The Legal Response to International Water Scarcity and Water Conflicts: The UN Watercourses Convention and Beyond

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The UN Watercourses Convention and Beyond[1]

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1. Introduction

The UN Watercourses Convention, adopted in May 1997,[2] and ratified to date by six Parties,[3] is a global framework agreement with the goal to "ensure the utilisation, development, conservation, management and protection of international watercourses" and the promotion of their optimal and sustainable utilisation for present and future generations.[4] In line with this, the Convention requires that "an international watercourse shall be used and developed by watercourse States with a view to attaining optimal and sustainable utilisation thereof and benefits therefrom, taking into account the interests of the watercourse States concerned, consistent with adequate protection of the watercourse".[5] This paper addresses the question whether the UN Watercourses Convention facilitates achievement of these aims, specifically in the context of conflicts-of-uses and water scarcity.

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[1] United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses, 21 May 1997, 36 ILM 700 (not yet entered into force).
[2] GA Res. A/RES/51/229 of 21 May 1999.
[3] The Parties are Finland, Jordan, Lebanon, Norway, South Africa and Syria. The signatories include Côte d'Ivoire, Germany, Hungary, Luxembourg, Paraguay, Portugal, and Venezuela. http://www.un.org/Depts/Treaty/final//ts2/newfiles/part_boo/xxviiboo/xvii_12.html (16 November 1999).
[4] UN Watercourses Convention (note 1), Preambular paragraph 5.
[5] UN Watercourses Convention, (note 1), Art. 5.

Achieving sustainable and peaceful management of the more than 500 international watercourses in various parts of the world is one of the major challenges in the immediate and long-term future.[6] Since the turn of the twentieth century, increased competition for transboundary water resources has resulted in conflicts between States, many of which were resolved peacefully through international agreements.[7] However, some longstanding problems remain[8] and growing demand for diminishing water resources increases the possibility of new conflicts around the world. The "water law" which developed in response to past transboundary disputes, emerged from decisions of domestic and international courts or tribunals and from international agreements.[9] In the domestic legal system, the principle of "equitable apportionment" evolved as the primary rule that defined and balanced the competing claims of subnational actors.[10] At the international level, the principle of "reasonable and equitable utilisation" crystallised as a rule of customary international law derived, in part, from national (inter-State) and international judicial practice, and supported by treaty law.[11] Consistent with the doctrine

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[6] Report of the Secretary-General, Commission on Sustainable Development, Comprehensive assessment of the freshwater resources of the world, UN Doc. E/CN.17/1997/9, 4 February 1997 < gopher://gopher.un.org:70/00/esc/cn17/1997/off/97--9.EN >; See the World Water vision < http://www.watervision.org/ >; *H.L.F Saeijs* and *J.M. van Berkel*, The Global Water Crisis: The Major Issue of the Twenty-first Century, A Growing and Explosive Problem, in: *E.H.P. Brans, E. J. de Haan, A. Nollkaemper and J. Rinzema* (eds.), The Scarcity of Water: Emerging Legal and Policy Responses, 1997, 3.

[7] *P. Wouters*, Rivers of the World, Fundamental Principles of the Law of International Watercourses, 2000, *forthcoming*. See also *A.T. Wolf,* Criteria for equitable allocations: the heart of international water conflict, Natural Resources Forum, vol. 23, 1999, 3.

[8] For example, the 10 riparian States to the Nile have yet to reach a basin-wide agreement.

[9] U.S. Supreme Court decisions (note 10), and the following decisions: *Württemberg and Prussia v. Baden* (18 June 1927), 4 ANNUAL DIGEST OF PUBLIC INTERNATIONAL LAW CASES, 1927-1928, 128-133; 116 *Entscheidungen des Reichsgerichts in Zivilsachen* 1927, 18-45. *Société énergie électrique du littoral méditerranéen v. Compagnia imprese elettriche liguri* (1939), 9 ANNUAL DIGEST OF PUBLIC INTERNATIONAL LAW CASES, 1938-1940, 120-123; 91 *Giurisprudenza Italiana* 1939-I, 518; 64 *Foro Italiano* 1939-I, 1036;and discussion on these decisions in *Wouters* (note 7), chapter 2.

[10] The US Supreme Court first applied equitable apportionment in *Kansas v. Colorado*, 206 U.S. 46 (1907), and until recently has applied this doctrine in interstate cases in a consistent fashion, refusing to apply State laws founded on the doctrines of prior appropriation (Western United States) or of riparian rights (Eastern United States). See also the early cases *Kansas* v. *Colorado*, 185 U.S. 208; 206 U.S. 46; *Connecticut* v. *Massachusetts*, 282 U.S. 660; *New Jersey* v. *New York*, 283 U.S. 336; *Wyoming* v. *Colorado*, 286 U.S. 494; *Missouri* v. *Illinois*, 200 U.S. 496; *Wisconsin* v. *Illinois*, 278 U.S. 367; 281 U.S. 179. For a critical summary of these see *X. Fuentes*, The Criteria for the Equitable Utilization of International Rivers, in: British Year Book of International Law, 1996, 337; see also *C. Bourne*, The Right to Utilise the Waters of International Rivers, in: *P. Wouters* (ed.), International Water law: Selected Writings of Professor Charles B. Bourne, 1997, 25.

[11] *L. Caflisch*, The Law of International Waterways and Its Sources, in: *R. St. J.Macdonald* (ed.), Essays in Honour of Wang Tieya,1993, 115, 124. See *Trail Smelter* arbitral award, 3 RIAA 1938, 1911-1937 (initial decision, 16 April 1938); 1938-1981 (final decision, 11 March 1941); also in 9 ANNUAL DIGEST OF PUBLIC INTERNATIONAL LAW CASES 1938-1940, 315-333; reprinted in 33 AJIL 1939, 182-212;

of "limited territorial sovereignty",[12] this principle arose in the context of disputes over transboundary waters and it continues to govern the legitimacy of State activities in this field.[13]

In 1970, the United Nations (UN) responded to the need for clearer rules governing transboundary waters by requesting the International Law Commission (ILC) to codify and progressively develop the rules applicable to the development and management of international watercourses.[14] For close to three decades, the ILC wrestled with the complex legal issues related to this topic.[15] This work formed finally the foundation for the UN Watercourses Convention.

A broader global environmental agenda emerged in the 1970s, appearing most prominently at the 1972 UN Stockholm Conference.[16] The UN pursued its concern over transboundary water issues at the 1977 Mar del Plata Conference, where the Action Plan adopted by the participants contain 11 resolutions and 102 recommendations.[17] However,

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Corfu Channel case, 1949 ICJ 4 (Judgement, merits, 9 April 1949); *Lac Lanoux* arbitral award, 12 RIAA 1957, 281-317 (Award, 16 November 1957); 24 ILR 1957, 101; reprinted in 62 RGDIP 1958, 79*; Diversion of Water from the Meuse* case, (Netherlands v. Belgium), 1937, PCIJ (Ser. A/B) No. 70; the *Helmand River Delta* arbitration (19 August 1872); the *San Juan River* arbitration (22 March 1888); the *Kushk River* case (August/September 1893) all discussed in UN Report of the Secretary-General, Legal Problems Relating to the Utilisation and Use of International Rivers, 1963 UN Doc. A/5409, vol. III, 496.

[12] *Wouters* (note 7), chapter 2; also *J. Lipper*, Equitable Utilisation, in: *A.H. Garretson, et. al.* (eds.), The Law of International Drainage Basins, 1967, 15; and *S. McCaffrey*, The Harmon Doctrine One Hundred Years Later: Buried, Not Praised, Natural Resources Journal, vol. 36, 1996, 725.

[13] *H.A. Smith*, The Economic Uses of International Rivers,1931.

[14] GA Res. 2669 (XXV) 1970.

[15] *P. Wouters* (ed.), International Water Law: Codification and Progressive Development, Volume I: the Work of the UN International Law Commission; Volume II: Reports of the Special Rapportuers to the UN International Law Commission (2000, forthcoming)

[16] Stockholm Declaration of the United Nations Conference on the Human Environment, 16 June 1972, UN Doc. A/CONF.48/14 and Corr.1 (1972), reprinted at 11 ILM 1416.

