UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE

The Economic Commission for Europe Water Convention and the United Nations Watercourses Convention

An analysis of their harmonized contribution to international water law

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Foreword

A unique situation has arisen in the field of international law: there are now two agreements open to all United Nations Member States covering the same subject matter, the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes and the 1997 Convention on the Law of the Non-Navigational Uses of International Watercourses. Both treaties cover international watercourses, that is, freshwater, whether on the surface or underground, that is shared by two or more States. Scientists tell us, most recently in the 2014 reports of the Intergovernmental Panel on Climate Change, that these resources are coming under increasing stress, especially in areas that are already arid. But even ignoring climate change the math is quite simple: the amount of water on Earth is constant, and has been for billions of years, but the human population continues to increase, as do efforts to alleviate poverty and develop economically, which almost inevitably impact water resources. Thus regulation and management of this precious resource is more important than ever and, in particular, given the transboundary nature of water resources, the need for a coherent international legal regime.

So, are two treaties on the same subject that are open to all States in the world really necessary? In fact, could the coexistence of two such agreements give rise to confusion, or worse, conflicting obligations? Would it make any sense at all for one country to ratify both of them? These are the kinds of questions that the present volume addresses. And they are addressed in the very capable and experienced hands of one who has been closely involved in the development of both instruments. Professor Attila Tanzi was a member of the Italian delegation to the United Nations Working Group of the Whole which negotiated the 1997 Watercourses Convention and was an active participant in those discussions and, since 1998, has been involved in the work of legal bodies set up by the parties to the 1992 Water Convention, serving most recently as a member and Chair of the Legal Board of that agreement, which guides the Convention's interpretation and implementation.

While the two agreements cover the same subject matter, their approaches are quite different. Indeed, an untrained eye might conclude after a quick scan that their very purposes were entirely distinct from one another. However, a more careful review reveals that the two treaties have the same general object and purpose: the cooperative use, management and protection of international watercourses. Though their emphases and the methods they employ to achieve this end vary considerably from one another, their overall objective is the same. In this study Professor Tanzi helpfully distinguishes between the "economic" cast of the 1997 Convention and the "environmental" one of the 1992 agreement. In short, the former treaty may be said to focus more on allocation and the latter on environmental protection. And, as Professor Tanzi convincingly demonstrates, these qualities are not contradictory but rather complementary in nature. For example, both agreements enshrine the principle of equitable and reasonable use, but the 1997 Convention may be said to contain more detail on its content and implementation. Likewise, both treaties provide for the protection of aquatic ecosystems and the prevention of water pollution, but the 1992 Convention is far more comprehensive in this regard.

The drafting histories of the two instruments are of assistance in understanding the ways in which they approach the subject matter. The 1997 Convention was negotiated in the United Nations on the basis of a set of draft articles prepared over a 20-year period by the International Law Commission. The Commission's draft was, like all of the work of the Commission, an exercise in codification and progressive development of international law. Most of its provisions were not changed significantly in the negotiation of the 1997 Convention, which took place in two sessions, in 1996 and 1997. The resulting text thus retains the look and fundamental approach of a codification treaty, intended to be applicable worldwide. The 1992 Convention, on the other hand, was prepared within the United Nations Economic Commission for Europe (ECE) over a period of less than two years, on the basis of a draft produced by its secretariat, to address the needs and conditions of ECE countries. Many of these States are characterized by abundant rainfall and numerous watercourses. In the early 1990s the members of ECE were especially concerned with pollution prevention and environmental protection. It is therefore not surprising that the Convention emphasizes issues of interest to developed, generally well-watered countries with a long history of interaction in relation to transboundary waters, many of which were conscious of the need for environmental protection.

One of the great strengths of the 1992 Convention is that it is a "living document." The treaty itself ensures this by establishing a secretariat (article 19) and providing for regular meetings of the parties (article 17). The secretariat provides strong support for sessions of the Meeting of the Parties, at which countries are to "keep under continuous review the implementation of [the] Convention". As a codification convention, the 1997 treaty contains no such provisions, though it does provide for the possibility of the establishment of joint management mechanisms by the parties (article 24). It may be hoped that in view of the complementarity of the two agreements, and for the sake of consistency and efficiency, a secretariat might be established by the parties to the 1997 Convention when it enters into force, as well, and that that body would either coordinate closely with the secretariat of the 1992 Convention or even become a Part of it.

It is precisely this kind of need for close coordination of the development, interpretation and application of the two agreements that makes the present work so valuable. And in this connection I will end where Professor Tanzi begins, with a reference to the work of the International Law Commission on the topic of the fragmentation of international law. In that study the Commission pointed to the overarching principle of international law that when several norms relate to a single issue they are to be interpreted so that they are compatible to the extent possible. The present work shows why such an interpretation is not only possible but is virtually compelled by the very texts of the two agreements. With the impending entry into force of the 1997 Convention, this volume takes on even greater significance.

Stephen C. McCaffrey

Distinguished Professor
at the University of the Pacific,
McGeorge School of Law

Preface

Approximately 40 per cent of the world's population live in river basins that cross national borders. Transboundary river basins cover nearly one half of the earth's land surface and account for about 60 per cent of global freshwater flow. These basins link populations and create hydrological, social and economic interdependencies between countries. Transboundary water cooperation is therefore essential if we are to ensure the availability and sustainable management of water and sanitation for all. Legal agreements between and among countries can foster and secure transboundary water cooperation.

The opening of the United Nations Economic Commission for Europe (ECE) Convention on the Protection and Use of Transboundary Watercourses and International Lakes to all United Nations Member States in 2013, and the entry into force of the United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses in 2014, has transformed treaty law for international waters. At the same time, suddenly having two treaties addressing the topic at the global level could create confusion.

This analysis is therefore timely and essential reading for those wishing to understand the contribution of the two Conventions to international water law, and provides reassurance as to their complementarity. That complementarity was recognized by United Nations Secretary-General Ban Ki-moon when he urged in 2012 that "the globalization of the [ECE Water] Convention should also go hand-in-hand with the expected entry into force of the United Nations Watercourses Convention. These two instruments are based on the same principles. They complement each other and should be implemented in a coherent manner."

I would like to thank Professor Attila Tanzi, currently Chair of the Implementation Committee under the ECE Water Convention, for undertaking the drafting of this analysis and the many others who generously contributed to it.

It is my hope that this analysis will assist legislators, lawyers, policymakers and authorities to understand better the opportunities provided by the two treaties to strengthen transboundary water cooperation, peace and security.

Christian Friis Bach

Executive Secretary
United Nations Economic
Commission for Europe

Key treaties and soft law instruments

United Nations Economic Commission for Europe (ECE) Convention on the Protection and Use of Transboundary Watercourses and International Lakes (1992)

United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses (1997)

ECE-World Health Organization Regional Office for Europe Protocol on Water and Health (1999)

ECE Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters (2003)

Amendment to articles 25 and 26 of the Convention (2003), allowing all United Nations Member States to accede to the ECE Water Convention

Model Provisions on Transboundary Flood Management (2006)

Model Provisions on Transboundary Groundwaters (2012)

Contents

1. Introduction

"It is a generally accepted principle that when several norms bear on a single issue they should, to the extent possible, be interpreted so as to give rise to a single set of compatible obligations".[1]

This is the main conclusion reached in 2006 by the International Law Commission on the topic of the fragmentation of international law. It has occupied lawyers and diplomats intensively over the past few years owing to the considerable expansion of international law, particularly through the increasing number of treaties bearing on the same subject matter.

As will be demonstrated, the scope of the United Nations Economic Commission for Europe (ECE) 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes (hereinafter referred to as the "ECE Water Convention") and that of the United Nations 1997 Convention on the Law of the Non-Navigational Uses of International Watercourses (hereinafter the "United Nations Watercourses Convention") bear on the same issue. Accordingly, in line with the aforementioned principle, which the Commission has called the "principle of harmonization",[2] the purpose of the present study is to assess the "possible extent" of an interpretation and application of these two Conventions in the light of the compatibility between their respective provisions.

According to the Commission, the relationship between international rules bearing on the same subject matter may be one of either conflict or interpretation. The former is the case "where two norms that are both valid and applicable point to incompatible decisions so that a choice must be made between them"[3] and the latter, "where one norm assists in the interpretation of another … for example as an application, clarification, updating, or modification of the latter. In such situation, both norms are applied in conjunction".[4] Building on a previous study by the present author,[5] it is anticipated that a comparative analysis of the two Conventions will show that they may be interpreted and applied according to the principle of harmonization "so as to give rise to a single set of compatible obligations".[6]

In general, when assessment confirms the applicability of the principle of harmonization to rules pertaining to different bodies of international law, the principle operates at a threefold level: it applies to the relationship between conventional rules; between conventional rules and customary rules; and between customary rules. The present study will first compare the provisions of the two instruments in the light of the entry into force of the United Nations Watercourses Convention[7] and of the amendments to articles 25 and 26 of the ECE Water Convention, which have enabled countries outside the ECE region to accede to it.[8] The latter development has rendered the topic far more relevant than when the ECE Water Convention was an exclusively regional instrument since the relationship to be analyzed will concern two instruments of global scope.

The second and third levels of the principle of harmonization apply because most of the provisions of the two Conventions are evidentiary and Part of customary law. Accordingly, the analysis will focus on the compatibility of their provisions in order to demonstrate not only the possibility of their harmonized application, but also their role of mutual assistance in the consolidation and progressive development of customary law in the field. Therefore, the comparative aspect of this analysis will be supplemented by a functional aspect insofar as each case-specific interpretation and application of either Convention will inevitably amount to an interpretation and application of international customary water law; a consistent interpretation of the provisions of the two Conventions will best serve the practical, normative guideline function of international water law as a whole.

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1 Paragraph (4) of the conclusions of the work of the Study Group on the Fragmentation of International Law: difficulties arising from the diversification and expansion of international law, in the report of the International Law Commission on the work of its fifty-eighth session (A/61/10), para. 251.

2 Ibid.

3 See note 1 above, para. (2).

4 Ibid.

5 Attila Tanzi, "Regional Integration and the Protection of the Environment: the UN/ECE Process on Water Law", in *Italian Yearbook of International Law*, vol. 10 (2000), pp. 105–107.

6 See note 1 above, para. (4).

7 At the time of writing, 35 States have ratified the United Nations Watercourses Convention, which entered into force on 17 August 2014.

8 ECE/MP.WAT/14. The amendments entered into force on 13 February 2013.

This assessment of the applicability of the principle of harmonization will be tested against the general provisions of treaty law relating both to the topic and to a comparison of the substantive provisions of the two Conventions. However, it should be emphasized at the outset that the assessment starts from a general presumption of compatibility based on the will of the States parties to the two Conventions. On the one hand, paragraph 9 of the preamble to the United Nations Watercourses Convention expressly recalls "the existing bilateral and multilateral agreements regarding the non-navigational uses of international watercourses" with the ECE Water Convention the most authoritative existing multilateral agreement in the field; and, on the other, the final declaration of the second session of the Meeting of the Parties to the ECE Water Convention, held at The Hague in 2000, refers to the relationship between the two Conventions, solemnly "stress[ing] the importance of their complementarity in the international water law process".[9]

The present analysis will consider first the basic principles of the international water law discourse as consolidated by the two Conventions, and then their respective scope *ratione materiae* and *ratione personae*. The ensuing assessments will be made within the framework of both treaty and customary law with a view to maximizing the practical guideline function of the two instruments for the conduct of co-riparian States in their mutual relations, and in relation to a transboundary watercourse. Such a function is dual in nature: the regulatory framework of the two Conventions requires both the adoption of domestic legislative and administrative measures on the use, protection and conservation of watercourses, and the negotiation of new watercourse agreements with a view to further cooperation on specific international watercourses.

The study will then turn to the most salient material and procedural rules of the two Conventions, namely, the equitable utilization principle and the no-harm rule, and the general obligation of cooperation as the catalyst for case-specific interpretation and application of these material rules. The legal consequences of the occurrence of transboundary harm will be addressed within the framework of State liability for lawful acts[10] and State responsibility for internationally wrongful acts.[11] In the former context, compensation will be emphasized as a crucial element of distributive justice.

A brief comparison between the Conventions' respective approaches to dispute settlement will follow. Consideration will be given to the relationship between dispute settlement, dispute avoidance and dispute management, paying special attention to the newly-established Implementation Committee under the ECE Water Convention.[12]

Lastly, the debate on prospects for the institutionalization of the United Nations Watercourses Convention — despite the absence of provisions to that effect in the Convention — will be considered, including in relation to the existing and consolidated institutional framework of the ECE Water Convention.

With regard to the nature and purpose of the present study, it should be stressed that, despite its comparative slant — or rather, on the basis of the findings of its comparative analysis — it should also be seen as an opportunity to present international customary water law as a consistent whole made up of synergic components.

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[9] Declaration of the Peace Palace (ECE/MP.WAT/5, annex I), para. 9.

[10] See Attila Tanzi, "Liability for Lawful Acts" in Rüdiger Wolfrum, ed., *Max Encyclopedia of Public International Law* (Oxford, Oxford University Press, 2012), vol. VI, pp. 837–845

[11] See James R. Crawford, "State Responsibility", in *Max Planck Encyclopedia* (note 10 above), vol. IX, pp. 517–533; J.R. Crawford, A. Pellet, S. Olleson, *The Law of International Responsibility*, Oxford-New York, 2010; R. Provost, *State Responsibility in International Law*, Dartmouth, 2002. On the notion of State responsibility in the specific context of transboundary harm, see e.g. Phoebe N. Okowa, *State responsibility for transboundary air pollution in international law* (Oxford, Oxford University Press, 2000).

[12] The Implementation Committee was established through Decision VI/1 ("Support to implementation and compliance"), adopted at the sixth session of the Meeting of the Parties to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (ECE/MP/WAT/37/Add.2).

2. Basic rationale and principles of the international water law process as consolidated in the two Conventions

Since its inception, the international water law process has been characterized as a gradual limitation — for the benefit of all countries concerned — of absolute sovereignty claims over transboundary waters in respect of the water located in, or flowing through, a State's territory.[13]

Such claims were based on the theory of absolute territorial sovereignty, also known as the Harmon doctrine[14] or the theory of absolute territorial integrity, depending on the geographical position of a given riparian State with respect to a specific international watercourse.[15] Thus, upper riparians, based on the former doctrine, claimed absolute freedom to utilize transboundary waters, regardless of the impact of their activities on downstream States, which in turn relied on the latter theory to substantiate their claim to an unaffected natural flow of waters from the upper riparian countries.

The drawbacks of such absolute claims soon became apparent: by exacerbating natural and physical differences among riparian States, they run counter to the very principle of the sovereign equality of States, with patently unjust results.[16] Moreover, the incompatibility of such absolute doctrines could only lead the States involved to intensify their divisive approach to the shared natural resources in question. In view of their detrimental consequences, both absolute territorial sovereignty and absolute territorial integrity have been rightly stigmatized as "anarchic and obstructive" theories.[17] Therefore, it is not surprising that many of the States that invoked absolute sovereignty arguments at the initial stages of their disputes over transboundary freshwaters later abandoned such arguments in favour of a more moderate stance. One such example is the well-known dispute between Mexico and the United States of America over the Rio Grande, which originated in 1895. While the Harmon Doctrine was initially elaborated and invoked for the first time by the United States Government, with Mexico clinging to claims of absolute territorial integrity, the dispute was settled eleven years later through a mutually agreeable mitigation of such claims with the conclusion, in 1906, of a treaty recognizing the respective rights of both parties to the equitable use of the waters of the Rio Grande.[18]

The limited territorial sovereignty approach arose from a meta-juridical and factual analysis carried out under different methodologies, such as international relations theory, game theory, contract legal theory and economic legal analysis, with the idea that collective and coordinated use and management of transboundary watercourses through cooperation between co-riparians is the key to their optimal utilization by all parties concerned and, from a utilitarian standpoint, is preferable to unilateralism.[19] This approach has been translated

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[13] In his introduction to a collective publication on the law of international drainage basins, Olmstead maintains that the basic function of general international law in the field of transboundary watercourses is to "prescribe limitations upon the conduct of a State as its conduct affects the interests of a co-basin State in the international river or drainage basin" (Cecil J. Olmstead, "Introduction", in Albert Henry Garretson and others, eds., *The Law of International Drainage Basins* (Dobbs Ferry, New York, Oceana Publications, 1967), p. 2).

[14] The relevant passage of the opinion of Attorney-General Harmon, referring to the dispute between the United States of America and Mexico on the use of the Rio Grande reads: "The case presented is a novel one …. [T]hat question should be decided as one of policy only because, in my opinion, the rules, principles and precedents of international law impose no liability or obligation upon the United States"; reprinted in John Basset Moore and Francis Wharton, eds., *A Digest of International Law*, (Washington, D.C., U.S. Government Printing Office, 1906), p. 654. For a recent and thorough study of the Harmon Doctrine, see Stephen C. McCaffrey, "The Harmon Doctrine one hundred years later: Buried, not praised", in *Natural Resources Journal*, vol. 36 (1996), pp. 549–590.

[15] For a thorough description and critical discussion of both theories, see Friedrich Joseph Berber, *Rivers in International Law* (London, Stevens, 1959), pp. 11–22. See also Julio Barberis, *Los recursos naturales compartidos entre Estados y el Derecho Internacional* (Madrid, Tecnos, 1979), pp. 16–20; Lucius Caflisch and Grigorij Ivanovič Tunkin, *Règles générales du droit des cours d'eau internationaux* (Dordrecht, Martinus Nijhoff, 1992), pp. 48–54; Attila Tanzi and Maurizio Arcari, *The New York Convention on International Watercourses. A Framework for Sharing* (London, Kluwer Law International, 2001), pp. 11–22, and Stephen C. McCaffrey, *The Law of International Watercourses*. Second edition (Oxford, Oxford University Press, 2007), pp. 112–147.

[16] See Eduardo Jiménez de Aréchaga, *International Law in the Past Third of the Century* (Alphen aan den Rijn, Netherlands, Sijthoff et Noordhoff, 1978), p. 192.

[17] Herbert Arthur Smith, *The Economic Uses of International Rivers* (London, P.S. King and Son, 1931), p. 144. See also note 16 above, p. 192.

[18] Convention between the United States and Mexico on the Equitable Distribution of the Waters of the Rio Grande, signed on May 21, 1906, available online at www.ibwc.state.gov/Files/1906Conv.pdf.

[19] See, Eyal Benvenisti, "Collective Action in the Utilization of Shared Freshwater: The Challenges of International Water Resources Law", in *American Journal of International Law*, vol. 90 (1996), pp. 384–415.

into international law through the "community of interests" concept which, as will be seen below, has long been accepted as the foundation of the basic principles of international water law.[20]

The emergence and consolidation of the concept in international law and diplomacy has been closely connected to developments ancillary to the principle of sovereignty, as illustrated by a number of decisions of international and national courts[21] whose scope was not confined to the use of transboundary waters. These decisions have consistently established the dual nature of the State's power over its territory, a power that involves not only rights, but also duties.[22] Particularly germane to the present analysis is the State's duty to exercise exclusive authority over its territory while respecting the sovereignty of other States by abstaining from acts that would cause significant damage to their territory (*sic utere tuo ut alienum non laedas*).[23]

This concept has been combined with the principle of the sovereign equality of States,[24] which, when applied to the field of transboundary fresh waters, implies that all concerned States enjoy within their territory equal rights in the use of such waters; thus, each State's right to utilization must respect and be coordinated with the correlative right to equitable use of the co-riparian State or States. In its landmark decision in the *River Oder* case, the Permanent Court of International Justice spelled out this concept in the following terms:

> The 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 State in relation to the others.[25]

More recently, in the *Gabčíkovo-Nagymaros* case, the International Court of Justice (hereinafter "the Court") referred to the above passage, stating that:

> Modern development of international law has strengthened this principle [of the community of interest in a navigable river among all riparian States] for the non-navigational uses of international watercourses as well, as evidenced by the adoption

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[20] For a thorough discussion of the limited territorial sovereignty approach to the use of transboundary freshwaters and the relevant case-law, see Jerome Lipper, "Equitable Utilization", in Garretson and others, note 13 above, pp. 23–38; Stephen C. McCaffrey, *Second report on the law of the non-navigational uses of international watercourses* (1986), in *Yearbook of the International Law Commission* (hereinafter "*Yearbook …*") *1986*, vol. 2, Part I, pp. 110–130; Ibid., note 15 above, pp. 149–171. See also Berber, note 15 above, pp. 25–40 and Caflisch and Tunkin, note 15 above, pp. 55–59.

[21] The principle of the equality of rights between riparians combined with the equitable use principle has been invoked repeatedly by the Supreme Court of the United States of America in, among others, *Kansas v. Colorado*, 206 *U.S.* 46, 97 (1907); *Connecticut v. Massachusetts*, 282 *U.S.* 660, 670–671 (1931); and *New York v. New Jersey*, 283 *U.S.* 336, 342 (1931). See also *Société énergie électrique du littoral méditerranéen v. Compagnia imprese elettriche liguri*, in which the Italian Court of Cassation stated that "International law recognizes the right on the Part of every riparian State to enjoy, as a participant of a kind of partnership created by the river, all the advantages deriving from it for the purpose of securing the welfare and economic and civil progress of the nation" (*International Law Reports: Annual Digest of Public International Law Cases, 1938–1940*, vol. 9 (1942), pp. 120–123).

[22] "Territorial sovereignty … involves the exclusive right to display the activities of a State. This right has as a corollary a duty: the obligation to protect within the territory the rights of other States …. Territorial sovereignty cannot limit itself to its negative side, i.e. to excluding the activities of other States" (*Island of Palmas* case (Netherlands v. USA), 3 January 1925, in *Reports of International Arbitral Awards*, vol. II, p. 839).

[23] In the *Corfu Channel* case (*United Kingdom v. Albania*), the International Court of Justice referred to "every State's obligation not to allow knowingly its territory to be used for acts contrary to the rights of other States" (*Corfu Channel case, Judgment of 9 April 1949, I.C.J. Reports 1949,* p. 22). See also the *Trail Smelter* case (United States v. Canada), in which the Arbitral Tribunal stated that "under the principles of international law … no State has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence" (*Reports of International Arbitral Awards*, vol. III, p. 1965). More recently, the International Court of Justice stated that "[t]he existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now Part of the corpus of international law relating to the environment" (*Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, I.C.J. Reports* 1996, pp. 241–242). The principle of the non-harmful use of a State's territory is also endorsed in Principle 21 of the Declaration of the United Nations Conference on the Human Environment (the "Stockholm Declaration") (A/Conf.49/14/Rev.1, reprinted in *International Legal Materials*, vol. 11 (1972), pp. 1416–1469, at 1420, and in Principle 2 of the Rio Declaration on Environment and Development, in *International Legal Materials*, vol. 31 (1992), pp. 876.

[24] See, in general, A. Tanzi, "Remarks on Sovereignty in the Evolving Constitutional Features of the International Community", in Mahnoush H. Arsanjani and W. Michael Reisman, eds., *Looking to the Future: Essays on International Law in Honor of W. Michael Reisman* (Leiden and Boston, Martinus Nijhoff, 2011), pp. 299–322.

[25] *Case relating to the Territorial Jurisdiction of the International Commission of the River Oder (United Kingdom, Czechoslovakia, Denmark, France Germany and Sweden v. Poland)*, Permanent Court of International Justice, Judgment of 10 September 1929, in *Publications of the Permanent Court of International Justice Series A – No. 23*, para. 74.

> of the Convention of 21 May 1997 on the Law of Non-Navigational Uses of International Watercourses by the United Nations General Assembly.[26]

In line with this reasoning, in the 1957 *Lake Lanoux* case between France and Spain, the Arbitral Tribunal emphasized that:

> … according to the rules of good faith, the upstream State is under the obligation to take into consideration the various interests involved, to seek to give them every satisfaction compatible with the pursuit of its own interests, and to show that in this regard it is genuinely concerned to reconcile the interests of the other riparian State with its own.[27]

It appears from the above citations that the basic principles of international water law simply adjust and apply to the regulation of competing claims over transboundary waters the international constitutional principles of sovereign equality[28] and good faith[29] or, in this context, the principles of the non-abuse of rights and good neighbourliness. According to the former doctrine, "a State may not exercis[e] a right … in a way which impedes the enjoyment by other States of their own rights".[30] The same goal is pursued through the general principle of good neighbourliness since, as maintained by the Swiss Federal Tribunal at the beginning of the twentieth century, "the principle of law of *voisinage* holds to the effect that the exercise of one's own rights should not prejudice the rights of one's neighbours".[31]

These are the conceptual underpinnings from which the three basic rules of the law of international freshwaters have emerged as codified in intergovernmental and non-governmental instruments under the auspices of the International Law Association,[32] the ECE and the Commission: namely, each State's duty not to cause significant harm to other riparian States in the use of an international watercourse; the principle that entitles and requires each State to make equitable and reasonable utilization of transboundary waters; and the general obligation of cooperation between watercourse States as a means to proper implementation of the aforementioned substantive rules and principles.

The two Conventions represent the most authoritative codification and development of these basic principles of contemporary international water law.

2.1 Combining the original economic rationale of the international law process with environmental concerns

International water law has long addressed the purely economic concerns expressed through competing claims of co-riparians regarding apportionment of the quantity of water running through an international watercourse while neglecting water quality concerns: "For millennia, people have used waters as a convenient sink into which to dump wastes".[33]

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[26] *Gabčíkovo-Nagymaros Project (Hungary/Slovakia)*, Judgment, *I.C.J. Reports* 1997, p. 56.

[27] *Lake Lanoux Arbitration (Spain v. France)*, 16 November 1957. Original French text in *Reports of International Arbitral Awards*, vol. XII; translated in *International Law Reports*, vol. 24 (1961), para. 22.

[28] See Tanzi, note 24 above.

[29] On good faith as a constitutional principle in the international legal system, see Robert Kolb, *La bonne foi en droit international public: contribution à l'*étude des principes g*énéraux de droit* (Paris, Presses Universitaires de France, 2000); see also Markus Kotzur, "Good Faith (Bona fides)", in *Max Planck Encyclopedia* (note 10 above), vol. IV, pp. 508–516.

[30] Alexandre Kiss, "Abuse of Rights", in *Max Planck Encyclopedia* (note 10 above), vol. I, pp. 20–26. For a thoroughly documented reconstruction of the link between the principles of good faith, good neighbourliness, no-harm and equitable utilization and participation, see Caflish, note 15 above, p. 135.

[31] English translation of the judgment in a dispute between the cantons of Argovia and Solothurn (1900) by Dietrich Schindler, "The Administration of Justice in the Swiss Federal Court in Intercantonal Disputes", in *American Journal of International Law*, vol. 15 (1921), pp. 172–173.

[32] On the International Law Association and its contribution to the promotion and consolidation of international water law, see Charles B. Bourne, "The International Law Association's Contribution to International Water Resources Law", in *Natural Resources Journal*, vol. 36 (1996), pp. 155–216; and McCaffrey, note 15 above, pp. 492–494. On the contribution of non-governmental organizations, and particularly the International Law Association, to the codification of international water law, see Tanzi and Arcari, note 15 above, pp. 32–34.

[33] Report of the Secretary-General on a comprehensive assessment of the freshwater resources of the world, 4 February 1997 (E/CN.17/1997/9), para. 51.

Scientific research in the last decades of the twentieth century showed that the uses of watercourses could affect, and be affected by, processes related to other natural elements, such as soil degradation and desertification,[34] deforestation[35] and climate change.[36]

As will be illustrated in greater detail below, both Conventions have updated international water law by incorporating in different fashions, and to different degrees, some of the major developments in environmental law prior to the 1992 United Nations Conference on Environment and Development (hereinafter the "Rio Conference"), particularly with regard to the sustainable development principle and its implications.[37]

This principle expresses the interdependence of, rather than conflict between, environmental concerns and economic goals.[38] For example, an environmentally unsustainable use of a watercourse will become economically unsustainable as well.[39] As stated by the Court in the *Gabčíkovo-Nagymaros* case:

> [N]ew norms and standards have been developed, set forth in a great number of instruments over the last two decades. Such norms have to be taken into consideration, and such new standards given proper weight, not only when States contemplate new activities but also when continuing with activities begun in the past. This need to reconcile economic development with protection of the environment is aptly expressed in the concept of sustainable development.[40]

This implies the merging of international environmental law and international economic law, regardless of whether the latter is based on a bilateral treaty or other source of international law. In commenting on this passage, Stephen McCaffrey emphasizes the importance of the Court's recognition of "an environmental imperative so powerful that it requires that new [environmental] norms and standards be taken into account … [o]therwise economic development would not be sustainable".[41]

This integrated approach to economic and environmental concerns was further corroborated by the Court in 2010, in relation to the equitable use principle, in the *Pulp Mills* case:

> The Court considers that the attainment of optimum and rational utilization requires a balance between the Parties' rights and needs to use the river for economic and commercial activities on the one hand, and the obligation to protect it from any damage to the environment that may be caused by such activities, on the other.[42]

In addition to economic and legal policy considerations, the interdependence of environmental and economic factors concerning the use of a watercourse also derives from the interdependence of the quantity and quality of the water running through it. A utilization that leads to a significant reduction in the water flow will inevitably affect its quality by diminishing its self-purification capacity; conversely, significant pollution

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34 See Peter H. Gleick, ed., *Water in Crisis: A Guide to the World's Fresh Water Resources* (Oxford and New York, Oxford University Press, 1993), particularly pp. 273–274. See also note 33 above, paras. 67–68.

35 For a discussion of the relationship among watercourses and forests, see Nigel Bankes, "International Watercourse Law and Forests", in Canadian Council on International Law, *Global Forests and International Environmental Law* (London, The Hague and Boston, 1996), pp. 137–144.

36 See G. Goldenman, "Adapting to Climate Change: A Study of International Rivers and Their Legal Arrangements", in *Ecology Law Quaterly*, vol. 17 (1990), pp. 743–748; and Gleick (note 34 above), pp. 106–108.

37 On the general shift of international water law towards addressing environmental concerns, see Owen McIntyre, *Environmental Protection of International Watercourses under International Law* (Farnham, United Kingdom, Ashgate Publishing, 2007), pp. 198–221. See also Johan G. Lammers, *Pollution of International Watercourses: Search for Substantive Rules and Principles of Law* (The Hague and Boston, Martinus Nijhoff, 1984); André Nollkaemper, The Regime for Transboundary Water Pollution: Between Discretion and Constraint (Dordrecht, Martinus Nijhoff, 1993); Tanzi, note 15 above, pp. 246–270; McCaffrey, note 15 above, pp. 448–453; Stephen E. Draper and James E. Kundell, "Impact of Climate Change on Transboundary Water Sharing", in *Journal of Water Resources Planning and Management*, vol. 133 (2007), pp. 405–415.

38 On the principle of sustainable development as applied to international water law, see Ximena Fuentes, "Sustainable Development and the Equitable Utilization of International Watercourses", in *British Yearbook of International Law*, vol. 69, 1998, pp. 119–200. See also Alistair Rieu-Clarke, *International Law and Sustainable Development: Lessons from the Law of International Watercourses* (London, International Water Association Publishing, 2006); and McIntyre, note 37 above, p. 363.

39 "Freshwater ecosystems are not just a Part of the environment; they are Part of our economies as well. The prospects for human well-being today are bound up in their faith." (Janet N. Abramovitz, "Sustaining Freshwater Ecosystems", in Lester R. Brown and others, eds., *State of the World 1996* (New York, Norton, 1996), p. 77).

40 See note 26 above, para. 140.

41 See McCaffrey, note 15 above, p. 382.

42 *Pulp Mills on the River Uruguay* (Argentina v. Uruguay), Judgment, *I.C.J. Reports* 2010, p. 175.

of a watercourse reduces the availability of significant amounts of water that could otherwise be allotted to important uses, even if the quantity of the flow remains unaffected. For example, the use of water for agriculture or recreation is prevented, reduced or rendered significantly more costly where another use, such as for industrial purposes, significantly pollutes the same water. This is all the more true of uses that meet vital human needs, such as drinking water, which take priority over other factors in assessing the equitable and reasonable character of a given use, as will be further illustrated below. This was emphasized in legal scholarship more than thirty years ago.[43]

2.1.1 Economic versus environmental concerns in the two Conventions

In the light of these general considerations, it is important to assess how each of the two Conventions integrates environmental concerns into the original economic and water-quantity focus of the international water law process. It is not uncommon to hear that the ECE Water Convention focuses primarily on water quality issues, while the United Nations Watercourses Convention is more concerned with the apportionment of water. However, it can also be argued that the difference between the two Conventions is simply one of emphasis or drafting. Apart from the more detailed analysis of the scope of the two Conventions that will follow, this position is supported by the aforementioned physical interdependence of water quantity and quality issues.[44] Accordingly, from a purely legal standpoint, any regulation addressing either of these aspects will inevitably affect the other as well.

2.1.2 Environmental concerns in the Economic Commission for Europe water process

Since the 1960s, ECE has been at the forefront in promoting a shift from the traditional focus on equitable apportionment in the international regulation of transboundary waterways to an integrated approach to water management and protection at both the transboundary and the domestic levels. Such an approach also encompasses the relationship between water and other environmental components — i.e. vegetation, wetlands and associated wildlife and habitats in riparian countries — of the ecosystems of watercourses. In the 1970s and 1980s, this approach was reflected in a number of ECE watercourse declarations and recommendations that were based on a geographical approach to their scope which was no longer determined solely by political and jurisdictional borders, but primarily by ecosystem boundaries.[45]

Since the end of the 1980s, in anticipation of the outcome at the global level of the 1992 Rio Conference, ECE has increasingly considered environment and development as two sides of the same coin; since 1987, its policy recommendations and guidelines have focused primarily on sustainable water management and protection of the environment against pollution from point and non-point sources. This was the rationale of

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43 See Giorgio Gaja, "River Pollution in International Law", in Hague Academy of International Law, *Colloquium on The Protection of the Environment and International Law* (Brill and Martinus Nijhoff, Leiden and Boston, 1975), pp. 371 and 377 ff.; more recently, Brunnée and Toope have observed that "… the very distinction between water quantity and water quality that underlies much of the existing conflict analysis is of limited relevance to a model of environmental security aimed at protecting ecological balance and allowing for sustainable human development. Arguably, even under the traditional conflict framework, the explanatory power of the distinction is not compelling. Conflicts caused by water quantity problems and those caused by water quality degradation may not actually result in differing patterns of State behaviour, for, in both cases, access to usable water ultimately becomes constrained" (Jutta Brunnée and Stephen J. Toope, "Environmental Security and Freshwater Resources: A Case for International Ecosystem Law", in *Yearbook of International Environmental Law*, vol. 5 (1994), p. 47). See also Lammers, note 37 above.

44 See section 2.1 above.

45 See, among other things, the Commission's recommendations on long-term planning of water management (1976); water pollution from animal production (1981); and rational use of water in industrial processes (1987); its 1980 Declaration of Policy on Prevention and Control of Water Pollution, including Transboundary Pollution; and its 1986 Decision on Co-operation in the field of Transboundary Waters. See also *Two Decades of Cooperation on Water: Declarations and Recommendations by the Economic Commission for Europe* (New York, United Nations, 1988); and *ECE Water Series No. 1: Protection of Water Resources and Aquatic Ecosystems* (New York, United Nations, 1993). The ecosystemic approach continued to characterize the elaboration of ECE standards and guidelines in the field in the following years; see *ECE Water Series No. 2: Protection and Sustainable Use of Waters* (New York, United Nations, 1995) and the Convention on the Protection and Use of Transboundary Watercourses and International Lakes, adopted at Helsinki in 1992. As Teclaff puts it, "[t]he ever-broadening scope of modern basin planning in an environmental context indicates progress toward a perception of the basin as an ecosystem. To look upon a river or lake basin as an ecosystem means to view it not merely as a unit in which water resources are interlinked, but as a unit in which many elements of the environment (fresh water, salt water, air, land and all forms of life) interact within the confines of the drainage area" (Ludwik A. Teclaff, "The River Basin Concept and Global Climate Change", in *Pace Environmental Law Review*, vol. 8 (1991), p. 370).

the 1989 Charter on ground-water management[46] and the 1990 Code of Conduct on Accidental Pollution of Transboundary Inland Waters.[47]

Building on the above instruments, despite their non-legally-binding nature, and on the growing consensus by the ECE countries that such instruments could provide authoritative terms of reference for their individual and joint water policies, the ECE Water Convention was adopted on 17 March 1992 and entered into force on 6 October 1996. In line with the above, and with environmental agreements in general, the obligation to prevent, control and reduce transboundary impact is a clear element of the Convention.[48] On the one hand, as will be illustrated below, this general obligation has been appropriately codified as one of the constituent elements of the equitable use principle while, on the other, its codification was carefully crafted in order to combine it with the ecosystem approach[49] and the precautionary,[50] polluter-pays[51] and sustainable development principles.[52] In order to complement this due diligence obligation[53] with objective parameters, the Convention provides for the preparation of an environmental impact assessment,[54] the establishment of water-quality objectives, the adoption of water-quality criteria[55] and, ultimately, the development and implementation of best environmental practices for the reduction of nutrient and hazardous substance inputs from diffuse sources. The incorporation into the Convention of these principles, now consolidated in the body of contemporary environmental law and, as stated by the Court,[56] largely applicable to international

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46 Adopted by ECE at its forty-fourth session by decision E (44) (E/ECE/1197–ECE/ENVWA/12).

47 Adopted by ECE at its forty-fifth session by decision E (45) (E/ECE/1225–ECE/ENVWA/16).

48 Art. 2, para. 1.

49 Ibid., art. 2, para. 2 (d) and art. 3, para. 1 (i).

50 See Meinhard Schröder, "Precautionary Approach/Principle" in, *Max Planck Encyclopedia* (note 10 above), vol. VIII, pp. 400–405; David Freestone, "The Precautionary Principle", in R. R. Churchill and David Freestone, eds., *International Law and Global Climate Change* (Dordrecht, Martinus Nijhofff, 1991), pp. 21–39; and David Freestone and Ellen Hey, eds., *The Precautionary Principle and International Law: The Challenge of Implementation* (The Hague, Kluwer Law International, 1996). On the consolidation of the precautionary principle as a rule of general customary law, see Harald Hohmann, *Precautionary Legal Duties and Principles of Modern International Environmental Law* (London, Graham and Trotman, 1994); Philippe Sands, *Principles of International Environmental Law* (Cambridge, Cambridge University Press, 2003), pp. 217–228, and James Cameron and Juli Abouchar, "The Status of the Precautionary Principle in International Law", in Freestone and Hey (above), pp. 29–52; Andrea Bianchi and Marco Gestri, *Il principio precauzionale nel diritto internazionale e comunitario* (Milan, Giuffrè, 2006); Nicolas De Sadeleer, "The Precautionary Principle as a Device for Greater Environmental Protection: Lessons from EC Courts", in *Review of European Community and International Environmental Law*, vol. 18 (2009), pp. 3–10; Joakim Zander, *The Application of the Precautionary Principle in Practice: Comparative Dimensions* (Cambridge, United Kingdom, Cambridge University Press, 2010); And Luciano Butti, *The Precautionary Principle in Environmental Law: Neither Arbitrary nor Capricious if Interpreted with Equilibrium* (Milan, Giuffrè, 2007). A more cautious stance is taken by Günther Handl, "Environmental Security and Global Change", in *Yearbook of International Environmental Law*, vol. 1 (1990), pp. 22–24 and by Patricia W. Birnie and Alan E. Boyle, *International Law and the Environment* (Oxford, United Kingdom, Clarendon Press, 1992), p. 98.

