1993	---	01/02/1994		s			05/04/1995
San Marino		---			19/11/1999			28/10/1994
Slovak Republic	07/07/1999	19/01/1998			s			25/08/1994
Slovenia	13/04/1999	24/07/1998			05/08/1998	s		09/07/1996
Spain	16/02/2000	---	16/05/1997		10/09/1992	s		21/12/1993
Sweden	05/08/1993	---	22/09/1999		24/01/1992	s		16/12/1993
Switzerland	23/05/1995	---	21/05/1999		16/09/1996	s		21/11/1994
Tajikistan		---					*	29/10/1997
The FYR of Macedonia		---			31/08/1999	22/07/1999		02/12/1997
Turkey		---						14/02/1997
Turkmenistan		---				25/06/1999	*	18/09/1996
Ukraine	08/10/1999	s			20/07/1999	18/11/1999		07/02/1995
United Kingdom	s	---	s		10/10/1997	s		03/06/1994
United States		---	s		s		*	s
Uzbekistan		---					*	19/07/1995
Yugoslavia							*	s
European Community	14/09/1995	18/12/1997	24/04/1998		24/06/1997	s		21/12/1993

*[1]C. on Civil Liability for Damage (1993, Lugano) [2]Parties listed only from UNECE region *not CE-member*

Published by
World Wide Fund for Nature (WWF), Hungarian Programme Office
(Németvölgyi út 78/b, Budapest, Hungary, H-1124; panda@wwf.hu)
and
Office of the Government Commissioner for the Tisza and Szamos Rivers
(Magyar u. 36., Budapest, Hungary, H-1053)

WWF Hungary Publication Series No. 16 (E)
June 2000, Budapest

ISSN 1216-2825