[17] Report of the UN Water Conference, Mar del Plata, 14-25 March 1977, UN Doc. E/CONF.70/29. The Recommendations were subdivided into eight parts: "Assessment of Water Resources; Water Use and Efficiency; Environment, Health and Pollution Control; Policy, Planning and Management; Natural Hazards; Public Information, Education, Training and Research; Regional Cooperation; International Cooperation" and one Annex, "Specific Regional Recommendations". Only 10 of the 11 Resolutions were adopted by consensus; the one dealing with agriculture was adopted by 52 votes for with 17 against and 22 abstaining. Each of the 102 recommendations, except those dealing with regional cooperation were adopted without a vote. Of relevance to this paper, the recommendation concerning development of shared water resources was adopted by a vote of 29 for, 13 against, and 48 abstentions. The representatives of Israel, Nepal, Romania and Turkey requested their statements relating to international cooperation (Recommendation H) be recorded in the Report. For a criticism on the lack of follow-up to Mar del Plata, see *Stockholm Water Institute*, Mar del Plata, 20 year anniversary seminar: Water for the next 30 years - averting the looming water crisis, 1997.

since then, "water" has become subsumed by the "environment", loosing its relatively distinctive status as a separate area of global concern. Twenty years following the Stockholm Declaration, the "environment" has dominated the global discourse, as was demonstrated clearly by the 1992 Rio Conference on Environment and Development.[18] At that meeting, transboundary water resources were dealt with as only one component of Agenda 21. Surprisingly, some of the recommendations contained in Chapter 18 (which deals with water issues) of that document[19] had been weakened, if compared with the Stockholm Declaration adopted two decades earlier.[20]

Now, at the dawn of the twenty-first century, it appears that "water" is once again at the forefront of the international agenda, as a concern in its own right, having been invigorated by the World Water Vision process. A Ministerial conference in the Hague in March 2000 is to provide the springboard for an international Action Plan designed to address the forecasted crisis over the world's water resources.[21] What role will international water law, and, the UN Watercourses Convention, in particular, play in the new global response to managing increasingly scarce transboundary waters?

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[18] Rio Declaration on Environment and Development, 13 June 1972, UN Doc. A/CONF.151/5/Rev.1 (1992), reprinted at 31 ILM 876; Agenda 21,16 June 1992, UN Doc. A/CONF.151/26 (1992).

[19] The Dublin Principles were the basis for Agenda 21, Chapter 18. Chapter 18, "Protection of the Quality and Supply of Freshwater Resources: Application of Integrated Approaches to the Development, Management and Use of Water Resources", UNCED Report, Annex II, Agenda 21, 7 June 1992, UN Doc. A/CONF.151/26 (Vol. I), 14, and Vol. II, 167-206, reprinted at < http://www.igc.apc.org/habitat/agenda21/ch-18.html >. See The Dublin Statement on Water and Sustainable Development, < http://www.dundee.ac.uk/cepmlp/water/html/dublin_statement.htm >.

[20] For example, Agenda 21, *id.*, paragraph 18.4 provides, "Transboundary water resources and their use are of great importance to riparian States. In this connection, cooperation among those States *may be desirable* in conformity with existing agreements and / or other arrangements, taking into account the interests of all riparian States concerned." [emphasis added].

[21] See the World Water vision (note 6); also the Framework for Action of the Global water Partnership < http://www.hrwallingford.co.uk/projects/gwp.fau/ffa.html >, and "Building the Frameworks for Action" (July 1999), at <http://www.hrwallingford.co.uk/projects/gwp.fau/documents/building.pdf>; See also the World Water Council < http://www.worldwatercouncil.org/ >.

2. International Conflicts Over Water

> *The massive increase in dispute proneness projected for the not so distant future motivates a call for . . . guidelines for how water might be shared, and how to act in situations with opposing interests between beneficiaries as opposed to victims of particular land use and / or water projects, and between present as opposed to future generations.*[22]

Water scarcity is a serious threat to regional stability and peace.[23] Despite the developments of international law in the field, including the substantial treaty practice that has developed over the last century -- in fact, the first recorded treaty resolved a conflict over water[24] -- disputes over water persist world-wide.[25] Many of the most difficult cases involve upstream / downstream controversies, but competition over scarce resources raises complex issues for all users.[26] The next part provides a brief survey of only some of the current international water contests, which are forecasted to occur all over the world.[27]

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[22] *M. Falkenmark*, Water Scarcity -- Challenges for the Future, in: *E.H.P. Brans, et. al.* (note 6), 39.

[23] "The sharing of water among regions and states sooner or later produces conflicts. . . . According to the United Nations, some 3000 basins are the scenes of current conflicts", *T. Swartzberg*, The World's Freshwater Supplies: The Crunch is Here, International Herald Tribune, 30 September 1997, 13. See statistics in World Water Council, "The International Water Policy Think Tank" (1999), on file with the author, 7. See http://www.worldwatercouncil.org/; also *P. Gleick*, Water in Crisis: A Guide to the World's Fresh Water Resources,1993; *P. Gleick*, The World's Water: The Biennial Report on Freshwater Resources,1998, <http://www.worldwater.org/ > and *H.L.F Saeijs, et al.*(note 6), 3.

[24] *S. McCaffrey*, Water Scarcity: Institutional and Legal Responses, in: *E.H.P. Brans* (note 6), 43. McCaffrey refers to the dispute in 3100 B.C. between the Mesopotamian city-states of Lagash and Umma. The treaty (the 'Stela of the Vultures' found today in the Louvre) resolved the conflict by providing for the diversion of the Euphrates waters into a shared boundary canal. Unfortunately, the agreement did not prevent future conflicts over water.

[25] *Wolf* (note 7).

[26] See, for example, the range of upstream / downstream problems encountered in this variety of basins: *M. Banskota*, Upstream Perspectives on River Basin Management in the Himalayas; *R.W. Johnson*, The Colorado River. History and Contemporary Issues of a Complex System; *L. Kardoss*, Management of International River Basins. The Case of the Danube River; *W. Li*, Basin Management of the Yellow River; T. Okazumi, River Basin Management in Tsurumi River, Japan; *R. Gaal Vadas*, The São Francisco River Basin; *A. Carmo Vaz*, Problems in the Management of International River Basins – The Case of the Incomati; papers delivered at the International Workshop on River Basin Management: Best Management, The Hague, 27-29 October 1999) (on file with author).

[27] *Wouters* (note 10), xiii.

In the Middle East, Israel and the Palestinians continue to negotiate their respective rights and obligations concerning their shared waters.[28] Allocation of the uses of the limited waters of the Jordan River, shared by Lebanon, Syria, Israel and Jordan, are of particular concern to the downstream States, Israel and Jordan, who now experience problems in implementing the water-related provisions of their Treaty of Peace.[29] In the same region, Turkey's development of the upstream parts of the Tigris and Euphrates basins, primarily for the purposes of hydroelectric power production and irrigation, has resulted in a serious controversy with Syria and Iraq, especially during the filling of Turkey's Ataturk Dam.[30]

In Asia, China has plans to build dams on the upper reaches of the Mekong, which is regulated only in its lower part by a recent agreement concluded between

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[28] *J. Dempsey*, "Equitable" division of water a vexed issue, Financial Times, 9 November 1999, 15. A key question in the negotiations is what constitutes an "equitable use" by each side. The existing distribution of uses favours the Israelis, with the Palestinians consuming, on average, one-third less than their neighbours. The 1993 Israeli-Palestinian Declaration of Principles proposed the joint management and "equitable utilisation of joint water resources"; see Israeli-Palestinian Liberation Organisation Declaration of Principles on Interim Self-government Arrangements, 13 September 1993, 32 ILM 1525. See *J. W. Dellapenna*, Designing the Legal Structures of Water Management Needed to Fulfil the Israeli Declaration of Principles, in: The Palestine Yearbook of International Law, vol. VII, 1992-94, 63; *E. Benvenisti*, The Israeli-Palestinian Declaration of Principles: A Framework for Future Settlement, European Journal of International Law, vol. 4, 1993, 543. In the 1995 Oslo agreement, Israel "recognises the Palestinian water rights in the West Bank; *I. Scobbie*, H_2O After Oslo II: Legal Aspects of Water in the Occupied Territories, in: The Palestine Yearbook of International Law, vol. VIII, 1994-95, 79; *S. Elmusa*, Dividing Common Water Resources According to International Water Law: The Case of the Palestinian-Israeli Waters, Natural Resources Journal, vol. 35, 1995, 226.