51 See Alan Boyle, "Polluter Pays", in *Max Planck Encyclopedia* (note 10 above), vol. VIII, pp. 341–347; Priscilla Schwartz, "The Polluter-pays Principle", in Malgosia Fitzmaurice, David M. Ong and Panos Merkouris, eds., *Research Handbook on International Environmental Law* (Cheltenham, United Kingdom, Edward Elgar, 2010), pp. 243–261.

52 Art. 2, para. 5 (a)–(c), respectively. See Winfried Lang, ed., *Sustainable Development and International Law* (London, Graham and Trotman, 1995). With specific reference to international watercourses, see Brunnée and Toope, note 43 above, pp. 65–68; Ellen Hey, "Sustainable Use of Shared Water Resources: The Need for a Paradigmatic Shift in International Watercourse Law", in Gerald Henry Blake and others, eds., *The Peaceful Management of Transboundary Resources* (London and Boston, Graham and Trotman/Martinus Nijhoff, 1995), pp. 127–153.

53 See Ricardo Pisillo Mazzeschi, "The Due Diligence Rule and the Nature of International Responsibility of States", in *German Yearbook of International Law*, vol. 35 (1992), p. 36; and, more recently, Robert p. Barnidge Jr., "The Due Diligence Principle under International Law", in *International Community Law Review*, vol. 8 (2006), pp. 81–121; and Timo Koivurova, "Due Diligence", in *Max Planck Encyclopedia* (note 10 above), vol. III, pp. 236–247.

54 Art. 3, para. 1 (h). On this point, the ECE Water Convention builds on the 1991 Espoo Convention on Environmental Impact Assessment in a Transboundary Context. On the requirement of a "previous environmental impact assessment", considered instrumental in the adoption of the appropriate measures of prevention, control and reduction of transboundary harm, see Birnie and Boyle (note 50 above), p. 93; and Phoebe N. Okowa, "Procedural Obligations in International Environmental Agreements", in *British Yearbook of International Law*, vol. 67 (1998), pp. 279–280 and 332–330. This position is confirmed by the International Court of Justice in the *Pulp Mills* case: "[I]t may now be considered a requirement under general international law to undertake an environmental impact assessment where there is a risk that the proposed industrial activity may have a significant adverse impact in a transboundary context, in particular, on a shared resource. Moreover, due diligence, and the duty of vigilance and prevention which it implies, would not be considered to have been exercised, if a party planning works liable to affect the régime of the river or the quality of its waters did not undertake an environmental impact assessment on the potential effects of such works" (note 42 above, para. 204).

55 *Pulp Mills on the River Uruguay* (note 42 above), para. 3. See also the Guidelines for developing water-quality objectives and criteria, contained in Annex III to the Convention.

56 See the general statement to that effect in the *Gabčíkovo-Nagymaros* case (note 26 above). On procedural obligations, and particularly the obligation to provide information and an environmental impact assessment, see the judgment in the *Pulp Mills* case (note 42 above), paras. 80–122 and 203–219).

water law, must be viewed in the context of the date of the Convention's adoption, three months prior to the Rio Conference.[57]

Through its institutional framework nature, derived from environmental diplomacy within the Meeting of the Parties and its subsidiary organs, the Convention led to further specific regulation that addresses environmental concerns linked to the basic human right to health and to an adequate standard of living with the adoption of the 1999 Protocol on Water and Health.[58] The main aim of the Protocol is to protect human health and well-being through improved water management, including by protecting water ecosystems and preventing, controlling and reducing water-related diseases; in addition to enhancing the focus on vital human needs, it complements significantly the Convention's provisions on environmental protection.

2.1.3 Environmental concerns in the United Nations Watercourses Convention

There have been mixed interpretations of the manner in which the United Nations Watercourses Convention and the Commission, during the *travaux préparatoires*, have addressed environmental issues.[59] The question of the pollution of international watercourses was taken up by the Commission at the outset of its work on the topic in accordance with governments' replies to a questionnaire submitted to States in 1974.[60] The specific subject of pollution and, more generally, that of environmental protection of international watercourses are dealt with extensively in the reports of the first two Special Rapporteurs on the topic, Stephen Schwebel and Jens Evensen.[61] At its thirty-fifth session in 1983, when it took up the issue of the relevance of environmental protection to international water law, and therefore to the draft articles, the Commission recognized that Chapter IV of the outline prepared by Special Rapporteur Evensen ("Environmental protection, pollution, health hazards, regulation and safety, use preferences, national or regional sites") "dealt with a vital and important issue relating to international watercourses".[62] However, it was not until 1988 that it held an extensive debate

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57 Peter H. Sand, "UNCED and the Development of International Environmental Law", in *Yearbook of International Environmental Law*, vol. 3 (1992), pp. 3–17.

58 The need to address both environmental and human rights concerns in an integrated manner is appropriately emphasized in the third preambular paragraph of the Protocol, which states "… that surface waters and groundwater are renewable resources with a limited capacity to recover from adverse impacts from human activities on their quantity and quality, that any failure to respect those limits may result in adverse effects, in both the short and long terms, on the health and well-being of those who rely on those resources and their quality, and that in consequence sustainable management of the hydrological cycle is essential for both meeting human needs and protecting the environment". For an analysis of the main features of the Protocol that emphasizes its consistency with the main tenets of the basic right of access to water and sanitation and with regulatory concerns regarding vital water-related human needs under both water law and human rights law, see Attila Tanzi, "Reducing the Gap between International Water Law and Human Rights Law: The ECE Protocol on Water and Health", in *International Community Law Review*, vol. 12 (2010), pp. 267–285.

59 "The Commission finalized its articles at a moment when international water law is about to venture in new directions. The agenda for future discourse of water law has already been set and there is little doubt that that will converge around the notion of protection of vital human needs, ecosystem protection and sustainability. However, the authority for these developments, mostly dating from the 1980's, emerged too late for the Commission, which stuck to the convenient doctrine of equitable use" (André Nollkaemper, "The contribution of the International Law Commission to international water law: does it reverse the flight from substance?", in *Netherlands Yearbook of International Law*, vol. 27 (1996), p. 53. See also David D. Caron, "The Frog that Wouldn't Leap: The International Law Commission and Its Work on International Watercourses", in *Colorado Journal of International Environmental Law and Policy*, vol. 269 (1992), pp. 269–279; Hey, note 52 above; and Brunnée and Toope, note 43 above, p. 5.

60 In their replies to the questionnaire sent by the Commission in 1976, 13 States (Brazil, Colombia, Ecuador, Finland, the Federal Republic of Germany, Hungary, Indonesia, the Netherlands, the Philippines, Poland, Spain, Sweden and the United States of America) replied affirmatively to the question, "Are you in favour of the Commission taking up the problem of pollution of international watercourses as the initial stage of its study?", while 7 States (Argentina, Austria, Canada, France, Nicaragua, Pakistan and Venezuela) replied in the negative (*Yearbook … 1976*, volume II, Part One, pp. 147–183). In the following years, three States (the Libyan Arab Jamahiriya, Swaziland and Yemen) replied affirmatively to that question (*Yearbook … 1978*, vol. II, Part One, p. 260). In 1979, Yugoslavia also replied to the questionnaire and, pointing out the great importance attached to the question of pollution of international watercourses and, in the same context, to the protection of the environment, spoke in favour of a simultaneous treatment of the problem of pollution with the various forms of the use of international waters (*Yearbook … 1979*, vol. II, Part One, p. 181).

61 See the third report of the Special Rapporteur on the law of the non-navigational uses of international watercourses, Stephen Schwebel, in *Yearbook … 1982*, vol. II, Part One, pp. 122–151 (with a proposed draft article 10 that comprises 14 paragraphs and covers both the harmful pollution and environmental protection of international watercourses); and the first report of the Special Rapporteur on the law of the non-navigational uses on international watercourses, Jens Evensen, in *Yearbook … 1983*, vol. II, Part One, pp. 181–185 (with six proposed draft articles that cover the same issues).

62 *Yearbook … 1983*, vol. II, Part Two, para. 256.

on the issue at the instigation of the new Special Rapporteur, Stephen McCaffrey.[63] This led to the adoption, in 1990, of four draft articles on uses that may cause harmful pollution, which deal with the environmental protection of international watercourses.[64] The first of these draft articles sets out the general obligation to protect and preserve the ecosystems of international watercourses.[65] Paragraph (3) of the commentary to draft article 22 states that "the obligation to protect the ecosystems of international watercourses is a general application of the principle of precautionary action", stressing that "[t]ogether, protection and preservation of aquatic ecosystems help to ensure their continued viability as life-support systems, thus providing an essential basis for sustainable development".[66] This shows that the Commission was quite willing to link its work on the topic with the environmental principles and concepts that were being developed within the Rio Conference process at the time.

These draft articles remained untouched through the Commission's second reading in 1994 and, in 1996, came before the General Assembly, where a number of delegations felt that the environmental slant of the future Convention should be further enhanced. While the debate between supporters of the equitable utilization principle and those who favoured the no-harm rule continued, other delegations strongly objected to the inclusion in the Convention of any reference to environmental protection[67] and sought to reduce to a minimum, or to eliminate entirely, any reference to the ecosystem protection of international watercourses.

The notion of "ecosystem" became one of the main bones of contention during those negotiations, particularly during informal consultations.[68] Eventually, the importance of international watercourses as Part of the natural environment was recognized and given a weight equal to that of their uses;[69] article 20 ("Protection and preservation of ecosystems") makes an express reference to the notion.[70] Also noteworthy is the codification of the equitable use principle in article 5, which also incorporates the concept of sustainable development.

Article 1, paragraph l, of the United Nations Watercourses Convention ("Scope of the present Convention") provides that it applies to "uses … for purposes other than navigation and to measures of protection, preservation and management related to the uses of … watercourses and their waters"; these issues are addressed specifically in Part IV (arts. 20–26) of the Convention and the aforementioned language is instrumental in placing the instrument's provisions on water quantity and water quality on the same footing. Such an approach was much needed; when the Commission began its consideration of the topic, more than 20 years before the completion of its work, the main focus in this field was on the equitable apportionment of freshwater. Indeed, article l, paragraph l, can be said to provide the basis for the structural link between the core principles of equitable utilization and no-harm (arts. 5–7), on the one hand, and the water quality issues (also addressed in arts. 5–7 and further developed in Part IV on protection, preservation and management) on the other. In that connection, it should be noted that the articles contained in Part IV address not only pollution, but also water quantity, including apportionment. Conversely, the equitable utilization and no-harm rules govern not only questions of water apportionment, but pollution as well.

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63 For the proposals submitted by the Special Rapporteur at the fortieth session of the Commission, see the fourth report of the Special Rapporteur on the non-navigational uses of international watercourses, Stephen McCaffrey, in *Yearbook … 1988*, vol. II, Part One, paras. 28–91. At the same session, the Commission referred draft articles 16 and 17, proposed by McCaffrey and dealing, respectively, with "Pollution of international watercourse[s]" and "Protection of the environment of international watercourse[s]" (Ibid., pp. 237 and 243), to the Drafting Committee for consideration in the light of its consideration of the issues. (*Yearbook … 1988*, vol. II, Part Two, paras. 129–199). For full coverage of the Commission's debates, see the summary records of the 2062nd to 2068th and 2076th meetings, in *Yearbook … 1988*, vol. I, pp. 121–168 and 226–229.

64 See draft articles 22 to 25 (later draft articles 20 to 23), and the commentaries thereto in *Yearbook … 1990*, vol. II, Part Two, pp. 57–65.

65 Draft article 22, (later draft article 20) (Ibid., p. 57).

66 Ibid., p. 58 and note 179 (on precautionary action). According to paragraphs (1) to (6) of the commentary to draft article 23 (later draft article 21), application of the principle of precautionary action includes the obligation to prevent harmful pollution of international watercourses (Ibid., pp. 61–62).

67 In the Sixth Committee, during the fifty-first session of the General Assembly (1997), the representative of China stated that "the objective of the Convention was to make a better use of international watercourses. It was not a convention on the protection of the environment" (A/C.6/51/SR.53, para. 119). The representative of Slovakia made a similar argument at a different meeting (A/C.6/51/SR.22, para. 8).

68 In 1997, the informal consultations on articles 20 and 22 were coordinated by the Permanent Representative of Bangladesh, Mr. A. K. H. Morshed, and the consultations on the preamble by the Permanent Representative of Venezuela, Mr. Jean-François Pulvenis; see the report of the Sixth Committee convening as the Working Group of the Whole (A/51/869), para. 5.

69 Ibid. (A/51/869), para. 8

70 For the relevant debate in the Sixth Committee in 1997, see A/C.6/51/SR.60, paras. 84–88. For the account of the debate on article 20 in the Working Group, see section 3.2 below.

The Commission's third Special Rapporteur on the topic, Stephen McCaffrey, has noted that, because the Convention is a framework agreement, "one cannot expect either the level of detail or the degree of 'Greenness' that one might find in a bilateral or regional instrument".[71] In fact, during the negotiations, the often-competing claims of co-riparians to specific international watercourses added to the divergences normally addressed in international multilateral environmental treaty-making.[72]

Be that as it may, the environmental standards that were ultimately established in the Convention after painstaking negotiations can be considered to represent the minimum standards below which any subjective interpretation or application of an equitable regime for watercourse utilization would be open to a legitimate claim of illegality. This holds true not only for the environmental protection provisions embodied in Part IV, but also for incorporation of the concept of sustainable development into the equitable use and participation principle as codified in article 5. Thus, the Convention establishes a minimum threshold below which mutually agreeable uses may not be legitimately negotiated.

The above reading of the United Nations Watercourses Convention with respect to environmental concerns will be corroborated and developed through an integrated interpretation of its relevant provisions in the light of the ECE Water Convention, in accordance with the principle of harmonization recalled at the outset of the present study.[73]

3. The physical scope of the Conventions

Assessment of the physical scope of the two Conventions entails identifying the geographical areas and hydrological and geological entities — and hence the human activities and the natural phenomena relating thereto — that fall within the regulatory scope of each instrument. In particular, such an assessment must determine first the areas in which the equitableness, reasonableness and potential transboundary impact of activities can be evaluated and then the areas and physical entities that may be adversely affected since activities relating thereto are subject to evaluation as to whether they are equitable and reasonable, to the obligation of harm prevention and to the duty of cooperation.

3.1 The Economic Commission for Europe Water Convention

Article 1, paragraph 1, of the ECE Water Convention, defines "transboundary waters" as "any surface or ground waters which mark, cross or are located on boundaries between two or more States". According to the *Guide to Implementing the Water Convention*, "Surface waters include waters collecting on the ground in a stream, river, channel, lake, reservoir or wetland".[74] While sea waters are excluded from the scope of the Convention, article 2, paragraph 6 requires the parties to protect "the environment of transboundary waters or the environment influenced by such waters, including the marine environment". In practice, this provision has been implemented to a considerable extent through subregional agreements negotiated under the auspices of the Convention in order to protect the recipient sea and coastal areas.[75]

Most importantly, the latter provision takes an integrated approach to determination of the physical scope of the Convention based on the concept of the catchment area, which, extending beyond the mere water body — e.g. a river or lake — includes "'other elements' of the environment, such as air, land, fauna and flora to the extent that [they] interact with the relevant transboundary watercourse or international lake".[76] The determination and definition of "groundwater" for the purpose of assessing the physical scope of the ECE Water Convention will be addressed separately below in comparison with the United Nations Watercourses Convention and the related process within the framework of the Commission's work.

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[71] Stephen McCaffrey, "The UN Convention on the Law of the Non-navigational Uses of International Watercourses: Prospects and Pitfalls", in Salman M.A. Salman and Laurence Boisson de Chazournes, eds., *International Watercourses: Enhancing Cooperation and Managing Conflict — Proceedings of a World Bank Seminar* (Washington, D.C., World Bank, 1998), p. 27.

[72] See Attila Tanzi, "Codifying the minimum standards of the law of international watercourses: remarks on Part one and a half", in *Natural Resources Forum*, vol. 21 (1997), pp. 199–117,

[73] See notes 1–6 above.

[74] *Guide to Implementing the Water Convention* (New York and Geneva, United Nations, 2013), para. 73.

[75] Ibid., para. 79.

[76] Ibid., para. 78.

From the perspective of contextual interpretation, the value of an integrated approach based on the above provisions is confirmed and, in holistic terms, further enhanced by the Convention's ecosystemic approach. The latter is indeed promoted there as a means of protection, control and reduction of transboundary impacts (art. 3, para. 1)[77] and for the conservation and restoration of ecosystems (art. 2, para. 2 (d)). As stated in the *Guide to Implementing the Water Convention*, "[a]lthough the Convention deals with transboundary waters, the term 'ecosystems' in this provision is not necessarily limited to transboundary ecosystems nor does it exclude other than aquatic and water-related ecosystems".[78]

This broad approach to the scope of the ECE Water Convention is further confirmed in functional terms by the definition of "transboundary impact" in article 1, paragraph 2, which becomes the focus of prevention, control and reduction throughout the instrument:

> "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.

It should be noted that no qualifier precedes the term "environment" as the object of the adverse effect and that the "area under the jurisdiction of another party" is presented as the source of the potential adverse effects. This language considerably widens the scope of the transboundary impact covered by the obligation of prevention established in the Convention.

This broad approach, which enhances the holistic approach taken by the Convention, is expressly articulated in the same paragraph of article 1:

> … Such effects on the environment include effects on human health and safety, flora, fauna, soil, air, water, climate, landscape and historical monuments or other physical structures or the interaction among these factors; they also include effects on the cultural heritage or socio-economic conditions resulting from alterations to those factors.

3.2 The United Nations Watercourses Convention

The United Nations Watercourses Convention establishes the geographical and hydrological scope of its rules using the term "watercourse", defined as "a system of surface waters and groundwaters constituting by virtue of their physical relationship a unitary whole and normally flowing into a common terminus" (art. 2 (a)). There is no denying that this language is restrictive by comparison with the overtly integrated and ecosystemic approach taken by the ECE Water Convention and with the drainage basin concept followed by the Institut de Droit International[79] and the International Law Association,[80] as well as by recent conventional practice in the field.[81]

[77] Paragraph 1 of article 3 ("Protection, Control and Reduction") reads: "To prevent, control and reduce transboundary impact, the Parties shall develop, adopt, implement and, as far as possible, render compatible relevant legal, administrative, economic, financial and technical measures, in order to ensure, *inter alia*, that: … (i) Sustainable water-resources management, including the application of the ecosystems approach, is promoted".

[78] See note 74 above, para. 117.

[79] Article 1 of the resolution on "Utilisation of Non-maritime International Waters (Except for Navigation)" adopted at the Salzburg session in 1961 (*Annuaire de l'Institut de Droit International*, vol. 49 (1961), pp. 381–384.

[80] Article II of the Helsinki Rules on the Uses of the Waters of International Rivers (1966) reads: "An international drainage basin is a geographical area extending over two or more States determined by the watershed limits of the system of waters, including surface and underground waters flowing into a common terminus" (International Law Association, *Report of the Committee on the Uses of the Waters of International Rivers* (London, International Law Association, 1967), also available online at www.internationalwaterlaw.org/documents/intldocs/Helsinki_Rules_with_comments.pdf). With regard to the material scope of the main principle embodied in the Helsinki Rules, i.e., equitable utilization, it should be noted that article IV establishes the right "to a reasonable and equitable share in the beneficial uses of the waters of an international drainage basin", not to the beneficial uses of the drainage basin itself. The International Law Association, in its subsequent and still ongoing efforts in the field, has enhanced this drainage basin concept by taking a comprehensive ecosystemic approach. *See*, in particular, article 1 of the Articles on the Relationship of International Water Resources with other Natural Resources and Environmental Elements (International Law Association, *Report of the Fifty-Ninth Conference*, Belgrade, 1980, pp. 374–375).

[81] See, among others, article 1 of the Agreement on the action plan for the environmentally sound management of the Common Zambesi River system of 28 May 1987 (Botswana, Mozambique, the United Republic of Tanzania, Zambia and Zimbabwe), in *International Legal Materials*, vol. 27 (1988), p. 1109; articles 1 and 3 of the Agreements on the Rivers Meuse and Scheldt of 26 April 1994 (Belgium, France and the Netherlands), in *International Legal Materials*, vol. 34 (1995), p. 851; article 3 of the Convention on Cooperation for the Protection and Sustainable Use of the River Danube (hereinafter the "Danube River Protection Convention") of 29 June 1994 (Austria, Bulgaria, Croatia, Germany, Hungary, Moldova, Romania, Slovenia and Ukraine), *Multilateral Agreements* 994:49; article 3 of the Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin of 5 April 1995 (Cambodia, Laos, Thailand and Vietnam), in *International Legal Materials*, vol. 34 (1995), p. 864; and article 1 of the Revised Protocol on Shared Watercourses Systems in the Southern African Development Community (SADC) Region of 7 August 2000.

However, extensive broader interpretation of the above definition emerges from a contextual reading in the light of the ECE Water Convention. The watercourse system terminology of the United Nations Watercourses Convention is broader than the traditional definition of "watercourse" as limited to the main arm of the river; it includes groundwaters, the "hydrologic system composed of a number of different components through which water flows, both on and under the surface of the land. These components include rivers, lakes, aquifers, glaciers, reservoirs and canals".[82] Furthermore, a contextual interpretation of the term "watercourse" in conjunction with other relevant provisions of the United Nations Watercourses Convention substantiates the conclusion that the drainage basin area falls within the scope of its rules[83] using the ecosystemic approach expressly adopted in Part IV, which is consistent with the ECE Water Convention.

The drainage basin area also comes into play in the United Nations Watercourses Convention as the area in which the harm-causing activity is carried out. Although the equitable utilization and no-harm principles are set out in articles 5, 6 and 7 without explicit reference to activities that may take place in the basin,[84] contextual support for an extensive interpretation may be found in Part IV ("Protection, preservation and management") and in the express reference to "protection" in article 5. article 21, paragraph 2, establishes an obligation to "prevent, reduce and control the pollution of an international watercourse that may cause significant harm to the other watercourse States". While this provision refers to the international watercourse as the hydrologic entity whose pollution should be prevented and makes no express reference to the geographic area constituted by the drainage basin, it does not confine the obligation of prevention to pollution from activities taking place on the watercourse.[85] An activity carried out in the drainage basin which pollutes an international watercourse or alters it to the extent that it may cause significant harm to other riparians is clearly covered by the obligation of prevention.[86]

Thus, a use of an international watercourse that harms the environment of a co-riparian, even beyond its watercourse, falls within the scope of the United Nations Watercourses Convention, particularly with regard to the obligations of protection and prevention established in Part IV. article 20 introduces the concept of the "ecosystems of international watercourses" as the object of the obligation to protect and preserve. Although this concept is not mentioned in Part II ("General principles", arts. 5–7), interpretation and application of the principle of equitable use must be "consistent with adequate protection of the watercourse" (art. 5, para. 2); the wording links this provision to Part IV, which encompasses the ecosystemic approach. Furthermore, since the Commission selected the term "ecosystem" as an alternative to "environment", which "… might be construed to refer only to areas outside the watercourse",[87] it may be inferred that the obligation of protection also covers land areas.[88]

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82 Para. (4) of the commentary to draft article 2, in *Yearbook … 1994*, p. 90.

83 Prior to the adoption of the Convention, Bankes complained that the General Assembly had asked the Commission to study, not international water basins, but only international watercourses: "[t]he law of the watercourse does indeed form the heart of the Commission's work, but the various special rapporteurs have sought to ensure that the ILC conceptualization of the watercourse is not isolated from hydrographic and ecological reality" (note 35 above, p. 144). For criticism of the Commission's apparently restrictive approach to the question, see Donald M. McRae, "The International Law Commission: Codification and Progressive Development after Forty Years" in *Canadian Yearbook of International Law*, vol. 25 (1987), pp. 355–368.; and Caron, note 59 above. For the Commission's attitude on the matter, see James L. Wescoat Jr., "Beyond the River Basin: The Changing Geography of International Water Problems and International Water Law", in *Colorado Journal of International Environmental Law and Policy*, vol. 3 (1992), pp. 301–332.

84 The scope of these provisions is confined to utilization of a watercourse: "Watercourse States shall in their respective territories utilize an international watercourse" (art. 5, para. 1); "Utilization of an international watercourse in an equitable and reasonable manner within the meaning of article 5" (art. 6, para. l); and "Watercourse States shall, in utilizing an international watercourse in their territories" (art. 7, para. 1).

85 The same consideration applies to the opening provision of Part IV, article 20: "Watercourse States shall individually and, where appropriate, jointly, protect and preserve the ecosystems of international watercourses".

86 This argument finds support in McCaffrey's interpretation of the relevant draft articles, which, for our purposes, were not changed by the Working Group in New York. Noting that certain governments' initial rejection of language that would expressly incorporate the drainage basin concept into the text of the Convention did not preclude retention of the drainage basin approach, he stated that "[t]he decision [to adopt that approach] was taken notwithstanding the fact that, as the articles adopted thus far demonstrate, it is almost impossible to exclude totally actions on land from the scope of the draft (except to the extent that they would have no effect, through an international watercourse, upon another watercourse State)". He added that "… the draft articles would apply, for example, to harm caused to State A by a plant located not on the bank of the international watercourse in State B, but at a distance therefrom, where the plant discharged toxic waste onto the land, and the waste made its way into the watercourse, ultimately harming State A" (seventh report of the Special Rapporteur on the law of the non-navigational uses of international watercourses, Stephen C. McCaffrey, in *Yearbook … 1991*, vol. II (Part One), p. 59).

87 The Commission goes on to define "ecosystem" as "an ecological unit consisting of living and non-living components that are interdependent and function as a community" (para. (2) of the commentary to article 20, in *Yearbook …1994*, vol. II (Part Two), p. 118).

88 For an argument to the contrary, based on a textual interpretation of article 1, paras. 1 and 2 (b), see Nollkaemper (note 59 above), p. 63.

As for the obligation to prevent harm resulting from pollution, the broad interpretative approach can be easily maintained since the Convention clearly establishes the obligation to prevent, reduce and control "the pollution of an international watercourse that may cause significant harm to other watercourse States or to their environment" (art. 21, para. 2).

This is the area in which a contextual interpretation of the two Conventions significantly enhances the potential for cross-fertilization between them. As anticipated, this approach, which finds its legal basis in the general rules on treaty interpretation codified in the Vienna Convention on the Law of Treaties (hereinafter "the Vienna Convention"),[89] is expressly corroborated by the will of the negotiating States in paragraph 9 of the Preamble to the United Nations Watercourses Convention, which recalls existing watercourse agreements.[90] Inevitably, the ECE Water Convention stands high on the list of international instruments based on the ecosystem approach[91] that lend themselves to contextual interpretation under article 31, paragraph 2, of the Vienna Convention.

In the light of the foregoing, it is arguable that the regulatory framework of the Conventions addresses (a) activities that may affect a watercourse, even where carried out outside the watercourse itself, and (b) activities that constitute uses of the watercourse that may affect elements of the environment outside it. This requires establishment of the interdependence between the water ecosystem and the ecosystem of the environment that is primarily affected or in which the activity has been carried out.

3.3 Groundwaters

There is no question that groundwaters fall within the scope of the ECE Water Convention, which defines "transboundary waters" as "any surface or groundwaters which mark, cross or are located on boundaries between two or more States" (art. 1, para. 1). However, this statement requires further qualification if one subscribes to the view that a distinction should be made between "related groundwater", i.e. groundwater that is hydrologically related to surface water (streams, lakes, reservoirs, wetlands and estuaries), on the one hand, and groundwater that is not related to surface water either directly, or indirectly through groundwater interacting with surface water, on the other.

Examples of "unrelated groundwater" are rare and involve greater specificity than groundwaters related to surface waters. In fact, the hydrological distinction between related and unrelated waters is debatable,[92] particularly from a holistic point of view. From the regulatory perspective, a case could be made that the distinction would depend on the "significance" of the interconnections between surface and ground waters and would thus require a hydrological assessment to determine whether an aquifer receives significant recharge from surface waters or significantly discharges to surface waters or other aquifers. If not, the aquifer would be defined as "confined groundwater". In legal terms, the question is whether different regulatory frameworks for confined and non-confined groundwaters are needed.

According to the ordinary meaning of the definition of "transboundary waters" in the ECE Water Convention (art. 1, para. 1), which is silent on this distinction, the scope of the Convention includes groundwater that interacts either directly or indirectly with surface transboundary watercourses, confined groundwater or aquifers. Thus, the principles and provisions of the Convention that are applicable to transboundary surface water also apply to both related and unrelated groundwater. This interpretation is confirmed by the ECE Guidelines on Monitoring and Assessment of Transboundary Groundwaters, adopted at the second session of the Meeting of the Parties at The Hague in 2000.[93] In particular, the Guidelines, in their explanatory notes,

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89 Art. 31, para. 2, provides that "[t]he context for the purpose of the interpretation of a treaty shall comprise … the text, including its preamble".

90 See note 9 above.

91 For a synthetic inventory of such instruments, see Brunné and Toope, note 43 above, pp. 50 ff.; and Richard Oliver Brooks and others, eds., *Law and Ecology: the Rise of the Ecosystem Regime* (Aldershot, United Kingdom and Burlington, United States of America, Ashgate, 2002).

92 For an alternative to this distinction, see Thomas C. Winter and others, *Ground Water and Surface Water, A Single Resource*: *U.S. Geological Survey Circular 1139* (Denver, Colorado, United States Geological Survey, 1998), p. 76.

93 See UN/ECE Task Force on Monitoring and Assessment, *Guidelines on Monitoring and Assessment of Transboundary Groundwaters* (Lelystad, RIZA, Institute for Inland Water Management and Waste Water Treatment, 2000), available online at www.unece.org/env/water/publications/documents/guidelinesgroundwater.pdf.

provide a wide range of variables affecting various characterizations of "transboundary aquifer systems", without distinction between related and unrelated groundwater; the only significant distinction is between surface waters and groundwaters.[94]

The *Guide to Implementing the Water Convention* clearly states that, for the purposes of establishing the scope of the Convention (art. 1, para. 1), "[g]roundwaters include all the water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil. … [T]he Convention includes both confined and unconfined aquifers".[95]

The same approach is followed in the *Model Provisions on Transboundary Groundwaters*, prepared by the Legal Board and the Core Group on Groundwater of the Water Convention and adopted at the Sixth Session of the Meeting of the Parties to the Water Convention in 2012.[96]

In the case of the United Nations Watercourses Convention, it is clear from the definition of "watercourse" as "a system of surface waters and groundwaters" (art. 2 (a)) that the scope of the instrument includes underground water-bearing strata.[97] This systemic approach takes due account of the interconnections between surface and underground waters with a view to integrated and rational management of fresh water resources in accordance with the guidelines set out in Chapter 18 of the Report of the United Nations Conference on Environment and Development (hereinafter "Agenda 21").[98]

While there is no question that even confined groundwaters fall within the scope of the ECE Water Convention, a different picture emerges from the United Nations Watercourses Convention: under article 2 (a), in order to be considered within the scope of the latter Convention, groundwaters must be connected with surface waters so as to constitute a "unitary whole".[99] Under a strictly textual interpretation, confined groundwaters, even if intersected by a boundary, lie outside the scope of the Convention, which can therefore be said

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[94] The same approach is followed in a consistent number of ECE soft-law instruments leading to the 1992 Helsinki Water Convention, including the 1980 Declaration of Policy on Prevention and Control of Water Pollution, Including Transboundary Pollution (ECE/WATER/38), the first principle of which affirms that "[t]he rational utilization of water resources, *both surface and underground*, as a basic element in the framework of long-term water management, should be viewed as an effective support to the policy of prevention and control of water pollution"; the 1982 Decision on International Cooperation on Shared Water Resources (ECE/WATER/38), which recognizes, in its first preambular paragraph, "the growing significance of economic, environmental and physical interrelationships between ECE countries, in particular where streams or lakes and related *ground water aquifers* cross or are located on international boundaries"; the 1984 Declaration of Policy on the Rational Use of Water, in which Principle 3 of the Principles of Rational Use of Water provides that "special emphasis should be given to … e) Coordinated utilization of both *surface water and ground water*, taking into account *their close interrelation*"; and the 1989 Charter on Groundwater Management (ECE/ENVWA/12), which invites States to undertake integrated management of surface and groundwater "while taking into account the distinguishing features of ground water as compared to surface water which necessitate *special protective measures for aquifers*" (emphasis added).

[95] See note 74 above, para. 73.

[96] *Model Provisions on Transboundary Groundwaters* (ECE/MP.WAT/40), available online at www.unece.org/fileadmin/DAM/env/water/publications/WAT_model_provisions/ece_mp.wat_40_eng.pdf. The Model Provisions were developed on the basis of two working papers: *Application of the UNECE Water Convention to groundwater and possible developments* (LB/2010/INF.2), available online at www.unece.org/fileadmin/DAM/env/water/meetings/legal_board/2010/Groundwater_discussion_paper_inf2.pdf); and *Study on the application of the Convention to groundwater: explicatory recognition of the existing United Nations Economic Commission for Europe regulatory language* (ECE/MP.WAT/WG.1/2012/3–ECE/MP.WAT/WG.2/2012/3), available online at www.unece.org/fileadmin/DAM/env/water/mop_6_Rome/Background_docs/ECE_MP.WAT_WG.1_2012_3_Groundwater_EN.pdf).

[97] On groundwaters in general, see Dante A. Caponera and Dominique Alhéritière, "Principles for International Groundwater Law", in Ludwik A. Teclaff and Albert E. Utton, eds. *International Groundwater Law* (New York and London, Oceana Publications, 1981), pp. 25–55; Albert E. Utton, "The Development of International Groundwater Law", in *Natural Resources Journal*, vol. 22 (1982), pp. 95–118; Ludwik A. Teclaff, "Principles for Transboundary Groundwater Pollution Control", in *Natural Resources Journal*, vol. 22 (1982), pp. 1065–1079; Julio Barberis, "Le régime juridique des eaux souterraines", in *Annuaire français de droit international*, vol. 33 (1987), pp. 129–162; Robert D. Hayton and Albert E. Utton, "Transboundary Groundwaters: The Bellagio Draft Treaty", in *Natural Resources Journal*, vol. 29 (1989), pp. 663–772; and McCaffrey, note 15 above, pp. 482–503. See also the 2011 special issue of the *International Community Law Review* on "Transboundary Aquifers and International Law".

[98] A/CONF.151/26. Paragraph 18.25 (d) establishes, as a specific objective "[t]o have all countries establish the institutional arrangements needed to ensure the efficient collection, processing, storage, retrieval and dissemination to users of information about the quantity and quality of available water resources at the level of catchments and groundwaters aquifers in an integrated manner". Paragraph18.39 (a) calls on States to "[t]o identify the surface and groundwaters resources that could be developed on a sustainable basis and other major developable water-dependent resources and, simultaneously, to initiate programmes for the protection, conservation, and rational use of these resources on a sustainable basis".

[99] As indicated by the Commission in paragraph (4) of the commentary to draft art. 2, "[i]t … follows from the unity of the system that the term 'watercourse' does not include 'confined' groundwater, meaning that which is unrelated to any surface water" (*Yearbook … 1994*, p. 90).

to fall short of the emerging general standards on the subject aimed at a genuinely integrated use and management of all water resources.[100]

3.3.1 The International Law Commission's draft articles on transboundary aquifers (2008) and the Economic Commission for Europe Model Provisions on Transboundary Groundwaters (2012)

Against this background, the International Law Commission returned to the topic of shared natural resources in 2002 and, in 2008, adopted the draft articles on the law of transboundary aquifers,[101] which the General Assembly considered in 2008, 2011 and 2013 and commended to the attention of governments in its resolution 68/118 (2013).[102]

In a departure from the *travaux préparatoires* of the United Nations Watercourses Convention, these draft articles refer not to "groundwater" or "confined groundwater" but to "aquifers", defined as "a permeable water-bearing geological formation underlain by a less permeable layer and the water contained in the saturated zone of the formation" (art. 2 (a)). This geological rather than hydrological approach to the topic has been considered debatable, including by the participants in the process leading to the Convention's adoption,[103] because it reintroduced sovereignty considerations that had long since been overcome in the international water law process. The debate was particularly heated in respect of draft article 3, which expressly states that "[e]ach aquifer State has sovereignty over the portion of a transboundary aquifer or aquifer system located within its territory".

It might seem that, as a matter of course, a State should be able to claim sovereignty over a geological formation located within its territory. On the other hand, the reference to sovereignty in the draft articles may appear uncalled-for in the light of the fact that the definition of "aquifer" includes the water contained in such a formation; that water is the subject of many conflicts of interest between States; and that no previous international codification instrument on transboundary waters expressly refers to sovereignty of this nature.

Be that as it may, the draft articles serve as a useful instrument for interpretation and application of the basic principles of international water law to confined groundwater. They confirm, specify and expand the existing rules of international water law with which they overlap, and the differences between the two are complementary. This is particularly true of problems relating to the identification of aquifers (which do not arise with surface waters), where the definitions established in draft article 2 ("Use of terms") are particularly useful.