[29] Israel-Jordan Treaty of Peace, 26 October 1994, 34 ILM 43 (1995). See Articles 6 and 15 and Annexes II and IV; see also *M.R. Lowi*, Water and Power: The Politics of a Scarce Resources in the Jordan River Basin (1993); *S. McCaffrey*, Middle East Water Problems: The Jordan River, *Brans, et al* (note 6), 158; *T. Allan*, The Nile Basin: evolving approaches to Nile waters management, 1999;
J. A. Allan, Israel and Water in the Framework of the Arab-Israeli Conflict, 1999;
A.R. Turton, Precipitation, People, Pipelines and Power: Towards a 'Virtual Water' based Political Ecology Discourse, 1999, < http://www.soas.ac.uk/Geography/WaterIssues/OccasionalPapers/home.html >.

[30] The Southeast Anatolian Project (GAP) "will eventually irrigate 8.5 million hectares, equal to 19 percent of Turkey's cultivable area, and provide 22 percent of its hydroelectricity…it will include 22 dams on the Tigris and Euphrates rivers and their tributaries; more than 1,000 kilometres of irrigation canals, feeders and distribution networks; and 19 power stations." *P. Dougherty*, Groundbreaking Water Projects, International Herald Tribune, 30 September 1997, 14. See also *O. Bilen*, Turkey and Water Issues in the Middle East (Southeastern Anatolia Project (GAP), 1997, 102-129. For other views, see *J. Bulloch* and *A. Darwish*, Water Wars: Coming Conflicts in the Middle East,1994; *M. Lowi*, Rivers of Conflict, Rivers of Peace, Journal of International Affairs, 1995, 123.

Vietnam, Cambodia, Laos and Thailand.[31] The most acute transboundary problems in Central Asia involve the Aral Sea basin where more than 20 million people in five basin States struggle to share the "shrinking and polluted" resource.[32] The recent internationalisation of a number of rivers and lakes in Eastern Europe has increased the potential for transboundary disagreements over water in that part of the world. [33] Despite a long history of cooperation, the Danube has been the subject of a dispute between Hungary and Slovakia before the International Court of Justice (ICJ), and three years after the Court's decision the parties have yet to reach agreement on finally resolving the outstanding issues.[34] Another area of discord, in the region covered by European Union, relates to the proposed Water Framework Directive, which continues to be modified as contentious issues are addressed.[35]

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[31] Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin, 5 April 1995, 34 ILM 864 (Cambodia, Laos, Thailand and Vietnam).The plan by Laos to develop and export hydroelectric power may be compromised as a result. Vietnam's need for sufficient flow to meet its agricultural and other needs may not be met. Similar problems may occur in Cambodia and Thailand. *J.W. Jacobs*, Planning for change and sustainability in water development in Lao PDR and the Mekong River basin, Natural Resources Forum, vol. 20, 1996, 174. Myanmar and China participate as Observers in meetings of the Mekong Commission; see *Mekong River Commission Secretariat*, Mekong River Commission: A Briefing Note, presented at the International Workshop on River Basin Management: Best Management Practices (note 26).

[32]Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan share the Aral Sea basin waters resources, the fourth largest lake on earth which has shrunk by more than 70 percent since 1960. The waters are highly saline and polluted by fertilisers, pesticides, and petroleum residues. See International Rescue Effort to Save the Aral Sea, International Herald Tribune, 30 September 1997, 14. See also *V. Dukhovny*, and *U. Ruziev*, River Basin Management in the Aral Sea Basin, International Workshop on River Basin Management (note 26)..

[33] *S. Vinogradov*, Transboundary Water Resources in the Former Soviet Union: Between Conflict and Cooperation, Natural Resources Journal, vol. 36, 1996, 393.

[34] *Case Concerning the Gabcíkovo-Nagymaros Project* (Hungary v. Slovakia), 1997 ICJ, General List No. 92, (Judgement of 25 September), 37 ILM 162, < http://www.icj-cij.org/icjwww/idocket/ihs/ihsjudgement/ihs_ijudgment_970925_frame.htm >; See *C. Bourne*, The Case Concerning the Gabcíkovo-Nagymaros Project: An Important Milestone in International Water Law; *A. Boyle*, The Gabcíkovo-Nagymaros Case: New Law in Old Bottles; *P. Canelas de Castro*, The Judgement in the Case Concerning the Gabcíkovo-Nagymaros Project: Positive Signs for the Evolution of International Water Law; *S. Stec and G. Eckstein*, Of Solemn Oaths and Obligations: The Environmental Impact of the ICJ's Decision in the Case Concerning the Gabcíkovo-Nagymaros Project; in: Yearbook of International Environmental Law, vol. 8, 1997.

[35] The European Union has played an instrumental role in setting standards for water quality standards. See *P. Sands* and *R.G. Tarasofsky* (eds.), Documents in European Community Environmental Law, 1995, 735 *et seq.* For the European Union Proposal for a Council Directive Establishing A Framework for Community Action in the Field of Water Law Policy, *see* Amended proposal for a Council Directive establishing a framework for Community action in the field of water policy, 20 May, 1998 Working document ENV/98/127 SN/3041/1/98 REV 1 OR.EN (26 May 1998), < http://www.dundee.ac.uk/cepmlp/water/html/documents.htm#1 >. See *also P. Jones*, The European Communities Framework Directive in the Field of Water Policy: Too much, too little, or just enough? 1998 (on file with author); and *F. Sellner*, The Proposed European Water Framework Directive, its main features

Africa has an impressive record of treaty practice,[36] but longstanding problems remain and even grow. One example involves allocation of the uses of the Blue Nile, where planned measures in Ethiopia may adversely affect the downstream uses in Egypt.[37] In other parts of Africa, despite adopting model regional and basin agreements,[38] States continue to face conflicts of water use, ineffective institutional mechanisms and insufficient technical and economic capacity to manage their shared waters.[39]

On the Indian subcontinent, India, Bangladesh and Nepal have yet to agree on a basin-wide agreement concerning the Ganges-Brahmaputra basin[40] and even the bilateral agreements in the region have not been fully implemented.[41]

There are increasing transboundary water quality and quantity problems in both North[42] and South America, despite a long history of cooperation and a large number of international water agreements. The waters of the Colorado shared by the USA and Mexico are over-appropriated[43] and dams on the Columbia River are being removed in the lower reaches in response to the "green" lobby.[44] In South America, the legacy of

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and possible impacts on the regulations of water in England, Wales and Germany, LLM dissertation, 1999 (on file with author).

[36] *C.O. Okidi*, International Law and Water Scarcity in Africa, *Brans, et al* (note 6), 166.

[37] Ethiopia plans to develop micro-dams to meet its needs; Egypt believes this development will adversely affect its uses downstream. The two Parties have exchanged diplomatic notes over the issue and the World Bank is involved in assisting them to seek an amicable solution.

[38] *See*, *inter alia*, Convention Establishing the Niger River Basin Authority, 21 November 1990 and Protocol on the Development Fund of the Niger Basin, 21 November 1980; texts published by the Niger Basin Authority (on file with the author); Agreement on the Action Plan for the Environmentally Sound Management of the Common Zambezi River System, 28 May 1987, 27 ILM 1112 (1988, entered into force upon signature); Southern African Development Community (SADC), Protocol on Shared Watercourse Systems < http://www.sadc.int/water.htm >.

[39] See DFID 5-country study report, on file with the author. *See Carmo Vaz* (note 26).

[40] B.G. Verghese, Learning to Say 'Open Sesame', in: D.J. Eaton (ed.), The Ganges-Brahmaputra Basin: Water Resource Cooperation between Nepal, India and Bangladesh, 1992, 99.

[41] *S. Salman* and *K. Uprey*, Hydro-politics in South Asia: A Comparative Analysis of the Makahali and the Ganges Treaties, Natural Resources Journal, vol. 39, 1999.

[42] *P. Wouters*, Theory and Practice in the Allocation of the Non-Navigational Uses of International Watercourses: Canada and the United States, A Case Study, Canadian Yearbook of International Law, vol. 30, 1992, 43.

[43] R. Johnson states that of the total 15 million acre feet (MAF) of the total Colorado flow available for allocation, more than 18 MAF has been allocated to date. *Johnson* (note 26).

[44] *F. Schouten*, Dam-breaking idea spawns fierce debate about fish, USA Today, 24 November 1999, 22A. "The issue rests on whether saving the fish is more important than the economic benefits the dams have brought to eastern Washington and portions of Idaho. . . . The fight pits environmentalists, taxpayer

basin-wide watercourse agreements[45] has been jeopardised by unilateral actions of some States and a general lack of coordinated basin-wide management, despite treaty commitments.[46]

3. Evolution of International Water Law

International water law has evolved and crystallised through State practice and the codification and progressive development efforts undertaken by the UN[47] and private institutions.[48] The treaty practice in this area encompasses a broad range of instruments, from general agreements (which provide basic principles for water resource development)[49] to specific "contractual" type legal and technical arrangements (which set forth detailed operational schemes).[50] Regional cooperation agreements, sometimes

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advocates, anglers and Indian tribes – who passionately support dam removal as the key to restoring endangered salmon – against farmers, barge operators and others who rely on the river for shipping, irrigation and electricity".

[45] *Inter alia,* Treaty between Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Surinam, and Venezuela for Amazonian Cooperation, 3 July 1978, 17 ILM 1045 (1978, entered into force August, 1980); Treaty on the River Plate Basin, 23 April 1969, 875 UNTS 11; 8 ILM 905 (1969, entered into force on 14 August 1970); Treaty between Argentina and Uruguay, 13 ILM 251 (1974); Agreement between Argentina, Brazil and Paraguay on Parana River Projects, 19 October 1979, 19 ILM 615 (1980, entered into force on 19 October 1979).

[46] *Wouters* (note 7), chapter 12; and *T. Lee*, The Management of Shared Water Resources in Latin America, Natural Resources Journal, vol. 34, 1995, 541. However a recent project and regional economic agreement may be enhancing cooperation in the region. "Hidrovia", is an ambitious plan to improve navigation on the Paraná and Paraguay rivers. It involves the five States of the Plate system - Bolivia, and the four Mercosur States, Brazil, Argentina, Paraguay and Uruguay. Mercosur (Mercado Común del Cono Sur) is the Southern Cone Common Market established between Argentina, Brazil, Paraguay and Uruguay in March 1991. See remarks by Uruguayan representative, Mrs. Flores, in Summary Record of the Sixth Committee on the Report of the ILC on the Work of Its Forty-fifth Session, UN Doc. A/C.6/49/SR.23, 3.

[47] The codification and progressive development of international law is undertaken by the International Law Commission. See Statute of the International Law Commission, < http://www.un.org/law/ilc/texts/statufra.htm >.

[48] See the work of the Institut de droit international (notably, Resolution of 11 September 1961, Utilisation of Non-Maritime International Waters (except of Navigation), *Annuaire de l'Institut de droit international*, vol. 49-II, 1961, 381; and that of the International Law Association (notably, the Helsinki Rules on the Uses of the Waters of International Rivers, Report of the Fifty-Second Conference of the International Law Association, 14-20 August 1966, 1967, 484.

[49] Mekong Convention (note 31).

[50] Treaty on the Lesotho Highlands Water Project between the Government of the Republic of South Africa and the Government of the Kingdom of Lesotho, 24 October 1986, < http://www.metsi.com/dwarf/treaty/treaty.html >; also at FAO Legislative Study, Treaties concerning the non-navigational uses of international watercourses: Africa, No. 61, 1997, 172. Full text of treaty and annexes on file with author.

supplemented by more specific protocols, include the SADC Convention with Water Protocol, [51] the UNECE Helsinki Convention[52] with Water and Health Protocol.[53] A specialised type of regional regulation, particular to Western Europe is accomplished through the EU Water Directives, including the soon to be adopted EU Water Framework Directive.[54]

Concluded under the auspices of the Economic Commission of Europe and adopted by 24 European countries and the European Union,[55] the Helsinki Convention[56] provides one possible model for the regional regulation of transboundary waters. It deals with the prevention, control and reduction of transboundary impacts relating to international watercourses and lakes, with a strong emphasis on pollution-prevention. Its principal aims are the protection and ecologically sound and rational management and reasonable and equitable use of transboundary waters along with the conservation and restoration of ecosystems. In July 1997, the first Meeting of the Parties (MOP) to Convention adopted the Helsinki Declaration and a 3-year work plan.[57] The Protocol on Water and Health, signed in London in June 1999, is the most recent result of this work.

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[51] The Declaration and Treaty establishing the Southern African Development Community (SADC), 17 August 1992, 32 ILM 116 (1993) < http://www.sadc.int/overview/treaty.htm >; and SADC Protocol on Shared Watercourse Systems (note 38).

[52] United Nations Economic Commission for Europe, Convention on the Protection and Use of Transboundary Watercourses and International Lakes, 17 March 1992, 31 ILM 1312 (1992), and < http://www.unece.org/env/water/welcome.html > (entered into force 6 October 1996).

[53] Protocol on Water and Health to the 1992 Convention on the Protection and Use of Transboundary Watercourses and Lakes, *id.*, 17 June 1999, < www.who.dk/london99);See also 1998 UN ECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters; and 1991 UN/ECE Convention on Environmental Impact Assessment in a Transboundary Context, < http://www.unece.org/. >.

[54] Water Framework Directive (note 35).

[55] Albania, Austria, Croatia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Latvia, Liechtenstein, Luxembourg, Netherlands, Norway, Portugal, Republic of Moldova, Romania, Russian Federation, Slovakia, Slovenia, Sweden, Switzerland and the European Union have ratified the Convention (figures to November 1999).

[56] UN/ECE Helsinki Convention (note 52).

[57] UN/ECE, Meeting of the Parties to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Report of the First Meeting, 12 Aug. 1997 (on file with the author). The Working Plan sets forth a series of programme areas including the establishment of joint bodies, providing assistance to countries with economies in transition, setting up a system of integrated management of water and related ecosystems, control of land-based pollution, and the prevention, control and reduction of water related diseases.

Current projects include consideration of a compliance review procedure[58] and enhanced public participation.[59] The Helsinki Convention demonstrates how a range of problems related to transboundary water development and management can be addressed in a comprehensive and cooperative fashion within a framework instrument that provides the basis for the elaboration of more specific transboundary water agreements.[60] A recent example of the latter is an agreement between Spain and Portugal, which is based on the principles of the Helsinki Convention and takes into consideration the provisions of the draft EU Framework Directive.[61] Should this model be applied universally? What role, if any, has the 1997 UN Watercourses Convention given the availability and effectiveness of other regulatory models such as the Helsinki Convention?

[58] UNECE and UNEP Report, "Geneva Strategy and Framework of Monitoring Compliance with Agreements on Transboundary Waters", UN ECE Document MP. Water/2000/ December 1999 (on file with the author).