This added value of the draft articles over the United Nations Watercourses Convention supports the basic principles established in the Convention in light not only of the hydrogeological specificities of groundwater, but also of its increasing importance owing to the growing worldwide concern regarding water scarcity, demographic growth and climate change. Inspired by the above rationale, the ECE *Model Provisions on*

[100] For an overview of these emerging trends, see the annex ("The law of the non-navigational uses of international watercourses: 'unrelated' confined groundwaters") to the second report of the Special Rapporteur on the Law of the Non-Navigational Uses of International Watercourses, Robert Rosenstock (*Yearbook … 1994*, vol. II, Part One), paragraphs 17–32. See also paragraph 1 of Annex III ("Protocol on Israeli-Palestinian Cooperation in Economic and Development Programmes") to the Israeli-Palestinian Declaration of Principles on Interim Self Government Arrangements, signed in Washington on 13 September 1993, in *International Legal Materials*, vol. 32 (1993), pp. 1525–1544; and article 40 of Annex III ("Protocol Concerning Civil Affairs") to the Israeli-Palestinian Interim Agreement on the West Bank and the Gaza Strip, signed in Washington on 28 September 1995, in *International Legal Materials*, vol. 36 (1997), p. 551. On this point, see Kevin p. Scanlan, "The International Law Commission's First Ten Articles on the Law of the Non-Navigational Uses of International Watercourses: Do They Adequately Address All the Major Issues of Water Usage in the Middle East?" in *Fordham International Law Journal*, vol. 19 (1995), pp. 2180–2229.

[101] See the report of the International Law Commission on the work of its sixtieth session (A/63/10), pp. 19–79.

[102] Resolution 68/118 (2013) in its preambular paragraph 3 also recalls the *Model Provisions on Transboundary Groundwaters*.

[103] See Stephen C. McCaffrey, "The International Law Commission Adopts Draft Articles on Transboundary Aquifers" in *American Journal of International Law*, vol. 103 (2009), p. 289. See also the critical approach taken by Owen McIntyre in "International water resources law and the International Law Commission Draft Articles on Transboundary Aquifers: A missed opportunity for cross-fertilisation?", in *International Community Law Review*, vol. 13 (2011), pp. 237–254. For a general overview, see Attila Tanzi, "Furthering International Water Law or Making a New Body of Law on Transboundary Aquifers? An Introduction", in *International Community Law Review*, vol. 13 (2011), pp. 193–208.

Transboundary Groundwaters reflect the language of the Commission's draft articles and thus constitute good practice in their implementation, albeit in general and framework terms.[104]

Because groundwater constitutes the overwhelming majority of the global water supply, it was felt that an effort should be made to fill the gap arising from the fact that most of the existing water agreements address groundwaters only nominally or contain few specific provisions on them.[105] While agreements specifically devoted to groundwaters exist, they are rare. Among these exceptions are the 2007 Convention on the Protection, Utilization, Recharge and Monitoring of the Franco-Swiss Genevese Aquifer, concluded between the communes of the Annemasse region, the Genevese communes and the commune of Viry, on the one hand, and the Republic and Canton of Geneva, on the other; and the 2010 Guarani Aquifer Agreement between the Republic of Argentina, the Federative Republic of Brazil, the Republic of Paraguay and the Eastern Republic of Uruguay.[106]

It is to be hoped that the draft articles and the Model Provisions, which are mutually compatible and hence mutually reinforcing, will increase diplomats' and lawmakers' awareness of the strategic importance of groundwater, particularly of a transboundary nature, and promote application of the normative pillars of international water law. To that end, the Model Provisions may be used by parties to the Convention when entering into or reviewing bilateral or basin-specific multilateral agreements or arrangements on transboundary groundwater. Such agreements may take the form of an additional protocol to an existing water agreement that makes no specific reference to groundwater, or a completely independent agreement; the latter would be particularly appropriate in the case of an agreement on groundwaters that are totally unrelated to surface waters. Obviously, the States concerned could adjust the Model Provisions according to their specific needs or elaborate more detailed or stringent provisions on a case-by-case basis.

The adoption of the Model Provisions is proof of the law-making productive nature of the relationship between hard and soft law[107] owing to the framework and institutional nature of the ECE Water Convention and to its Meeting of the Parties and subsidiary organs, which avail themselves of both legal and scientific expertise. Indeed, this has allowed for a relationship of full normative consistency between the ECE Water Convention and the Model Provisions, whereas the exercise that led to the adoption of the draft articles on transboundary aquifers, while separate from the one that produced the United Nations Watercourses Convention, has prompted concerns in some quarters as to its full consistency with the latter instrument.[108]

4. Substantive principles

Both Conventions codify the substantive regulatory pillars of international water law — i.e. the no-harm rule and the equitable utilization and participation principle — and give appropriate prominence to their close interrelationship. The United Nations Watercourses Convention appears at first sight to devote more attention than the ECE Water Convention to the principles governing the utilization of international watercourses, as opposed to the principle of cooperation. This impression is supported by a comparative reading of the provisions of the two Conventions that establish the general principles of equitable utilization and no-harm. However, this should not be taken as an indication that, in the ECE Water Convention as a whole, such principles are regarded

[104] See note 96 above. See also Attila Tanzi and Alexandros Kolliopoulos, "The International Water Law Process and Transboundary Aquifers: The 2012 UNECE Model Provisions on Transboundary Groundwaters", in Tanzi and others, *The UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes*, forthcoming in 2015.

[105] See, for example, article 6 (a) of the Danube River Protection Convention (note 81 above).

[106] Available online at www.internationalwaterlaw.org/documents/regionaldocs/2008Franko-Swiss-Aquifer-English.pdf and www.internationalwaterlaw.org/documents/regionaldocs/Guarani_Aquifer_Agreement-English.pdf, respectively.

[107] On soft law in the environmental law process, see Pierre-Marie Dupuy, "Soft law and the international law of the environment", in *Michigan Journal of International Law*, vol. 12, 1991, pp. 420–435; Geoffrey Palmer, "New Ways to Make International Environmental Law", in *American Journal of International Law*, vol. 86, 1992, pp. 259–283; Kenneth W. Abbott and Duncan Snidal, "Hard and Soft Law in International Governance", in *International Organization*, vol. 54, 2000, pp. 421–456; Alan E. Boyle, "Soft Law in International Law-making", in Malcolm D. Evans, ed., *International Law* (Oxford: Oxford University Press, 2010), pp. 122–140; Dinah Shelton, "Comments on the Normative Challenge of Environmental 'Soft Law'", in Société française pour le droit international, *Le droit international face aux enjeux environnementaux: Colloque d'Aix-en-Provence* (Paris, Pedone, 2010), pp. 111–121; and Sumudu Atapattu, "International Environmental Law and Soft Law: a New Direction or a Contradiction?", in Cecilia M. Bailliet, ed., *Non-state Actors, Soft Law and Protective Regimes: from the Margins* (Cambridge, Cambridge University Press, 2012), pp. 200–226.

[108] See McCaffrey, note 103 above; and Tanzi, Ibid.

as less relevant than in the United Nations Watercourses Convention. Nor should it suggest that there was less agreement on their content among ECE members than at the universal level. On closer scrutiny, the reverse is true.

Articles 5 to 7 of the United Nations Watercourses Convention are the result of a compromise that emerged from a primarily symbolic and rhetorical debate as to whether the equitable utilization principle takes priority over the no-harm principle, or vice versa. The impassioned debate in the Commission, as well as during the final negotiations in New York, focused more on the relationship between them, as if they were mutually incompatible, than on their respective normative content.

The ECE Water Convention seems to have taken the opposite approach. Its "General Provisions" are introduced with enunciation general statement, in article 2, paragraph 1, of the no-harm rule: "The Parties shall take all appropriate measures to prevent, control and reduce any transboundary impact". This is expanded in paragraph 2 (c) of the same article:

> The Parties shall, in particular, take all appropriate measures:
>
> …
>
> (c) To ensure that transboundary waters are used in a reasonable and equitable way, taking into particular account their transboundary character, in the case of activities which cause or are likely to cause transboundary impact.

Rather than endorsing the priority of the no-harm rule over the equitable utilization principle, this drafting approach corroborates the idea of a single, complex substantive normative framework of which both rules, being closely interconnected, are Part and parcel.

This substantive normative framework is set out more concisely and abstractly in the "General provisions" of the ECE Water Convention than in the equivalent provisions of the United Nations Watercourses Convention. However, it should be borne in mind that the former provides in its provisions and annexes, as well as in a host of soft law instruments adopted before and after its entry into force,[109] numerous guidelines for States to implement and adjust to basin-specific circumstances, both individually and jointly, in cooperation with their co-riparians. These guidelines are far more numerous and more detailed than those set out in the United Nations Watercourses Convention; thus, they add significantly to the content of the due diligence obligations comprising the general principles at issue in the ECE Water Convention.

In complying with the normative standards that comprise the due diligence obligations pertaining to the no-harm rule, a State would also comply with the due diligence obligation pertaining to the equitable use principle. And, in the light of the integration of the two principles into a single normative framework, the reverse is also true. This conclusion is based on the assumption that the no-harm rule does not pertain exclusively to water quality issues and that application of the equitable use principle to such issues demonstrates the interdependence of the two basic issues, as will be illustrated below. Thus, the two Conventions complement each other by enhancing the substantive principles of international water law in a single, indivisible normative framework.

4.1 Obligation to prevent transboundary impact and significant harm

The general principle underlying the State's obligation to use its sovereign territory in a manner that is not harmful to that of a neighbouring State is interconnected with the general concepts of the abuse of rights and good neighbourliness and is derived from the principle of Roman law, *sic utere tuo ut alienum non laedas*.[110] In

[109] On the interplay between the ECE Water Convention and the soft-law instruments developed within its institutional machinery, see Attila Tanzi, note 5 above, pp. 77 ff.

[110] See Berber, note 15 above, pp.195–223; Lammers, note 37 above, pp. 563–577; and Barberis, note 97 above, pp. 121–131. With regard to the links between the three principles in question, it should be noted that, on the one hand, it has been maintained that the principle of good neighbourliness "merely represents an expression of the principle of abuse of rights" (Günther Handl, "Territorial Sovereignty and the Problem of Transnational Pollution", in *American Journal of International Law*, vol. 69 (1975), p. 56); see also A.P. Lester, "River Pollution in International Law", in *American Journal of International Law*, vol. 57 (1963), p. 833; J.P. Dobbert, "Water Pollution and International River Law", in *Yearbook of the American Arbitration Association (AAA),* vol. 35 (1965), p. 81; and André Nollkaemper (note 37 above), p. 29. On the other hand, some have considered that the principle *sic utere tuo ut alienum non laedas* amounts to "une application de l'interdiction de l'abus de droit aux rapports de voisinage" (Caflisch and Tunkin, note 15 above, p. 136).

line with the famous statement in the *Island of Palmas* case award,[111] this principle is inherent in the concept of territorial sovereignty.[112] More recently, it has been applied in the 1949 *Corfu Channel* case, in which the International Court of Justice reiterated the generally accepted view by referring to "every State's obligation not to allow knowingly its territory to be used for acts contrary to the rights of other States",[113] This position was further expanded in the Court's 1996 advisory opinion on the legality of the threat or use of nuclear weapons, which established the general obligation for States to prevent activities within their jurisdiction from causing harm to the environment of other States.[114]

Both Conventions spell out the no-harm rule as a due diligence obligation. This is fully consistent with customary law, as was stressed recently in the *Pulp Mills* case:

> The Court points out that the principle of prevention, as a customary rule, has its origins in the due diligence that is required of a State in its territory. It is "every State's obligation not to allow knowingly its territory to be used for acts contrary to the rights of other States" (*Corfu Channel (United Kingdom* v. *Albania), Merits, Judgment, I.C.J Reports 1949*, p. 22). A State is thus obliged to use all the means at its disposal in order to avoid activities which take place in its territory, or in any area under its jurisdiction, causing significant damage to the environment of another State. This Court has established that this obligation "is now Part of the corpus of international law relating to the environment" (*Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, I.C.J. Reports* 1996 *(I)*, p. 242, para. 29).[115]

While, as we shall see in due course, article 7 of the United Nations Watercourses Convention does not offer explicit clues to the identification of "all appropriate measures" of prevention, the ECE Water Convention does so.

This is one of many cases in which the latter Convention complements the former. Apart from general interpretative considerations concerning the principle of harmonization in line with the ninth preambular paragraph of the United Nations Watercourses Convention,[116] the *travaux préparatoires* of that instrument offer specific grounds for an interpretative approach. As the Commission maintained, "[a]n obligation of due diligence, as an objective standard, can be deduced from treaties governing the utilization of international watercourses".[117] At the same time, the ECE Water Convention is the only one of the multilateral treaties referred to by the Commission that is devoted specifically to the regulation of international watercourses.

The relevance of the ECE Water Convention to a complementary interpretation of the United Nations Watercourses Convention on this point is corroborated by the fact that the wording of article 7, paragraph 1, of the latter instrument largely coincides with that of article 2, paragraph 1, of the former. Accordingly, it may be argued that the determination of "all appropriate measures" in a given case, i.e., the due diligence standards established abstractly in the aforementioned provision of the United Nations Watercourses Convention, should be made on a case-by-case basis in the light of the more specific guiding principles contained in the ECE Water Convention, including the "best available technology",[118] the "best

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[111] "Territorial sovereignty cannot limit itself to its negative side, i.e., to excluding the activities of other states; for it serves to divide between nations the space upon which human activities are employed, in order to assure them at all points the minimum of protection of which international law is the guardian" (The Island of Palmas Case (United States of America v. The Netherlands), Award, 4 April 1928, p. 9).

[112] See James O. Moermond and Erickson Shirley, "A Survey of the International Law of Rivers", in *Denver Journal of International Law and Policy,* vol. 16 (1987), pp. 139–159.

[113] See note 23 above, p. 22.

[114] "The existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now Part of the corpus of international law relating to the environment" (*Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion*, note 23 above, pp. 241–242).

[115] See note 42 above, para 101.

[116] See chapter 1 above, notes 1–9.

[117] Paragraph (5) of the commentary to draft article 7, in *Yearbook … 1994*, vol. II, Part Two, p. 103.

[118] See art. 3, para. 1 (f), which includes "the application of the best available technology" among the "[a]ppropriate measures … to reduce nutrient inputs from industrial and municipal sources" as one element of the obligation to prevent, control and reduce. See also Annex I ("Definition of 'best available technology'").

environmental practices",[119] the "previous environmental impact assessment"[120] and the "precautionary principle".[121]

4.1.1 The kind of harm and the "significance threshold" covered by the obligation of prevention

In the light of the observations made at the beginning of the present report with respect to the interconnection between water quantity and water quality issues and the indivisibility of international regulation thereof, the concept of transboundary impact — adverse impact, or harm — within the scope of the two Conventions may be said to include harm caused by changes in the amount of water flow and harm caused by pollution related to actions or omissions attributable to the concerned States. The fact that the obligation of prevention encompasses both types of issues is clear from the definition of "transboundary impact" in article 1, paragraph 2, of the ECE Water Convention and from a contextual interpretation of articles 5 to 7 and Part IV ("Protection, preservation and management") of the United Nations Watercourses Convention.

> Under both instruments, the threshold of non-permissible harm is not so low as to include any degree of perceptible harm, but only harm of a "significant" nature. This is far from a new way of expressing the no-harm rule.[122] However, whatever the adjective that qualifies harm falling within the scope of the obligation, it offers little guidance for assessment *in concreto* of the exact nature and extent of the harm to be prevented.[123] Any adjective, by its very nature, can only be general and abstract, whereas concrete standards — such as percentages of permissible pollution per cubic meter of water with lists of allowed pollutants, or precise parameters for permissible water quantity alteration proportional to the average existing flow before a new use of the watercourse is carried forward — would not be appropriate for multilateral treaties of a general nature since the standards and parameters suitable to the hydrological, economic and social circumstances of some watercourses may not be suitable to others.

This does not mean that the term "significant" is irrelevant to assessment of the acceptable harm threshold since it seeks to give expression to the so-called "*de minimis* rule", which, "deriving from the general principle of 'good neighbourliness', provides the duty to overlook small, insignificant inconveniencies".[124] Moreover, determination of the degree of acceptable harm is instrumental in giving effect to the obligation of prevention under both Conventions. With specific regard to the United Nations Watercourses Convention, such a determination is also necessary in giving effect to the no-harm rule from an *ex post* perspective, i.e. after the occurrence of the harm. In this case, assessment of the "significant threshold" is a precondition for the implementation of article 7, paragraph 2, and of the general rules of State responsibility where significant harm results from a breach of the due diligence obligation of prevention set out in article 7, paragraph 1.

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[119] See art. 3, para. 1 (g), which provides for the development and implementation of "[a]ppropriate measures and best environmental practices … for the reduction of inputs of nutrients and hazardous substances from diffuse sources, especially where the main sources are from agriculture". See also Annex II ("Guidelines for developing best environmental practices").

[120] On the requirement of a previous environmental impact assessment, considered instrumental in the adoption of appropriate measures to prevent, control and reduce transboundary harm, see Birnie and Boyle, note 50 above, p. 93; Okowa, note 54 above; McCaffrey, note 15 above, pp. 464–481; and McIntyre, note 37 above, pp. 317–358.

[121] On the precautionary principle, see Tullio Scovazzi, "Sul Principio precauzionale nel diritto internazionale dell'ambiente", in *Rivista di Diritto Internazionale* vol. 3 (1992), pp. 699–705; Freestone, "The Precautionary Principle" (note 50 above); and Freestone and Hey (note 52 above). On the consolidation of the precautionary principle as a rule of general customary law, see Hohmann (note 50 above); Sands (note 50 above), pp. 212–213 (1995), and Cameron and Abouchar (note 50 above). A far more cautious stance is taken by Handl (note 50 above) and Birnie and Boyle (note 50 above), p. 98.

[122] See Kamen Sachariew, "The Definition of Thresholds of Tolerance for Transboundary Environmental Injury under International Law: Development and Present Status", in *Netherlands International Law Review*, vol. 37 (1990), pp. 193–206; Nollkaemper (note 37 above), pp. 35–39; and Tanzi and Kolliopoulos, note 104 above.

[123] Considerable skepticism as to the usefulness of adjectives qualifying the threshold of acceptable harm has been expressed by Karl Zemanek, "State Responsibility and Liability", in Winfried Lang, Hanspeter Neuhold and Karl Zemanek, eds., *Environmental Protection and International Law* (London and Boston, Graham and Trotman and Martinus Nijhoff, 1991), p. 196.

[124] See Jiménez de Aréchaga, note 16 above, p. 194. Lammers, maintaining that "neighbourship law or the principle of good neighbourship also involve a duty to tolerate to a certain extent harmful effects caused by activities not in themselves unlawful, undertaken in neighbouring States", illustrates the diversity of positions as to the legal content of such a duty (note 37 above, p. 568).

It appears from the *travaux préparatoires* of the United Nations Watercourses Convention that significant harm occurs where there is a "real impairment of use" of the watercourse for the harmed State.[125] According to the Commission, these words imply "a detrimental impact of some consequence upon, for example, public health, industry, property, agriculture or environment in the affected State".[126] This language may provide guidance in a manner consistent with and complementary to the equitable utilization principle and the factors for its assessment under articles 5 and 6 of the United Nations Watercourses Convention.

Since the primary purpose of the two Conventions is to promote joint efforts among co-riparians, further specification of the "significant threshold" for a specific watercourse should be reached through cooperation and, specifically, agreements setting out more precise parameters. It should be borne in mind that the ultimate purpose of determining the "acceptable threshold" is to provide guidance to States in the adoption of domestic legislative and administrative prevention measures that are considered "appropriate" from an international standpoint.

Under the United Nations Watercourses Convention, this international perspective is limited to the general principles of equitable use and no-harm to be applied by States on a case-by-case basis, individually or in cooperation with the co-riparians concerned. Under the ECE Water Convention, the international perspective is more specific in terms of the substantive standards that make up the due diligence obligations of equitable utilization and prevention, as well as with respect to the obligation of cooperation. In article 9, the latter Convention requires co-riparians to enter into "agreements or arrangements" providing for the establishment of joint bodies whose various tasks shall be, inter alia, "[t]o elaborate joint water-quality objectives and criteria"; more importantly, Annex III provides a set of guidelines to that end.

Article 21, paragraph 3, of the United Nations Watercourses Convention establishes a less rigorous obligation to:

> … consult with a view to arriving at mutually agreeable measures and methods to prevent, reduce and control pollution of an international watercourse, such as:
>
> (a) Setting joint water quality objectives and criteria;
>
> (b) Establishing techniques and practices to address pollution from point and non-point sources;
>
> (c) Establishing lists of substances the introduction of which into the waters of an international watercourse is to be prohibited, limited, investigated or monitored.

The establishment of water quality objectives and criteria concerning a specific watercourse is instrumental in determining the "significant threshold" applicable to the case. While cooperation in that regard plays a fundamental role under both instruments, the ECE Water Convention provides more detailed guidelines that complement the United Nations Watercourses Convention. The major differences between the two instruments with respect to the forms that such cooperation should take place will be examined in due course.[127]

4.1.2 The regime governing the legal consequences of a transboundary impact, significant harm and/or inequitable use

The legal consequences of the occurrence of harm is one of the few areas in which the United Nations Watercourses Convention provides more normative indications than the ECE Water Convention. The latter sets out more detailed normative standards on the obligation of prevention, which is uniquely supplemented by compulsory institutional cooperation. Against this regulatory background, the rules governing the consequences of problems encountered during implementation must have appeared less urgent insofar as the institutional framework provided by the ECE Water Convention, including the Meeting of the Parties and the joint commissions and other institutions set up under article 9, constitute cooperative forums for

[125] See para. (14) of the commentary to draft article 3, which is the first provision of the Convention to use the word "significant" (*Yearbook … 1994*, vol. II, Part Two, p. 94).

[126] See para. (5) of the commentary to draft article 8 (*Yearbook … 1988*, vol. II, Part Two, p. 36).

[127] See chapter 5 below.

addressing matters relating to implementation and compliance; thus, there is less need for procedural rules, let alone a regime of State responsibility.

That the drafters of the ECE Water Convention wished to defer this issue without excluding its relevance in principle is confirmed by article 7, which states that "[t]he Parties shall support appropriate international efforts to elaborate rules, criteria and procedures in the field of responsibility and liability". It has been maintained that

> silence about responsibility and liability is related to the drafters' unwillingness to assume that the customary principle concerning responsibility for breach of treaty obligations might be applicable in respect of these Conventions.[128]

Such considerations deserve serious policy attention. For the purposes of the present legal analysis, it may be argued that, on the one hand, they are countered by article 22 of the ECE Water Convention, which provides, albeit on an optional basis, for the arbitral or judicial settlement of disputes arising from the application or interpretation of the Convention insofar as adjudication and arbitration usually lead to a judgment on the legality or illegality of a State's conduct; i.e. on its responsibility for an alleged internationally wrongful act. Moreover, these considerations appear to be confirmed by the fact that only 5 of the 39 States parties to the Convention have accepted one of the optional means of dispute settlement set out in article 22, paragraph 2,[129] and that only 3 of the 35 States parties to the United Nations Watercourses Convention have recognized one of the similar mechanisms set out in article 33, paragraph 10.[130] This issue will be addressed at greater length below in the context of dispute settlement[131] and the internalization of liability.[132] Particularly in article 7, paragraph 2, of the United Nations Watercourses Convention, the principal aim is to regulate the legal consequences of harm where all appropriate due diligence measures have been taken, not in the context of the secondary rules of State responsibility triggered by a breach of an international obligation. This legal framework makes up the body of international law known as State liability for acts not prohibited by international law.[133]

The York Convention regulates more extensively the consequences of the occurrence of harm, irrespective of the secondary rules on State responsibility for wrongful conduct, because — unlike the ECE Water Convention — it makes no provision for compulsory institutional cooperation for the purpose of preventing, controlling and reducing transboundary impact whereby the co-riparians handle, in a cooperative spirit, the problems arising from the occurrence of transboundary harm.

In essence, article 7, paragraph 2, of the United Nations Watercourses Convention addresses the issue of the consequences attached to the occurrence of harm in the context of the obligation to consult. Understandably, the negotiations leading to the adoption of this provision coincided to a large extent with "efforts to elaborate rules, criteria and procedures in the field of responsibility and liability" under article 7 of the ECE Water Convention. With regard to the regime of State liability for the consequences of lawful harm — i.e. harm that occurs even though all appropriate preventive measures have been taken — the United Nations Watercourses Convention plays a complementary role with respect to the ECE Water Convention. Its relevance is enhanced by the fact that it evidences customary law under a reasoning well established in the case law of the International Court of Justice.

Article 7, paragraph 2, of the United Nations Watercourses Convention reads:

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

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128 Martti Koskenniemi, "Peaceful Settlement of Environmental Disputes", in *Nordic Journal of International Law*, vol. 60 (1991), p. 80.

129 Austria, Lithuania, the Netherlands and Serbia.

130 Hungary and the Netherlands.

131 See chapter 7 below.

132 See section 4.2 below.

133 See Tanzi, "State Liability for Lawful Acts", note 10 above.

The most important point that emerges from the above provision is that a use which causes significant harm to other watercourse States is not prohibited per se. Therefore, it cannot give rise to international responsibility for a wrongful act unless the harm caused can be said to stem from negligent conduct attributable to the origin State.[134] The same conceptual framework is to be found in the ECE Water Convention, where the obligation of prevention under article 2, paragraph 1, is couched in terms of due diligence.

The aforementioned provision of the United Nations Watercourses Convention attaches general legal consequences to harm that is "diligently and equitably" caused[135] and these consequences, if not addressed by the origin State, entail the commission of an internationally wrongful act. A systematic reading of articles 5, 6 and 7 suggests that compliance with the primary obligations comprising the legal consequences of such harm should be considered as an *ex post* factor for determination of the equitable character of a given use.

In essence, article 7, paragraph 2, of the United Nations Watercourses Convention establishes an additional obligation of due diligence, namely, a primary obligation triggered by the occurrence of harm despite the origin State's compliance with the due diligence requirement established in paragraph 1 of that article.[136] It is important to note that, by indicating that the goal of the new obligation of due diligence is "elimination or mitigation" of the harm caused, this provision does not give the harm-causing State a choice as to which of the two courses of action to take; the obligation to take all appropriate measures to mitigate the harm caused comes into play only after elimination has proved impossible. If this was not clear from the wording of the provision, it was rendered explicit in the interpretative statement by the Working Group of the Whole for the Elaboration of a Convention on the Law of the Non-Navigational Uses of Watercourses, established in the Sixth Committee of the General Assembly (hereinafter the "Working Group"): "[i]n the event such steps as are required by article 7, paragraph 2, do not eliminate the harm, such steps as are required by article 7, paragraph 2, shall then be taken to mitigate the harm".[137]

Article 7, paragraph 2, also requires that the measures taken with a view to the elimination or mitigation of the harm be adopted "having due regard for the provisions of article 5 and 6". This wording, which was introduced in order to replace the expression "consistent with Articles 5 and 6", emerged from one of the most impassioned debates during the final round of the negotiations in New York since the issue was considered crucial to the *in abstracto* balance between the equitable utilization and no-harm principles.[138] While these may appear to be mere drafting niceties, it should be noted that the original wording would have deprived article 7, paragraph 2, of most of its normative character. Indeed, the words "consistent with Articles 5 and 6" could be used as a basis for the unreasonable argument that, if the harm resulted from an activity which could be claimed to be consistent with the parameters of due diligence under article 7, paragraph 1 — considered to have the same standing as articles 5 and 6 — no further diligence measures would be required after its occurrence. On the contrary, the language ultimately adopted in New York provides a basic term of reference for consultations between the States concerned in order to agree on measures that may differ from those required for prevention and that are appropriate to elimination or mitigation of the harm.

This regulation, under the United Nations Watercourses Convention, of the consequences of transboundary harm arising from a situation which is not illegal per se is consistent with the rationale of the ECE Water Convention with regard to the obligation "to prevent, control and reduce any transboundary impact" (art. 2, para. 1). However, as indicated above, under the latter Convention, issues arising from the occurrence of harm are normally to be handled within the framework of joint institutions. Therefore, for the purposes of interpretation and application, considerations as to the legal consequences arising from the occurrence of harm without wrongfulness under the United Nations Watercourses Convention can serve as complementary guidelines within the institutional framework established in the ECE Water Convention. They can also serve as terms of reference for bilateral negotiations where cooperation within this type of framework proves no longer viable.

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134 See also McCaffrey, notes 15 and 71 above; and McIntyre, note 37 above, pp. 87–120.

135 For the present purposes, diligence in the use of an international watercourse is considered in association with equitability on the assumption that "transboundary harm that results from a failure to exercise due diligence will in all likelihood also amount to a failure to use the resource equitably" (Brunnée and Toope, note 43 above, pp. 63–64).

136 This conclusion derives from the word "nevertheless", which was introduced at a very advanced stage of the debate by the Chairman of the Working Group (A/C.6/51/NUW/CRP.94) based on proposals made by the United Kingdom and Italy (author's notes).

137 Note 68 above, para. 8.

138 See Attila Tanzi, "The Completion of the Preparatory Work for the UN Convention on the Law of International Watercourses", in *Natural Resources Forum*, vol. 21 (1997), p. 241.

4.1.3 Compensation as a consequence of the occurrence of harm and a factor in the assessment of equitable utilization

Although compensation is an essential element of the obligation of reparation arising from an internationally wrongful act[139] under article 7, paragraph 2, of the United Nations Watercourses Convention, it does not enter into play as a form of reparation for wrongful activity[140] or as the object of a primary obligation triggered automatically by the occurrence of lawful harm, as it would if the provision followed a strict liability approach.

The difference between compensation under this provision and compensation as reparation in the context of the law of State responsibility lies in the fact that the former does not originate from internationally wrongful conduct. Unlike strict liability, such compensation is not the object of an absolute obligation produced by the occurrence of harm; rather, it is associated with the ancillary obligation of consultation with a view to balancing equitably the interests of the States concerned.[141] In that respect, as illustrated below, compensation may become *ex post facto* one of the factors relevant to determination of the equitable and reasonable character of a given utilization. This adds to the *leitmotif* of the present section on general principles insofar as the no-harm rule and the equitable and reasonable use principle are Part of a single, indivisible normative framework.

These distinctions regarding the legal connotations of compensation are of more than theoretical relevance. The Convention's conceptual framework has an impact on the amount of compensation, to be agreed out of court on a case-by-case basis, and perhaps also on the likelihood of triggering continuing adverse effects. Furthermore, the symbolic importance that States attach, as a matter of principle, to the language of international law in their interactions must not be underestimated.[142] In practical terms, the origin State will be more readily available for open-minded negotiation of compensation within the legal framework established in the provision in question than it would be in response to a claim for full compensation on the basis of State responsibility or strict liability.

The formula set out in article 7, paragraph 2, of the United Nations Watercourses Convention also provides the parties to a potential or actual water law dispute with a frame of reference for reaching a mutually agreeable settlement as to the extent, and even the nature, of the compensation required to balance equitably the interests at stake. It does so without setting pre-established rigid parameters, as would be the case within the framework of a regime of State responsibility,[143] under which the full value of the damage caused would represent the starting-point for negotiations even though it might well be set aside at a later stage of the process.[144] The situation would be similar using a "strict liability" approach, with the aggravating factor that

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[139] See, respectively, Dinah Shelton, "Reparations" in *Max Planck Encyclopedia* (note 10 above), vol. VIII, pp. 883–893; and Stephan Wittich, "Compensation", in Ibid., vol. II, pp. 499–508.

[140] In paragraph (2) of the commentary to then draft art. 5 ("Liability"), the Commission states that "where States carry out activities which are prone to cause and which do cause significant transboundary harm — even if those activities or their effects are not unlawful — a question of compensation for the harm arises, and it is this element which is primarily reflected in the term 'international liability'. Outside the realm of State responsibility the issue is not one of reparation …. But compensation or other relief (for example a modification in the operation of the activity so as to avoid or minimize future harm) ought in principle to be available. Otherwise States would be able to externalize the costs of their activities through inflicting some of those costs, uncompensated, on third parties who derive no benefit from those activities, who have no control over whether or not they are to occur but who suffer significant transboundary harm" (*Yearbook … 1996*, vol. II, Part Two, pp. 111–112).

[141] See paragraph 24 of the commentary to draft article 7 (*Yearbook … 1994*, vol. II, Part Two, p. 117), particularly as the draft article differs only marginally from the final text. The concept of compensation also appears in article 16, paragraph 2, of the Convention: "Any claim to compensation by a notified State which has failed to reply within the period applicable pursuant to article 13 may be offset by the costs incurred by the notifying State for action undertaken after the expiration of the time for a reply which would not have been undertaken if the notified State had objected within that period".

[142] See Louis Henkin, *How Nations Behave*, second edition (New York, Columbia University Press, 1997), p. 52.

[143] During the drafting of the United Nations Watercourses Convention, the Commission considered that the provisions on "international liability" in the 1996 draft articles, including articles 21 "Nature and extent of compensation or other relief") and 22 ("Factors for negotiations") were designed to help States arrive at a mutually agreeable determination of the nature and extent of compensation: "[T]hese articles … are flexibly drafted and do not impose categorical obligations" (para. (3) of the commentary to draft article 5, in *Yearbook … 1996*, vol. II, Part Two, p. 112). It is to be noted that the ILC, at the same time of the elaboration of the United Nations Watercourses Convention, referred to the provisions contained in Chapter III of the 1996 draft articles on "international liability" — whose art. 21 referred to "the nature and extent of compensation or other relief" and art. 22 to the "factors for negotiations" aimed at arriving at a mutually agreeable determination of the nature and extent of compensation — underlining that "they are flexibly drafted and do not impose categorical obligations" (*id*).

[144] See article 36 ("Compensation") of the articles on responsibility of States for internationally wrongful acts, which the General Assembly commended to the attention of Governments in resolution 56/83 of 12 December 2001.

full compensation for the harm would be claimed without the need to establish the wrongfulness of the harm-causing activity.[145]

As anticipated, compensation intended as a means of balancing the interests at stake could be a factor in subsequent assessment of the equitable character of a given utilization. This point has been made explicitly by the Institute of International Law in its resolution on the utilization of non-maritime international waters (except for navigation),[146] and in article V, paragraph 2 (j), of the Helsinki Rules on the Uses of the Waters of International Rivers (hereinafter the "Helsinki Rules"), adopted by the International Law Association in 1967, which include among the relevant factors for equitable utilization "the practicability of compensation to one or more of the co-basin States as a means of adjusting conflicts among uses" (art. V, para. 2 (j)).[147] This concept is not excluded by the text of the United Nations Watercourses Convention since the list of factors for determination of the equitable utilization of an international watercourse under article 6 is not exhaustive; moreover, the concept is consistent with a systematic interpretation of the Convention, which is geared towards distributive justice. In this respect, the United Nations Watercourses Convention is in line with the ECE Water Convention's overall focus on cooperation.

Following this logic, even though article 7, paragraph 2, of the United Nations Watercourses Convention clearly operates *ex post* with respect to the occurrence of significant harm, its express reference to the question of compensation lends itself to an interpretative argument that compensation may also be considered from an *ex ante* perspective with respect to a new use. article 17 establishes an obligation of consultation and negotiation where a State considers "that implementation of planned measures would be inconsistent with the provisions of article 5 or 7"; article 11 even calls for consultations and negotiations on "the possible effects of planned measures on the condition of an international watercourse". These requirements would apply all the more so to the joint bodies to be established under article 9, paragraph 2, of the ECE Water Convention.

This prior compensation approach[148] is clearly corroborated by international practice. For example, the Columbia River Treaty of 1961 provides for a distribution of benefits between the parties, including indemnification in kind, paid in advance, for the flooding of areas in Canada.[149] This shows that, especially in cases concerning the utilization of international watercourses, compensation need not be solely financial in nature.[150] Another example is the 1959 agreement between India and Nepal on cooperation on the Gandak River for the generation, transmission and distribution of hydropower,[151] under which India would be responsible for construction and operation of a hydroelectric plant infrastructure and for the transmission of electricity to Indian territory, allotting a certain amount of energy to Nepal, while Nepal would be responsible for construction and operation of the transmission installations and distribution of the electricity allotted to it. The water cooperation between Canada and the United States of America under the 1961 Columbia River Treaty, negotiated and concluded in view of the high hydropower potential of the river, provides a similar

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145 In paragraph (3) of the commentary to draft article 5 ("International liability"), which it provisionally adopted in 1996, the Commission observed that "… a rule of strict liability for all and any losses covered by activities lawfully carried out on the territory of a State or under its jurisdiction or control would be difficult, if not impossible, to sustain. Of course, a treaty may incorporate such a rule, but that does not necessarily show what the rule of general international law would be apart from the treaty … [W]here significant harm occurs, even though arising from lawful activity and even though the risk of that harm was not appreciated before it occurred, nonetheless the question of compensation or other relief is not to be excluded. There is no rule in such circumstances that the affected third State must bear the loss" (*Yearbook … 1996*, vol. II, Part Two, p. 112).

146 Article 3 of the Institute of International Law resolution on the utilization of non-maritime international waters (except for navigation), adopted in Salzburg in 1961, provides that differences between watercourse States over conflicts of uses shall be settled "… on the basis of equity, taking particular account of their respective needs, as well as of other pertinent circumstances"; article 4 goes so far as to indicate that, in order for a State to legally make a new use of an international watercourse, it must provide the affected co-riparians with a share of the benefits deriving from such use, on a basis of equity "as well as adequate compensation for any loss or damage" (*Annuaire de Institut de droit international*, vol. 49 (2), 1961, p. 382).

147 Helsinki Rules on the Uses of the Waters of International Rivers, in International Law Association, *Report of the Fifty-Second Conference*, p. 487. Available online at www.internationalwaterlaw.org/documents/intldocs/Helsinki_Rules_with_comments.pdf.

148 This approach is corroborated by Jiménez de Aréchaga's interpretation of the no-harm principle: "Another aspect of this principle is the duty to prevent the damage and to agree upon adequate measures before the damage is caused" (note 16 above, p. 195).

149 Within the ECE framework, see, among others, the 1964 Agreement between the Republic of Finland and the Union of Soviet Socialist Republics Concerning Frontier Watercourses (United Nations, Treaty Series, vol. 537, No. 7804). See also Antti Tuomas Belinskij, "Cooperation between Finland and the Russian Federation", in Tanzi and others, in *The UNECE Convention …* (note 104 above).

150 William Bush, "Compensation and the Utilization of International Rivers and Lakes: The Role of Compensation in the Event of Permanent Injury to Existing Uses of Water", in Ralph Zacklin and others, eds., *The Legal Regime of International Rivers and Lakes* (The Hague, Martinus Nijhoff, 1981), p. 309.