[59] *Id.*

[60] Agreement on the International Commission for the Protection of the Rhine Against Pollution, 29 April 1963, 994 UNTS 19 (entry into force 1 May 1965); and the Convention Between the Federal Republic of Germany, France, the Grand Duchy of Luxembourg, the Netherlands, Switzerland, and the European Economic Community Concerning the Protection of the Rhine Against Chemical Pollution, 3 December 1976, 16 ILM 242 (1977, entry into force February 1, 1979); and the Convention Between the Federal Republic of Germany, France, the Grand Duchy of Luxembourg, the Netherlands, Switzerland, and the European Economic Community Concerning the Protection of the Rhine Against Pollution by Chlorides, 3 December 1976, 16 ILM 265 (197, entry into force July 5, 1985); and the Convention on the Protection of the Rhine, 22 January 1998, < http://www.dundee.ac.uk/cepmlp/water/html/documents.htm#1 >. Convention concerning the Regime of Navigation on the Danube, 18 August 1948, 33 UNTS 181 (1949); Convention Between Hungary and Yugoslavia Concerning the Construction and Operation of the Hydraulic Works of Bos/Gabcíkovo--Nagymaros, Budapest, 16 September 1977, 1109 UNTS 236 (1978, entry into force 30 June 1978); Agreement Between the Federal Republic of Germany and the European Community, on the one Hand, and the Republic of Austria, on the other, on Cooperation on Management of Water Resources in the Danube Basin, 1 December 1987, Official Journal of the Eur. Comm., No. L 20, 1990, 20. Belgium (Brussels-Capital, Flanders Wallonia Regional Governments) – France, Netherlands, Agreement on the Protection of the Rivers Muese, 26 April 1994, 34 ILM 854 (1995); Belgium (Brussels-Capital, Flanders Wallonia Regional Governments) – France, Netherlands, Agreement on the Protection of the Rivers Scheldt, 26 April 1994, 34 ILM 855.

[61] *A. Gonçalves Henriques*, The Portuguese-Spanish Convention on Shared River Basins: A Framework for Cooperation on Protection of Waters and Sustainable Development, International Workshop on River Basin Management (note 26).

4. The 1997 UN Watercourses Convention[62]

4.1. Evolution

In May 1997, the UN General Assembly adopted the Convention on the Law relating to the Non-Navigational Uses of International Watercourses, an instrument originating from the work of the International Law Commission (ILC). The Commission was asked by the UN General Assembly to "take up the study of the law of international watercourses with a view to its progressive development and codification" in 1970.[63] By 1991, following consideration of thirteen reports prepared by five consecutive Special Rapporteurs,[64] the ILC successfully completed a comprehensive set of draft articles and adopted these on First Reading.[65] They were modified and adopted by the ILC on Second Reading in 1994.[66] The UN General Assembly decided that this text should be considered by the Sixth (Legal) Committee of the UN, convened as a Working Group of the Whole, with a view to finalising it in the form of a multilateral treaty.[67]

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[62] *L. Caflisch*, Regulation of the Uses of International Watercourses, 3; S. McCaffrey, The UN Convention on the Law of the Non-Navigational Uses of International Watercourses: Prospects and Pitfalls, 17 in*: S. M.A. Salman* and *L. Boisson de Chazournes* (eds.), International Watercourses, Enhancing Cooperation and Managing Conflict, 1997, 17. See *A. Tanzi* and *M. Arcari*, The UN Convention on International Watercourses: A Framework for Sharing, 2000 (forthcoming).

[63] UN GA Res. 2669 (XXV) 1970.

[64] The five Special Rapporteurs delivered a total of 13 reports. Mr. Richard D. Kearney (1974-1976, 1 report); Mr. Stephen M. Schwebel (1977-1981, 3 reports); Mr. Jens Evensen (1982-1984, 2 reports); Mr. Stephen C. McCaffrey (1985-1991, 7 reports); Mr. Robert Rosenstock (1992-1994, 2 reports). See *Wouters* (note 15), the work of the ILC.

[65] Draft Articles on the Law of the Non-Navigational Uses of International Watercourses, Report of the ILC on the Work of its Forty-Sixth Session (1991), UN GAOR, 49th Session, Supp. No. 10, UN Doc. A/49/10, 197.

[66] Draft Articles on the Law of the Non-Navigational Uses of International Watercourses, Report of the ILC on the Work of its Forty-Sixth Session (1994), UN GAOR, 49th Sess., Supp. No. 10, UN Doc. A/49/10, 197. See *C. Bourne*, The International Law Commission's Draft Articles on the Law of International Watercourses: Principles and Planned Measures, in: *Wouters* (note 10), 83; *M. Fitzmaurice*, The Law of Non-navigational uses of International Watercourses – The International Law Commission completes its Draft, Leiden Journal of International Law, vol. 8, 1995, 361.

[67] GA Res. 49/52,UN Doc. A/RES/49/52 (1994).

The Working Group of the Whole met for two two-week long sessions, in October 1996 and in March / April 1997. [68] The deliberations of the first session finished on a sour note, as the division of States' positions on a number of important issues was so profound that there were doubts that a final text could be agreed upon. The second session, also replete with debate, nonetheless resulted in the adoption of a final text. The process, however, involved the remarkable precedent of voting on the most contentious issues.

The four major questions at the heart of the Working Group's deliberations were: (1) what should be the relationship between the Convention and existing and future water-related agreements; (2) what should be the relationship between the principle of equitable utilisation, embodied in Article 5, and the no-harm rule, expressed in Article 7; (3) in the context of watercourses management, what rules should govern environmental protection; and (4) what dispute settlement mechanisms should be used in the case of possible disputes between the Parties. A summary of the results reached on each of these issues is presented next.

The issue regarding the relationship between the Watercourses Convention and existing and future agreements, which was raised in the Working Group[69], had not been addressed in the ILC's draft.[70] Some States (such as Portugal and Ethiopia) argued that certain provisions of the Convention had to be considered as rules of *jus cogens* and as such could not be derogated frp, by any other norm of international law, including treaty provisions. Other States (Egypt, France and Switzerland) insisted that existing treaties should be left unaffected by the new Convention.[71] Not surprisingly, State positions tended to reflect their particular situations.[72]

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[68] See *L. Caflisch*, *La Convention du 21 Mai 1997 sur l'utilisation des cours d'eau internationaux à des fins autres que la navigation*, XLIII *Annuaire Français de droit international* 1997, 1; see also *Wouters* (note 15).

[69] *Caflisch*, *id.*, 20.

[70] *Caflisch* (note 62), 9. "The issues had not been covered at all by the Draft Articles, presumably because the ILC had assumed as a matter of course that existing agreements would survive without change unless the Parties were to decide to abrogate or amend them in light of the new Convention",

[71] *Id*.

[72] For example, Ethiopia wanted Article 3 to require existing watercourse agreements be harmonised with the Convention; *see* Verbatim record, 99th plenary meeting, U.N. General Assembly, 21 May 1997, U.N. Doc. A/51/PV.99, at 9-10, cited in McCaffrey, *Prospects and Pitfalls, supra* note62, at 18.

The text of Article 3 was revised by the Working Group and put to a vote before being adopted by 36 votes for, with 3 against (Egypt, France, Turkey) and 21 abstentions.[73] The provision preserves the validity of existing watercourse agreements, but adds that Parties "may, where necessary, consider harmonising such agreements with the basic principles of the ... Convention".[74] This, together with the solid international endorsement of the Convention,[75] supports the view that watercourse States will consider the provisions of the Convention in the interpretation of their existing agreements.[76]

A similar result occurred with respect to the issue of future agreements.[77] Under Article 3(3) of the Convention, adopted unchanged from the Commission's draft, States "may enter" into new agreements, "which apply and adjust the provisions of the present Convention to the characteristics and uses" of the watercourse involved. Thus, States took the view that the norms contained in the document were not rules of *jus cogens* nor "multilateral treaty rules, which may not be derogated from by agreements between some of the Parties to it".[78] The result of the discussions led the Working Group to conclude that watercourse States should be free to negotiate their own agreements regarding transboundary watercourses, but are encouraged to consider the rules contained in the Convention.[79] Some insight into the possible interpretation of Article 3 is provided by the Statements of Understanding adopted by the Working Group.[80]

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[73] UN Doc. A/C.6/51/NUW/L.4/AD1; Sixth Committee # 62, 4 April 1997.
[74] UN Watercourses Convention, (note 1), Article 3(1) and 3(2).

[75] GA Res. 49/52 (note 67).
[76] This is supported by Statements of Understanding on Article 3 which provide: "The 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, unless such agreements provide otherwise".
[77] For more complete discussion of the issues, see *Caflisch* (note 68), 22 *et seq*.
[78] *Caflisch* (note 62), 11.
[79] UN Watercourses Convention (note 1), Article 3(1) provides: In the absence of an agreement to the contrary, nothing in the present Convention shall affect the rights and 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. Article 3(2): Notwithstanding the provision of paragraph 1, parties to agreements referred to in paragraph 1 may, where necessary, consider harmonising such agreements with the basic principles of the present Convention [emphasis added]. Article 3(3): Watercourse States may enter into one or more agreements, hereinafter referred to as 'watercourse agreements', which apply and adjust the provisions of the present Convention to the characteristics and uses of a particular international watercourse or part thereof."

[80] The Statement of Understanding provides, *inter alia*, ". . . What is to be avoided are localised agreements, or agreements concerning a particular project, programme or use, which have a significant adverse effect upon third watercourse States."

Article 4 (1) of the ILC's draft, which gives each watercourse State a right to participate in the negotiation of an agreement involving the entire basin, was not revised by the Working Group and is included in the UN Watercourses Convention. However, some States were preoccupied with the nature and extent of rights to participate in partial agreements, i.e. those between some States of the watercourse relating to only parts of it. The issue arising from the ILC's draft was whether States not party to a partial agreement should be legally entitled to accede to it. A number of upstream States rejected such a possibility.[81] In the end, the Working Group modified the Commission's draft to make it clear that only a watercourse State "whose use of an international watercourse *may be affected to a significant extent*" (emphasis added) by the implementation of such planned measures "is entitled to participate in consultations on such an agreement and, where appropriate, in the negotiation thereof in good faith with a view to becoming a Party thereto, to the extent that its use is thereby affected".[82] Whether this provision has eliminated or reduced the uncertainty concerning the legal grounds for the rights in question is yet to be seen. [83] International practice does not reveal many examples where a State wishing to participate in a particular watercourse agreement would be denied such a request. On the contrary, there are cases where States, particularly those situated upstream, were reluctant to be bound by such partial agreements, perhaps out of fear of limiting the freedom of their own activities on the watercourse.[84]

[81] *Caflisch* (note 62), 11.
[82] UN Watercourses Convention (note 1), Article 4(2).

[83] *Caflisch* (note 62), 12. The problem is whether the third watercourse State is not limited in its rights to participate fully by the words "where appropriate" and "to the extent that its use is thereby affected", both of which appear to favour the original Parties to the agreement.

[84] This appears to be the case on the Mekong, where China and Myanmar have resisted becoming Parties to the 1995 Mekong Convention.

The most hotly contested issue in the Working Group involved the meaning and the relationship between the provisions of Articles 5 and 7 of the ILC Draft, the principles of reasonable and equitable use and no significant harm. The focus of the debate was, in particular, on which of these two norms should prevail where available water resources are not sufficient to meet the needs of riparian States? The evolution of these norms during the long study by the Commission provided more than sufficient background for this debate. In the 1991 ILC Draft Articles, the "no-appreciable harm" (Article 7) had been presented as the cornerstone provision of the entire document.[85] Under that rule, a new or increased use that might cause "appreciable harm" to an existing use would not be permitted, regardless of whether it might qualify as an equitable and reasonable use in accordance with Articles 5 and 6.[86]

[85] Article 7 in the ILC 1991 Draft Articles, provided: "Watercourse States shall utilise an international watercourse in such a way as not to cause appreciable harm to other watercourse States". The Commentary to the provision explained that "a watercourse State's right to utilise an international watercourse in an equitable and reasonable manner has its limit in the duty . . . not to cause appreciable harm. . .In other words, -- *prima facie*, at least – utilisation of an international watercourse is not equitable if it causes other watercourse States appreciable harm". This formula deviated from the one proposed by Schwebel, the Special Rapporteur that introduced these concepts. See *Special Rapporteur S. Schwebel*, Third Report on the Law of the Non-Navigational Uses of International Watercourses, UN Doc. A/CN.4/320, in: Yearbook of the International Law Commission, vol. II, Part One, 1982, 65, 103. In his proposed Article 8, Schwebel subordinated the duty not to cause "appreciable" harm to the right of equitable utilisation. Special Rapporteur, J. Evensen, reversed the hierarchy proposed by Schwebel. See *J. Evensen*, First Report on the Law of the Non-Navigational Uses of International Watercourses, UN Doc. A/CN.4/367, in: Yearbook of the International Law Commission, vol. II, Part One, 1983, 155. Evensen's successor, Special Rapporteur S. McCaffrey, following an extensive survey of State practice and doctrine, recommended that Evensen's "no-appreciable-harm" Article be redrafted in such a way as to bring it into conformity with . . . the principle of equitable utilisation . . . "[T]he focus should be on the duty not to cause legal injury (by making a non-equitable use) rather than on the duty not to cause factual harm . . . [I]n the context of watercourses, suffering even significant harm may not infringe the rights of the harmed State if the harm is within the limits allowed by an equitable utilisation." McCaffrey provided three examples of how Evensen's Article 9 might be redrafted so as to achieve this end. See *S. McCaffrey*, Second Report on the Law of the Non-Navigational Uses of International Watercourses, UN Doc. A/CN.4/399 and Add.1 and 2, in: Yearbook of the International Law Commission, vol. II, Part One, 1986, 87133 *et seq*.

[86] See Commentary to Article 7, 1991 Draft, in: Yearbook of the International Law Commission (note 65). Article 5 of the 1991 Draft provided: "Watercourse States shall in their respective territories utilise an international watercourse in an equitable and reasonable manner. In particular, an international watercourse shall be used and developed by watercourse States with a view to attaining optimal utilisation thereof and benefits therefrom consistent with adequate protection of the watercourse. (2) Watercourse States shall participate in the use, development and protection of an international watercourse in an equitable and reasonable manner. Such participation includes both the right to utilise the watercourse and the duty to cooperate in the protection and development thereof, as provided in the present articles". See also Special Rapporteur McCaffrey's explanation in support of the priority of the no-appreciable harm rule, *S. McCaffrey*, The Law of International Watercourses: Some Recent Developments and Unanswered Questions, Denver Journal of International Law and Policy, vol. 17, 1989, 505, 510.

This approach significantly differed from the one adopted by the International Law Association (ILA) in its substantial and comprehensive work on the rules governing international drainage basins.[87] The ILA's 1966 Helsinki Rules provide "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".[88] This position has been adhered to by the ILA in all of its post-Helsinki work on the law of water resources, most notably in the 1982 Montreal Rules on Pollution,[89] and the 1986 Seoul Complementary Rules.[90]

In response to serious criticisms,[91] the ILC revised Draft Article 7 in 1994.[92] The changes made related to the threshold of acceptable harm, the nature of the obligation to

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[87] *C. Bourne* (note 66). See also *S. Bogdanovic*, The Work of the International Law Association and the Institut de Droit International, 2000 (*forthcoming*).

[88] ILA Report, Helsinki Rules (note 48), 447.

[89] International Law Association, Committee on International Water Resources, Report of the Montreal Conference, Rules on Water Pollution in an International Drainage Basin, 1982, 535 *et seq.*, FAO No. 65, 1998, 314. Article 1 of the Montreal Rules begins, "Consistent with the Helsinki Rules on the equitable utilisation of the waters of an international drainage basin, States shall ensure that activities conducted within their territory or under their control conform with the principles set forth in these Articles concerning water pollution in an international drainage basin".

[90] International Law Association, Committee on International Water Resources, Report of the Seoul Conference, Complimentary Rules Applicable to International Water Resources, 1986, 272 *et seq.*, FAO No. 65, 1998, 319. Article 1 of the Seoul Rules provide, "A basin State shall refrain from and prevent acts or omissions within its territory that will cause substantial injury to any co-basin State, provided that the application of the principle of equitable utilisation as set forth in Article IV of the Helsinki Rules does not justify an exception in a particular case. Such an exception shall be determined in accordance with Article V of the Helsinki Rules". The primacy of the principle of equitable utilisation is reinforced in the Commentary to that provision.