151 Agreement between the Government of Nepal and the Government of India on the Gandak River Irrigation and Power Project, signed at Katmandu on 4 December 1959, in *Legislative Texts and Treaty Provisions Concerning the Utilization of International Rivers for Other Purposes than Navigation* (New York, United Nations, 1963), Treaty No. 96.

model,[152] as does the 1973 Agreement between Brazil and Paraguay on the Paraná River in relation to the Itaipu dam, which supplies water to one of the largest hydroelectric power plants in the world.[153]

Hence, particularly where compensation is not confined to financial indemnification, the concept merges with that of the equitable apportionment of benefits, establishing a further link between the operation of the no-harm rule and the equitable utilization and participation principle. In that connection, it seems appropriate to recall the *Donaversinkung* case, in which the court stated:

> The interests of the States in question must be weighed in an equitable manner one against the other. One must consider not only the absolute injury caused to the neighbouring State, but also the relation of the advantage gained by the one to the injury caused to the other …[154]

According to this reasoning, in a situation governed by article 7, paragraph 2, of the United Nations Watercourses Convention, where harm is caused by activities which, before they were carried out, appeared equitable and reasonable, the "diligent harm-causing State" could be held responsible for wrongful conduct if it rejected any request for compensation, even in the form of a distribution of benefits in kind. Indeed, it could be claimed that one of the constituent factors of equitable utilization would be lacking *ex post facto*. Similarly, and in line with the principle of distributive justice, States likely to be affected by transboundary harm may contribute to the costs of prevention as one of the factors involved in an equitable balance of interests.

By the same token, it is arguable that, taking into account the specific circumstances of the case, a State that has refrained from carrying forward an otherwise equitable and reasonable project on the grounds that it could cause significant harm would be entitled to call for good faith consultations and negotiations on the sharing of benefits deriving from its abstention and that the question of compensation might reasonably arise in that context. While far from a right triggered automatically by such an abstention, compensation, where appropriate, should be determined by balancing the anticipated loss of benefits for the abstaining State against the corresponding potential harm for a co-riparian if the abandoned project had not been set aside.

4.1.3.1 Compensation and the "polluter pays" principle

The concept of compensation under article 7, paragraph 2, of the United Nations Watercourses Convention is not necessarily restricted to direct interaction between States. On the contrary, this is a domain in which public international law merges with domestic law to a greater-than-usual extent. It is a matter of fact that most of the activities likely to cause transboundary harm to a co-riparian are carried out by private operators at the domestic level. It would therefore be appropriate for inter-State negotiations to take into account, as one of the factors conducive to equitable settlement of a

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[152] Treaty between the United States of America and Canada relating to co-operative development of the water resources of the Columbia River Basin, (United Nations, *Treaty Series*, vol. 542, No. 7894). Canada and the United States ratified the Columbia River Treaty in order to manage and coordinate flood control and optimize hydroelectric energy production in the Columbia River Basin. Canada built three storage dams (Hugh Keenleyside, Duncan and Mica), while the United States built a fourth one (Libby). The agreement also provides that, in return for the storage of water, Canada is entitled to half of the additional power generated at the American power plants on the Columbia River. For further information, see the websites of the Centre for Columbia River History and the Columbia Basin Trust at, respectively, www.ccrh.org and www.cbt.org/crt.

[153] Treaty concerning the hydroelectric utilization of the water resources of the Parana River owned in condominium by the two countries, from and including the Salto Grande de Sete Quedas or Salto del Guaira, to the mouth of the Iguassu River (United Nations, *Treaty Series*, vol. 923, No. 13164). The Itaipu dam supplies approximately 17.3 and 72.6 per cent of the energy consumed in Brazil and Paraguay, respectively. It has 20 generator units and 14,000 MW of installed capacity, the latter shared equally between the two countries. A party that does not use its share of the energy must sell it to the other party, while the purchasing party must pay compensation for the additional benefits it receives from using the other party's hydraulic resource entitlement. For further information, see the Itaipu Binacional website (www.itaipu.gov.br/en/energy/dam).

[154] See the *Donauversinkung* case (Wurttemburg and Prussia v. Baden, 1927), in *International Law Reports: Annual Digest of Public International Law Cases* 1927–1928, p. 158. In paragraph (18) of the commentary to article 7 of the draft articles, the Commission indicated that consultations between the States concerned should take into account "such factors as the extent to which adjustments are economically viable, the extent to which the injured State would also derive benefits from the activity in question such as a share of hydroelectric power being generated, flood control, improved navigation, and so forth. In this connection the payment of compensation is expressly recognized as a means of balancing the equities in appropriate cases" (*Yearbook … 1994*, p. 105). See also the conventional practice to that effect referred to by the Commission (Ibid., note 244).

given case, the payment of compensation to the victims of the harm caused by the operators of the activity. This would make it possible to implement a policy of equitable burden-sharing in respect of the costs of prevention and liability, particularly between the concerned private operators and the State of jurisdiction.

In the light of the foregoing, it may be tempting to consider the relationship between compensation for transboundary harm and the polluter-pays principle. While the ECE Water Convention expressly establishes this principle, the United Nations Watercourses Convention does not. The former instrument complements the latter in this respect, particularly as, according to the wording of article 2, paragraph 5, of the ECE Water Convention, the principle is one of the appropriate measures to be taken in order to comply with the obligation to prevent, control and reduce any transboundary impact.[155]

The polluter-pays principle was originally conceived primarily as a preventive tool whereby the costs of routine pollution management, control and reduction — basically through depuration — would be borne by the polluter. Later, its scope was gradually expanded to include the cost of pollution in general, including after its occurrence.[156] This broad approach is corroborated by Principle 16 of the 1992 Rio Declaration on Environment and Development (hereinafter the "Rio Declaration): "National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the costs of pollution".[157]

The question of whether these costs should include the payment of compensation to the victims of the harm caused has been debated.[158]

A significant element of practice tending towards the internalization of environmental costs and expansion of the polluter-pays principle to include liability *ex post facto* is the 1986 dispute between Germany and Switzerland on pollution of the Rhine River by the chemical company, Sandoz. While the Swiss Government originally acknowledged international responsibility for breach of its due diligence obligation to prevent the accident, the two Governments eventually considered the dispute satisfactorily settled by the compensation paid directly to victims by Sandoz.[159]

On the one hand, under the ECE Water Convention, the polluter-pays principle does not provide for the payment of compensation; it concerns the relationship between private operators and the authorities of the concerned State and thus does not provide private victims with a legal basis for claiming compensation for injury, loss of property or other economic damage.[160] This approach is consistent with the primarily domestic nature of the principle.[161] On the other hand, determination of the amount of compensation owed by private

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155 See note 74 above, pp. 28–31.

156 See paragraph 4 of the annex ("Guiding principles concerning the international economic aspects of environmental policies") to Organisation for Economic Co-operation and Development (OECD) recommendation C(72)128 of 26 May 1972 in *The OECD and the Environment* (Paris: Organisation for Economic Co-operation and Development, 1986), p. 24. The 1990 ECE Code of Conduct on accidental pollution of transboundary inland waters provides that "[r]iparian countries should implement, within the framework of their national legislation, the basic principle that responsibility lies with the polluter", further specifying that "[i]n accordance with the polluter-pays principle … countries should co-operate in the implementation and further development of appropriate rules and practices to ensure redress for the victims of accidental pollution of transboundary inland waters and necessary rehabilitation measures" (see note 47 above, section II, para. 3 and section XV, para 3, respectively). See also the 1993 European Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment. For the contribution of legal scholarship, see Sanford E. Gaines, *The Polluter-Pays Principle: From Economic Equity to Environmental Ethos*, in *Texas International Law Journal*, vol. 26 (1991), pp. 463–496; Alan E. Boyle, "Making the Polluter Pay? Alternatives to State Responsibility in the Allocation of Transboundary Environmental Costs", in Francesco Francioni and Tullio Scovazzi, eds., *International Responsibility for Environmental Harm* (London: Graham and Trotman, 1991), pp. 363–379; Henri Smets, "Le principe polluer-payer, un principe économique érigé en principe de droit de l'environnement?", in *Revue générale de droit international* public, vol. 97 (1993), pp. 338–363; McCaffrey, note 15 above, p. 300; McIntyre, note 37 above, pp. 284–286; and Pierre-Marie Dupuy and Leslie-Anne Duvic Paoli, 'The Polluter-Pays Principle', in Tanzi and others, *The UNECE Convention …* (note 104 above).

157 See note 23 above.

158 See Henri Smets, "The Polluter Pays Principle in the Early 1990s", in Luigi Campiglio and others, eds., *The Environment after Rio: International Law and Economics* (London and Boston, Graham and Trotman and Martinus Nijhoff, 1994), pp. 134.

159 See Alexandre Kiss, "'Tchernobâle' ou la pollution accidentelle du Rhin par des produits chimiques", in *Annuaire français de droit international*, vol. 33, (1987), pp. 719–727. See also Astrid Boos-Hersberger, "Transboundary Water Pollution and State Responsibility: The Sandoz Spill", in *Annual Survey of International and Comparative Law*, vol. 4, 1997, pp. 103–131.

160 See note 74 above, p. 29.

161 Ibid.

operators under the polluter-pays principle lies outside the scope of the obligation of prevention established in the United Nations Watercourses Convention.[162]

Be that as it may, and even separating the polluter-pays principle from the legal basis for civil liability or inter-State claims in a transboundary context, the amount of compensation paid by private operators in a given case may be relevant to an assessment of whether compensation is owed by the origin State and, if so, in what amount. An appropriate interpretation of the polluter-pays principle, in line with Principle 16 of the Rio Declaration, suggests that claims for compensation, at least for damage caused to persons and their property, could be submitted at the inter-State level even if the principle itself did not provide a legal basis for private and State claims.

In this respect, the access to judicial or other procedures — and hence the right to claim compensation — that the origin State may grant to the victims of transboundary harm[163] is linked to the issue of compensation at the inter-State level where compensation is not paid spontaneously by the operators, or where there is no agreement between the latter and the victims as to the amount of compensation due.

This is in line with Principle 4 ("Prompt and adequate compensation") of the draft principles on the allocation of loss in the case of transboundary harm arising out of hazardous activities,[164] prepared by the International Law Commission, which the General Assembly commended to the attention of governments in 2007.[165] The draft principles focus primarily on the obligation of the State under whose jurisdiction or control the harmful activity was carried out to take all appropriate measures to ensure the provision of prompt and adequate compensation to victims of transboundary damage. Such measures include "the imposition of liability on the operator" and the requirement that the latter "establish and maintain financial security such as insurance, bonds or other financial guarantees to cover claims of compensation" (Principle 4).

While access to judicial or other domestic procedures is mentioned in the United Nations Watercourses Convention but not, as such, in the ECE Water Convention, a relevant Protocol to the latter instrument was adopted in 2003. This point will be considered in the following section.

4.2 The right of equal access to national remedies and the trend towards the internalization of liability. The Economic Commission for Europe 2003 Protocol to the Water Convention on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters

Article 32 of the United Nations Watercourses Convention ("Non-discrimination") establishes an obligation not to discriminate between national and foreign claimants, and between claimants that have been injured within the territory of the State of origin and those that have suffered damage outside of its territory, in granting access to national remedies. This provision addresses the question indirectly insofar as it does not affect the substantial right to redress of national or foreign victims of environmental harm caused by the use of an international watercourse; it merely establishes a procedural right in favour of foreign claimants based on a national treatment standard. From a treaty law perspective, the United Nations Watercourses Convention having entered into force, its incorporation into a State party's legal system will entail automatic adjustment of the latter through the establishment of a procedural right that can be invoked directly by private claimants.

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[162] For a thorough study of case law, treaty and diplomatic practice on the matter, see the International Law Commission's 1995 *Survey on liability regimes relevant to the topic International liability for injurious consequences arising out of acts not prohibited by international law: study prepared by the Secretariat* (A/CN.4/471).

[163] See S. van Hoogstraten, Pierre-Marie Dupuy and Henri Smets, "Equal Right of Access: Transfrontier Pollution", in *Environmental Policy and Law*, vol. 2 (1976), pp. 77–78; and Philip McNamara, *The Availability of Civil Remedies to Protect Persons and Property from Transfrontier Pollution Injury* (Frankfurt, Alfred Metzner Verlag, 1981).

[164] Report of the International Law Commission on the Work of its Fifty-Eighth Session (A/61/10), p. 151.

[165] General Assembly resolution 62/68 ("Consideration of prevention of transboundary harm from hazardous activities and allocation of loss in the case of such harm"), adopted on 6 December 2007.

It is also important to note that the non-discrimination rule established in article 32 applies not only *ex post* with respect to the occurrence of harm, but also to natural or legal persons who "are under a serious threat of suffering significant transboundary harm". This would enable potential foreign victims of transboundary harm arising from a planned use of an international watercourse to participate in the legislative and/or administrative consultation process on an equal footing with the nationals and residents of the State. In its Survey on liability regimes relevant to the topic International liability for injurious consequences arising out of acts not prohibited by international law, commenting on the 1976 recommendation of the Organization for Economic Cooperation and Development (OECD) on equal access in matters of transboundary pollution, the secretariat of the International Law Commission noted that:

> [t]he application of the principle [of equal right of access] leads, in particular to [a] situation where two 'victims' of the same transfrontier pollution situated on opposite sides of a common frontier have the same opportunity to voice their opinions or defend their interests both at the preventive stage before the pollution has occurred and in the curative stage after damage has been suffered. The national and foreign victims may thus participate on an equal footing at enquiries or public hearings organized, for example, to examine the environmental impact of a given polluting activity, (*sic*) they may take Part in proceedings in relation to environmental decisions which they wish to challenge without discrimination before the appropriate administrative or legal authorities of the country where pollution originates.[166]

It is arguable that, because the principle of equal right of access is enshrined in international customary law, it can be invoked before the domestic courts of States that are not parties to the United Nations Watercourses Convention. In any event, that Convention clearly enhances the principle, the increasing importance of which parallels the prevailing tendency towards the internalization of liability for transboundary damage arising from activities carried out by private operators. Unlike State liability and responsibility, this tendency has emerged from State practice — as evidenced in the aforementioned Sandoz case and later confirmed in the reaction to the 2000 cyanide spill near Baia Mare, Romania — despite major difficulties in its international codification. Its rationale may be found in three policy factors.

First, leaving it to the State of nationality to protect, at the inter-State level, individuals and private companies that have suffered personal injury or damage to property involves the uncertainty inherent in the discretionary nature of diplomatic protection under international and domestic law. Indeed, the State of nationality of the victims may find it inappropriate — owing primarily to foreign policy considerations — to bring a case at the international level against the State of origin. Given the unpredictably high amounts of compensation awarded in such cases, a victim State could waive its right to invoke the responsibility or liability of the origin State in order to preserve the future option of making a legal defence argument as to the inappropriateness or inadmissibility of such inter-State claims where it might find itself in the position of the origin State.

Second, even if the State of nationality is willing to invoke the international responsibility or liability of the origin State on behalf of its nationals, this will not necessarily lead to judicial assessment of the case since the jurisdiction of the International Court of Justice, like that of any international arbitral tribunal, is not compulsory.

A third policy consideration is that of economic justice within the origin State since, under the principle of State liability or responsibility in such cases, it would be forced to pay compensation out of its State budget for damage arising from the profit-making activity of a private operator; thus, the State and its taxpayers would be covering the entrepreneurial risks of national and foreign investors. This tendency is consistent with Principle 13 of the 1992 Rio Declaration:

> 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.[167]

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[166] See note 157 above, para. 120. The recommendation is available online at http://webnet.oecd.org/OECDACTS/Instruments/ShowInstrumentView.aspx?InstrumentID=13andInstrumentPID=11andLang=enandBook=.

[167] See note 23 above.

The internalization of liability involves a shift from inter-State liability or responsibility under international law to civil liability under domestic law. Given the transboundary nature of the actions involved, this approach raises conflict-of-laws issues with regard to determination of the competent forum and the applicable law for assessing the civil liability of the operator. Such internalization as a means of addressing the issue of compensation for harm caused to private victims was given serious consideration within the framework of the ECE Water Convention, to the extent that a joint Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters was adopted by Parties to the Water Convention and the ECE Convention on the Transboundary Effects of Industrial Accidents at an extraordinary joint session of the governing bodies of the two treaties, held during the fifth Environment for Europe Ministerial Conference in Kyiv on 21 May 2003.

Although, owing primarily to problems with the allocation of competence between the European Union and its member States, this Protocol has obtained only one ratification to date, it significantly adds to and may further inspire the prevailing trend in State practice whereby the victims of transboundary harm have a choice between the competent court[168] and the applicable law[169] of either the State where the damage was suffered, or the State of origin of the harm.

The Protocol also provides, in rather innovative terms, for submission of a dispute to final and binding arbitration, subject to the agreement of all the parties.[170] Since the agreement between the disputing parties would, in any event, provide the legal foundations for arbitral jurisdiction, this provision offers authoritative guidance, irrespective of the entry into force of the Protocol or the nationality of the private subjects involved, by providing an incentive for a potentially more neutral and consistent adjudicatory approach to civil liability claims for transboundary harm.

4.3 The equitable and reasonable utilization and participation principle

As illustrated above, the no-harm rule is closely connected to the principle of equitable utilization. In his seminal course on the general principles of international water law at the Hague Academy, Lucius Caflish, one of the negotiators of the United Nations Watercourses Convention and currently a member of the International Law Commission, introduced the principle of equitable utilization, in which he included the element of participation, as an extension of the no-harm rule.[171] The present author has always advocated the equal relevance of the two legal principles and their interrelationship with a view to providing "… the maximum benefit to each basin State from the uses of the waters with the minimum detriment to each", as indicated in the commentary to article IV of the Helsinki Rules.[172]

As illustrated in chapter 2 above, on the rationale of the basic principles of international water law,[173] the equitable utilization principle has emerged as a legal tool that tempers conflicting absolute claims[174] and reflects the principle of the community of interest and equality of rights of co-riparians, established and

[168] Article 13 ("Competent courts"): "1. Claims for compensation under the Protocol may be brought in the courts of a Party only where: (a) The damage was suffered; (b) The industrial accident occurred; or (c) The defendant has his or her habitual residence, or, if the defendant is a company or other legal person or an association of natural or legal persons, where it has its principal place of business, its statutory seat or central administration. 2. Each Party shall ensure that its courts possess the necessary competence to entertain such claims for compensation".

[169] Article 16 ("Applicable Law"): "1. Subject to paragraph 2, all matters of substance or procedure regarding claims before the competent court which are not specifically regulated in the Protocol shall be governed by the law of that court, including any rules of such law relating to conflict of laws. 2. At the request of the person who has suffered the damage, all matters of substance regarding claims before the competent court shall be governed by the law of the Party where the industrial accident has occurred, as if the damage had been suffered in that Party".

[170] Article 14 ("Arbitration"): "In the event of a dispute between persons claiming for damage pursuant to the Protocol and persons liable under the Protocol, and where agreed by both or all parties, the dispute may be submitted to final and binding arbitration in accordance with the Permanent Court of Arbitration Optional Rules for Arbitration of Disputes Relating to Natural Resources and/or the Environment".

[171] Caflisch and Tunkin (note 15 above), p. 141.

[172] Note 80 above.

[173] On the principle in question, see Ibrahim Kaya, *Equitable Utilization: The Law of Non-Navigational Uses of International Watercourses* (Aldershot, United Kingdom and Burlington, United States of America, Ashgate, 2003).

[174] See also McIntyre, note 37 above, pp. 121–154; McCaffrey, note 15 above, pp. 384–405; and Kaya, note 173 above.

confirmed in the *River Oder* case[175] and the *Gabčíkovo-Nagymaros* case.[176] The following subsections of the present study will consider the manner in which it is addressed in each of the two Conventions.

4.3.1 The Economic Commission for Europe Water Convention

Article 2 of the Convention provides that:

> …
>
> 2. The Parties shall, in particular, take all appropriate measures:
>
> …
>
> (c) To ensure that transboundary waters are used in a reasonable and equitable way, taking into particular account their transboundary character, in the case of activities which cause or are likely to cause transboundary impact;
>
> …
>
> 5. In taking the measures referred to in paragraphs 1 and 2 of this article, the Parties shall be guided by the following principles:
>
> …
>
> (c) Water resources shall be managed so that the needs of the present generation are met without compromising the ability of future generations to meet their own needs.

The *Guide to Implementing the Water Convention* explains that, with regard to the principle of reasonable utilization, though not to the obligation of harm prevention, the ECE Water Convention relies largely on the more detailed guidance provided in the United Nations Watercourses Convention and on the *travaux préparatoires*.[177] In order to better explain the normative function of this principle, the *Guide* refers to the following passage from the commentary to article 5 of the draft articles on the law of the non-navigational uses of international watercourses:

> In many cases, the quality and quantity of water in an international watercourse will be sufficient to satisfy the needs of all watercourse States. But where the quantity or quality of the water is such that all the reasonable and beneficial uses of all watercourse States cannot be fully realized, a "conflict of uses" results. In such a case, international practice recognizes that some adjustments or accommodations are required in order to preserve each watercourse State's equality of right. These adjustments or accommodations are to be arrived at on the basis of equity, and can best be achieved on the basis of specific watercourse agreements.[178]

Most importantly, the *Guide* expressly states that, for the purpose of a cooperative assessment of the equitable and reasonable nature of a given use,

> [i]n order to identify such relevant factors on which to exchange data and information and on which to hold consultations, article 6, paragraph 1, of the United Nations Watercourses Convention provides useful guidance. It identifies a non-exhaustive list of factors and circumstances that should be taken into account when balancing the interests of riparians.[179]

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[175] See note 25 above.

[176] See note 26 above.

[177] See note 74 above, para. 20.

[178] Paragraph (9) of the commentary to article 5 of the draft articles, in *Yearbook … 1994*, vol. II, Part Two, p. 98, cited in para. 103 of the *Guide to Implementing the Water Convention* (see note 74 above).

[179] See note 74 above, para. 107. On this point, see subsection 4.3.2 below.

This is a practical example of how the complementary relationship between the two Conventions can play a normative role; the normative authority of the United Nations Watercourses Convention is formally acknowledged for the purposes of interpreting and applying a legally binding instrument, such as the ECE Water Convention. This, in turn, strengthens the normative value of the former Convention, irrespective of its entry into force, by enhancing the evidentiary nature of its provisions with respect to international customary water law.

As indicated in the *Guide to Implementing the Water Convention*,[180] the equitable use principle set out in article 2, paragraph 2 (c), of the Convention is to be interpreted and applied in combination with article 2, paragraph 5 (c), according to which "water resources shall be managed so that the needs of the present generation are met without compromising the ability of future generations to meet their own needs". The incorporation of the principle of sustainable development into the ECE Water Convention is in line with contemporary developments in international customary water law.[181] This is corroborated by the codification of the equitable use principle in article 5, paragraph 1, of the United Nations Watercourses Convention, whereby "an international watercourse shall be used and developed by watercourse States with a view to attaining optimal and sustainable utilization thereof and benefits therefrom, taking into account the interests of the watercourse States concerned, consistent with adequate protection of the watercourse". Thus, under both Conventions, use of an international watercourse is inequitable, and therefore unlawful, unless it is sustainable in terms of water quantity or quality.

While, unlike the United Nations Watercourses Convention, the ECE Water Convention does not specify the factors to be considered in determining equitableness, it has two normative advantages that more than compensate for this apparent shortcoming. First, it provides its parties with an institutional framework — including bilateral and multilateral joint bodies, the Meeting of the Parties and the meetings of its subsidiary bodies — in which the customary factors for equitable use are addressed as a matter of routine cooperation by the interested parties. From a pragmatic perspective, this feature facilitates integration of the element of participation into the principle of equitable utilization, otherwise defined as the "equitable and reasonable use and participation principle". Second, the ECE Water Convention provides its parties with an advanced and specific set of normative standards for the prevention of transboundary impact, compliance with which helps States to ensure that activities carried out on their territory are equitable and reasonable.

Since the ECE Water Convention is complemented by the United Nations Watercourses Convention with respect to interpretation and application of the equitable and reasonable use and participation principle, and since both instruments will soon have a global scope, it seems appropriate to examine at greater length the consolidation of that principle. Moreover, the fact that the reference to the equitable utilization principle in the ECE Water Convention — and therefore the interpretation and application of that principle by the joint bodies established under the Convention and by the parties thereto — is based on international customary law, most, if not all, of the following considerations also apply to the ECE Water Convention.

4.3.2 The United Nations Watercourses Convention

Article 5 of the United Nations Watercourses Convention ("Equitable and reasonable utilization and participation") consists of two paragraphs, the first setting out the principle and its implications and the second establishing the obligation of co-riparian States to participate in the use, development and protection of their shared watercourses. The operative aspects of the rule on equitable use are dealt with in article 6 ("Factors relevant to equitable and reasonable uti1ization"), which provides a non-exhaustive list of factors to be considered and weighed with a view to proper implementation. article 10 ("Relationship between different kinds of uses") is relevant to article 6 as it establishes the principle of the lack of priority among different uses of an international watercourse, with the exception of "vital human needs" (see below).

Since application of the equitable use principle requires a contextual analysis of States' claims with regard to the various circumstances of any specific case, its consolidation aims to provide "a *method* aimed at determining the utilization rights of riparian states, containing in particular the ways and means of settling conflicts of interests according to the pre-requirements of equitability and reasonableness, on the one hand,

[180] See note 74 above, para. 102.

[181] See Fuentes, note 38 above. See also Rieu-Clarke, note 38 above, particularly pp. 100–132.

and the procedure to be applied to achieve this end, on the other", this method being instrumental to the attainment of "the *result* of the coordination of uses".[182]

It is essential to establish the ends to be achieved before applying the method inherent in the equitable use principle (i.e., the balancing of all relevant factors) with a view to the equitable utilization of international watercourses. The United Nations Watercourses Convention represents a major refinement of this normative process.

4.3.2.1 The general principle of equitable utilization (article 5, paragraph 1)

The first sentence of article 5, paragraph 1, of the United Nations Watercourses Convention contains the basic formulation of the equitable utilization rule: "Watercourse States shall in their respective territories utilize an international watercourse in an equitable and reasonable manner".

Contrary to article IV of the Helsinki Rules,[183] this provision does not mention the concept of "sharing" an international watercourse or its waters. At first glance, the expression "equitable utilization" seems preferable to "equitable sharing" as it encompasses a broader range of issues pertaining to watercourse management (including environmental protection), whereas the latter expression suggests that it refers solely to the apportionment of water quantity among riparian States.[184] From a wider perspective, however, the word "sharing" has a much broader scope insofar as it evokes the concept of "shared natural resources", which has played a key role in the promotion of international standards for cooperative action by States in the use and management of environmental resources.[185] However, given that many of its provisions, including article 5, seek to enhance the equitable participation of riparian States in the use and development of international watercourses,[186] the Convention is the latest attempt to reflect in a binding text the legal aspects of the common action of interested States in the use and management of a shared resource. In this respect, the "shared natural resource" concept, while not expressly mentioned in the Convention, serves as a catalyst for establishing a link — through most, if not all, of its provisions — between the substantive requirements of equitable utilization and the entire range of cooperative duties and procedural obligations that are crucial to its proper implementation.

After establishing, in general terms, the principle of equitable utilization, article 5, paragraph 1, continues:

> … In particular, an international watercourse shall be used and developed by watercourse States with a view to attaining optimal and sustainable utilization thereof and benefits therefrom, taking into account the interests of the watercourse States concerned, consistent with adequate protection of the watercourse.

This wording contains few but significant changes from the draft text proposed by the Commission in 1994, such as the addition of the term "sustainable" after "optimal" and the insertion of the words "taking into account the interests of the watercourse States concerned". These additions were made with a view to enhancing the

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[182] János Bruhács, *The Law of the Non-navigational Uses of International Watercourses* (Dordrecht and Boston, Martinus Nijhoff, 1993), p. 159.

[183] "Each basin State is entitled, within its territory, to a *reasonable and equitable share* in the beneficial uses of the waters of an international drainage basin" (note 147 above, p. 486, emphasis added).

[184] On the different meanings and implications of the formulas used in international legal practice to describe the equitable use principle, see Bruhács, note 182 above, pp. 157–158; Dante A. Caponera, *Principles of Water Law and Administration*, 214 (Rotterdam, A.A. Balkema, 1992); and Maurizio Arcari, *Il regime giuridico delle utilizzazioni dei corsi d'acqua internazionali. Principi generali e norme sostanziali* (Padua, CEDAM, 1998), pp, 231–236.

[185] In the *Pulp Mills* case, the Court felt the need to stress that the River Uruguay "constitutes a shared resource" (note 42 above, para. 103). On the relevance of the concept of shared natural resources to international environmental law, see Willem Riphagen, "The International Concern for the Environment as Expressed in the Concepts of the 'Common Heritage of Mankind' and of 'Shared Natural Resources'", in Michael Bothe, ed., *Trends in Environmental Policy and Law = Tendances actuelles de la politique et du droit de l'environnement* (Gland, Switzerland, International Union for Conservation of Nature and Natural Resources, 1980), pp. 343–362; Alexandre Kiss, "The International Protection of the Environment", in Ronald St. John Macdonald and Douglas M. Johnston, eds., *The Structure and process of international law: essays in legal philosophy doctrine and theory*, (The Hague and Boston, Martinus Nijhoff, 1983), pp.1080–1083; and Rüdiger Wolfrum, "Purposes and Principles of International Environmental Law", in *German Yearbook of International Law*, vol. 33 (1990), pp. 318–321 (1990). For a more recent study, see Sharelle Hart, ed., *Shared Resources: Issues of Governance* (Gland, Switzerland, International Union for Conservation of Nature and Natural Resources, 2008). For further references to the concept of shared natural resources and its implications, see section 3.3 above.

[186] See, for example, article 8 ("General obligation to cooperate"); article 9 ("Regular exchange of data and information"); Part III ("Planned measures"); and articles 20–23 (calling for joint action by States in the environmental protection of international watercourses and their ecosystems).

goals according to which the rule must be interpreted and applied by providing "public interest limitations" on the traditional doctrine of equitable utilization,[187] not simply as factors in assessing the equitable character of a given utilization but as values inherent in the principle of equitableness itself. Accordingly, any utilization of an international watercourse that disregards one of these criteria — e.g., a patently unsustainable use of the watercourse — is inequitable and unreasonable for the purposes of the Convention.

The concept of optimal utilization was controversial during the *travaux préparatoires* as it seemed to have economic connotations that could be used to give the most efficient user of an international watercourse priority over less-technologically-developed riparian States.[188] Against this background, the Commission's Drafting Committee felt the need to emphasize that

> [a]ttaining optimum utilization and benefits [of an international watercourse] did not mean achieving "maximum" use or the most technologically efficient use or that the State capable of making the most efficient use of the watercourse should have a superior claim to it. It meant the attainment of the best possible uses and benefits for all with a minimum of harm, in the light of all relevant circumstances and a manner consistent with the adequate protection of the watercourse in terms, for instance, of flood or pollution control.[189]

Nevertheless, the scope of the term "optimal utilization" remained somewhat controversial until the Working Group convened to finalize the text of the Convention, so much so that in a last-minute package proposal for articles 5 to 7,[190] the addition of "taking into account the interests of the watercourse States concerned" to the text of article 5, paragraph 1, was proposed by the Chairman of the Working Group and ultimately approved, finally appeasing the concerns of delegations from downstream countries that had been calling for the inclusion of an explicit definition of "optimal utilization" in the Convention.[191]

Clearly, then, the right to utilize an international watercourse cannot be interpreted as a matter of exclusive interest for a single upper or lower riparian State. This reflects the view, already referred to above, expressed more than half a century ago in the Lake Lanoux arbitral award:

> … according to the rules of good faith, the upstream State is under the obligation to take into consideration the various interests involved, to seek to give them every satisfaction compatible with the pursuit of its own interests, and to show that in this regard it is genuinely concerned to reconcile the interests of the other riparian State with its own.[192]

Indeed, in order to complete this shift from an individualistic to a ""common interest"" approach to the concept of optimal utilization under the principle in question, some form of coordination among users is required. Riparian States must consult each other and conduct negotiations on the utilization of a given

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[187] For a criticism of the draft articles, see Nollkaemper, note 59 above, pp. 39–73; and Hey, note 52 above. The same criticisms have been put forward more recently by Hey with regard to the United Nations Watercourses Convention ("The Watercourse Convention: To What Extent Does It Provide a Basis for Regulating Uses of International Watercourses?" in *Review of European Community and International Environmental Law*, vol. 7 (1998), pp. 291–300.

[188] See especially the remarks made during the thirty-sixth session of the Commission by Stephen C. McCaffrey (1855th meeting, para. 30), Paul Reuter (1855th meeting, para. 52); Sir Ian Sinclair (1857th meeting, para. 25) and José M. Lacleta Muñoz (1859th meeting, para. 33) (*Yearbook … 1984*, vol. I, pp. 241–248, 253–259 and 264–271).

[189] Edilbert Razafindralambo, Chairman of the Drafting Committee, in para. 230 of the summary record of the 2033rd meeting of the Commission (*Yearbook … 1987*, vol. I, p. 239). At the same meeting (para. 30), the Chairman also noted that "Some member of the Drafting Committee had stressed that, at some future stage, consideration should be given to the possibility of defining 'optimum utilization and benefits' in the article on the use of terms. Equitable utilization did not mean the equal sharing of a watercourse: there might well be cases on 'unequal' sharing in the utilization of a watercourse which constituted equitable utilization. That basic concept would be fully explained in the commentary".

[190] For the text of the Chairman's proposal, see A/C.6/51/NUW/WG/CRP.94 (1997).

[191] See, in particular, the reactions to the Chairman's proposal for art. 5 and to the text finally adopted by the Working Group by the Syrian Arab Republic (A/C.6/51/SR.61, paras. 5 and 44 and A/C.6/51/SR.62/Add.1, para. 25) and Iraq (A/C.6/51/SR.62/Add.1, para. 31). However, the addition of the words "taking into account the interests of the watercourse States concerned" in art. 5 was unacceptable to Turkey (A/C.6/51/SR.61, para. 7). Critical remarks were also made at that meeting by the representatives of Bolivia (para. 23), China (para. 14), Colombia (para. 30), India (para. 22), South Africa (para. 16), Spain (para. 3) and the United Republic of Tanzania (para. 8). The representative of the United Republic of Tanzania later reiterated his delegation's reservations, announcing that it would abstain from the vote on the General Assembly resolution adopting the Convention on the grounds that the new words added to art. 5 introduced an "element of uncertainty" (A/51/PV.99, p. 3).

[192] See note 27 above.

watercourse in such a manner that their respective activities can be coordinated and the overall optimum result achieved through cooperation.[193]

This approach to optimal utilization requires not only coordination, but also more significant forms of cooperation. This is confirmed by the overall structure of article 5, in which the principle of equitable utilization established in paragraph 1 is linked to that of equitable participation in paragraph 2. Indeed, the concept of equitable participation is intended to express, in the words of the Commission, "not only 'the right to utilize the watercourse', but also the duty to cooperate actively with other watercourse States 'in the protection and development' of the watercourse".[194] This approach was endorsed by the International Court of Justice in its judgment in the *Gabčíkovo-Nagymaros* case; the re-establishment between Hungary and Slovakia of a joint regime for exploitation of the Danube, originally provided for in a 1977 Treaty, was considered to "reflect *in an optimal way* the concept of common utilization of shared water resources for the achievement of the several objectives mentioned in the Treaty, in concordance with article 5, paragraph 2, of the Convention on the Law of the Non-Navigational Uses of International Watercourses".[195]

Thus, the enhanced role of institutional cooperation under the ECE Water Convention complements the United Nations Watercourses Convention, and may stand available as an advanced means for the implementation of the normative framework of the Watercourses Convention with regard to optimal utilization. The cooperative dimension of the principle in question will be further addressed in relation to article 5, paragraph 2, concerning equitable participation.

Despite the above reasoning, it is difficult to avoid the impression that the optimal utilization concept pertains to the economic dimension of the use and development of freshwater resources rather than to their environmental protection. It will be recalled that, at the time of completion of the draft articles, the issue of the environmentally sound management of freshwater resources was becoming an integral Part of the international legal discourse on sustainable development that was at the centre of the Rio Conference.[196]

The Working Group eventually added the term "sustainable" to article 5 of the draft convention while retaining "optimal" in order to qualify the objectives to be achieved through the equitable utilization of an international watercourse. Expressly mentioning sustainable utilization in article 5, rather than diluting it through inclusion in the list of relevant factors in article 6, enhances the normative relevance of the concept of sustainability in application of the principle of equitable utilization. In other words, the Convention envisages sustainability not only as one of the factors for assessment of the equitable character of a given utilization, but as a value inherent in equitable utilization itself. The reference to "optimal and sustainable utilization" in article 5, paragraph 1, makes it clear that the imperatives of conservation and environmental protection must be integrated with the pattern of economic exploitation of international watercourses for purposes of equitable use. Accordingly, any restrictive approach to the scope of the equitable utilization principle, traditionally conceived as confined to the apportionment of waters among co-riparians, has been definitively precluded.

Application of the sustainable development concept to natural resource management requires that such resources be utilized at a rate that, while ensuring ongoing access to them in the short term, does not prejudice their availability in the long term so that the interests of both present and future generations are preserved.[197]

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[193] As a former the Commission member has rightly pointed out "… the maximum or optimum profit rule [is no longer conceived] as a right for the individual States, but as an obligatory objective underlying any reconciliation of conflicting uses, thus as a legally binding restriction on the discretion concerning the utilizations in the interests of the community". (Gerhard Hafner, "The Optimum Utilization Principle and the Non-Navigational Uses of Drainage Basins", in *Austrian Journal of Public International Law*, vol. 45 (1993), pp. 132–146).

[194] Para. (6) of the commentary to draft article 5 (*Yearbook … 1994*, vol. II, Part Two, p. 97).

[195] See note 26 above, para. 147 (emphasis added).

[196] See Agenda 21 (note 98 above) and the Rio Declaration (note 23 above).

[197] See article 2 of the Convention on Biological Diversity, June 5, 1992 (available online at www.cbd.int/doc/legal/cbd-en.pdf), which defines "sustainable use" as "… the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations". See also art. 2, para. 54, of the 1994 Danube River Protection Convention (note 81 above), which includes "maintain continuing access to natural resources" among the objectives of sustainable water management.