[91] Of the seventeen States that responded to the Secretary-General's call for comments and observations, Germany, Greece, the Nordic Countries, Syria, Turkey, the UK, the USA, Switzerland, Canada, Chad, Poland, Hungary, and the Netherlands commented on Articles 5 and 7 of the 1991 ILC Draft. Iraq and Spain made comments relating to the factors to be considered under Article 6, proposing that existing uses and special dependency be included in that provision. Most of the States that commented on the normative content of Article 7 considered that the term "appreciable" harm should be replaced by another term, such as "significant" or "perceptible". On the relationship between Articles 5 and 7, Germany and the UK supported the ILC's approach, while Greece, the Nordic countries, the USA, Switzerland, Canada, Poland, and the Netherlands wanted changes to the Draft to the effect that the principle of equitable utilisation would be the governing rule -- except in cases involving pollution harm. Turkey called for more "balance" in the Draft, so that the rights of upstream States would be better protected. Syria wanted to ensure that sanitary uses were safeguarded and that joint management of the watercourse system was required. Hungary urged the Commission to adopt a general rule of prevention to complement a general no-harm approach to watercourse development. See Comments and Observations Received from States, UN Doc. A/CN.4/447 and Add.1, 2 and 3; also discussion in RIVERS OF THE WORLD, Chapter 4.

be observed, and the relationship between Articles 5 and 7. Under the revised Article 7,[93] States were required to "exercise due diligence to utilise an international watercourse in such a way as not to cause significant harm to other watercourse States". This altered both the threshold of permissible harm (increasing it from 'appreciable' to 'significant') and the nature of the obligation to be observed (from one of result, 'no appreciable harm', to an obligation of behaviour, 'due diligence'). Thus, significant harm resulting from a watercourse activities conducted with due diligence might not be construed as constituting a breach of international law. Instead, the harm-causing State is simply obliged to consult with the injured State on the extent to which the use is equitable and reasonable and the possibility of mitigation and compensation.[94] Despite these changes, however, the provision could still be interpreted as endorsing the "no-significant harm" rule as the primary obligation.[95]

The modified Article 7 proved unacceptable to some States.[96] The Working Group again revised the provision, and the following version was finally adopted as Article 7 of the UN Watercourses Convention:

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[92] Report of the International Law Commission on the Work of its Forty-sixth Session, UN Doc. A/49/10.

[93] 1994 ILC Draft Articles (note 66), Art. 7. Article 7 of the 1994 ILC Draft Articles read: "1. Watercourse States shall exercise due diligence to utilise an international watercourse in such a way as not to cause significant harm to other watercourse States. 2. Where, despite the exercise of due diligence, significant harm is caused to another watercourse State, the State whose use causes the harm shall, in the absence of agreement to such use, consult with the State suffering harm over: (a) the extent to which such use is equitable and reasonable taking into account the factors listed in article 6; (b) the question of ad hoc adjustments to its utilisation, designed to eliminate or mitigate any such harm caused, and, where appropriate, the question of compensation".

[94] UN International Watercourses Convention (note 1), Article 7(2).

[95] *P. Wouters*, An Assessment of the Recent Developments in International Watercourse Law through the Prism of the Substantive Rules Governing Use Allocation, Natural Resources Journal vol. 36, 1996, 417.

[96] Only eleven States responded before the July deadline, including Colombia, Ethiopia, Finland, Guatemala, Hungary, Portugal, Spain, Turkey, the USA, Venezuela and Switzerland. Later submissions were made by Italy, Niger, and the Sudan. Of these, the majority had something to say about Articles 5, 6 and 7 of the ILC's 1994 Draft. See Report of the Secretary General, Convention on the Law of the Non-Navigational Uses of International Watercourses, UN Doc. A/51/275 and Add.1, Add.2, and Add. 3. See also Summary Records of Meetings of the Sixth Committee, including *inter alia,* UN Docs. A/C.6/51/SR.15, A/C.6/51/SR.16, A/C.6/51/SR.17; A/C.6/49/SR.17, A/C.6/49/SR.19, A/C.6/49/SR.22, A/C.6/48/SR.24, A/C.6/46/SR.26, A/C.6/43/SR.31, A/C.6/46/SR.28, and analysis in *Wouters* (note 7), Chapter 4.

Article 7 Obligation not to cause significant harm

> (1) Watercourse States shall, in utilising an international watercourse in their territories, take all appropriate measures to prevent the causing of significant harm to other watercourse States.
>
> (2) Where significant harm nevertheless is caused to another watercourse State, the States whose use causes such harm shall, in the absence of an 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.

Articles 5[97] and 6,[98] changed slightly, and the revised Article 7 were put forward together for voting in the Working Group. This "package" was adopted by 38 States for, 4 against (China, France, Tanzania and Turkey), and 22 abstaining.[99]

The third major issue debated in the Working Group was the place of rules on environmental protection. The discussion focused mostly on the extent to which rules relevant to this topic should be reflected as general principles of the Convention. Some States, including Finland,[100] the Netherlands,[101] and Portugal,[102] suggested that the principle of sustainable use should be the overarching rule of the entire project, with appropriate references to the precautionary principle and environmental protection.[103] In

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[97] The changes to Article 5 (Equitable and reasonable utilisation and participation) are highlighted: "(1). Watercourse States shall in their respective territories utilise an international watercourse in an equitable and reasonable manner. In particular, an international watercourse shall be used and developed by watercourse States with a view to attaining optimal ***and sustainable*** utilisation thereof and benefits therefrom ***taking into account the interests of the watercourse States concerned*** consistent with adequate protection of the watercourse."

[98] The following subparagraph was added to the ILC's Draft Article 6, (Factors relevant to equitable and reasonable utilisation): "(3). The weight to be given to each factor is to be determined by its importance in comparison with that of other relevant factors. In determining what is a reasonable and equitable share, all relevant factors are to be considered together and a conclusion reached on the basis of the whole".

[99] UN Doc. A/C.6/51/NUW/L.4/AD1 (note 73).

[100] UN Doc.A/C.6/51/SR.15, 2 and 9.

[101] UN Doc.A/C.6/51/SR.15, 2 and 11.

[102] UN Doc.A/C.6/51/SR.15, 2, 6, 7 and 10.

[103] Other States that supported this approach included Canada, Ethiopia, Germany, Greece, Hungary, Mexico, and South Africa. See *Wouters* (note 7), chapter 4.

the end, however, only small changes were made to the ILC's draft, including a reference in Article 5 to "sustainable utilisation" and a minor addition to Article 6 that supports weighing all relevant factors, including environmental concerns, in the overall determination of a reasonable and equitable use.[104]

Despite the debate over the role of environmental protection and pollution protection, Part IV of the Convention is almost identical to the Commission's Draft Articles, apart from some refinements in Articles 21 and 23 aimed at increasing co-operation between watercourse States. Article 21 requires States to "individually, and, where appropriate, jointly, prevent, reduce and control the pollution of an international watercourse that may cause significant harm to other watercourse States or to their environment, including harm to human health or safety, to the use of the waters for any beneficial purpose or to the living resources of the watercourse".[105] This provision, as well as those found throughout the Convention, must be read in accordance with the General Principles set forth in Part II. Thus, Article 5 determines the legal entitlement for all uses, and Article 7 prescribes the standard for a State's behaviour in undertaking activities related to those uses. Article 21 is to be interpreted in that context, with the understanding that pollution should be reduced and prevented. However, the level of pollution harm permitted in a particular case must be determined in accordance with the principle of equitable utilisation.[106]

Finally, dealing with the issue of dispute settlement,[107] States were divided on two issues, whether it was suitable for a framework agreement to contain such mechanisms, and if so, the extent to which these should be compulsory.[108] While one group of States was in favour of compulsory and binding dispute settlement

[104] Note 98, for the text of Article 6 revised by the Working Group.
[105] UN International Watercourses Draft, Art. 21(2).
[106] For an indication of how this is accomplished, see the Commentary to Articles IV and V of the ILA's Helsinki Rules, in: *A.H. Garretson et. al*, The Law of International Drainage Basins, 1967, 779, 784 *e seq.*, and the Commentary to Article 1 of the ILA's Montreal Rules on Pollution.