The link between the principle of equitable use and that of sustainable development is prominent in the ECE Water Convention. Referring to the former, established in article 2, paragraph 2 (c), the *Guide to Implementing the Water Convention* stresses that:

> Article 2, paragraph 2 (c), should be read in conjunction with article 2, paragraph 5 (c), according to which 'water resources shall be managed so that the needs of the present generation are met without compromising the ability of future generations to meet their own needs'. This is fully in line with the contemporary developments of international customary water law according to which the principle of equitable use incorporates that of sustainable development. That is to say that a use of an international water body may not be considered as equitable, therefore legal, if it is not sustainable.[198]

The principles of intergenerational equity and precautionary action, clearly established in the ECE Water Convention, are concepts closely linked to the sustainable use of natural resources that are not explicitly mentioned in article 5 or article 6 of the United Nations Watercourses Convention. Intergenerational equity is the conceptual foundation for the inter-temporal dimension and the long-term perspective on the use of natural resources that are inherent in the goal of sustainable utilization.[199]

On the other hand, the precautionary principle, reflecting the requirement that effective environmental measures must be based on anticipatory action, is a precondition for the sustainable management of natural resources.[200] article 5 (a) of the ECE Water Convention establishes that the parties must be guided by, among other things,

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

The close relationship between sustainable development, precautionary action and the interests of present and future in the context of international watercourses was corroborated, although somewhat cryptically, by the International Court of Justice in the *Gabčíkovo-Nagymaros* case. Before stating that Slovakia and Hungary should look afresh at the effects on the environment of the operation of the Gabčíkovo power plant project for utilization of the Danube, the Court made the following rather striking statement:

> … in the field of environmental protection, *vigilance and prevention* are required on account of the often irreversible character of damage to environment and of the limitations inherent in the very mechanism of reparation of this type of damage.
>
> Throughout the ages, mankind has, for economic and other reasons, constantly interfered with nature. In the past, this was often done without consideration of the effects upon the environment. Owing to new scientific insights and to a growing awareness of the risks for mankind — *for present and future generations* — of pursuit of such interventions at an unconsidered and unabated pace, new norms and standards have been developed, set forth in a great number of instruments during the last two decades. Such new norms have to be taken in consideration, and such new standards given proper weight, not only when States contemplate new activities but also when continuing with activities

198 See note 74 above, para. 102.

199 Brunnée and Toope, note 43 above, p. 68.

200 Ibid., pp. 68–69. The close link between the sustainable use of resources and the precautionary principle is stressed in the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, adopted on 4 August 1995 (United Nations, *Treaty Series*, vol. 2167, No. 37924); in art. 5 ("General principles"), the parties undertake to "(a) adopt measures to ensure long-term sustainability of straddling fish stocks and highly migratory fish stocks and promote the objective of their optimum utilization … (c) apply the precautionary approach in accordance with article 6", and in article 6 ("Application of a precautionary approach"), paragraph 1, to "… apply the precautionary approach widely to conservation, management, and exploitation of straddling fish stocks and highly migratory fish stocks in order to protect the living marine resources and preserve the marine environment".

> begun in the past. This need to reconcile economic development with protection of the environment is aptly expressed in the concept of *sustainable development*.[201]

In the light of the foregoing, it may be argued that, through the notion of sustainability, the basic principles of environmental law that emerged from the Rio Conference have been introduced into international water law. This is further corroborated by a complementary interpretation of the two Conventions.

Although there is no mention of ecosystem protection in article 5 of the United Nations Watercourses Convention, it is an integral Part of the overall conceptual framework related to the principle of sustainable development.[202] The implicit reference to ecosystem protection under the equitable use principle in article 5 of the Convention is corroborated by the final provision of paragraph 1, according to which the goals of optimal and sustainable utilization of an international watercourse must be pursued "consistent with the adequate protection of the watercourse". Given that this expression recalls Part IV of the Convention ("Protection, preservation and management") and that the environmental provisions contained therein are modelled on an ecosystem approach, this approach may well apply to the principle of equitable utilization.

4.3.2.2 The equitable participation principle (article 5, paragraph 2)

Article 5, paragraph 2, embodies the principle of equitable participation:

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

This reproduces the text of paragraph 5, article 2, of the draft articles, adopted by the Commission in 1994.[203] The Commission emphasized that the core of the concept of equitable participation was "cooperation between watercourse States through participation … in measures, works and activities aimed at attaining optimal utilization of an international watercourse, consistent with adequate protection thereof".[204]

Accordingly, from a systemic standpoint, the equitable participation principle is a specific expression of the principle of cooperation and a necessary means to implementation of the substantive principle of equitable utilization established in article 5, paragraph 1.[205] It appears from the *travaux préparatoires* of the Convention that the obligation of cooperation was not a detail to be left to the discretion of the parties to a watercourse agreement, but an obligation of a general nature aimed at preserving the balance between the right to utilize an international watercourse, on the one hand, and the duty to cooperate in its development and protection, on the other.[206] The fact that, according to article 5, paragraph 2, this obligation must be implemented "as provided in the present Convention" emphasizes the functional link between the equitable utilization rule and the procedural provisions of the Convention intended to articulate the general principle of cooperation. It also enhances the role of cooperation as the primary catalyst for interpretation and application of the Convention as a whole.

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[201] See note 26 above, para. 140 (emphasis added). It should, however, be pointed out that, in referring to the concepts of sustainable development and intergenerational equity, the Court abstained from endorsing explicitly the preacautionary principle, preferring to confine itself to the less controversial notion of preventive action: for a critical assessment of these aspects of the judgment in the *Gabčíkovo-Nagymaros* case, see Jochen Sohnle, "Irruption du droit de l'environnement dans la jurisprudence de la C.I.J: l'affaire Gabčíkovo-Nagymaros", in *Revue internationale de droit international public*, vol. 1, 1998, pp. 108–111.

[202] Brunnée and Toope, note 43 above, pp. 65–70. See also article 2, paragraph 4, of the Danube River Protection Convention (note 81 above), according to which sustainable water management must be designed to "avoid lasting environmental damage and protect ecosystems".

[203] *Yearbook … 1994*, p. 96.

[204] Para. (5) of the commentary to draft article 5, Ibid., p. 97.

[205] "… the principle of equitable participation … recognizes that, as concluded by technical experts in the field, cooperative action by watercourse States is necessary to produce maximum benefits for each of them, while helping to maintain an equitable allocation of uses and affording adequate protection to watercourse States and the international watercourse itself. In short, the attainment of optimal utilization and benefits entails cooperation between watercourse States through their participation in the protection and development of the watercourse" (Ibid.).

[206] See the statements made at the same meeting (A/C.6/51/SR.15) by the delegations of Venezuela (para. 10), Bangladesh (para. 47) and Brazil (para. 49). See also the positions expressed by Italy (para. 15), Viet Nam (para. 18), Syria (para. 20), Greece (para. 24) and Germany (para. 43).

While the relationship between the principle of cooperation and the substantive principles of the Convention will be further considered in due course,[207] the concept of equitable participation embodied in article 5, paragraph 2, has additional implications for procedural aspects of cooperation. As Lammers has pointed out, the concept of equitable participation

> … means more than the mere duty to co-operate but is an expression of a duty to follow the so-called 'integrated approach', which entails the global consideration of all uses of water, linked to other derivative problems such as nature conservation. … [It] relates to two kinds of interferences with water — *i.e.* not only interference caused by human activities (which is characteristic of the principle of equitable utilization) but also interference by nature.[208]

In other words, equitable participation involves a broader range of activities, such as flood control, erosion control, disease vector control, river regulation, the safeguarding of hydraulic works and environmental protection, which, strictly speaking, relate not to the economic exploitation of a watercourse but to its conservation.

Insofar as control and protection are essential to proper maintenance of the watercourse and to the welfare of the river community along its banks, each riparian State, acting individually, is required to adopt such measures, irrespective of any cooperation or coordination with co-riparian States.[209] Consequently, the principle of equitable participation enhances the vision of an international watercourse as a "river community" entailing, as a consequence, the obligation for the co-riparians to take action to ensure its protection and control. This further confirms the concept of "shared natural resources" as the conceptual pillar of the United Nations Watercourses Convention.[210]

The Convention's recognition of the participation element within the equitable use principle, addressed normatively through the obligations of cooperation, consultation and negotiations, is matched by its promotion through compulsory institutional cooperation under the ECE Water Convention. Such cooperation, to be carried out within the bilateral or multilateral joint bodies to be set up under article 9, paragraph 2, of the ECE Water Convention, replaces effectively the need for normative establishment of the principle of cooperation in pursuit of the principle of equitable utilization.

4.3.2.3 Factors relevant to the assessment of equitable utilization (article 6)

International custom and practice has developed a number of factors to be used as guidance in applying the general principle on a case-by-case basis.[211] The United Nations Watercourses Convention codifies these factors in abstract terms to be applied to basin-specific circumstances in bilateral and multilateral negotiations between co-riparians, either directly or within the context of the joint bodies established under article 9, paragraph 2, of the ECE Water Convention. Here again, the following explanatory and interpretive considerations with regard to the United Nations Watercourses Convention are also relevant to interpretation and application of the ECE Water Convention.

Article 6 of the United Nations Watercourses Convention complements the basic rule established in article 5, providing — in line with the aforementioned general customary guidance — a list of factors relevant to implementation of the equitable and reasonable utilization principle under specific basin-related circumstances:

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[207] See chapter 5 below.

[208] Lammers (note 37 above), p. 548. Cited by Malgosia Fitzmaurice, "Water Management in the 21st Century", in Antony Anghie and Garry Sturgess, eds., *Legal Visions of the 21st Century: Essays in Honour of Judge Christopher Weeramantry* (The Hague and Boston, Kluwer Law International, 1998), pp. 431–432.

[209] Lammers points out the similarities between this obligation and those arising in the context of river navigation, whereby riparian States are required to maintain in good order, for the purposes of free navigation, the portion of navigable rivers within their jurisdiction (Johan. G. Lammers, *The Present State of Research Carried Out by the English-Speaking Section of the Centre for Studies and Research* (The Hague: Hague Academy of International Law, 1986), p. 82). See also art. XVIII of the Helsinki Rules, note 80 above.

[210] See section 4.2 above.

[211] See Ximena Fuentes, "The Criteria for the Equitable Utilization of International Rivers", in *British Yearbook of International Law*, vol. 67, 1997, pp. 337–412.

> 1. Utilization of an international watercourse in an equitable and reasonable manner within the meaning of article 5 requires taking into account all relevant factors and circumstances, including:
>
> (a) Geographic, hydrographic, hydrological, climatic, ecological and other factors of a natural character;
>
> (b) The social and economic needs of the watercourse States concerned;
>
> (c) The population dependent on the watercourse in each watercourse State;
>
> (d) The effects of the use or uses of the watercourse in one watercourse State on other watercourse States;
>
> (e) Existing and potential uses of the watercourse;
>
> (f) Conservation, protection, development, and economy of use of the water resources of the watercourse and the costs of measures taken to that effect;
>
> (g) The availability of alternatives, of comparable value, to a particular planned or existing use.
>
> 2. In the application of article 5 or paragraph 1 of this article, watercourse States concerned shall, when the need arises, enter into consultations in a spirit of cooperation.
>
> 3. The weight to be given to each factor is to be determined by its importance in comparison with that of other relevant factors. In determining what is a reasonable and equitable utilization, all relevant factors are to be considered together and a conclusion reached on the basis of the whole.

Paragraph 1 of the article lists a number of factors to be considered in determining the equitable and reasonable character of a given utilization of an international watercourse, while paragraphs 2 and 3 provide important directives concerning its application on a case-by-case basis.

As indicated by the Commission, it is for each riparian State to assess its use of the watercourse in the light of the relevant factors in order to assure respect for the principle of equitable utilization.[212] This approach is clearly without prejudice to the possibility that technical commissions, joint bodies or other third-party procedures may be involved in weighing the relevant factors under any agreement or arrangement accepted by the watercourse States concerned;[213] in fact, the State's assessment may be instrumental in ensuring a consultative and participatory approach. To that end, article 6, paragraph 2, states that the "watercourse States concerned shall, when the need arises, enter into consultation in a spirit of cooperation".

The fact that this obligation is triggered "when the need arises" should not be interpreted as limiting its scope to any great extent. As the Commission has stressed, "in order to assure that their conduct is in conformity with the obligation of equitable utilization contained in article 6, watercourse States must take into account, *in an ongoing manner*, all factors that are relevant to ensuring that the equal and correlative rights of other watercourse States are respected".[214] It can therefore be argued that a watercourse State's good faith compliance with its obligations under article 5 and article 6, paragraph 1, of the Convention requires the involvement of co-riparians in a constant process of consultation on the equitable character of a given utilization of the common watercourse. The presumably low threshold of the consultations provided for in article 6, paragraph 2, will reduce unilateralism in assessment of the

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[212] See draft article 7 ("Factors relevant to equitable and reasonable utilization"), adopted on first reading in 1987 and largely corresponding to draft article 6, adopted on second reading in 1994, and the commentary thereto (*Yearbook … 1987*, vol. II, Part Two, pp. 36–38).

[213] This possibility was stressed by the Chairman of the Drafting Committee at the 2033rd meeting of the Commission (summary record of the 2033rd meeting, para. 50, in *Yearbook … 1987*, vol. I, p. 240) and in paragraph (2) of the commentary to draft article 6 (*Yearbook … 1994*, vol. II, Part Two, p. 101.

[214] Paragraph (2) of the commentary to draft article 6 (*Yearbook … 1994*, vol. II, Part Two, p. 36, emphasis added).

equitable utilization of an international watercourse without diminishing the importance of individual action in implementation of the relevant provisions.

Clearly, the aforementioned "ongoing" approach is best taken within the framework of the joint bodies whose establishment is compulsory under article 9, paragraph 2, of the ECE Water Convention; article 8, paragraph 2, of the United Nations Watercourses Convention is merely hortatory on this matter, as will be further illustrated in the context of the general obligation of cooperation.[215]

A feature inherent in the "factor-analysis" approach, widely recognized by experts and in codification by private law bodies, is the lack of hierarchical ranking among the factors or circumstances that may be relevant to equitable utilization.[216]

The Commission followed this approach to a considerable extent without expressly establishing the lack of priority among the factors listed in the relevant draft articles.[217] However, the issue became important during the negotiations in the Working Group, particularly in relation to the idea that vital human needs arising from the dependency of the population on the watercourse deserved priority over other factors.[218]

Eventually, the Drafting Committee of the Working Group decided to make explicit the lack of hierarchy among factors by adding a new paragraph 3 to article 6. Thus, a State cannot maintain the equitable character of its actual or planned utilization of an international watercourse if it relies primarily on a single factor or if, in balancing all relevant factors, it disregards the interests of other riparian States or the sustainable management or adequate protection of the watercourse.

It should be stressed that the list of factors is indicative, not exhaustive[219] and that the drafters in the Working Group endorsed the Commission's flexible approach to the matter.[220] This flexibility is all the more evident in comparison with the more detailed factors listed in article V of the Helsinki Rules; article 6 of the United Nations Watercourses Convention is clearly without prejudice to the possibility that elements of a more detailed and specific nature, even if not expressly mentioned, might be taken into consideration depending on the circumstances of the individual case.

Unlike the relevant provision of the Helsinki Rules, article 6, paragraph 1, of the United Nations Watercourses Convention does not mention compensation. However, given the non-exhaustive nature of the list established therein, the practicability of compensation as a factor in assessing the equitable character of a given utilization cannot be excluded a priori. As indicated above, compensation appears in article 7, paragraph 2, as an integral Part of the process for dealing with the occurrence of significant harm caused by (diligent) watercourse utilization. In that context, it is conceived as an element to be considered when balancing the equities of the States concerned and could therefore be used retroactively, together with the occurrence of harm, as a relevant factor for assessment of the equitable utilization of an international watercourse. This drafting approach avoids the assumption that a use that causes significant harm is *ipso facto* equitable by the mere fact that the user State may provide compensation for the harm.

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215 See chapter 5 below.

216 See article V, paragraph III, of the Helsinki Rules, the commentary to which clearly states that "no factor has a fixed weight nor will all factors be relevant in all cases. Each factor is given such a weight as it merits relative to all the other factors. And no factor occupies a position of preeminence *per se* with respect to any other factor" (note 80 above, p. 489).

217 In paragraph (3) of the commentary to draft article 6, the Commission states that "[no] priority or weight is assigned to the factors and circumstances listed [in art. 6, para. 1], since some of them may be more important in certain cases while others may deserve to be accorded greater weight in other cases" (*Yearbook … 1994*, p. 101).

218 The views of the most active delegations on this point is particularly relevant to the debate on the controversial issue of whether there is a human rights dimension to the body of international water law (see chapter 6 below). The delegation of Finland, in particular, proposed that "the relative value to be accorded to the various factors must be determined with a view to attaining sustainable development of the watercourse as a whole, and having special regard to the requirements of vital human needs, and particularly of the dependency of the population on the watercourse" (A/C.6/51/NUW/WG/CRP.18 and A/C.6/51/SR.15, para. 53). That proposal was supported at the fifteenth meeting of the Committee by the delegations of Portugal (A/C.6/51/SR.15, para. 56), Hungary (Ibid., para. 58), the Netherlands (Ibid., para. 64) and Germany (Ibid., para. 66). See also the United Kingdom's proposal along the same lines (A/C.6/51/NUW/WG/CRP.54).

219 See paragraph (2) of the commentary to draft article 6 (*Yearbook … 1994*, p. 101).

220 See the statement by the Chairman of the Drafting Committee in paragraphs 29 to 34 of the summary record of the 2033rd meeting of the Commission (*Yearbook … 1987*, vol. I, pp. 238–239), when the text of then article 6 (art. 7 in the final version) was adopted on first reading (Ibid, p. 240). Following this approach, the Drafting Committee decided, at that time, not to adopt the more detailed list of 11 relevant factors proposed by the Special Rapporteur, Jens Evensen, in 1983 (see note 61 above, para. 195, p. 111).

The factors listed in article 6, paragraph 1, can be divided into two groups: natural factors, i.e. those pertaining to the physical characteristics of an international watercourse, and functional or utilization factors, i.e. those relating to the economic and social needs and conditions of the riparian States concerned. Although these terms are used here for descriptive purposes, scholars have attempted to draw from the above distinction significant implications concerning the relative importance of the relevant factors. It has been argued that the factors pertaining to one of the two categories play a greater legal role in the apportionment of international rivers, while those pertaining to the other category play a subsidiary role insofar as they are used to adjust, on an equitable basis, the solution reached on the basis of the other category.[221]

Both of these positions should be discarded, if only because of the patently unfair consequences of their application. To assume that legal rights to a given use of a watercourse can be created only by geography or hydrology would privilege unjustifiably States that are favoured by nature at the expense of the real water needs of other riparian States. On the other hand, to infer that only needs can give rise to legal rights would trigger a "need-race" among watercourse States rushing to appropriate the waters of their common river, disregarding the natural conditions of the river that might affect its use and protection. As Fuentes has stated:

> It is not possible to agree with either of these extreme views. The first assumes that need is the unique applicable equitable criterion and ignores that there are other criteria relevant for solving claims over transboundary natural resources. The second view wrongly assumes that the rule of equitable utilization is a rule to be applied as a "corrective" of an apportionment already effected by nature.[222]

This argument confirms the wisdom of the solution adopted in article 6, paragraph 3, of the Convention whereby, in determining the equitable character of a given utilization, "… all factors must be considered together and their relative importance assessed on the basis of the whole". Thus, the bearing of each factor on the equitable character of the utilization cannot, a priori, be extracted from its natural or functional nature but must be carefully assessed in conjunction with other factors relevant to the case.

Article 6, paragraph 1 (a), covers "geographic, hydrographic, hydrological, climatic, ecological and other factors of a natural character". The inclusion of "other factors" ensures that natural factors not mentioned explicitly in this provision are not necessarily excluded from an assessment of equitable use and may well be taken into account on a case-by-case basis. It should also be stressed that natural factors are not to be viewed exclusively as linked to the geographical position of riparian States vis-à-vis the watercourse; they also refer to the natural conditions of the watercourse itself and their consideration can have an important bearing on its conservation and ecological preservation. Consequently, the ecological factor referred to in paragraph 1 (a), may be relevant in assessing the equitable character of a given use.

Article 6, paragraph 1 (b) to (g) cover factors of a "functional" character. Paragraph 1 (b) ("The social and economic needs of the watercourse States concerned")[223] provides a general reminder, on a case-by-case basis, of the importance of States' social and economic water-related needs, in conjunction with the other relevant factors listed in article 6, paragraph 1,[224] to an integrated assessment of the equitable character of a given use. The concept of dependence embodied in paragraph 1 (c) ("The population dependent on the watercourse in each riparian State") requires the inclusion, in an integrated assessment of the equitable character of a given use, of "both the size of the population dependent on the watercourse and the degree or extent of their dependency".[225] By referring specifically to the dependent population, this provision enhances the human rights dimension of use of the waters of international watercourses (to be considered below).

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[221] For a proponent of the view that natural factors play the primary role in the apportionment of river waters, see Babu Ram Chauhan, *Settlement of International Water Law Disputes in International Drainage Basins* (Berlin, E. Schmidt, 1981), pp. 217–225. Chauhan defines "factors creating legal rights" as those with a primarily natural character and "equitable factors" as those with only a supplementary or functional character. This view was reiterated in his *Settlement of International and Inter-State Water Disputes in India* (Bombay, N.M. Tripathi, 1992), pp. 54–59. For a proponent of the opposite interpretation, arguing that "[f]actors unrelated to the availability and use of the waters are irrelevant and should not be considered", see Lipper, note 20 above, pp. 45 and 63.

[222] See Fuentes, note 211 above, p. 395.

[223] *Yearbook … 1994*, vol. II, Part Two, p. 101.

[224] See Fuentes, note 211 above, pp. 344–354.

[225] See paragraph (4) of the commentary to draft article (6) in *Yearbook … 1994*, vol. II, Part Two, p. 101.

Paragraph 1 (d) ("The effects of the use or uses of the watercourses in one watercourse State on other watercourse States")[226] appears to indicate that the causing of significant harm would be only one of several factors to be given equal weight in assessing the equitable character of a use.[227] This approach is in line with the position of delegations that advocated the deletion of article 7, perhaps with the introduction of new language in article 6, paragraph 1 (d), to include harm among the factors relevant to equitable utilization.[228] However, the fact that the obligation not to cause significant harm was ultimately established in a second article of the Convention rather than in article 6 indicates that the provision is concerned less with the issue of significant harm than with the potential effects of utilization of an international watercourse. The purpose of this provision is to emphasize that, in conducting a comparative cost-benefit analysis, the potential for conflicting uses of an international watercourse must be taken into account. Therefore, article 7 should be applied and interpreted in conjunction with the factors listed in article 6, paragraph 1 (e). Where the effects of such use include the occurrence of significant harm, the issue is to be considered in the light of the relationship between article 7, on the one hand, and articles 5 and 6, on the other.

Article 6, paragraph 1 (e), refers to "existing and potential uses of the watercourse" as factors relevant to equitable utilization. It conveys much of the debate over the importance to be attached to existing and future utilizations, respectively, in assessing the equitable character of a use. For the purposes of the present study, suffice it to recall that the legal experts are sharply divided between those who suggest that existing utilizations must be given preference over prospective ones, and those who object that granting preferential status to existing uses would be tantamount to giving existing users a right of veto over new uses, thereby infringing on the principle of the equality of rights among riparian States.[229]

The provision adopts a neutral approach consistent with a lack of hierarchical ranking among factors.[230] However, the Working Group, in its report to the General Assembly (A/51/869), included an explanation of this provision, stating that "[i]n order to determine whether a particular use is equitable and reasonable, the benefits as well as the negative consequences of a particular use should be taken into account". By alluding to the effects, both beneficial and negative, of a particular use, whether current or potential, the Working Group corroborated the idea that article 6, paragraphs 1 (d) and (e), must be read in conjunction, i.e. that the question of the respective importance of present and potential utilizations of an international watercourse must be answered not *in abstracto*, but in the light of a comparative evaluation of the impact of such use.

In order for the beneficial or adverse consequences of future uses to be considered relevant, there must be a meaningful degree of certainty regarding the likelihood of such uses, which must be supported by detailed plans.[231] On the one hand, this approach may allay user States' concern that their existing utilizations might be abandoned to leave room for the uncertain prospect of undefined future uses. On the other, consideration of existing uses as factors on the same footing as future uses ensures that the former will not be invoked as establishing a legal title that gives prior user States irrevocable acquired or vested rights to continue a

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226 Ibid.

227 See Lucius Caflisch, "La Convention du 21 mai 1997 sur l'utilisation des cours d'eau internationaux à des fins autres que la navigation", in *Annuaire français de droit international*, vol. XLIII, 1997, pp. 761–762.

228 See the written proposal submitted by Switzerland, supporting the inclusion in article 6 or article 5 of a new paragraph to the effect that a utilization entailing significant harm to the ecosystem of an international watercourse could be considered equitable and reasonable (A/C.6/51/NUW/WG/CRP.5). See also Switzerland's comments on draft article 7 in the report of the Secretary-General entitled "Convention on the Law of the Non-Navigational Uses of International Watercourses: Draft articles on the law of the non-navigational uses of international watercourses and resolution on confined transboundary groundwater" (A/51/275), pp. 46–47.

229 See, among others, Jonathan M. Wenig, "Water and Peace: The Past, the Present, and the Future of the Jordan River Watercourse: An International Law Analysis" in *New York University Journal of International Law and Policy*, vol. 27 (1995), pp. 350–354.Wenig maintains that "[i]n examining uses of water, priority should be given to past or existing uses over potential uses. This proposition is justified as a matter of prospective logic" (Ibid., p. 350). See also Fuentes (note 211 above, p. 373), who maintains that "it cannot be asserted that existing utilization has priority over the various other criteria that must be taken into consideration". This theoretical debate was revived by some members of the Commission at its 1994 session during the adoption, on second reading, of draft article 6; in particular, Mr. Al-Khasawneh, supported recognition of "the special importance to existing uses" as compared with future uses of an international watercourse, and the objections raised by Mr. Villagrán Kramer and Mr. Szekely (summary record of the 2354th meeting of the Commission, paras. 49–52, in *Yearbook … 1994*, vol. I, pp. 176–177).

230 As explained by the Commission, article 6, paragraph 1 (e) "refers to both existing and potential uses of an international watercourse in order to emphasize that neither is given priority, while recognizing that one or both factors may be relevant in a given case" (para. (4) of the commentary to draft article 6, in *Yearbook … 1994*, vol, II, Part Two, p. 101).

231 See the commentary to article VII of the Helsinki Rules, pointing out that "Reservation of water for a State intending future utilization could not be accomplished with any meaningful degree of certainty in the absence of detailed plans for future use" (note 80 above, p. 492).

given use of an international watercourse.[232] This may appease States which, having begun their economic development later than their co-riparians, are concerned that their development could be inhibited by existing uses.

Paragraph 1 (f) lists a number of factors relating to measures that may be taken by riparian States with a view to the conservation, protection and development of an international watercourse. Of particular importance is the expression "economy of use", which, according to the Commission, "refers to the avoidance of unnecessary waste of water".[233] This suggests that a watercourse State's diligence in the efficient, non-water-wasting exploitation of an international watercourse or its prospective capacity in that regard is a relevant factor in determining the equitable character of a given use. Yet, in line with the concept of optimal utilization discussed above, efficiency in water management does not per se give rise to a preferential title to the use of water.[234]

Paragraph 1 (g) considers as a factor for equitable utilization "the availability of alternatives, of comparable value, to a particular planned or existing use". As explained by the Commission, "[t]he alternatives may … take the form not only of other sources of water supply, but also of other means — not involving the use of water — of meeting the needs in question, such as alternative sources of energy or means of transport".[235]

4.3.2.4 The relationship between different kinds of uses (article 10)

Article 10 ("Relationship between different kinds of uses") establishes the lack of priority among the uses of an international watercourse and provides guidance on the resolution of conflicts between uses:

> 1. In the absence of agreement or custom to the contrary, no use of an international watercourse enjoys inherent priority over other uses.
>
> 2. In the event of a conflict between uses of an international watercourse, it shall be resolved with reference to articles 5 to 7, with special regard being given to the requirements of vital human needs.

The principle of the lack of priority among uses was not considered controversial during the *travaux préparatoires* and was fully endorsed by the Working Group as a corollary of the equitable use principle codified in articles 5 and 6. However, the rule is without prejudice to the possibility that, under specific circumstances, a State may claim the priority of a certain use in order to meet its needs.[236] article 10 ("Relationship between different kinds of uses"), paragraph 1, expressly preserves any priority of use established or accepted by agreement or custom between the States concerned: "In the absence of agreement or custom to the contrary, no use of an international watercourse enjoys inherent priority over other uses". The word "custom", as opposed to "agreement", could lend itself to abuse of this provision, the purpose of which is to grant legal status to existing uses. The term is intended to refer to the accepted source of international law known as "local", "special" or "regional" custom, which is far closer to the concept of tacit agreement than to general customary law.[237] The Commission's intent was to prevent the word "custom" from being interpreted as "requiring a for-

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[232] For a criticism of the concepts of vested and acquired rights and their application to the utilization of international watercourses, see Fuentes, note 211 above, pp. 370–372.

[233] Paragraph (4) of the commentary to draft article 6, in *Yearbook … 1994,* vol. II, Part Two, p. 101.

[234] For a general discussion of the role of efficiency in the equitable utilization of international watercourses see Wenig, note 229 above, pp. 351–354; and Fuentes, note 211 above, pp. 378–394. On the concept of optimal utilization see subsection 4.3.2.1 above.

[235] Paragraph (4) of the commentary to draft article 6, in *Yearbook … 1994*, vol. II, Part Two, p. 101.

[236] This is widely reflected in international treaty practice relating to individual transboundary watercourses; see, among others, the 1909 Treaty between Great Britain and the United States Relating to Boundary Waters and Questions Arising between the United States and Canada, available online at www.ijc.org/en_/BWT. article VII of the Treaty lists, in order of preference: "1.Uses for domestic and sanitary purposes. 2. Uses for navigation. 3. Uses for power and for irrigation purposes". See also the 1944 Treaty between the United States of America and Mexico relating to the utilization of the waters of the Colorado and Tijuana Rivers, and of the Rio Grande (Rio Bravo) from Fort Quitman, Texas, to the Gulf of Mexico (United Nations, *Treaty Series*, vol. 994, pp. 1–52), art. 3 of which lists the following order of preference in the joint use of international waters: "1. Domestic and municipal uses. 2. Agriculture and stock-raising. 3. Electric power. 4. Other industrial uses. 5. Navigation. 6. Fishing and hunting. 7. Any other beneficial uses"; and, more recently, the 1996 Israel-Jordan-Palestine Liberation Organization Declaration on Cooperation on Water-related Matters, in *International Legal Materials*, vol. 36 (1997), pp. 761–770, in which the parties agree that "Domestic uses occupy the first priority in the allocation of water resources".

[237] On "local", "special" and "regional" custom, see Anthony D'Amato, The Concept of Special Custom in International Law, in *American Journal of International Law*, vol. 63 (1969), p. 211–223; Gérard Cohen-Jonathan, "La coutume locale", in *Annuaire français de droit international*, vol. 7 (1961), pp. 119–140; and Francesco Francioni, "La consuetudine locale nel diritto internazionale", in *Rivista di diretto internazionale*, vol. 54 (1971), pp. 396–422.

mal agreement between the States concerned, even though in practice it was often on the basis of usage and traditions that a specific use was given priority".[238] The Commission further specified that "the word 'custom' applies to situations in which there may be no 'agreement' between watercourse States but where, by tradition or in practice, they have given priority to a particular use".[239] Far from legitimizing unilateralism in determining the importance to be attached to existing uses, this statement enhances the element of the informal, or tacit, agreement between interested riparian States. Similarly, in its judgment on the merits in the *Right of Passage* case, the International Court of Justice stated that:

> Where … the Court finds a practice clearly established between two States which was accepted by the Parties as governing the relations between them, the Court must attribute decisive effect to that practice for the purpose of determining their specific rights and obligations. Such a particular practice must prevail over any general rules.[240]

Thus, local custom can compensate for a lack of formal agreement between the States concerned and permit derogation from the general principle of the lack of priorities among utilizations established in article 10, paragraph 1. It will also be recalled that a number of proposals put forward in the Drafting Committee of the Working Group with a view to introducing the notions of acquired, vested or historical rights as grounds for granting preferential legal title to a given use of the waters of an international watercourse were rejected,[241] thereby allaying many States' concerns regarding use of the word "custom". However, a long-standing utilization of an international watercourse by a riparian State carries considerable weight in assessment of the equitableness of a regime. In particular, it may serve as evidence of the economic and social needs of the riparians concerned and of the population dependent on the watercourse. In this respect, historic uses may be considered factors relevant to equitable utilization under article 6, paragraph 1 (b) and (c), of the Convention or within the framework of existing utilizations under paragraph 1 (e).

An exception should be made for traditional uses that are inextricably linked to the very survival of the human communities located along a river's banks.[242] The issue falls within the scope of the "vital human needs" mentioned in article 10, paragraph 2, as will be illustrated below in connection with the question of whether the topic may be considered to have a human rights dimension.

4.4 State responsibility

In the light of the due diligence character of the obligation to prevent harm, the following comments with regard to the United Nations Watercourses Convention also apply to breaches of that obligation under the ECE Water Convention. However, it is arguable that considerations of State responsibility will arise less frequently in the case of the latter instrument, primarily because its more technically detailed due diligence standards of prevention, by providing normative guidance and assistance, will render breaches of the prevention obligations established therein less likely. In addition, the institutional framework offered by the Meeting of the Parties to the ECE Water Convention and those of its subsidiary organs, particularly since the establishment of the Implementation Committee, makes it more likely that, even where the origin State has fallen short of the required due diligence standards, remedial action will be taken in a less confrontational manner than would be the case under the regime of State responsibility. The latter regime is more relevant to breaches of the due diligence obligation between States that are parties only to the United Nations Watercourses Convention, which follows an exclusively normative approach. The ECE Water Convention complements this approach with a focus on cooperation within the aforementioned institutional framework, although remedial action under the regime of State responsibility remains a possibility; article 22 provides for adjudication or arbitration, but on an optional basis and only as a last resort.

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238 See the statement by the Chairman of the Drafting Committee in paragraph 16 of the summary record of the 2229th meeting of the Commission (*Yearbook … 1991*, vol. 1, pp. 144–145).

239 Paragraph (2) of the commentary to draft article 10, in *Yearbook … 1994*, vol. II, Part Two, p. 110.

240 *Case concerning right of passage over Indian territory*, *I.C.J. Reports* 1960, p. 44.

241 On file with the author.

242 Only with this *caveat* can one subscribe to Fuentes' conclusion that "local custom not only can be invoked as evidence of the economic and social needs of the parties, but it also may constitute a direct basis for the allocation of water to a State" (note 211 above, p. 378).

While article 7, paragraph 2, of the United Nations Watercourses Convention establishes the legal consequences of harm arising from a use of an international watercourse without further qualification, it might be argued that its regulations, however limited, also apply to harm arising from a lack of due diligence. In that case, paragraph 2 would constitute a special regime derogating from the general rules on the legal consequences of an internationally wrongful act of a State under article 55 of the articles on State responsibility, adopted by the Commission in 2001 and endorsed by the General Assembly in its resolution 56/83 of 12 December 2001.[243] Clearly, this is not the case; the word "nevertheless" in the first line of article 7, paragraph 2, of the Convention shows that the provision addresses only the consequence of significant harm that occurs even though all appropriate measures to prevent it were taken.

Consequently, this provision is without prejudice to application of the general rules on State responsibility where harm results from a breach of the due diligence obligation[244] to take all appropriate measures to prevent harm.[245] The same is true of the legal consequences of significant adverse effects resulting from State conduct that falls short of the standards required for equitable and reasonable utilization of an international watercourse and participation in its use, development and protection. Given the close relationship between the equitable use principle and the obligation of prevention (the no-harm rule), significantly harmful conduct that violates one of these principles, usually through a lack of due diligence, also violates the other. Owing to the due diligence nature of the obligations of prevention and equitable utilization established in the ECE Water Convention, alleged breaches of these obligations that cannot be addressed satisfactorily through negotiations under its institutional framework are, by the same legal reasoning, subject to the regime of State responsibility.

This issue is clearly relevant to determining whether a breach of the obligation of prevention has occurred and to the attribution of such a breach to a given State. It has been pointed out that it could be especially difficult for the claimant State to prove that there had been a breach of due diligence on the Part of the origin State in respect of activities carried out by private operators under its jurisdiction.[246] Indeed, when the International Court of Justice, in the *Corfu Channel* case, spoke of "every State's obligation not to allow *knowingly* its territory to be used for acts contrary to the rights of other States",[247] the word "knowingly" could fully justify such concern. In the same judgment, however, the Court mitigated the burden of proof that would otherwise fall on the victim State:

> The fact of this exclusive territorial control exercised by a State within its frontiers has a bearing upon the methods of proof available to establish the knowledge of that State as to such events. By reason of this exclusive control, the other State, the victim of a breach of international law, is often unable to furnish direct proof of facts giving rise to responsibility. Such a State should be allowed a more liberal recourse to inferences of fact and circumstantial evidence. This indirect evidence is admitted in all systems of law, and its use is recognized by international decisions. It must be regarded as of special weight when it is based on a series of facts linked together and leading logically to a single conclusion.[248]

More recently, legal scholarship has further elaborated on this issue. It has been argued that the burden of proof should be reversed, establishing a presumption of the origin State's violation of its international

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[243] See article 55 ("Lex specialis") of the articles on responsibility of States for internationally wrongful acts: "These articles do not apply where and to the extent that the conditions for the existence of an internationally wrongful act or the content or implementation of the international responsibility of a State are governed by special rules of international law" (*Yearbook … 2001*, vol. II, Part Two, p. 30).

[244] This is contrary to Koskenniemi's statement that "… the Convention's silence about responsibility and liability is related to the drafters' unwillingness to assume that the customary principle concerning responsibility for breach of treaty obligations might be applicable in respect of these conventions" (note 128 above, p. 80). While this view is doubtless consistent with the position of a number of delegations that participated in the Working Group, it is, on the whole, contradicted article 33 of the United Nations Watercourses Convention ("Settlement of disputes) (see chapter 7 below). On the preconditions for State responsibility arising from pollution of an international watercourse, see Günther Handl, "Balancing of Interests and International Liability for the Pollution of International Watercourses: Customary Principles of Law Revisited", in *Canadian Yearbook of International Law*, vol. 13 (1975), pp. 156–194. On the general principles of State responsibility applicable to the uses of international watercourses, see Lammers, note 37 above, p. 587 ff.

[245] As the Commission states in article (4) of the commentary to draft article 7, adopted on second reading in 1994, "[t]he obligation of due diligence contained in article 7 sets the threshold for lawful State activity" (*Yearbook … 1994*, vol. II, Part Two, p. 103).

[246] See Jiménez de Aréchaga (note 16 above), p. 272. See also Pisillo Mazzeschi (note 53 above), p. 50.

[247] See note 23 above, p. 22, emphasis added.

[248] Ibid., p.18.

obligation of control over private operators under its jurisdiction.[249] This approach would appear justified as a matter of reason and fairness since the claiming party would be required to prove the occurrence of facts, conduct and deeds, but not omissions. In fact, this would not be a true reversal of the burden of proof insofar as the origin State would also be a claimant, arguing that the damage caused was not, even indirectly, the result of a lack of diligent prevention. However, if the presumption of a breach of due diligence as the basis for such a reversal is not to be arbitrary and abusive, it must be triggered by a clear nexus between the harm caused and the origin State. Indeed, on the assumption that the due diligence requirement is inherent in the equitable character of a given use, the argument that the burden of proof should lie with the harm-causing State is substantiated by the Commission: "[t]he burden of proof for establishing that a particular use is equitable and reasonable lies with the State whose use of the watercourse is causing significant harm".[250]

This argument may appear to have been contradicted by the Court in the *Pulp Mills* case, which contrasts with its judgment in the *Corfu Channel* case and with the Commission's reasoning. In fact, the Court rejected both Argentina's primary claim that it was for] Uruguay to establish that the plants located on its territory would not cause significant damage to the environment and its subsidiary argument that, since the 1975 Statute imposed an equal burden of proof, it was for Uruguay to prove that the operation of the plants would be harmless and for Argentina to prove that it would be harmful.[251] Consequently, the Court simply corroborated the established principle of *onus probandi incumbit actori,* whereby the burden of proof lies with the claimant,[252] without addressing the aforementioned argument regarding reversal of the burden of proof. Indeed, Argentina's claims, which prompted the Court's rejection of such a reversal, did not pertain to an alleged breach of due diligence by Uruguay with respect to the damage caused.[253]

Lastly, it can be argued that, according to the principle of non-discrimination in access to domestic remedies for environmental damage established in article 32 of the Convention ("Non-discrimination"),[254] where such remedies are available in the origin State on a non-discriminatory basis, the State whose nationals or residents are the victims of "negligent or inequitable" transboundary harm is precluded from invoking the international responsibility of the former State until such remedies have been exhausted.

It should therefore be stressed that the law of State responsibility, which is not explicitly referred to in either of the two Conventions, nonetheless applies, as a matter of course, to both of them under customary law. It applies indeed on a residual basis to the primary obligations arising, under both Conventions, from the occurrence of harm where all appropriate preventive measures have been taken: i.e., only where the due diligence obligation of prevention, elimination or mitigation of the transboundary harm has been breached.

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[249] In his course at The Hague Academy on the attribution of responsibly for such alleged internationally wrongful acts, Condorelli said: "[e]n effet, il est encore vrai que la plupart desdits actes de particuliers continuent à ne pas être imputables aux Etats … mais ils devient chaque jour plus vraisemblable que ces actes non imputables, du fait même de leur perpétration, amènent à présumer que l'Etat concerné a violé une obligation internationale relative à la surveillance des individus soumis à sa juridiction ou à son contrôle: autrement dit, l'engagement de la responsabilité internationale des Etats dans ces cas ne représente plus une lointaine éventualité, mais une forte probabilité" (Luigi Condorelli, *L'imputation à l'état d'un fait internationalement illicite: solutions classiques et nouvelles tendances*, in *Recueil des cours de l'Académie de Droit International*, vol. 189, 1994), pp. 174 ff). With specific reference to ultra-hazardous activities, Pisillo Mazzeschi reaches the same conclusion with regard to the stringent standards for due diligence in this field: "With regard to these activities, the general rule on the flexibility of diligence regarding possible damage requires the State to exercise a particularly high degree of diligence in prevention. In this case, the due diligence obligation strongly tends to approach an obligation of result: that is, to create a situation of presumption of unfavourable to the damaging State. In other words, the high degree of due diligence required of the State leads to an inversion of the burden of proof, that is, unless there is proof to the contrary, the damaging State is considered as having breached its own due diligence obligations" ("Forms of International Responsibility for Environmental Harm", in Francioni and Scovazzi (note 156 above), p. 35). The expression "all appropriate measures" in art. 7 of the Convention suggests a degree of due diligence high enough to substantiate the applicability of the above argument to the case at hand. On the applicability of the general principle that the burden of proof lies with the claimant State with specific regard to alleged breaches of the obligation to prevent and abate the pollution of international watercourses, see Lammers, note 37 above, p. 590 and pp. 614 ff. See also David Freestone and Salman M. A. Salman, "Ocean and Freshwater Resources", in Daniel Bodansky, Jutta Brunnée and Ellen Hey, eds., *The Oxford Handbook of International Environmental Law* (Oxford and New York, Oxford University Press, 2007), p. 351; and Alistair Rieu-Clarke, Ruby Moynihan and Bjørn-Oliver Magsig, eds., *UN Watercourses Convention User's Guide* (Dundee, Scotland, United Kingdom, IHP-HELP Centre for Water Law, Policy and Science, 2012), p. 120

[250] Paragraph (14) of the commentary to draft article 7, in *Yearbook … 1994*, vol. II, Part Two, p. 104.

[251] See note 42 above, paras. 160–164.

[252] See note 42 above, para. 162.

[253] The Court stressed that "[r]egarding the arguments put forward by Argentina on the reversal of the burden of proof and on the existence, vis-à-vis each Party, of an equal onus to prove under the 1975 Statute, the Court considers that while a precautionary approach may be relevant in the interpretation and application of the provisions of the Statute, it does not follow that it operates as a reversal of the burden of proof. The Court is also of the view that there is nothing in the 1975 Statute itself to indicate that it places the burden of proof equally on both Parties" (Ibid., para. 164).

[254] See section 4.2 above.

The relevant customary rules are more likely to be of use under the United Nations Watercourses Convention since problems with compliance and disputes between States parties under the ECE Water Convention are more likely to be settled in a negotiated manner through its institutional framework, including the Implementation Committee. But this does not mean that State responsibility considerations can never apply to implementation of and compliance with the ECE Water Convention; it is precisely in view of such a residual possibility that article 22 of that instrument, like article 33 of the United Nations Watercourses Convention, provides for adjudication or arbitration as a means of dispute settlement.

5. Cooperation

From the above chapters, it emerges with clarity that the procedural principle of cooperation is an integral Part of both of the substantive principles of international water law, i.e. the equitable and reasonable utilization and participation principle and the no-harm rule. The present writer has argued that cooperation is "a catalyst for the implementation of the two substantive principles of equitable utilization and no-harm, as well as for a balanced interaction between the two of them".[255] In its 2010 decision in the *Pulp Mills* case, the Court further elaborated on the synergic relationship between procedural and substantive obligations aimed at ensuring the equitable and sustainable management of shared transboundary water resources.[256] As McIntyre stresses in his timely commentary on that judgment,

> … the Court went some way towards clarifying the respective roles of the interrelated hierarchy of substantive and procedural rules commonly found in treaty regimes and, by implication, in general international law. While the well-established principle of equitable and reasonable utilisation, and the closely related duty of prevention of transboundary harm, sit atop this hierarchy, the generality of the former and the due diligence nature of the obligations contained in the latter require that they must be made normatively operational by means of a number of procedural requirements, including the duties to notify, to consult and negotiate, and the duty to exchange information; obligations commonly grouped together under the duty to cooperate.[257]

At the same time, procedural and substantive international obligations have a normative life of their own, so much so that the Court ruled that Uruguay's conduct was in breach of the former, but not of the latter, as it found no evidence that actual harm had resulted from the conduct complained of or that it fell short of the applicable standard of due diligence.[258] However, following this two-track approach, which may be considered as one of "integration in separation" between the rules and principles in point, the Court rejected the assumption that procedural obligations are subservient to substantive ones by stressing that "… the fact that the parties have complied with their substantive obligations does not mean that they are deemed to have complied *ipso facto* with their procedural obligations, or are excused from doing so".[259] At the same time, McIntyre, emphasizing the "integration" component of the Court's reasoning, states that "… where harm does occur, breach of procedural rules will constitute a key element in establishing a failure to meet the due diligence standards required under the customary duty to prevent significant transboundary harm".[260]

Against the above background, the most significant rules that establish the general obligation of cooperation in the two Conventions will be considered and compared below and the differences between the two instruments assessed in the light of the fact that the provisions on cooperation in the ECE Water Convention,

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255 See Tanzi and Arcari, note 15 above, p. 189

256 See note 42 above, paras. 40–42. In particular, the Court emphasized that "it is by co-operating that the States concerned can jointly manage the risks of damage to the environment that might be created by the plans initiated by one or other of them, so as to prevent the damage in question, through the performance of both the procedural and the substantive obligations laid down by the 1975 Statute" and that "the two categories of obligations … complement one another perfectly, enabling the parties to achieve the object of the Statute which they set themselves in article 1" (Ibid., para. 77).

257 Owen McIntyre, "The Proceduralisation and Growing Maturity of International Water Law: *Case Concerning Pulp Mills on the River Uruguay (Argentina v Uruguay)*, International Court of Justice, 20 April 2010", in *Journal of Environmental Law*, vol. 22, 2010, p. 488.

258 See note 42 above, paras. 158, 264 and 265.

259 Ibid., para. 78. In line with its two-track approach of "integration in separation", the Court goes on to stress that "… the link between these two categories of obligations can also be broken, in fact, when a party which has not complied with its procedural obligations subsequently abandons the implementation of its planned activity" (Ibid.).

260 See McIntyre, note 257 above, p. 490.

unlike those of the United Nations Watercourses Convention, focus on institutional cooperation within the Meeting of the Parties, its subsidiary bodies and the specific joint bodies whose establishment is compulsory for co-riparian parties.[261] This accounts for the more coordinated and formalistic nature of the procedural obligations established in the United Nations Watercourses Convention and for the ECE Water Convention's more substantive ocus on institutional cooperation, facilitation and assistance.

5.1 Institutional cooperation

As has been emphasized repeatedly above, the fundamental difference between the two Conventions lies in their normative impact with regard to institutional cooperation.

Whereas the United Nations Watercourses Convention is not supported by a Meeting of the Parties, institutional cooperation is the main feature of the ECE Water Convention and its ongoing process, which revolves around the Meeting of the Parties. This is one of — if not the greatest — advantages of the Convention; indeed, as stressed in the *Guide to Implementing the Water Convention*,

> … if all riparians to a transboundary water body join in the Convention, thanks to the latter's institutional framework, each riparian State is not left alone in its dealings with the other riparians, while its expectations become the concern of all other Parties sitting in the Meeting of the Parties, which would also provide for assistance, together with its subsidiary bodies, facilitating compliance and cooperation by all Parties.[262]

Also noteworthy is the broad scope of the cooperation enhanced by this institutional framework:

> [C]ooperation promoted under the [Water] Convention involves different sectors of the central administrations of States Parties, their relevant local authorities, other public and private stakeholders and NGOs. This improves collaboration, awareness, knowledge and capacity at cross-sectoral and multilayered levels in State and regional contexts. Such forms of cooperation and collaboration encompass exchange of information, consultations, common research and development, particularly on the achievement of water-quality objectives, joint monitoring and assessment, early warning systems and mutual assistance concerning critical situations.[263]

It is against the above background that there can be said to be an ECE water law "process", an ongoing interplay between the Water Convention and an ever-increasing number of soft law instruments and protocols to the Convention aimed at promoting tools for its proper interpretation and application and ensuring the progressive development of its rules and principles.[264] These instruments are prepared, on the instructions of the participants in the Meeting of the Parties, by one or more of its subsidiary organs. The relevant soft law instruments include, among others, the *Guide to Implementing the Water Convention*, adopted in 2009 and revised in 2013;[265] the Guidelines on Sustainable Flood Prevention, adopted at the second session of the Meeting of the Parties in 2000 and followed by the Model Provisions on Transboundary Flood Management, adopted at the fourth session of the Meeting of the Parties in 2006; and, more recently, the *Model Provisions on Transboundary Groundwater*, adopted at the sixth session of the Meeting of the Parties in 2012.[266] The Protocols to the Convention, which constitute hard law instruments for the States that ratify them, are the 1999 Protocol on Water and Health and the 2003 Protocol on Civil Liability and Compensation for damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters.

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[261] See note 74 above, para. 29: "The establishment of such institutional mechanisms provides concrete means for the practical implementation of the standards of cooperation envisaged by the Convention while representing at the same time a powerful incentive for further and more advanced cooperation". See also Patricia Wouters and Christina Leb, The Obligation of the Riparian Parties to Cooperate, in Tanzi and others, *The UNECE Convention* … (note 104 above).

[262] See note 74 above, para. 26.

[263] Ibid., para. 33.

[264] See Attila Tanzi, note 5 above, pp. 71–112. See especially the paragraphs on the interplay between the ECE Water Convention and soft law (p. 83) and on the interplay between law-making, law implementation and compliance (p. 85).

[265] See note 74 above.

[266] See subsection 3.3.1 above.

According to article 8, paragraph 2, of the United Nations Watercourses Convention, "watercourse States *may consider* the establishment of joint mechanisms or commissions" as a means of cooperation (emphasis added). Like article 24, which also refers to the possibility of establishing joint mechanisms for the management of an international watercourse, this provision has no normative force. Its non-binding character, and hence its merely hortatory relevance, was envisaged as a means of ensuring that the many delegations that had opposed the inclusion of provisions requiring institutional cooperation with their co-riparians would not withdraw their support for the Convention as a whole. This was made clear during the negotiations by the representative of Germany, speaking on behalf of the co-sponsors of the proposal that was eventually adopted as article 8, paragraph 2:

> The sponsors of the proposal had no intention of burdening States parties to establish such mechanisms; it would be up to the States parties to establish such mechanisms. Nor was the proposal intended to establish norms; on the contrary, the proposal recognized that conditions of cooperation and relevant needs could vary from one watercourse to another.[267]

On the contrary, article 9, paragraph 2, and article 10 of the ECE Water Convention require co-riparians to enter into agreements establishing joint bodies and set out their powers and responsibilities.

In this respect, the ECE Water Convention provides guidance for a constructive interpretation and application of article 8, paragraph 2, and article 24 of the United Nations Watercourses Convention, albeit on a voluntary basis, with special regard to the tasks of the joint bodies. article 9, paragraph 2, sets out a non-exhaustive list of the functions of these bodies:

> (a) To collect, compile and evaluate data in order to identify pollution sources likely to cause transboundary impact;
>
> (b) To elaborate joint monitoring programmes concerning water quality and quantity;
>
> (c) To draw up inventories and exchange information on the pollution sources mentioned in paragraph 2 (a) of this article;
>
> (d) To elaborate emission limits for waste water and evaluate the effectiveness of control programmes;
>
> (e) To elaborate joint water-quality objectives and criteria having regard to the provisions of article 3, paragraph 3 of this Convention, and to propose relevant measures for maintaining and, where necessary, improving the existing water quality;
>
> (f) To develop concerted action programmes for the reduction of pollution loads from both point sources (e.g. municipal and industrial sources) and diffuse sources (particularly from agriculture);
>
> (g) To establish warning and alarm procedures;
>
> (h) To serve as a forum for the exchange of information on existing and planned uses of water and related installations that are likely to cause transboundary impact;
>
> (i) To promote cooperation and exchange of information on the best available technology in accordance with the provisions of article 13 of this Convention,[268] as well as to encourage cooperation in scientific research programmes;
>
> (j) To participate in the implementation of environmental impact assessment relating to transboundary water, in accordance with appropriate international regulations.

[267] C.6/51/SR. 52, para. 66.

[268] See article 13 of the ECE Water Convention ("Exchange of information").

These provisions are complemented by paragraph 1 of article 11 ("Joint monitoring and assessment"): "In the framework of general cooperation mentioned in article 9 of this Convention, or specific arrangements, the Riparian Parties shall establish and implement joint programmes for monitoring the conditions of transboundary waters, including floods and ice drifts, as well as transboundary impact"".

Of equal importance, article 10 ("Consultations") of the ECE Water Convention establishes that consultations between riparian parties shall "be conducted through a joint body established under article 9 …"[269] and paragraph 1 of article 13 ("Exchange of information between riparian parties") requires those parties to exchange data and information "within the framework of relevant agreements or other arrangements according to article 9 of [the] Convention". Cooperation within the framework of joint bodies has always been a high priority within the framework of the ECE Water Convention, so much so that assistance in setting up joint river and lake commissions was the first of five programme areas in the workplan 1997–2000, adopted in 1997 at the first session of the Meeting of the Parties.[270] Such attention to the establishment and effective functioning of joint bodies has continued since the adoption of the ECE Water Convention 'and is still a high priority.

In the United Nations Watercourses Convention, the procedural aspects of bilateral cooperation are extensively regulated, particularly with regard to the exchange of data and information, communication, consultations and negotiations. The issues of notification and reply, and absence of reply to notification, appear throughout the Convention, especially in article 9 ("Regular exchange of data and information"), Part III ("Planned measures"), Part IV ("Protection, preservation and management") and Part V ("Harmful conditions and emergency situations"). The same consideration accounts for the fact that, in addition to article 8 ("General obligation to cooperate"), cooperation is an integral Part of the provisions establishing the equitable utilization principle and the no-harm rule (arts. 5, 6 and 7).[271]

Whereas, under the United Nations Watercourses Convention, the procedural rules that establish the general obligation of cooperation focus exclusively on bilateral relations between co-riparians, cooperation under the ECE Water Convention is carried out primarily through joint bodies pursuant to articles 9, 10, 11 and 13.[272] However, although the abundant regulatory guidance that the latter Convention provides on this matter focuses primarily on institutional cooperation, it is also applicable at the bilateral level where a joint body has yet to be established or is unable to function. Under these exceptional circumstances, particularly in the case of an absence of reply to notification, the United Nations Watercourses Convention could play a supplementary normative role in respect of States parties to both Conventions. This is also true of the provisions of the 1991 Convention on Environmental Impact Assessment in a Transboundary Context (hereinafter the "Espoo Convention") and the 1992 Convention on the Transboundary Effects of Industrial Accidents that are to be applied on a case-by-case basis. Obviously, this would apply for States Parties to all the Conventions just mentioned. Indeed, the Espoo Convention provides detailed regulations, to be applied at the bilateral level, on the notification of proposed activities that are likely to cause "a significant adverse transboundary impact" (art. 3, "Notification") and on consultations in such cases (art. 5, "Consultations on the basis of the environmental impact assessment documentation"). A similar approach is taken in the 1992 Convention on the Transboundary Effects of Industrial Accidents, with special regard to article 4, paragraphs 1 (on notification) and 3 (on consultation), and annex III ("Procedures pursuant to article 4"). Obviously, these provisions apply only to relations between riparian States that are parties to all of the relevant Conventions, or at least to two or more of them. The complementary interpretation and application of these related provisions

[269] While this requirement is not Part of general customary law, there has been a gradual trend towards its acceptance in bilateral and multilateral conventions, even outside the ECE framework. Examples include the institutional framework and the mandatory requirement to set up joint institutions under article 5 of the Revised Protocol on Shared Watercourses in the Southern African Development Community (SADC) of 2000. However, there has been persistent resistance on the Part of some States, which are unwilling to relinquish fully to joint bodies — even those that are established and accepted — their freedom to entertain traditional bilateral negotiations outside the institutional framework, which is usually, more technical and less political. For example, while article 9 of the 1996 India-Nepal Treaty on the Mahakali River requires the establishment of the Mahakali River Commission, paragraph 6 provides that "[b]oth Parties shall reserve their rights to deal directly with each other on matters which may be in the competence of the Commission" (*International Legal Materials*, vol. 36, (1997), p. 541.

[270] Economic Commission for Europe, Meeting of the Parties to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Report of the First Meeting (1997), cited in Branko Bosnjakovic, "UN/ECE Strategies for Protecting the Environment with Respect to International Watercourses: The Helsinki and Espoo Conventions", in Salmon and Boisson de Chazournes, note 71 above, pp. 52–53.

[271] This is confirmed by the wording of article 30 ("Indirect procedures") of the United Nations Watercourses Convention.

[272] However, in article 14 ("Warning and alarm systems"), information about critical situations that may have transboundary impact is to be exchanged at the bilateral level in order to ensure the direct and expeditious communication that is appropriate under such circumstances.

should be guided by the principle of harmonization invoked by the Commission[273] in accordance with articles 30, 59 and 31 of the 1969 Vienna Convention.[274]

With a few innovative exceptions, the United Nations Watercourses Convention is widely considered to embody the customary minimum standard for procedural regulations at the bilateral level. This regulatory framework will obviously be supplemented or superseded by the more stringent provisions of the aforementioned Conventions for parties to the United Nations Watercourses Convention who are also parties to those Conventions in their relations *inter se*.

5.2 Exchange of data and information

Regular exchange of data and information is the first step in cooperation between co-riparians and a necessary precondition for higher degrees of cooperation.[275]

Article 9 of the United Nations Watercourses Convention establishes the minimum requirements in that regard; paragraph 1 provides a non-exhaustive list of types of data and information on the condition of the watercourse ("in particular that of a hydrological, meteorological, hydrogeological and ecological nature and related to the water quality as well as related forecasts") that must be exchanged on a regular basis. article 13, paragraphs 1 and 2, of the ECE Water Convention complements and enhances this extremely general provision:

> 1. The Riparian Parties shall, within the framework of relevant agreements or other arrangements according to article 9 of this Convention, exchange reasonably available data, inter alia, on:
>
> (a) Environmental conditions of transboundary waters;
>
> (b) Experience gained in the application and operation of best available technology and results of research and development;
>
> (c) Emission and monitoring data;
>
> (d) Measures taken and planned to be taken to prevent, control and reduce transboundary impact;
>
> (e) Permits or regulations for wastewater discharges issued by the competent authority or appropriate body.
>
> 2. In order to harmonize emissions limits, the Riparian Parties shall undertake the exchange of information on their national regulations.

During the debate in the Working Group, the term "readily available data and information" gave rise to discussion triggered by the concern that, if the meaning was "what modern technology made possible", an excessive burden would be placed on States that were technologically less-developed.[276] In response, the Expert Consultant and member of the International Law Commission, Mr. Rosenstock, explained that the intent was that "States should share the information they had, and that information-rich countries, which were mostly the developed countries, should share their wealth of information with less fortunate countries".[277]

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[273] See note 1 above.

[274] See section 8.1 below.

[275] See Charles B. Bourne, "Procedure in the Development of International Drainage Basins: Notice and Exchange of Information", in *University of Toronto Law Journal*, vol. 22 (1972), pp. 172–206, reprinted in Patricia K. Wouters, ed., *International Water Law: Selected Writings of Professor Charles B. Bourne* (London, Kluwer Law International, 1997), pp. 143–176. See, more recently, Andrea K. Gerlak, Jonathan Lautze and Mark Giordarno, "Water resources data and information exchange in transboundary water treaties", in *International Environmental Agreements*, vol. 11 (2011), pp. 179–199; and Lea Kauppi, Annukka Lipponnen, "Monitoring and Assessment and the Duty of Cooperation Under the Water Convention: Exchange of Information Among the Riparian Parties", in Tanzi and others, *The UNECE Convention …* (note 104 above).

[276] This concern was expressed especially by the representative of Argentina at the 17th meeting of the Sixth Committee in 1996 (A/C.6/51/SR.17, paras. 47–48).

[277] Ibid., para. 50.

Consequently, the meaning of the words "readily available" in article 9 does not depart substantially from the words "reasonably available" in article 13, paragraph 1, of the ECE Water Convention.[278]

A due diligence obligation to provide requested information that is not readily available is established in both article 9, paragraph 2, of the United Nations Watercourses Convention and article 13, paragraph 3, of the ECE Water Convention.[279] The due diligence character of this obligation avoids imposing absolute standards that would not take into account the different degrees of technological and economic development of the States concerned.

Like the ECE Water Convention, article 9, paragraph 2, of the United Nations Watercourses Convention allows States to make the submission of requested information that is not readily available contingent on "payment by the requesting State of the reasonable costs of collecting and, where appropriate, processing such … information". This prevents abuse of the right to request and obtain such information. At the same time, article 9, paragraph 3, of the latter Convention substantively reinforces the general obligation to exchange information under paragraph 1 by imposing on States a due diligence obligation to collect and process data and information, even in the absence of a specific request, so that they will be readily available if requested.

On this matter, the ECE Water Convention provides more detailed guidelines than the United Nations Watercourses Convention and thus plays a complementary role of guidance for its interpretation. article 13, paragraph 4, of the ECE Water Convention encourages the exchange of information:

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

Article 31 of the United Nations Watercourses Convention states that "(n)othing in the present Convention obliges a watercourse State to provide data or information vital to its national defence or security", while article 8 of the ECE Water Convention states:

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

Thus, unlike the ECE Water Convention, the United Nations Watercourses Convention does not establish the right to withhold commercial or industrial information, usually pertaining to intellectual property rights, that is deemed confidential. The fact that such a provision was not included in article 31, despite a request to that effect by the delegation of the United States of America, speaking on behalf of the United Kingdom,[280] indicates that no such exception may be invoked on the basis of the United Nations Watercourses Convention.

This difference between the two Conventions cannot be reconciled through interpretation; it is one of the few areas in which their incompatibility will have to be resolved under the rules on the relationship between conflicting provisions contained in different treaties on the same subject matter.[281]

Article 31 of the United Nations Watercourses Convention may have an impact on the ongoing uncertainty as to the customary process on this point since it could be interpreted as undermining the argument that a State is entitled to withhold commercial or industrial information based on an alleged customary rule of a general character along the lines of article 8 of the ECE Water Convention. This consideration would be

[278] According to the *Guide to Implementing the Water Convention*, "[t]he term 'reasonably available' in article 13 does not substantially differ from the term 'readily available' to be found in article 9 of the United Nations Watercourses Convention" (note 74 above, para. 283).

[279] Article 13, paragraph 3, of the ECE Water Convention reads: "If a Riparian Party is requested by another Riparian Party to provide data or information that is not available, the former shall endeavour to comply with the request but may condition its compliance upon the payment, by the requesting Party, of reasonable charges for collecting and, where appropriate, processing such data or information".

[280] A/C.6/51/SR.23, para. 27.

[281] See subsection 8.1.2 below.

relevant in the rare, though not impossible, event of a dispute concerning the extent of the obligation to exchange data and information between co-riparians with considerably different levels of technological and industrial development. In that case, the common interest in management and protection of the international watercourse as a shared natural resource under the United Nations Watercourses Convention would override any unilateral economic interest.

5.3 Notification procedures concerning planned measures

As emphasized by the International Court of Justice in the recent *Pulp Mills* case:

> The obligation to notify is intended to create the conditions for successful co-operation between the parties, enabling them to assess the plan's impact on the river on the basis of the fullest possible information and, if necessary, to negotiate the adjustments needed to avoid the potential damage that it might cause.[282]

Articles 11 to 19 of the United Nations Watercourses Convention provides an ample and detailed regulatory framework for the notification of measures, whereas the ECE Water Convention makes no explicit reference to the prior notification rule. The reason for this difference may be that the complex notification and follow-up procedure established in the former Convention is Part of the institutional, bilateral and multilateral cooperation that is carried out within the framework of the joint bodies whose establishment is mandatory under article 9, paragraph 2, of the latter instrument. Indeed, as emphasized above, this is expressly provided for under articles 10, 11 and 13 in the form of consultations, joint monitoring and assessment and exchange of information, respectively. This is all the more true of notification since, as indicated in the above citation from the judgment in the *Pulp Mills* case, it is a precondition for cooperation. Moreover, article 9 of the ECE Water Convention sets out a non-exhaustive list of tasks for joint bodies, which are "[t]o 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" and "[t]o participate in the implementation of environmental impact assessments relating to transboundary waters, in accordance with appropriate international regulations".[283]

However, in the *Guide to Implementing the Water Convention*, the obligation to provide notification of planned measures that may have an adverse transboundary impact is explicitly recalled in connection with the obligation to hold consultations under article 10.[284] According to the *Guide*, the process described in Part III of the United Nations Watercourses Convention and triggered by compulsory notification or request for notification is actually a process of consultations concerning planned measures:[285]

> The principle that consultations should take place between neighbouring States to discuss issues of common interest is a principle of general customary law, on the basis of a well consolidated diplomatic and conventional practice concerning bilateral treaties of friendship and good-neighbourliness. International environmental protection adds a specific aspect to this general principle: i.e. the fact that each State has an obligation to consult its neighbour in case it envisages activities likely to cause transboundary impact. Principle 19 of the Rio declaration provides that "States shall provide prior and timely notification and relevant information to potentially affected States on activities that may have a significant adverse transboundary environmental impact and shall consult with those States at an early stage and in good faith".[286]

The *Guide* also stresses that "[a]ccording to article 10, consultations are to be conducted through a joint body to be established under article 9, paragraph 2, where, of course, such a body exists". Where no such body

[282] See note 42 above, para. 113.

[283] Article 9, para. 2 (h) and (j), respectively.

[284] See note 74 above. article 10 reads: "Consultations shall be held between the Riparian Parties on the basis of reciprocity, good faith and good-neighbourliness, at the request of any such Party. Such consultations shall aim at cooperation regarding the issues covered by the provisions of this Convention. Any such consultations shall be conducted through a joint body established under article 9 of this Convention, where one exists".

[285] As the Court stated in the *Pulp Mills* case, "The obligation to notify is therefore an essential Part of the process leading the parties to consult in order to assess the risks of the plan and to negotiate possible changes which may eliminate those risks or minimize their effects." (note 42 above, para. 115).

[286] See note 74 above, para. 270.

exists or where the State planning the measures fails to comply with the obligation of timely notification of the competent joint body, as Uruguay failed to notify the joint body, the Administrative Commission of the River Uruguay (CARU), in the *Pulp Mills* case,[287] Part III of the United Nations Watercourses Convention establishes a useful regulatory framework that largely reflects international customary law. It also provides guidance in situations that fall partly or entirely within the scope of the ECE Water Convention with a view to better interpretation and application of that instrument.

With that in mind, the main normative features of Part III of the United Nations Watercourses Convention will be briefly described below in the context of the preceding comments[288] on the potential relevance of certain provisions of the 1991 Espoo Convention and the 1992 Convention on the Transboundary Effects of Industrial Accidents for relationships between States that are also parties to either of these two Conventions.

Article 12 of the United Nations Watercourses Convention requires the planning State to give notice of planned works which "may have a significant adverse effect upon other watercourse States". Notice is to be given "before the State implements or permits the implementation" of the work and, most importantly, in a "timely" manner. As indicated by the Commission, "the term 'timely' is intended to require notification sufficiently early in the planning stage to permit meaningful consultations and negotiations under subsequent articles, if such prove necessary".[289]

5.3.1 Environmental impact assessments

Article 12 of the United Nations Watercourses Convention requires that the notification be supplemented by "available technical data and information, including the results of any environmental impact assessment, that may enable the notified State to evaluate the possible effects of the planned measures". This is consistent with the general view, confirmed by the arbitral tribunal in the *Lake Lanoux* case, that "[a] State which is liable to suffer repercussions from work undertaken by a neighbouring State is the sole judge of its interests".[290] The requirement that the planning State provide co-riparians with the results of any environmental impact assessment is consistent with a recently-crystallized customary obligation based on authoritative international instruments, namely Principles 17 and 19 of the Rio Declaration[291] and the 1991 Espoo Convention.[292]

Most importantly for the purposes of the present study, article 3, paragraph 1 (h), of the ECE Water Convention includes environmental impact assessments among the compulsory measures required in order to comply with the obligation "to prevent, control and reduce transboundary impact".

Despite doubts as to the customary status of the obligation to provide such an assessment when notifying co-riparians of planned measures,[293] articles 3 and 10 of the ECE Water Convention, together with article 12 of the United Nations Watercourses Convention, enhance the crystallization of a general custom to that effect.[294]

Indeed, as recently stated by the Court in the *Pulp Mills* case:

> [I]t may now be considered a requirement under general international law to undertake an environmental impact assessment where there is a risk that the proposed industrial activity may have a significant adverse impact in a transboundary context, in particular, on a shared resource. Moreover, due diligence, and the duty of vigilance and prevention which it implies, would not be considered to have been exercised, if a party planning

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[287] See note 42 above, para. 111.

[288] See section 5.1 above.

[289] Paragraph (4) of the commentary to draft article 12, in *Yearbook … 1994*, vol. II, Part Two, p. 111. In the *Pulp Mills* case, the Court rejected the Uruguay's argument to the contrary: "The Court observes that this notification must take place before the State concerned decides on the environmental viability of the plan, taking due account of the environmental impact assessment submitted to it." (note 42 above, para. 120).

[290] See note 27 above, para. 21.

[291] See note 23 above. In particular, Principle 19 provides that "States shall provide prior and timely notification and relevant information to potentially affected States on activities that may have a significant adverse transboundary environmental impact and shall consult with those States at an early stage and in good faith".

[292] In *International Legal Materials*, vol. 30 (1991), pp. 802–819.

[293] On the existence of such a general rule, albeit with reservations as to the content of the environmental impact assessment, see Sands (note 50 above), pp. 601–623. For an opposing view, see Caflish, note 227 above.

[294] On the existence of such a general rule of a recently-acquired customary nature, see Tanzi and Arcari, note 15 above, p. 202.

> works liable to affect the régime of the river or the quality of its waters did not undertake an environmental impact assessment on the potential effects of such works.[295]

Irrespective of its compulsory nature, it is in the planning State's interest to include environmental impact assessment documentation with its notification. By supplying such an assessment, which may provide scientific evidence that the planned works will not entail significant harm to a co-riparian, the planning State places the burden of proof to the contrary on the co-riparian. Submission of an environmental impact assessment might also be required under the United Nations Watercourses Convention if the putative adversely affected co-riparian considered that the planned measures would result in an inequitable and harmful utilization of the watercourse within the meaning of article 15, in which case the assessment would provide an essential term of reference for the consultations and negotiations conducted under article 17. Thus, inclusion of an environmental impact assessment with the notification is, in essence, a prerequisite for compliance with the duty to conduct meaningful consultations and negotiations under article 17.[296]

In the light of the link between the relevant procedural and the substantive obligations,[297] an environmental impact assessment is also instrumental in meeting the due diligence obligations of prevention and equitable and reasonable utilization under both Conventions. Moreover, it is self-evident that the planning State could hardly claim that its planned use was equitable and that it had taken all appropriate measures to avoid causing significant harm if it had not made a prior assessment of the impact that the planned measures would have on the environment and, in particular, on its co-riparians.

Article 3, paragraph 1 (h), and article 9, paragraph 2 (j), of the ECE Water Convention and article 12 of the United Nations Watercourses Convention do not provide concrete guidelines or standards on the content of an environmental impact assessment. However, an interpretative argument that the provisions of the Conventions that fail to provide such guidelines should be read in conjunction with the existing instruments in the field suggests that reference should be made to the Espoo Convention and the UNEP *Guidelines on Goals and Principles of Environmental Impact Assessment*.[298] A certain degree of flexibility on this matter seems all the more appropriate in view of the fact that an environmental impact assessment compiled unilaterally by the planning State is not *ipso facto* conclusive; its purpose is to enable an allegedly adversely affected State to make its own evaluation of the potential impact of the planned measures on its environment. In the event of a major dispute between the States concerned over the potential adverse effects of the planned works, the environmental impact assessment provided by the notifying State will simply become one of the terms of reference for the consultations and negotiations to be conducted under article 17 of the United Nations Watercourses Convention or for the work of the joint bodies to be established under the ECE Water Convention.

5.3.2 Notification upon request

When the obligation to provide notification of planned measures is not met and a putative victim-State considers that the planned measures require notification, the United Nations Watercourses Convention (art. 18, para. 1) entitles the latter State to request such notification. The same regulation is set out in article 10 of the ECE Water Convention: "Consultations shall be held between the Riparian Parties on the basis of

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295 See note 42 above, para. 204.

296 See Okowa, note 54 above, p, 280.

297 See chapter 5 above.

298 As the Court emphasized in the Pulp Mills case, this instrument "is not binding on the Parties, but, as guidelines issued by an international technical body, has to be taken into account" (note 42 above, para. 205). It seems useful to recall that Principle 4 of the Rio Declaration (note 23 above) lists the following constituent elements of an environmental assessment procedure:
(a) a description of the proposed activity;
(b) a description of the potentially affected environment, including specific information necessary for identifying and assessing the environmental effects of the proposed activity;
(c) a description of practical alternatives, as appropriate;
(d) an assessment of the likely or potential environmental impacts of the proposed activity and alternatives, including their direct, indirect, cumulative, short-term and long-term effects;
(e) an identification and description of measures available to mitigate adverse environmental impacts of the proposed activities and alternatives and an assessment of those measures;
(f) an indication of gaps in knowledge and uncertainties which may be encountered in compiling the required information;
(g) an indication of whether the environment of any other state or areas beyond national jurisdiction is likely to be affected by the proposed activity or alternatives;
(h) a brief, non-technical summary of the information provided under the above headings.

reciprocity, good faith and good-neighbourliness, at the request of any such Party". Here again, the major difference between the two Conventions lies in the fact that, under the ECE Water Convention's regulatory framework "[a]ny such consultations shall be conducted through a joint body established under article 9 of this Convention, where one exists" (Ibid.).

It is important to note that a request by the putative affected State under either Convention does not necessarily amount to an implied claim that the planning State is in breach of its obligations to notify in the sense that the planned measures are likely to produce a significant adverse impact on a co-riparian.[299] However, under article 18, paragraph 1, of the United Nations Watercourses Convention, the putative affected State's request must be accompanied by "a documented explanation" substantiating that it has "reasonable grounds to believe that another watercourse State is planning measures that may have a significant adverse effect upon it".

5.3.3 Disagreement as to the potential effect of the planned measures

In the event of a disagreement, either party may request the initiation of consultations and negotiations under the general cooperation and consultation regime of the two Conventions. The other relevant procedural rules set out in the United Nations Watercourses Convention add significantly to the regulatory framework of the ECE Water Convention.

Article 18, paragraph 3, of the United Nations Watercourses Convention provides that, in the event of a disagreement, the planning State must suspend implementation of the works for up to six months if so requested by the other State.

This time limit may not evidence a customary rule since custom may not by its own nature be so detailed as to require more than a "délai raisonnable". It is, however, arguable that such a customary term of art is reasonably interpreted by the "six-plus-six"-month period. The purpose of this time limit is to prevent abuse on the Part of the notified State, which would otherwise be granted the power of veto over the activities of the planning State.[300]

During the time period within which the notified State may respond to the notification, the planning State, in addition to its obligation to refrain from implementing the project, is required to cooperate with the notified State by providing it "with any additional data and information that is available and necessary for an accurate evaluation" if so requested.[301]

The planning State is free to proceed with implementation of the project if, within six months of the notification, it does not receive a response from the notified State with a documented explanation of its findings showing that the planned measures would be inequitable and/or cause significant harm.[302] The absence of a reply may be taken as acquiescence to implementation of the planned measures.[303] In principle, a State that fails to reply to the notification should be estopped from later objecting to implementation of the measures of which it was notified. However, according to the Convention, a failure to respond to notification does not amount to acquiescence to a use that is inconsistent with articles 5 or 7; in other words, a State that fails to respond to notification is not precluded from invoking the legal consequences of the occurrence of significant harm under article 7, paragraph 2. Thus, the obligation of the origin State "to take all appropriate measures to eliminate or mitigate such harm and, where appropriate, to discuss the question of compensation" remains, irrespective of any failure by the notified State to respond to the notification unless, under the specific circumstances of the case, the latter State may be considered to have waived its rights.

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299 See paragraph (2) of the commentary to draft article 18 in *Yearbook … 1994*, vol. II, Part Two, p. 117.

300 The duty of the notified State to respond to the notification within a reasonable time in order to avoid placing the planning State under an unnecessarily onerous obligation, deferring indefinitely the exercise of its right to carry out the planned activity, was stressed in the *Lake Lanoux* case, where the arbitral tribunal categorically denied the existence of "a right of veto that paralyzes the territorial competence of one State at the discretion of another" (note 27 above, para. 11).

301 Art. 14.

302 Art. 15 and art. 16, para. 1.

303 See Okowa, note 54 above, p. 297. More generally on acquiescence and estoppel, see D.W. Bowett, "Estoppel before International Tribunals and its Relation to Acquiescence", in *British Yearbook of International Law*, vol. 33 (1957), pp. 176–202; I.C. MacGibbon, "Estoppel in International Law", in *International and Comparative Law Quarterly*, vol. 7 (1958), pp. 468–513; Ian Sinclair, "Estoppel and Acquiescence", in Vaughan Lowe and Malgosia Fitzmaurice, eds., *Fifty Years of the International Court of Justice: Essays in Honour of Sir Robert Jennings* (Cambridge and New York, Cambridge University Press, 1996), pp. 104–120. See also Thomas Cottier and Jörg Paul Müller, "Estoppel", and Nuno Sérgio Marques Antunes, "Acquiescence", in *Max Planck Encyclopedia* (note 10 above), vol. I, pp. 671–676 and 53–58, respectively.

The forgoing conclusions are based on the wording of paragraph 1 of article 16 ("Absence of notification"), under which the freedom of the notifying State to implement the planned measures is "subject to its obligations under articles 5 and 7". In accordance with the general principle of good faith, this provision stipulates that the State is to proceed with the implementation "in accordance with the notification and any other data and information provided to the notified States".

The foregoing is consistent with the interpretation of the disputed 1975 Agreement between Argentina and Uruguay on the River Uruguay in the *Pulp Mills* case to the effect that "the State initiating the plan may, at the end of the negotiation period, proceed with construction at its own risk".[304]

Considering that, in the *Pulp Mills* case, the disputing parties were also parties to a bilateral watercourse agreement providing for a cooperation mechanism within a joint body, this case evidences not only the compatibility but the full complementarity of the customary procedural rules in point, as codified by the United Nations Watercourses Convention, under cooperation agreements of the kind required under article 9, paragraph 2, of the ECE Water Convention. With respect to a reasonable period of suspension after notification in order to allow for good faith consultations and negotiations, the Court emphasized that

> … there would be no point to the co-operation mechanism provided for by Articles 7 to 12 of the 1975 Statute if the party initiating the planned activity were to authorize or implement it without waiting for that mechanism to be brought to a conclusion. Indeed, if that were the case, the negotiations between the parties would no longer have any purpose.[305]

The fact that the Court felt the need to add to its operative reasoning a final paragraph, in which it emphasized the "long-standing and effective tradition of co-operation and co-ordination through CARU"[306] suggests its belief that joint bodies, where available, are the appropriate forum for consultations on planned and ongoing activities.

6. Is there a human rights dimension to the two Conventions?

6.1 General remarks on international water law and the human rights dimension

As has been stressed above, since its inception, international water law has focused exclusively on competing economic claims between co-riparian States over transboundary watercourses. The exercise of national sovereignty over purely domestic waters has, until recently, lain outside the scope of such law owing to the old-fashioned "domestic jurisdiction" approach to the matter[307].

Relatively recently, the environmental dimension and basic human needs have received proper recognition in the water law process,[308] albeit primarily in the context of transboundary watercourses. The alarming degradation of many of the world's water-related ecosystems as a result of mismanagement and

[304] See note 42 above, para. 154.

[305] Ibid., para. 147.

[306] Ibid., para. 281.

[307] For a general treatment of "domestic jurisdiction", see A. A. Cançado Trindade, "The Domestic Jurisdiction of States in the Practice of the United Nations and Regional Organizations", in *International and Comparative Law Quarterly*, vol. 25 (1976), pp. 715–765; and Gaetano Arangio-Ruiz, "Le domaine réservé: l'organisation internationale et le rapport entre droit international et droit interne", in *Recueil des cours de l'Académie de Droit International*, vol. 225 (1990), pp. 9–484.

[308] See section 2.1 above. On the relationship between environmental protection and human rights, see, among others, *Review of further developments in fields with which the Sub-Commission has been concerned: Human rights and the environment. Final Report Prepared by Mrs. Fatma Zohra Ksentini, Special Rapporteur* (E/CN.4/Sub.2/1994/9), 6 July 1994; *Analytical study on the relationship between human rights and the environment, Report of the United Nations High Commissioner for Human Rights* (A/HRC/19/34), 16 December 2011; and *Report of the Independent Expert on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, John H.Knox. Preliminary report*, 22 December 2012 (A/HRC/22/43).

overexploitation[309] has ultimately induced a growing number of water specialists to advocate the adoption of less-economic-oriented criteria for the management of freshwater resources with a greater focus on an "ecosystem approach"[310] and to take basic social factors increasingly into account. Some authors have gone so far as to describe the global dimension of the environmental degradation of water-related ecosystems as a matter of "environmental security".[311]

This has resulted in the adoption of a significant number of relevant soft law and conventional instruments in the field of natural resources and environmental law. However, the process has evolved separately from the development of international human rights law. The 1992 Rio Conference and its end products[312] played a crucial role in incorporating social and environmental concerns into international water law. One of the core chapters of Agenda 21, Chapter 18 ("Protection of the quality and supply of freshwater resources: application of integrated approaches to the development, management and use of water resources"), stresses that "in developing and using water resources, *priority has to be given to the satisfaction of basic needs* and the safeguarding of ecosystems".[313]

The key catalyst in the gradual shift from an exclusively economy-focused branch of international law to one that also, if not primarily, addresses environmental and vital social concerns has undoubtedly been the concept of sustainable development[314] as applied to the use of international watercourses,[315] which, as noted above, is incorporated into both Conventions.[316] The United Nations Watercourses Convention explicitly addresses the human dimension in a transboundary context and while the ECE Water Convention does not address this aspect explicitly, its Protocol on Water and Health deals with access to water at the domestic level in a manner consistent with the ongoing human rights process on the matter. The language of the United Nations Watercourses Convention' complements the ECE Water Convention, while the aforementioned Protocol to the latter instrument may be of relevance to interpretation and application of the equitable use principle and the no-harm rule under the United Nations Watercourses Convention.

As a general conceptual framework for the following analysis, it should be borne in mind that human rights considerations operate primarily at the domestic level and in relations between individuals and the State, usually the State of residence or domicile, whereas international water law as consolidated by the two Conventions operates at the inter-State transboundary level. Accordingly, at the present stage of the development of international law, whereas human rights may be claimed by individuals and groups of individuals, the term "vital human needs" refers to the international right to an equitable and reasonable use of transboundary waters that may be claimed only by States. But this distinction and the substantive difference between legal rights and needs, including needs that constitute a factor in the assessment of a right, do not exclude a mutual process of cross-fertilization. That is to say that developments in the field of human rights — and particularly with regard to access to water and sanitation and other rights ancillary to the right to health and to an adequate standard of living, such as the right to electricity, or indigenous rights — may well enhance the relevance of vital human needs as a factor for assessment of the equitable use principle under international water law, and vice versa.[317]

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309 For early studies on these problems, see Sandra postel, *Dividing the Waters: Food Security, Ecosystem Health, and the New Politics of Scarcity* (Washington, D.C., Worldwatch Institute, 1996), pp. 26–35.

310 See A. Dan Tarlock, "International Water Law and the Protection of River System Ecosystem Integrity", in *BYU Journal of Public Law*, vol. 10 (1990), pp. 181–211. See also George Francis, "Ecosystem Management", in *Natural Resources Journal*, vol. 33 (1993), pp. 315–345; Ludwik A. Teclaff and Eileen Teclaff, "International Control of Cross-Media Pollution: An Ecosystem Approach", in Albert E. Utton and Ludwik A. Teclaff, eds., *Transboundary Resources Law* (Boulder, United States of America, Westview Press, 1987), pp. 289–321; Owen McIntyre, "The Emergence of an 'Ecosystem Approach' to the Protection of International Watercourses under International Law", in *Review of European Community and International Environmental Law*, vol. 13 (2004), pp. 1–14.

311 For a broad discussion on the concept of "environmental security" as applied to international freshwater resources, see especially Brunnée and Toope, note 43 above, pp. 41–52; see also, more recently, Mattew A. Schnurr and Larry A. Swatuk , eds., *Natural Resources and Social Conflict: Towards Critical Environmental Security* (Basingstoke, United Kingdom, Palgrave Macmillan, 2012).

312 See the Rio Declaration (note 23 above) and Agenda 21 (note 98 above).

313 Agenda 21 (note 98 above), para. 18.8 (emphasis added).

314 See Principles 3 and 4 of the Rio Declaration (note 23 above).

315 According to Brunnée and Toope, through the concept of sustainable development, "an ecological dimension is introduced [into international watercourse law] at least to the extent that human development must, irrespective of transboundary impact, respect limits defined by what the environment can sustain" (note 43 above, p. 70).

316 See sections 2.1 and 4.3 above.

317 It is a matter of fact, if not of law, that, as emphasized by Judge Weeramantry in his separate opinion in the *Gabčíkovo-Nagymaros* case, "… damage to the environment can impair and undermine all the human rights spoken of in the Universal Declaration and other human rights instruments" (note 26 above, separate opinion of Judge Weeramantry, p. 92).

6.2 The United Nations Watercourses Convention

It has been lamented in various quarters that the human rights dimension of the law of international watercourses was downplayed during the process leading to the adoption of the United Nations Watercourses Convention.[318] In fact, also in line with the conceptual legal framework indicated above (stressing the distinction between "vital human needs" under the international law of transboundary watercourses and individual rights under human rights law), it may be easily inferred from the text and the preparatory process of the United Nations Watercourses Convention that significant attention was paid to the relevant economic and social rights in determining the factors for equitable utilization, and particularly the right of access to water, at least insofar as this right is ancillary to the right to health and safety. Paragraph 1 (b) and (c) of article 6 ("Factors relevant to equitable and reasonable uti1ization"), list, respectively, "the social and economic needs of the watercourse States concerned" and "the population dependent on the watercourse States concerned". Most importantly, paragraph (4) of the commentary to draft article 10 ("Relationship between different kinds of uses") makes it clear that "the requirements of vital human needs" — which, under the latter provision, deserve "special attention" and consist at least of the need for "sufficient water to sustain human life, including both drinking water and water required for the production of food in order to prevent starvation"[319] — are to be considered through a contextual interpretation as an integral Part of "the social and economic needs of the watercourse State concerned" under article 6, paragraph 1 (b).[320]

It is noteworthy that, like the principle of sustainable development, the need to give "vital human needs" priority over any other factor in assessing equitable utilization has made its way into international water law as codified in article 10 of the United Nations Watercourses Convention. Accordingly, a use of an international watercourse which causes significant harm to human health and safety inherently amounts to an inequitable and unreasonable use, and thus to a breach of both the equitable use principle and the no-harm rule. Similarly, in paragraph (15) of the commentary to draft article 7 ("Obligation not to cause significant harm"), the Commission indicates that "[a] use which causes significant harm to human health and safety is understood to be inherently inequitable and unreasonable".[321] Elaborating on this argument, it has been maintained that "[i]ncorporating the right of all peoples to access to safe and sufficient water-supplies into international law would involve … recognising that, as a minimum requirement, watercourse states have a duty not to frustrate this right in their mutual relationships".[322] It is noteworthy that, despite its bearing on an issue on which there is both solidarity and collective interest, this reasoning has been confined to bilateral dealings between the States directly concerned. Accordingly, no reference has been made to the right of third States to invoke the international responsibility of a State other than the one that has been directly injured on the grounds that " (a) the obligation breached is owed to a group of States including that State, and is established for the protection of a collective interest of the group; or (b) the obligation breached is owed to the international community as a whole"[323] or where the wrong arises from "a serious breach by a State of an obligation arising under a peremptory norm of general international law".[324]

It is arguable that, since the two Conventions are based on the same rationale and incorporate the same principle of sustainable development, the regulatory aspects of the United Nations Watercourses Convention complement the interpretation and application of the ECE Water Convention on the point at issue. This is confirmed by the evidentiary nature of the relevant provisions of the United Nations Watercourses Convention with respect to international customary law. At the transboundary level, which corresponds to the scope of the two Conventions, it is also to be noted that the Protocol on Water and Health, adopted in 1999 within the institutional framework of the ECE Water Convention with secretarial functions provided jointly by ECE and the World Health Organization (WHO) Regional Office for Europe (WHO/Europe), addresses the legal relationship between States parties and their populations with regard to access to water and sanitation. Despite its

[318] See Hey, note 52 above; Benvenisti, note 19 above; Nollkaemper, note 59 above, pp. 61–62.

[319] *Yearbook … 1994*, vol. II, Part Two, p. 110.

[320] The Commission goes on to stress, speaking of "the requirements of vital human needs", that "[t]his criterion is an accentuated form of the factor contained in article 6, paragraph 1 (b), which refers to the 'social and economic needs of the watercourse States concerned'. Since paragraph 2 includes a reference to article 6, the latter factor is, in any event, one of those to be taken into account by the watercourse States concerned in arriving at a resolution of a conflict between uses" (Ibid.).

[321] Ibid., p. 104.

[322] See Hey, note 52 above, pp. 130 ff.

[323] Article 48, paragraph 1, of the articles on the responsibility of States for internationally wrongful acts (*Yearbook … 2001*, vol. II, Part Two, p. 29)

[324] Ibid., art. 40, para. 1.

domestic scope, from the transboundary perspective, the Protocol may significantly enhance determination of the minimum standards of "vital human needs" in full consistency with the relevant international human rights instruments.

6.3 The Economic Commission for Europe water law process and the 1999 Protocol on Water and Health

While the ECE Water Convention does not expressly establish the priority of vital human needs as a factor in the equitable utilization of transboundary waters, normative attention to the "human factor" is high in the context of environmental protection, including the sustainability principle. As stated in the *Guide to Implementing the Water Convention*,

> … the Convention contains provisions that also aim to protect the common interest of the community of its Parties in the preservation of the environment. These are called integral obligations (or obligations *erga omnes partes*), in the sense that, in order to protect community interests, they create a set of indivisible corresponding rights for the community of the Parties. Conduct seriously in contrast with those obligations is not admissible, even if it results from mutual agreement by two, or more, Riparian Parties, or from a reciprocal action in response to a previous violation of the Convention. Accordingly, conduct that causes serious and irreversible harm to the environment of another State Party, or a use of a watercourse that proves unsustainable for the environment would not be permissible under the Convention.[325]

As has been noted, addressing the water-related human dimension in a transboundary and inter-State context as a factor in assessing respect for the equitable utilization principle does not mean adopting a human-rights-based approach to water-related rights. Furthermore, developments in human rights law with regard to the right of access to safe drinking water, as evidenced by the adoption of General Assembly resolution 64/292 on 28 July 2010,[326] have been entirely independent of developments in the international water law process.[327] This recalls the issue of the fragmentation of contemporary international law that was mentioned at the beginning of the present study.[328]

However, independent from the human rights law process and, most importantly for the purposes of the present study, within the institutional framework of the ECE Water Convention, the Protocol on Water and Health — although it has yet to achieve universal ratification — provides a tool for enforcement of the human right to safe drinking water and sanitation that was further enhanced by the 2007 establishment of the Compliance Committee for the review of compliance by the Parties with their obligations under the protocol.[329]

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[325] See note 74 above, para. 85.

[326] A/RES/64/292. The Human Rights Council had already promoted the human right dimension of the issue of access to water and sanitation in its 2009 resolution on human rights and access to safe drinking water and sanitation (A/HRC/ A/RES/12/8).

[327] See Asit K Biswas, Eglal Rached and Cecilia Tortajada, eds., *Water as a Human Right for the Middle East and North Africa* (London, Routledge, 2008); Pierre-Marie Dupuy, "Le droit à l'eau: droit de l'homme ou droit des États?", in Marcelo G. Kohen, ed., *Promoting justice, human rights and conflict resolution through international law : liber amicorum Lucius Caflisch. La promotion de la justice, des droits de l'homme et du règlement des conflits par le droit international* (Leiden and Boston, Martinus Nijhoff, 2007), pp. 701–716; Eibe H. Riedel and Peter Rothen, eds., *The Human Right to Water* (Berlin, Berliner Wissenschafts-Verlag, 2006); Knut Bourquain, *Freshwater access from a human rights perspective: a challenge to international and human rights law* (Leiden and Boston, Martinus Nijhoff, 2008); Mikel Mancisidor and Natalia Uribe, eds., *The Human Right to Water: Current Situation and Future Challenges* (Barcelona, Icaria, 2008); Malgosia Fitzmaurice, "The Human Right to Water", in *Fordham Environmental Law Review*, vol. 18 (2007), p. 537–585; Tanzi, note 58 above; Henri Smets, ed., *Le droit à l'eau potable et à l'assainissement, sa mise en oeuvre en Europe / The Right to Safe Drinking Water and Sanitation in Europe* (Nanterre, France, Académie de l'Eau, 2011); Sara De Vido, "The Right to Water: From an Inchoate Right to an Emerging International Norm", in *Revue belge de droit international*, vol. 45 (2012), pp. 517–564; Stephen C. McCaffrey, "The Emergence of a Human Right to Water and Sanitation: The Many Challenges", in *American Society of International Law, Proceedings of the annual* meeting, vol. 106 (2012), pp. 43–56; and O. McIntyre and Attila Tanzi, "The Water Convention and the Human Right to Access to Water: The Protocol on Water and Health", in Tanzi and others, *The UNECE Convention* … (note 104 above).

[328] See note 1 above. For an analysis of this phenomenon, see Tanzi, note 58 above.

[329] See the addendum to the report of the Meeting of the Parties to the Protocol on Water and Health to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes on its first meeting (Geneva, 17–19 January 2007) (ECE/ MP.WH/2/Add.3/EUR/06/5069385/1/Add.3).

It is arguable that the Protocol explicitly translates into a binding water-law instrument most, if not all, of the regulatory features emerging within the body of human rights law. This is corroborated by a comparison of its main tenets with articles 11 and 12 of the 1966 International Covenant on Economic, Social and Cultural Rights — on the right to an adequate standard of living and the right to health, respectively — as interpreted by General Comment 15 (on the right to water) of the Committee on Economic, Social and Cultural Rights, adopted in 2002.[330]

Despite the domestic scope of the Protocol and the corresponding human rights instruments, their rules and principles make a significant contribution by establishing the importance of human needs in assessing respect for the equitable use principle on a case-by-case basis.

7. Dispute prevention and settlement

A comparison between article 33 of the United Nations Watercourses Convention and article 22 of the ECE Water Convention shows the close link between procedures for cooperation, and particularly institutionalized cooperation, on the one hand, and dispute settlement mechanisms, on the other, and therefore between dispute avoidance and dispute resolution.

Article 22 of the ECE Water Convention is succinct; a concise reference to the general obligation to first seek a settlement "by negotiation or by any other means … acceptable to the parties of the dispute" is followed by an "opt-in" formula for compulsory arbitration or adjudication analogous to the one envisaged in article 33 of the United Nations Watercourses Convention.

Article 22 makes no mention of other forms of dispute settlement, such as good offices, enquiry, mediation or conciliation and, unlike article 33, paragraph 2, of the United Nations Watercourses Convention, does not encourage the parties to refer the dispute to a joint watercourse institution. However, the Meeting of the Parties provides an important forum for dispute prevention and "management". Moreover, States parties to the ECE Water Convention are required to establish joint bodies for bilateral and multilateral cooperation, whose tasks under articles 9 ff. cover a wide range of prevention and joint management measures that have a direct impact on dispute avoidance.

In the event of a dispute between two States parties to both Conventions, there would be no conflict between the dispute settlement mechanisms envisaged therein. It is true that article 33 of the United Nations Watercourses Convention provides for compulsory fact-finding, which is not contemplated in article 22 of the ECE Water Convention; however, this procedure adds little or nothing to the role of the joint bodies to be established by the parties to the ECE Water Convention or to its newly established Implementation Committee.[331] Moreover, there would be no conflict or overlapping between arbitration and adjudication as contemplated in the two Conventions, both of which provide for such mechanisms on an optional basis in absolutely compatible terms.

As anticipated, a major development within the framework of the ECE Water Convention was the establishment of the Implementation Committee in 2012.[332] This is all the more remarkable in terms of law- and policy-making since the Convention did not envisage such a body. The Committee is among the most non-confrontational and non-adversarial of the compliance review bodies set up under multilateral environmental agreements,[333] and especially under the ECE environmental conventions. The Committee is composed of nine members who serve in their personal capacity and are elected by the Meeting of the Parties, taking into account the need for expertise shared between legal and scientific experts and for a geographical distribution of membership.[334]

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330 E/C.12/2002/11.

331 See note 12 above.

332 Ibid. See also Stephen McCaffrey, "The Implementation Committee: a Tool for Compliance" and Cristina Contartese, "Dispute prevention, Dispute Settlement and Implementation Facilitation in International Water Law: The Added Value of the Establishment of an Implementation Mechanism under the Water Convention", in Tanzi and others, *The UNECE Convention …* (note 104 above).

333 See Tullio Treves and others, eds., *Non-Compliance Procedures and Mechanisms and the Effectiveness of International Environmental Agreements* (The Hague, T.M.C. Asser Press, 2009).

334 Decision VI/1, Annex I ("Mechanism to support implementation and compliance"), paras. 3, 4 and 6; see note 12 above.

The Committee's trigger mechanisms include party-to-party submission; self-submission by a party experiencing problems in its implementation of or compliance with the Convention; and action by the Committee on its own account when it becomes aware that a party may be experiencing such problems.[335] In addition to these trigger mechanisms, which are consistent with prevailing practice, the Committee is empowered to conduct an advisory procedure at the request of one or more parties.[336] Where the advice requested by a party concerns other parties or non-parties, the latter cannot be required to participate in the advisory procedure without their consent.[337] Advisory procedures may result in the provision of advice and assistance designed to facilitate implementation and/or compliance, including assistance in seeking support from specialized agencies; facilitating technical and financial assistance, including technology transfer; suggesting domestic regulatory measures or the negotiation of cooperation agreements; requesting and/or assisting the party or parties concerned to develop an action plan; inviting the party or parties concerned to submit an action plan to facilitate implementation of and compliance with the Convention; and/or inviting the party or parties concerned to submit progress reports on its or their efforts in implementing or complying with the Convention.[338] Under all other procedures falling within its competence, in addition to taking the measures indicated above, the Committee may recommend that the Meeting of the Parties issue a statement of concern, a declaration of non-compliance or a caution in order to publicize cases of non-compliance, or that it suspend the rights and privileges accorded to the party concerned under the Convention.[339]

The establishment of the Implementation Committee does not affect the applicability of the general rules on State responsibility in the event of a breach of the obligations established in the ECE Water Convention. It will be recalled that article 22 of the ECE Water Convention and article 20 of its Protocol on Water and Health continue to provide for adjudication and arbitration, albeit on an optional basis. The drafters would not have envisaged these forms of dispute settlement in the first place had they considered that the general and flexible nature of the relevant provisions of these two instruments and the due diligence character of their obligations would not be suitable to adjudication. While the Convention's implementation mechanism and the institutional cooperation between co-riparians that it requires do not render the aforementioned general rules inapplicable as a matter of principle, they may make the law of international State responsibility, as well as adjudicative dispute settlement, a less urgent issue.

In the light of the above considerations and in view of the (optional) adjudication envisaged in both Conventions, it seems appropriate to briefly consider whether adjudication is a suitable means of dispute settlement under the international rules on water-related matters, a question that has often been answered in the negative.[340]

This negative attitude towards adjudication or arbitration arises primarily from the predominantly distributive-justice nature of international water law; as a result, assessment of the lawfulness of the defendant State's conduct may not be the appropriate tool for application of the relevant provisions. The same would appear to be true of judicial determination of the forms and amount of reparation owed. It should be borne in mind that due diligence substantive obligations, as well as the procedural obligations in the field, may well be

335 Ibid., paras. 24, 25 and 28.

336 Ibid., paras. 18–23.

337 Ibid., para 20, as amended during the discussion at the sixth session of the Meeting of the Parties (on file with the author).

338 Ibid., para. 22.

339 Ibid., para. 42 (d) to (g).

340 See John G. Laylin and Rinaldo L. Bianchi, "The Role of Adjudication in International River Disputes" (in *American Journal of International Law*, vol. 53 (1959), pp. 30–49) and the references contained therein. Also in 1959, Berber maintained that "water disputes are generally agreed to constitute a classical example of disputes which cannot be satisfactorily solved by judicial decision" (note 15 above, p. 263). In a similar vein, see Lipper, note 20 above, pp. 59 ff. For an overview of the various authorities in both camps — i.e. for or against the appropriateness of judicial means to the settlement of water law disputes — within the framework of an analysis aimed at assessing whether there is a customary obligation to resort to third-party means of dispute settlement for the resolution of water law disputes that cannot be settled through negotiation, see Bourne, note 275 above, pp. 206 ff. On the inappropriateness of adjudication to the settlement of international water law disputes, see also Günther Handl, note 244 above, p.190. For a more open attitude, see Jiménez de Aréchaga, who nonetheless views the usefulness of adjudication in watercourse disputes as confined to the assessment of whether substantial injury has been caused (note 16 above, p. 200). More recently, Benvenisti, emphasizing cooperation as the only way to enhance the avoidance and settlement of water law disputes, focuses on negotiation as opposed to adjudication (note 19 above, p. 400). Koskenniemi takes a somewhat negative attitude as to the appropriateness of adjudication in the settlement of environmental disputes, arguing that they would be "be determinable only through a contextual reasonableness test". This consideration certainly applies to water law disputes (note 128 above, p. 81). However, Brunnée and Toope maintain that "[u]ltimately, as the regime becomes more structured and legal legitimation takes place, binding rules and mechanisms of dispute settlement may prove to be acceptable and effective"; however, they consider that "this eventuality will tend to occur well along in the process of regime-building" (note 43 above, p. 58).

infringed upon by internationally wrongful conduct. This has been consistently confirmed by the claims in recent international water law disputes, such as the *Gabčíkovo-Nagymaros* case[341] and the *Pulp Mills* case, both decided by the International Court of Justice, and in the *Kishenganga* case, before an Arbitral Tribunal established under the rules of the Permanent Court of Arbitration.[342]

On the other hand, the fact that the equitable utilization principle and the no-harm rule may be considered primarily as terms of reference for negotiations within a distributive justice framework is not inconsistent with the view that such rules are justiciable. Indeed, the justiciability of international water law disputes should be viewed in the light of the content of the applicable rules and of the scope of the judicial or arbitral function in general international law.

In view of the generality of the substantive rules in point, watercourse disputes may have a wide range of factual dimensions and legally relevant variables.[343] Disputes bearing on the equitable utilization and no-harm rules usually amount to the balancing of interests and equities between the disputing parties. Accordingly, claimants may seek a declaratory judgment on the substantive and procedural rights involved, reparation for wrongful conduct or an indication of the legal parameters for equitable settlement of the dispute in terms of distributive justice.

As the present author has stressed, a transboundary water law dispute may arise not only from an activity already in place or the resulting harm, but also from planned projects.[344] In such cases, it is likely that the disputed rules will be procedural and linked to the general obligation of cooperation with respect to, for example, the exchange of data and information, notification, consultations and negotiation. This assumption was corroborated recently in the *Pulp Mills* case.[345] Given the complementary relationship between the relevant substantive and procedural rules, it is likely that a dispute involving application of the former would also involve application of the latter, and vice versa.[346] Here again, an international court or tribunal, in ascertaining procedural rights and obligations, would be directly involved in the actual or prospective negotiations of the dispute.

The judicial (or arbitral) function may well be an appropriate mechanism for handling the entire range of inter-State disputes arising from the actual or prospective use of an international watercourse. The recent judicial practice of the International Court of Justice, as well as arbitral practice, show that adjudication can be instrumental in the settlement of disputes in which balancing the interests and rights of the parties is the primary goal. It should be noted that, in the *Fisheries Jurisdiction* case between the United Kingdom and New Zealand, the Court expressly stated that, owing to the nature of the rights involved, it was a "proper exercise of the judicial function" to refer the parties to a negotiated settlement[347] and to establish binding terms of reference for those negotiations, taking economic, social and ecological factors into account.[348]

An integrated approach to watercourse disputes that takes all of the existing means and procedures for conflict resolution, including adjudication and arbitration, into account finds support in basic international law. Agreement is still both the basis and the aim of every means of dispute settlement; even the so-called "compulsory" mechanisms require the consent of the parties,[349] albeit expressed before the dispute has actually arisen.

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341 Note 26 above, p. 7.

342 *Indus Water Kishanganga Arbitration (Pakistan v. India)*, final award, 20 December 2013, p. 6.

343 See Richard Bilder, "An Overview of International Dispute Settlement", in *Emory Journal of International Dispute Resolution*, p. 15 (cited by Christine Chinkin, "Dispute Resolution and the Law of the Sea: Regional Problems and Prospects", in James Crawford and Donald R. Rothwell, eds., *The Law of the Sea in the Asian Pacific Region: Developments and Prospects* (Dordrecht and Boston, Martinus Nijhoff, 1995), p. 242 and John Warren Kindt, "Dispute Settlement in International Environmental Issues: The Model provided by the 1982 Convention on the Law of the Sea", in *Vanderbilt Journal of Transnational Law*, vol. 22 (1989), p. 1112.

344 "Recent Trends in International Water Law Dispute Settlement", in Permanent Court of Arbitration, International Bureau, ed., *International Investments and Protection of the Environment: The Role of Dispute Resolution Mechanisms* (The Hague and London, Kluwer Law International, 2001), pp.133–174.

345 See note 341; see also chapter 5 above.

346 Ibid. See also McIntyre, note 257 above, p. 475–497.

347 *Fisheries Jurisdiction (United Kingdom v. Iceland), Merits, Judgment, I.C.J. Reports 1974*, para. 75.

348 Ibid. para. 79.

349 Nearly 30 years ago, Bourne remarked that "[t]he truth of the matter is that the real limitation of the role of adjudication at the international level is found in the unwillingness of states to litigate rather than in the subject matter and nature of the disputes. This is as true of international water disputes as it is of other disputes" (note 275 above, p. 217).

It might be wondered whether unilaterally triggered, compulsory arbitration or adjudication is counterproductive since it can do little to compensate for a lack of political will to pursue a negotiated settlement. At the same time, the knowledge such a binding mechanism had been accepted by the disputing parties before the dispute arose might induce the recalcitrant party to take a more flexible attitude towards negotiations. The same consideration may apply even after proceedings have been instituted in the sense that the initiation of proceedings can pressure a recalcitrant party to resume and perhaps complete stalled negotiations.[350] Even in the worst-case scenario, where a judicial or arbitral decision is rendered *in absentia* or met with initial non-observance, the authoritative statements and advice issued by a court or arbitral tribunal can be used at a later stage as a bargaining tool with a view to a negotiated settlement of the dispute.

While the above militates in favour of the full compatibility, if not complementarity, of adjudication or arbitration and negotiated settlement, it is arguable that, in general, adjudicatory forms of dispute settlement are more appropriate to the settlement of differences arising out of the interpretation and application of the United Nations Watercourses Convention rather than the ECE Water Convention since parties to the former instrument do not have the benefit of the third-party assistance, advisory and mediation services offered by the institutional framework of the latter, recently further enhanced by the establishment of the Implementation Committee.

8. The relationship of the Conventions to each other and to other sources of international law

8.1 A treaty law perspective

8.1.1 A constructive interpretative approach to the mutually complementary rules of the two Conventions

International custom on treaty law as codified by the 1969 Vienna Convention on the Law of Treaties (hereinafter the "Vienna Convention") confirms that two or more treaties on the same subject matter may be applicable at the same time between the same parties, provided that there is mutual compatibility between their provisions.[351] This is established in article 30 ("Application of successive treaties relating to the same subject matter"), particularly paragraph 3,[352] and article 59 ("Termination or suspension of the operation of a treaty implied by the conclusion of a later treaty"), particularly paragraph 1 (b).[353]

The absolute compatibility of the two Conventions, demonstrated in the previous chapters of the present study, allows for application of the principle of harmonization whereby, according to the Study Group on the Fragmentation of International Law, "[i]t is a generally accepted principle that when several norms bear on a single issue they should, to the extent possible, be interpreted so as to give rise to a single set of compatible obligations."[354]

Most importantly, analysis has shown that the two Conventions are not only compatible, but largely complementary. In other words, owing to the basic compatibility of their individual provisions on the

[350] This point was stressed by Judge Ajibola in "Dispute Resolution by the International Court of Justice", in which he emphasizes the role of "the Court as Part of the negotiation process" (*Leiden Journal of International Law*, vol. 11 (1998), p. 126).

[351] See Emmanuel Rocounas, *Engagements parallèles et contradictoires* (Leiden and Boston, Brill, 2008), p. 206; W. Czaplińsky and G. Danilenko, "Conflicts of Norms in International Law", in *Netherlands Yearbook of International Law*, vol. 21 (1990), p. 29; and Jan B. Mus, "Conflicts between Treaties in International Law", in *Netherlands International Law Review*, vol. 45 (1998), pp. 208–232.

[352] Art. 30, para. 3, reads: "When all the parties to the earlier treaty are parties also to the later treaty but the earlier treaty is not terminated or suspended in operation under article 59, the earlier treaty applies only to the extent that its provisions are compatible with those of the later treaty".

[353] Art. 59 reads: "A treaty shall be considered as terminated if all the parties to it conclude a later treaty relating to the same subject matter and: … (b) The provisions of the later treaty are so far incompatible with those of the earlier one that the two treaties are not capable of being applied at the same time". While art. 30 offers direct support for the potential complementary application of the two Conventions, the support provided by art. 59 is to be inferred by implication.

[354] See note 1 above.

same subject matter, the more detailed rules contained in either Convention offer important elements of guidance for interpretation and application of less-detailed provisions on the same subject matter in the other Convention.

In general terms, this interpretative argument is grounded in article 31 of the Vienna Convention', ("General rule of interpretation"), paragraph 3 of which provides that, in the interpretation of a treaty, "[t]here shall be taken into account, together with the context: … (c) Any relevant rules of international law applicable in the relations between the parties".

Obviously, as indicated above, these interpretive considerations apply to States that are parties to both Conventions, particularly in the light of the fact that the two instruments are primarily, if not entirely, evidentiary of customary law. This is confirmed by the International Law Commission in its study on the fragmentation of international law:

> Article 31 (3) (c) also requires the interpreter to consider other treaty-based rules so as to arrive at a consistent meaning. Such other rules are of particular relevance where parties to the treaty under interpretation are also parties to the other treaty, where the treaty rule has passed into or expresses customary international law ….[355]

Moreover, so long as the provisions of the two Conventions subject to interpretation and application may be considered evidence of customary law, the above considerations also apply to legal relations between States that are not necessarily parties to both Conventions, provided that the riparian parties concerned meet the two conditions for systemic integration[356] emphasized by the Commission:

> (a) The parties are taken to refer to customary international law and general principles of law for all questions which the treaty does not itself resolve in express terms;
>
> (b) In entering into treaty obligations, the parties do not intend to act inconsistently with generally recognized principles of international law.

It is also arguable that the more specific and detailed provisions of either of the two Conventions complement, by taking priority, the other Convention's provisions on the same subject matter based on another general principle: *lex specialis derogat legi generali*. As the Commission has emphasized, "[t]hat special law has priority over general law is justified by the fact that such special law, being more concrete, often takes better account of the particular features of the context in which it is to be applied than any applicable general law".[357]

The above general comments on the complementary relationship between the provisions of the two Conventions, which embody rules that have emerged from general customary law as codified in the Vienna Convention, are confirmed by their "compatibility provisions".

On the one hand, in addition to the general principle referred to above, the guidance that the more detailed provisions of the ECE Water Convention provide with a view to interpretation and application of the United Nations Watercourses Convention is expressly grounded in the tenth preambular paragraph of the latter Convention, which refers to "the existing bilateral and multilateral agreements regarding the non-navigational uses of international watercourses". As illustrated above, this is particularly true of the many normative standards contained in the ECE Water Convention, which make up the due diligence obligation of prevention set out the tasks of the joint bodies responsible for institutional transboundary cooperation.

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[355] Ibid., para. (21).

[356] Indeed, according to the Commission, article 31, paragraph 3 (c), of Vienna Convention on the Law of Treaties "gives expression to the objective of 'systemic integration' according to which, whatever their subject matter, treaties are a creation of the international legal system and their operation is predicated upon that fact" (Ibid., para. (17)).

[357] Ibid., para. (7). The application of this principle is far from absolute. According to the Commission, "[t]he relationship between the *lex specialis* maxim and other norms of interpretation or conflict solution cannot be determined in a general way. Which consideration should be predominant - i.e. whether it is the speciality or the time of emergence of the norm - should be decided contextually". (Ibid., para. (6)). Furthermore, apart from situations in which the *lex specialis* is at variance with a rule of *jus cogens*, in which case the former applies, there are "other considerations" that may limit its application, thereby substantiating the priority of general law over special law, including "[w]hether such prevalence may be inferred from the form or the nature of the general law or intent of the parties, wherever applicable; [w]hether the application of the special law might frustrate the *purpose* of the general law; [w]hether third party beneficiaries may be negatively affected by the special law; and [w]hether the balance of rights and obligations, established in the general law would be negatively affected by the special law." (Ibid., para. (10), emphasis the Commission's).

On the other hand, in a few cases, the United Nations Watercourses Convention may provide complementary guidance for the interpretation and application of the ECE Water Convention. The legal grounds for this complementary interpretive approach, apart from the general principle set out in article 31, paragraph 3 (c), of the Vienna Convention and the general maxim *lex specialis derogat legi generali*, is specifically corroborated by article 9, paragraph 1, of the ECE Water Convention, which provides that "[t]he Riparian Parties shall on the basis of equality and reciprocity enter into bilateral or multilateral agreements or other arrangements, where these do not yet exist … in order to define their mutual relations and conduct regarding the prevention, control and reduction of transboundary impact". While the United Nations Watercourses Convention was certainly not the kind of agreement that the drafters of the ECE Water Convention had in mind, the few provisions of the former instrument that provide more specific regulatory guidance may well fall within the scope of the paragraph in question. As noted above, this is particularly true of the factors for assessment of an equitable and reasonable use of an international watercourse, the legal consequences of the occurrence of transboundary harm and the procedural rules for notification of planned measures.

8.1.2 Safeguards in the event of conflicting rules

The entry into force of the United Nations Watercourses Convention and of the globalization of the ECE Water Convention following the entry into force of the amendments, adopted in 2003, that allow States from outside the ECE region to accede to it make it advisable, *ex abundante cautela*, to consider the hypothetical scenario in which provisions of the two Conventions might be considered mutually incompatible.

8.1.2.1 The relationship between the two Conventions

One potential source of concern is the question of whether, following the maxim *lex posterior derogat priori*, the later Convention supersedes the earlier one — in other words, whether the more general and less stringent provisions of the United Nations Watercourses Convention derogate from the more detailed and stringent provisions of the ECE Water Convention. An answer to this question requires consideration of the relationship between two maxims: *lex specialis derogat legi generali* and *lex posterior derogat legi priori*.

While it is true that articles 30 and 59 of the Vienna Convention uphold the second of these principles in respect of conflicting provisions of two treaties on the same subject matter as between the parties to both treaties, the case law of the International Court of Justice seems to give *lex specialis* precedence over *lex posterior*:[358] "The *lex posterior* presumption may not apply where the parties have intended otherwise, which may be inferred from the nature of the provisions or the relevant instruments, or from their object and purpose".[359] Apart from the broad interpretive discretion that emerges from this inference consideration, articles 30 and 59 of the Vienna Convention leave the parties free to determine, on a case-by-case basis, the legal effects of an international treaty as between them with respect to pre-existing or future treaties on the same subject matter.

This contractual freedom was exercised by the drafters of both Conventions. In the case of the ECE Water Convention, article 9, paragraph 1, not only permits but requires the parties to enter into bilateral or multilateral watercourse agreements setting out more specific rules. This allows for the applicability to parties to the ECE Water Convention that also become parties to the United Nations Watercourses Convention of the more detailed or stringent standards established in the latter instrument. At the same time, by implication,

[358] In its advisory opinion on the legality of the threat or use of nuclear weapons, the Court described the relationship between human rights law and the laws of warfare as follows: "[T]he protection of the International Covenant of Civil and Political Rights does not cease in times of war, except by operation of article 4 of the Covenant …. The test of what is an arbitrary deprivation of life, however, then falls to be determined by the applicable *lex specialis*, namely, the law applicable in armed conflict which is designed to regulate the conduct of hostilities. Thus whether a particular loss of life, through the use of a certain weapon in warfare, is to be considered an arbitrary deprivation of life contrary to article 6 of the Covenant, can only be decided by reference to the law applicable in armed conflict and not deduced from the terms of the Covenant itself" (*Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, 1. C.J. Reports 1996*, para. 25). The Court found that although the date of the Covenant's adoption was subsequent to the crystallization of the customary law of warfare, it did not supersede customary law on the grounds of the *lex posterior* principle since the prior customary laws of warfare prevailed over the later Covenant under the *lex specialis* principle. In keeping with this approach, in *Slivenko and others v. Latvia* (2002), the European Court of Human Rights held that a prior bilateral treaty between Latvia and Russia could not derogate from the European Convention on Human Rights and Fundamental Freedoms (Decision on the admissibility of 23 January 200, ECHR 2002-II, p. 483).

[359] See note 1 above, para. 27.

this provision rules out any derogation from the rules of the ECE Water Convention by the less stringent or detailed rules contained in the later Convention.

In the case of the United Nations Watercourses Convention, reference has already been made to its preambular paragraph 9, which safeguards existing watercourse agreements by "recalling" them, thereby including the ECE Water Convention for parties to both Conventions. A clearer expression of the drafters' intent on this matter is article 3, paragraph 1: "In the absence of an agreement to the contrary, nothing in the present Convention shall affect the rights or obligations of a watercourse State arising from agreements in force for it on the date on which it became a party to the present Convention".

This provision clearly preserves the normative force of the ECE Water Convention for parties to it that subsequently ratify the United Nations Watercourses Convention. At the same time, by its reference to the admissibility of "an agreement to the contrary", article 3, paragraph 1, of the United Nations Watercourses Convention, read together with article 9, paragraph 1, of the ECE Water Convention, ensures the applicability to parties to the latter instrument of provisions of the former one that are more specific and detailed and, obviously, in line with its basic principles, as is the case with all of its provisions.

8.1.3 The relationship between the two Conventions and other watercourse agreements

8.1.3.1 Pre-existing agreements

The specific reference in both Conventions to a hypothetical scenario in which parties to one of them are also parties to a pre-existing watercourse agreement has an impact not only on the relationship between the two Conventions, but also on the relationship between each them and other previous watercourse agreements. The question is handled somewhat differently in the two instruments.

As noted above, article 9, paragraph 1, of the ECE Water Convention requires the parties to adapt existing agreements "where necessary to eliminate the contradictions with the basic principles of this Convention …". In principle, it may be inferred from this obligation *de contrahendo* that, as with an incompatibility clause, a State party to both the ECE Water Convention and a pre-existing watercourse agreement should disregard any incompatible obligations established in the previous agreement.

The above is in keeping with the general principles on the application of successive treaties relating to the same subject matter, codified in article 30 of the Vienna Convention'. On the one hand, the general provision upholds the *lex posterior* principle whereby, in the event of an incompatibility between the provisions of two treaties between the same parties on the same subject matter, the provisions of the later treaty supersede those of the former. On the other hand, article 30, paragraph 4 (b), of the Vienna Convention provides that "… as between a State party [to two treaties on the same subject matter] and a State party to only one of the treaties, the treaty to which both States are parties governs their mutual rights and obligations".

That said, article 9, paragraph 1, of the ECE Water Convention does not preclude the wrongfulness of conduct which, while in compliance with the ECE Water Convention, constitutes a breach of previous watercourse agreement vis-à-vis a State party to that agreement, but not to the ECE Water Convention. This is corroborated by article 30, paragraph 5, of the Vienna Convention, which establishes that the aforementioned paragraph 4 (b) of the same article "is without prejudice … to any question of responsibility which may arise for a State from the conclusion or application of a treaty the provisions of which are incompatible with its obligations towards another State under another treaty".

As for the United Nations Watercourses Convention, painstaking negotiations in New York were conducted between delegations that took the view that the Convention should supersede any pre-existing watercourse agreements insofar as they were in conflict with its provisions, or at least with its basic principles, and those that sought to uphold previous agreements, depriving the Convention of any derogatory effect whatsoever.[360]

[360] For an account of this debate, see Tanzi, note 72 above, pp. 110–111. See also Tanzi and Arcari, note 15 above.

The wording that was ultimately agreed gives the upper hand to proponents of the view that previous agreements should not be superseded by the United Nations Watercourses Convention.[361] While article 3, paragraph 1,[362] provides that "… nothing in the present Convention shall affect the rights or obligations of a watercourse State arising from agreements in force for it on the date on which it became a party to the present Convention", paragraph 2 simply indicates that parties to such agreements "may, where necessary, consider harmonizing such agreements with the basic principles of the present Convention". On the basis of the interpretative principle of effectiveness,[363] this language cannot be considered devoid of normative function; it has at least a hortatory effect that calls for compliance in good faith. For example, the provision could provide a basis for a watercourse State's request that a co-riparian enter into negotiations as to, at a minimum, the appropriateness of harmonizing a pre-existing agreement between them with the basic principles of the Convention.

From the standpoint of a party to the ECE Water Convention that is considering ratification of the United Nations Watercourses Convention, the latter, owing to its permissive approach to the matter, would in no way interfere with the obligation set out in article 9, paragraph 1, of the former, which is itself rather flexible insofar as it refers to adjustments to its "basic principles". Moreover, in the light of the consistency between the rationales of the two instruments, compliance with the adjustment obligations established in article 9, paragraph 1, of the ECE Water Convention would also constitute implementation of the hortatory provision contained in article 3, paragraph 2, of the United Nations Watercourses Convention.

For a State that had already ratified the United Nations Watercourses Convention, becoming a party to the ECE Water Convention would clearly entail the obligation to enter into agreements that "eliminate contradictions with the basic principles of this Convention". However, in the light of the mutual compatibility, if not perfect consistency, of the basic principles of the two Conventions, this point appears to be immaterial.

8.1.3.2 Future agreements

With regard to the relationship between the two instruments and future agreements, article 9, paragraph 1, of the ECE Water Convention is clear: it requires the parties to enter into agreements that: (a) apply to the specific circumstance pertaining to a given watercourse the general obligations of prevention, control and reduction of transboundary impact; and (b) bring pre-existing agreements into line with the basic principles of the Convention. By implication, rather than precluding the conclusion of future agreements incompatible with the basic principles of the Convention, this provision establishes a presumption of the wrongfulness of conduct arising from the application of such an agreement as between parties to the Convention that are not also parties to the later agreement. Clearly, this also applies to future watercourse agreements between parties to the ECE Water Convention alone.

This position finds express support in article 41, paragraph 1, of the Vienna Convention ("Agreements to modify multilateral treaties between certain of the parties only"), which provides that "[t]wo or more parties to a multilateral treaty may conclude an agreement to modify the treaty as between themselves alone if: (a) the possibility of such a modification is provided for by the treaty".

The above argument against the signing of incompatible agreements under article 9, paragraph 1, of the ECE Water Convention is corroborated by the general customary regime codified in the Vienna Convention: the legal consequence of the conclusion by parties to a multilateral treaty of a subsequent special agreement that is incompatible with the treaty would not be the nullity of the subsequent agreement — unless the former is considered to reflect customary law of a peremptory or *jus cogens* nature under articles 53, 64 and 71 of the Vienna Convention — but would instead be governed by article 60 ("Termination or suspension of the operation of a treaty as a consequence of its breach") and, most importantly, by the customary rules on State responsibility.

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[361] This solution left those who had strongly advocated the need for compulsory harmonization unhappy. See, in particular, the statement by the representative of Ethiopia in the General Assembly, explaining his delegation's vote on the Convention (A/51/PV.99, pp. 9–10).

[362] See subsection 8.1.2.1 above.

[363] According to this principle, of two possible interpretations, the one that allows a given provision to perform a normative function takes precedence over the one that precludes such a function *(Ut res magis valeat quam pereat)*.

These rules would apply both to relations between States parties to the earlier multilateral treaty alone, and to relations between States parties to both instruments which had enforced provisions of the later agreement that were in breach of obligations arising under the earlier one, or vice versa.[364] No provision of the Vienna Convention provides that the conclusion of an agreement in breach of a rule on the admissibility of the conclusion of subsequent treaties on the same subject matter is to be considered void, whereas paragraph 5 of article 30 ("Application of successive treaties relating to the same subject matter") provides that application of the rules established in the preceding paragraph "… is without prejudice … to any question of responsibility which may arise for a State from the conclusion or application the provisions of which are incompatible with its obligations towards another State under another treaty".

The issue is thus to identify the States parties that would be entitled to hold responsible another State party which, in applying the provisions of a later incompatible agreement, has violated the provisions of the prior agreement or vice versa. The aforementioned general treaty law regime would grant such standing to an injured co-riparian party to the ECE Water Convention that was not a party to the later incompatible agreement, while parties to the Convention that were not co-riparians with respect to the watercourse to which the later agreement referred would be entitled to invoke the responsibility of the wrongdoers only to the extent that the violated provisions were deemed to protect the collective rights of all States parties to the Convention. Indeed, as the *Guide to Implementing the Water Convention* points out,

> … the Convention contains provisions that also aim to protect the common interest of the community of its Parties in the preservation of the environment. These are called integral obligations (or obligations *erga omnes partes*), in the sense that, in order to protect community interests, they create a set of indivisible corresponding rights for the community of the Parties. Conduct seriously in contrast with those obligations is not admissible, even if it results from mutual agreement by two, or more, Riparian Parties, or from a reciprocal action in response to a previous violation of the Convention. Accordingly, conduct that causes serious and irreversible harm to the environment of another State Party, or a use of a watercourse that proves unsustainable for the environment would not be permissible under the Convention. [365]

In the light of the above reasoning, it might be wondered whether legal reactions to alleged breaches of integral or *erga omnes partes* obligations of the Convention would fall within the scope of paragraph 1 of article 48 ("Invocation of responsibility by a State other than an injured State") of the articles on responsibility of States for internationally wrongful acts, whereby "[a]ny State other than an injured State is entitled to invoke the responsibility of another State in accordance with paragraph 2 if … (a) the obligation breached is owed to a group of States including that State, and is established for the protection of a collective interest of the group". While this would, in principle, appear to be the case, it will be interesting to see the direction that future practice will take.

As for the United Nations Watercourses Convention, article 3, paragraph 3, provides that the parties may conclude agreements which "apply and adjust" its provisions to the specific features of a particular watercourse. Of serious concern among scholars[366] and the object of an impassioned debate during the negotiations in New York is the question of whether this provision gives States parties the freedom to conclude special agreements that modify the Convention without restrictions, or whether the modifications provided by such agreements must be consistent with the general principles enshrined in the Convention. While some delegations advocated a provision that would expressly establish the inadmissibility of future special agreements incompatible with the basic principles of the Convention,[367] others demanded an explicit reference to the potential for future watercourse agreements to "apply or depart from" the Convention.[368]

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[364] "[T]he State that is party to two incompatible treaties is bound *vis-à-vis* both of its treaty parties separately. In case it cannot fulfil its obligations under both treaties, it risks being responsible for the breach of one of them unless the concerned parties agree otherwise. In such case, also article 60 [of the Vienna Convention] may become applicable. The question which of the incompatible treaties should be implemented and the breach of which should attract State responsibility cannot be answered by a general rule." (note 1 above, para. (25)).

[365] See note 74 above.

[366] See Hey, note 52 above, and Lucius Caflisch, "Regulation of the Use of International Watercourses", in Salmon and Boisson de Chazournes, note 71 above, pp. 3–16.

[367] See, for example, the written proposals submitted by Ethiopia (A/C.6/51/NUW/WG/CRP.9) and the Netherlands (A/C.6/51/NUW/WG/CRP.16). For more details, see Tanzi, note 72 above, p. 111.

[368] See the written proposals submitted by Israel (A/C.6/51/NUW/WG/CRP.8), Turkey (A/C.6/51/NUW/WG/CRP. 12) and France (A/C.6/51/NUW/WG/CRP. 15).

The text that was ultimately adopted retains the language of article 3, paragraph 3, that was originally proposed by the Commission; thus, future special agreements between States parties can specify the general regulations established therein by "applying and adjusting" them to the particular characteristics of a given watercourse within the limits of the basic principles set out in the Convention.

This interpretation is not negated by the Working Group's statement that "[t]he present Convention will serve as a guideline for future watercourse agreements and, once such agreements are concluded, it will not alter the rights and obligations provided therein"[369] since that statement concerns two different periods of time: the period preceding the conclusion of a special agreement, during which the negotiating parties, since they are required to "apply and adjust" the Convention, may not depart from it; and the period subsequent to the hypothetical conclusion of a special watercourse agreement, where, in the unlikely event that it departed from the United Nations Watercourses Convention, the validity of the later agreement would be upheld. Moreover, the interpretative statement confirms general treaty law on the succession of treaties on the same subject matter. At the same time, according to article 3, paragraph 4, of the United Nations Watercourses Convention, the conclusion of a special watercourse agreement is permissible "except insofar as the agreement adversely affects, to a significant extent, the use by one or more other watercourse States of the waters of the watercourse, without their express consent".

The provisions of the ECE Water Convention are more specific on this matter since the parties are precluded from entering into later agreements that conflict with its basic principles. It is doubtful whether the same is true of the relationship between the United Nations Watercourses Convention and future watercourse agreements since article 3, paragraph 4, sets clear limits on the admissibility of future watercourse agreements which adversely affect a co-riparian that is not a party to the Convention.

Since the aim of these two processes is the same — to enhance the common interest for the benefit of all parties concerned — it would be inconsistent with the rationale of both instruments if the more detailed standards originally established in a regional context were eliminated from the rules governing relations between States parties to the relevant regional instrument simply because they had taken Part in and promoted a similar process at the universal level. It has also been emphasized that the distinction between the regional dimension of one Convention and the global dimension of the other ceased to exist with the entry into force of the amendments to the ECE Water Convention that opened it to accession by Member States of the United Nations that are not members of ECE.

8.2 A customary law process perspective

The outcome of the preceding comparative analysis of the two Conventions is also relevant outside the area of treaty law; both individually and in the complementary relationship between them, these instruments establish the most authoritative parameters of the general customary law process in the area.

As the International Court of Justice has consistently ruled, a provision contained in an international treaty, and particularly a codification convention, may correspond to a customary rule where its adoption plays an evidentiary or crystallizing role in the customary lawmaking process up to the time of the treaty's adoption.[370]

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[369] See note 68 above, para. 8.

[370] See the *North Sea Continental Shelf* cases (Federal Republic of Germany/Denmark; Federal Republic of Germany/Netherlands (*North Sea Continental Shelf, Judgment, I.C.J. Reports 1969*), para. 70. See also *Continental Shelf (Tunisia/Libyan Arab Jamahiriya), Judgment, I.C.J. Reports 1982*, para. 42; *Delimitation of the Maritime Boundary in the Gulf of Maine Area, Judgment, 1. C.J. Reports 1984*, para. 94; *Military and Paramilitary Activities in and against Nicaragua (Nicaragua v. United States of America), Merits, Judgment, I.C.J. Reports 1986*, para. 177; and *Arrest Warrant of 1 I April 2000 (Democratic Republic of the Congo v. Belgium), Judgment, I.C.J. Reports 2002*, para. 52–53. For examples of the abundant scholarship on the matter, see R.R. Baxter, "Multilateral Treaties As Evidence of Customary International Law", in *British Yearbook of International Law*, vol. 41 (1965–1966), pp. 275–300); Ibid.,"Treaties and Custom", in *Recueil des cours de l'Académie de Droit International*, vol. 129 (1970-I), pp. 25–105; Anthony D'Amato, "Manifest Intent and the Generation by Treaty of Customary Rules of International Law", in *American Journal of International Law*, vol. 64 (1970), pp. 892–902; Ramaa Prasad Dhokalia, *The Codification of Public International Law* (Manchester, United Kingdom, Manchester University Press, 1970); C. Marek, "Le problème des sources du droit international dans l'arrêt sur le plateau continental de la mer du Nord", in *Revue Belge de Droit International*, vol. 6 (1970), pp. 44–78; H.W.A. Thirlway, *International Customary Law and Codification* (Leiden, A. W. Sijthoff, 1972); Jiménez de Aréchaga, note 16 above, p. 159 (*Recueil des cours de l'Académie de Droit International*, vol., 1978) Ibid., "Custom", in Antonio Cassese and Jospeh Weiler, eds., *Change and Stability in International Law-Making* (Berlin, De Gruyter, 1988), pp. 3–4; Sir Robert Y. Jennings, *Treaties as Legislation*, in G. Wilner and others eds., *Jus et Societas: Essays in Tribute to W. Friedmann* (The Hague, Martinus Nijhoff, 1979), pp. 159–168; Ibid., "What is International Law and How Do We Tell It When We See It?", in *Annuaire Suisse de Droit International*, vol. 37 (1981), pp. 59-88); Mark Eugen Villiger, *Customary International Law and Treaties*, 2nd ed. (The Hague, Klumer Law International,

The Court has also indicated that, even where the provisions of a treaty do not reflect customary rules at the time of the treaty's adoption, they may do so at a later stage if they give rise to a broader customary-lawmaking process in keeping with their content, thus playing a kind of generative role with respect to the new custom.[371]

The Court has repeatedly stated that the same reasoning could also apply to a codification convention not yet in force.[372] Most importantly for our purposes, as recalled above, the Court has done so specifically with regard to the United Nations Watercourses Convention, to which it made express reference just two months after its adoption, and hence irrespective of its entry into force, in the *Gabčíkovo-Nagimaros* case.[373]

Against the background of this conceptual framework established by the Court, the findings of the present study with regard to the mutually complementary nature of the two Conventions should also be viewed as establishing joint authoritative terms of reference for the state of customary law in the field. It may well be that, on some specific issues, owing to the lack of sufficiently consistent practice and *opinio juris*, the correspondence between a given provision of either of the Conventions and customary law could not be ascertained at the time of their adoption. However, in such a case, presumptive reasoning suggests that their very adoption has served as a decisive catalyst for completion of the relevant customary-rule-making process; this view is corroborated by international and intergovernmental practice and by the scholarly debate since their adoption.

The largely evidentiary character of the two instruments with respect to customary law means that they also apply both to relations between States that are not parties to either Convention and to relations between parties and non-parties. Obviously, this consideration may not apply to provisions of an institutional nature, such as those of the ECE Water Convention that establish the Meeting of the Parties and its subsidiary organs, or to provisions of a procedural nature that set precise time-limits, such as those of the United Nations Watercourses Convention on reply to the notification of planned measures.

As noted above, the evidentiary function of the United Nations Watercourses Convention with respect to general customary law has been upheld by the Court, which referred to it as a source of normative guidance in a dispute between two States that were not and could not be parties to it since it had not yet entered into force.[374] The entry into force of the Convention further corroborates its authority in that regard even though it will then be important that the number of ratifications is consistent and geographically representative. The same evidentiary role was expressly endorsed by the parties to the ECE Water Convention on the first occasion following its entry into force on 6 October 1996, namely, the first Meeting of the Parties in 1997. In the Helsinki Declaration, the parties emphasized the importance of the Convention's guideline function vis-à-vis States that are not parties to it, whether or not they are ECE member countries.[375] The adoption, at the third session of the Meeting of the Parties in 2003, of the amendments to articles 25 and 26 allowing for accession by non-ECE members[376] and the entry into force of these amendments on 6 February 2013 support the above reasoning.

1997); H. Torrione, "L'influence des conventions de codification sur la coutume en droit international public", in *Revue internationale de droit comparé*, vol. 42 (1990), pp. 1058–1060); Riccardo Pisillo Mazzeschi, "Trattati e consuetudine nella codificatione del diritto internazionale", in *Studi in ricordo di Antonio Filippo Panzera*, vol. II (Bari, Cacucci, 1995), pp.663–689; Kami Wolfke, "Treaties and Custom: Aspects of Interrelation", in E. W. Vierdag, Jan Klabbers and R. Lefeber, eds., *Essays on the law of treaties : a collection of essays in honour of Bert Vierdag* (The Hague, Martinus Nijhoff Publishers, 1998), pp. 31–39; Leila Nadya Sadat, "Custom, codification and some thoughts about the relationship between the two: article 10 of the ICC Statute", in *DePaul Law Review*, vol. 35 (2000), pp. 909–923; and Bing Bing Jia, "The Relations Between Treaties and Custom", in *Chinese Journal of International Law*, vol. 9 (2010), pp. 81–109.

371 *North Sea Continental Shelf* cases, note 370 above.

372 In *Legal Consequences for States of the Continued Presence of South Africa in Namibia (South West Africa), notwithstanding Security Council Resolution 176 (1970), Advisory Opinion, I.C.J. Reports 1971*, paras. 94 and 96, the Court referred to provisions of the Vienna Convention long before its entry into force as evidentiary of customary rules; a chamber of the Court applied the same reasoning with respect to the Convention on the Law of the Sea in *Delimitation of the Maritime Boundary in the Gulf of Maine Area* (note 370 above, para. 84). In *Continental Shelf (Libyan Arab Jamahiriya/Malta), Judgment, I.C.J. Reports 1985,* the Court referred in the same fashion to the draft articles that would only later be adopted in the form of a convention, the Convention on the Law of the Sea, which would later enter into force on 10 November 1994. On this point, see C.Th. Eustathiades, *Conventions de Codification Non Ratifiées*, in *Mélanges en l'honneur de W. Wengler*, vol. 1 (1973), pp. 13-77; Louis B. Sohn, "Unratified Treaties as a Source of Customary International Law", in Adrian Bos and Hugo Siblescz, eds., *Realism in Law-Making: Essays on International Law in Honour of Willem Riphagen* (Dordrecht, Martinus Nijhoff, 1986), pp. 231–246; and Ian Sinclair, *The Impact of the Unratified Codification Convention*, in Bos and Siblescz (*op. cit.*), pp. 211–229.

373 See note 26 above.

374 Ibid.

375 Helsinki Declaration, available online at www.unece.org/env/water/cooperation/area414.html.

376 See note 8 above.

In the Helsinki Declaration, after calling on ECE member countries which had not yet become parties to the Convention to "base their cooperation relating to transboundary waters on bilateral and multilateral agreements consistent with [it]", the participants in the Meeting of the Parties state that "[a]t their request, we will support them with advice in drawing up or adapting such agreements".[377] In the same Declaration, the Parties "encourage … all other States to draw on [the Convention's] provisions when formulating and implementing their water policies". They go on to say: "We will promote the regional implementation of Agenda 21 by protecting waters against pollution and unsustainable use in accordance with the results of the special session of the General Assembly (New York, June 1997). We offer to share our experience with other regions in the world". Lastly, they "note with appreciation that at this meeting ECE member countries which have not yet become Parties have associated themselves with this declaration".

In practical terms, given the framework nature of both Conventions, their normative function in the broader dimension just described is to provide guidance to States and intergovernmental organizations in their decision-making on matters relating to transboundary waters, and particularly in the negotiation of watercourses agreements on specific transboundary water basins.[378] The more detailed provisions of the ECE Water Convention on the due diligence obligation to prevent harm also make its guidance function relevant to the elaboration of domestic legislation and the taking of administrative action with a bearing on activities that may have an impact on transboundary waters.[379] In addition, owing to their evidentiary character with respect to international custom, the two Conventions can provide international financial agencies with guidance in their application of the principle of compliance with international law as a condition for approving the funding of water projects with transboundary relevance. For example, the consistency of a water-related project with international water law principles is a necessary prerequisite for approval under the operational strategies of both the World Bank[380] and the Global Environment Facility (GEF).[381]

9. Concluding remarks and prospects for the future

The comparative analysis conducted above illustrates an exemplary case in which two multilateral treaties on the same subject matter enhance relationships of interpretation according to the Commission's conceptual framework on the fragmentation of international law:[382] "A norm may assist in the interpretation of another norm for example as an application, clarification, updating, or modification of the latter. In such situation, both norms are applied in conjunction".[383] Following the Commission's approach, this allows for systemic integration of the rules in question.[384]

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377 Helsinki Declaration, note 375 above. The signing of the intergovernmental Dniester Basin Treaty by the Republic of Moldova and Ukraine in 2012 is one case in which the countries concerned successfully negotiated an agreement with assistance provided under the work programmes of the Convention for the periods 2007–2009 and 2010–2012.

378 For an example, see note 74 above, p. 17 ("Box 3. Cooperation on the Ems-Dollard estuary").

379 In the Helsinki Declaration (note 375 above), the parties to the Convention state: "The problems that we are facing are not unique to transboundary waters. They should be seen in the context of integrated water management. Thus, our co-operation on transboundary waters will also help to improve the management of internal waters and ensure consistency in the protection and use of both internal and transboundary waters. We will apply, as appropriate, the principles of the Convention when drawing up, revising, implementing and enforcing our national laws and regulations on water".

380 See paragraph 3 of the World Bank Operational Policy statement entitled "Projects on International Waterways" (OP 7.50), available online at http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/EXTPOLICIES/ EXTOPMANUAL/0,,contentMDK: 20064667~menuPK:64701637~pagePK:64709096~piPK:64709108~theSitePK:502184,00.html. For scholarly and expert comments on the Bank's earlier policy in this field, see Raj Krishna, "The Evolution and Context of the Bank Policy for Projects on International Waterways", in Salmon and Boisson de Chazournes, note 71 above, pp. 31–43; and G.T. Keith Pitman "The Role of the World Bank in Enhancing Cooperation and Resolving Conflict on International Watercourses: The Case of the Indus Basin", in Ibid., pp. 155–165. See also David Goldberg, "World Bank Policy on Projects on International Waterways in the Context of Emerging International Works of the International Law Commission", in Blake and others, note 52 above, pp. 153–167. On the role of the World Bank in promoting international water law as a means to the settlement of international water disputes, see also Attila Tanzi, note 344 above.

381 See the GEF International Waters Strategy (2010), available online at www.thegef.org/gef/sites/thegef.org/files/documents/document/GEF-5_IW_strategy_0.pdf. On the specific contribution of the Strategy to promotion of the "sustainable use and maintenance of ecosystem services" related to transboundary water systems, see GEF, "International Waters", available online at www.thegef.org/gef/International_Waters; and "GEF International Waters Strategy", available online at www.thegef.org/gef/IW_GEF5_strategy.

382 See note 1 above, para. 251 (2).

383 Ibid.

384 Ibid., para. 251 (17).

The *Guide to Implementing the Water Convention* provides a practical example and an authoritative intergovernmental confirmation of this analysis since its explanation of many provisions of the ECE Water Convention relies heavily on the rules of the United Nations Watercourses Convention. To date, particularly in Central Asia, promotion of the former instrument has been based on promotion of the minimum standards of international water law, and hence of the United Nations Watercourses Convention as well.

Where the two Conventions' rules on the same subject matter do not coincide perfectly, those of the ECE Water Convention are generally more detailed and stringent with respect to the substantive obligation of harm prevention. Even though its provisions are couched in flexible, due diligence terms on a par with those of the United Nations Watercourses Convention, it provides more precise and coordinated guidelines and advanced standards of conduct on the prevention of transboundary impact. At the same time, as has been demonstrated, the United Nations Watercourses Convention offers more guidance on the legal consequences of the occurrence of harm and on the factors for assessing the equitable and reasonable character of a use of an international watercourse. On the latter point, special emphasis has been placed on the priority given to, among such factors, "vital human needs" in the transboundary dimension of international water law and on the fact that this human dimension was promoted within the institutional framework of the ECE Water Convention by the adoption and entry into force of the Protocol on Water and Health.

Also emphasized has been the mandatory character of institutional cooperation between co-riparians under the ECE Water Convention, whereas the United Nations Watercourses Convention contains only a recommendation to that effect; however, the latter provides for more detailed normative guidance with respect to the obligations of notification and consultation. This has been explained by the fact that, while notification and consultations under the ECE Water Convention do not, in principle apply separately from the mechanisms of the joint bodies whose establishment is mandatory under that instrument, the procedural rules on notification at the bilateral level established in the United Nations Watercourses Convention may be used provisionally in relationships between parties to the ECE Water Convention prior to the establishment of such bodies and in relations between parties and non-parties.

It has been shown that the differences between the two Conventions with regard to specific rules on the same subject matter are hardly ever a matter of conflicting prescriptions, but rather of greater or lesser stringency or detail. Therefore, it cannot be said that the later Convention derogates from the earlier one under the principle of *lex posterior derogat priori*. It is indeed simply a question of interpretation, which, in the words of the Commission, allows for "systemic integration", thanks to the compatibility between the two Conventions as shown by this study.[385]

As a matter of policy, it is only natural that the lawmaking process tends more towards the lowest common denominator at the universal level than in the less heterogeneous context of ECE.

From a strictly legal standpoint, i.e., one of treaty law, it has been shown that, in the event of doubt as to the compatibility between provisions of the two Conventions, the *lex posterior derogat priori* rule, invalidating those of the ECE Water Convention through derogation by the later United Nations Watercourses Convention, would not operate. This is corroborated at the general level by the Vienna Convention and, more specifically, the plain language of article 3, paragraph 1, of the United Nations Watercourses Convention.

Therefore, on the basis of the general regime on the relationship between treaties on the same subject matter with partial or total coincidence of the parties thereto, as well as under the specific rules of the two Conventions on their relationship with other agreements, there can be no legal grounds for suggesting that it would be inappropriate for the parties to either Convention to ratify the other one as well.

Lastly, the above analysis has shown that the two instruments, in their complementary relationship, make an important contribution to the ongoing customary law process in the field of international water law. Where their provisions cannot be proved to be evidentiary of a given consolidated customary rule, their authoritative guideline function in *de lege ferenda* terms can nevertheless be instrumental in the generation of new customary law, enhancing spontaneous respect for their standards even by States that are not parties to them. This reasoning has been followed by the Court, in the case of the United Nations Watercourses Convention,[386] and by ECE member countries, in the case of the ECE Water Convention.[387]

[385] See note 380 above.

[386] See the reference to the *Gabcicovo-Nagymaros* case in note 26 above.

[387] See the text accompanying note 380 above.

Like most, if not all, of the instruments produced on the basis of the Commission's work, the United Nations Watercourses Convention is a sound legal instrument. Indeed, it is arguable that it consolidates, in general terms, the lowest common denominator of the international customary regulatory framework on international watercourses. This is corroborated by the International Court's reference to it four months after its adoption and irrespective of its entry into force. The primarily legal nature of the Convention allows it to provide: (a) a general guidance framework for use by law-abiding States, either individually or when negotiating water agreements; (b) a sound basis for bilateral diplomatic claims; (c) if agreeable to both disputing States, a basis for claims before the Court or an international arbitral tribunal in a *Gabčíkovo-Nagymaros* or *Pulp Mills* case scenario.

On the other hand, the main feature and added value of the ECE Water Convention is that it offers a strong but flexible normative framework geared towards institutional cooperation and technical, scientific, legal and administrative assistance within the framework of the Meeting of the Parties, its permanent subsidiary bodies — including the Working Group on Integrated Water Resources Management — and the joint water bodies. Conflicts of interests and disputes are best handled through dispute prevention and management within this institutional framework, including through the newly-established Implementation Committee.

The possibility of establishing an institutional framework to support the United Nations Watercourses Convention, similar to these subsidiary bodies of the ECE Water Convention, is being discussed in some quarters. The issue, which is affected by policy considerations that go beyond the scope of the present study, deserves careful consideration, bearing in mind the goal of promoting and maximizing the normative potential of both instruments.

During its *travaux préparatoires*, the United Nations Watercourses Convention was not conceived by the Commission and the negotiating delegations, and consequently, by its signatories, as a multilateral environmental agreement characterized by detailed and, at the same time, flexible and evolving rules and scientific eco-standards, water quality criteria and best practices. On the contrary, it was carefully crafted for the sole purpose of codifying the minimum standards of international water law. The impassioned debate in New York over article 33 ("Settlement of disputes") and the strong opposition of a number of delegations to the compulsory fact-finding for which it provides,[388] together with the "soft" language of article 8, paragraph 2, and article 24 on cooperation through joint bodies, clearly indicate the risk that further attempts to complement the Convention with some form of institutional framework would entail. Many potential ratifications of the Convention, and the resulting progress towards universal recognition of the lowest common denominator of international water law, would be held hostage to the promotion of stronger institutional cooperation that would introduce some kind of third-party involvement through bodies or forums, such as a Meeting of the Parties, before which a co-riparian could be called to account. It is difficult to imagine that those States which were firmly opposed to compulsory institutional cooperation under article 8 and compulsory fact-finding under article 33 and which might otherwise become parties to the United Nations Watercourses Convention would accede to a Convention that required them to accept institutional assistance and scrutiny in the interpretation and application of key rules on their transboundary relations.

In fact, the authoritative contribution of the United Nations Watercourses Convention to the promotion and consolidation of international customary law in the field has long been independent of its entry into force, particularly in the light of the Court's well-known endorsement in the *Gabčíkovo-Nagymaros* case, shortly after its adoption. Now that it has entered into force, its authority will be tested anew against the record of its ratifications. Given the merits of this carefully crafted text, it is to be hoped that its ratification will not be impaired by submitting the negotiating States to requirements not envisaged at the time of its adoption. Such policy considerations are consistent with a treaty law perspective whereby the text of a convention may be amended only by the parties thereto and according to the applicable rules. In the light of the policy considerations discussed above, it would be inappropriate for any amendment of this kind to be considered until the process of ratification has gathered a significant number of parties.

[388] For the debate on article 33, see the summary records of the relevant meetings of the Sixth Committee at the fifty-first session of the General Assembly (1996, resumed in 1997): A/C.6/51/SR.21, paras. 1–50; A/C.6/51/SR.23, paras. 85–90; and A/C.6/51/SR.59, paras. 1–35.

The overall picture that emerges is a two-step approach for States' participation in the international water law process with respect to the two Conventions. First, States that are less prone to consider the benefits of institutional assistance and cooperation may become parties only to the United Nations Watercourses Convention; as a second step, perhaps in the light of developments in the case-specific circumstances of their transboundary relations, they may gain greater confidence in institutional cooperation and assistance that will lead them to become parties to the ECE Water Convention as well. A third scenario may already be in place and become more common in the future: that of States parties to the ECE Water Convention which later become parties to the United Nations Watercourses Convention as well. On the one hand, this would promote the customary water law process at the universal level through the minimum standards enshrined in United Nations Watercourses Convention; on the other, it might be an appropriate action by a State party to the ECE Water Convention in its relations with a co-riparian that was a party only to the United Nations Watercourses Convention.

A final remark on paving the way for enhanced institutional cooperation at the universal level: it would be consistent with the above legal analysis if, rather than or before considering amendments to the United Nations Watercourses Convention or the establishment of new global institutional frameworks or new competences for existing global institutions, a happy medium between the regional and the global dimensions was pursued by associating the years of experience with and operative capacity of the ECE Water Convention with that of the other United Nations regional commissions. This could be complemented by support from other international institutions of relevance to matters relating to transboundary waters. Without infringing on treaty law, this practice is already under way with the active participation of non-States parties, including from outside the ECE region, and representatives of the secretariats of other United Nations regional commissions and agencies in the Meeting of the Parties to the ECE Water Convention.

The Economic Commission for Europe Water Convention and the United Nations Watercourses Convention

An analysis of their harmonized contribution to international water law

The Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention) was adopted in 1992 and entered into force in 1996. It serves as a mechanism to strengthen international cooperation and national measures for the ecologically sound management and protection of transboundary surface waters and groundwaters. Furthermore, the Water Convention provides an intergovernmental platform for the day-to-day development and advancement of transboundary cooperation. The Convention is open to all United Nations Member States.

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