[107] The ILC's provision on dispute settlement, Article 33, had been adopted quickly, without a lengthy discussion, based on Special Rapporteur Rosenstock's Second Report. He had been asked to report on this issue, since the Commission had failed to address it when presented by Special Rapporteur McCaffrey in his detailed Sixth Report. See *S. McCaffrey*, Sixth Report, Annex II, in: Yearbook of the International Law Commission vol. II, Part One, 1990, 75, AN/CN.4/427, with explanatory notes at 66-75. That report built on Schwebel, Third Report (Draft Art. 16) and Evensen, First Repor*t (*Draft Articles 31-38). McCaffrey recommended fact-finding (through joint organisation established by the States or by a commission of inquiry to be established by the parties); consultations and negotiations, conciliation, and binding arbitration. See Report of the Commission to the General Assembly on the Work of Its Forty-Second Session, in: Yearbook of the International Law Commission, vol. II Part Two, 1990, 47, para. 253; See also Topical Summary of the Discussion held in the Sixth Committee of the General Assembly during its Forty-Eighth Session prepared by the Secretariat, UN Doc. A/CN.4/457, 88-89.

[108] *Caflisch (* note 68), 43.

mechanisms,[109] others considered such an approach too rigid and unsuitable for a framework convention[110] and argued that such matters should be left to the discretion of the States concerned.[111] Some States supported the provision included in the ILC's Draft.[112]

In its final form, Article 33 reflects a compromise of the opposing positions. Apart from recommending the traditional means of dispute resolution, it provides for compulsory fact-finding, [113] which, in its application under the Convention, appears similar to a compulsory conciliation procedure.[114] Article 33 did not win the unanimous support of States in the Working Group: only thirty-three States voted in favour of the provision, five voted against it (including four persistent objectors to its compulsory mechanism: China, France, India and Turkey), and twenty-five States abstained.[115] This

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[109] Switzerland challenged the inconsistencies in the scheme set forth in the Commission's 1994 Draft; *see* remarks by the Swiss representative in the 1994 Summary Record of the Sixth Committee on the Report of the ILC on the Work of Its Forty-Sixth Session, UN Doc. A/C.6/49/SR.23, at 3. Switzerland argued Article 33 failed to provide a mechanism for disputes arising out of the interpretation and application of the treaty. Another shortcoming was the non-binding nature of the Fact-Finding Commission; see UN Doc. A/C.6/51/SR.20, 10. The Swiss proposal provided for consultations and negotiations at the first stage; where this did not occur within a fixed period of time, conciliation by unilateral initiative; and arbitration or an action before the ICJ, at the third stage. This appears to be close to the formula finally adopted by the Working Group. See also, *inter alia*, views of Finland, UN Doc. A/51/275, 67, Pakistan, Syria and Hungary, UN Doc. A/C.6/51/SR.20, 11 and UN Doc. A/51/275/Add.3, 12.

[110] UN Doc. A/C.6/51/SR.20.

[111] UN Doc. A/51/275, 68.

[112] The USA and Venezuela thought the provision should be left as proposed by the Commission; UN Doc. A/51/275, 69.

[113] UN International Watercourses Convention (note 1) Article 33(1). In the first instance, Parties "in the absence of an applicable agreement … shall seek a settlement of the dispute by peaceful means". Failure to reach agreement after 6 months by negotiation or other peaceful means, entitles any Party to submit the dispute to "impartial fact-finding". Parties may also agree to submit their disputes to the ICJ or having it resolved by arbitration in accordance with the Convention.

[114] *Id.,* Article 33(8) provides, "The Commission shall adopt its report by a majority vote, unless it is a single-member Commission, and shall submit that report to the Parties concerned setting forth its findings and the reasons therefor and such recommendation as it deems appropriate for an equitable solution of the dispute, which the Parties concerned shall consider in good faith."

[115] UN Doc. A/C.6/51/NUW/L.3/AD1. States voting for: Argentina, Austria, Bangladesh, Belgium, Brazil, Cambodia, Canada, Chile, Czech Republic, Denmark, Finland, Germany, Greece, Holy See, Hungary, Italy, Korea, Malaysia, Mexico, Mozambique, Namibia, Netherlands, Nigeria, Norway, Portugal, Romania, Russia, South Africa, Spain, Thailand, UK, USA, Vietnam; Against: China, Colombia, France, India, Turkey; Abstentions: Algeria, Bolivia, Bulgaria, Ecuador, Egypt, Ethiopia, Iran, Israel, Japan, Jordan,

closely divided voting (33 States for, 29 against or abstaining) highlights the extent of the discord among States on this delicate issue.[116]

The voting record does not readily reveal the reasoning of States.[117] For example, some States voted against Article 33 because it contained "too much" dispute settlement mechanisms, notably the positions of China and India.[118] Other States, such as Pakistan, Switzerland and Syria were unhappy with Article 33 because it was not strong enough.[119] Turkey took the position that it was unsuitable for a framework instrument to contain any provisions relating to dispute settlement.[120]

The final text of the Convention was adopted by the Working Group of the Whole by a vote of 42 States for, 3 against and 18 abstentions.[121] Following is a summary of the voting record.[122]

Lebanon, Lesotho, Liechtenstein, Malawi, Mali, Pakistan, Rwanda, Slovakia, Sudan, Switzerland, Syria, Macedonia, Tanzania, Venezuela, Zimbabwe; 130 States did not vote.

[116] *Caflisch* (note 68), 45, comments, "On voit mal comment ce instrument pourrait devenir pleinement effectif sans un système de règlement contraignant; et c'est d'un mécanisme juridictionnel qu'il devrait s'agir puisque les différends en question porteront sur l'interprétation de *règles de droit*. . . . La controverse en cette matière a démontré, enfin, que les dissensions en matière de règlement pacifique n'ont nullement cessé avec la fin la guerre froide; néanmoins, l'issue des négociations aurait peut-être été plus favorable si la CDI s'était engagée sur ce point."

[117] UN Doc. A/C.6/51/NUW/L.3/ADI.

[118] According to India, "Any procedure for peaceful settlement of disputes should leave the procedure to the Parties. Any mandatory third-party dispute settlement procedure was inappropriate and should not be included in a framework convention". China "could not support provisions on the mandatory settlement of disputes which went against the principles set out in the UN Charter". Turkey, Israel and Rwanda expressed similar views. See UNGA Press Release GA/9248, 21 May 1997.

[119] See UNGA Press Release, 21 May 1997.

[120] See UNGA Press Release GA/9248, 21 May 1997.

[121] UN Doc. A/51/869.

[122] UN Doc. A/C.6/51/NUW/L.3Add.1/CRP.94; Sixth Committee Meeting no. 62, 4 April 1997.

TABLE 1 – Voting Record / Working Group of the Whole / Text as a Whole

FOR (42)	**AGAINST** (3)	**ABSTAINED** (18)
Algeria, Austria, Bangladesh, Belgium, Brazil, Cambodia, Canada, Chile, Czech Republic, Denmark, Ethiopia, Finland, Germany, Greece, Holy See, Hungary, Iran, Italy, Jordan, Liechtenstein, Macedonia, Malawi, Malaysia, Mexico, Mozambique, Namibia, Netherlands, Nigeria, Norway, Portugal, Romania, South Africa, Sudan, Switzerland, Syria, Thailand, Tunisia, UK, USA, Venezuela, Vietnam, Zimbabwe	China, France, Turkey	Argentina, Bolivia, Bulgaria, Colombia, Ecuador, Egypt, India, Israel, Japan, Lebanon, Lesotho, Mali, Pakistan, Russia, Rwanda, Slovakia, Spain, Tanzania *(*130 States did not vote)*

The States that voted for the Convention included a mixture of upstream, downstream and "mid-stream" (i.e. upstream and downstream with respect to different watercourses) States. Although approximately one-third of the voting States did not endorse the text, they did not reject it either. Only three States, including two important upstream riparians, China and Turkey, voted against the text.

Finally, introduced by Mexico and co-sponsored by 33 other States,[123] the Convention on the Law of the Non-Navigational Uses of International Watercourses[124] was adopted by Resolution of the UN General Assembly on 23 May 1997. This time 104 States voted in favour, 26 States abstained and again China and Turkey, as well as

[123] Antigua and Barbuda, Bangladesh, Bhutan, Brazil, Cambodia, Canada, Chile, Denmark, Finland, Germany, Greece, Hungary, Italy, Japan, Laos, Liechtenstein, Malaysia, Mexico, Nepal, Netherlands, Norway, Portugal, Korea, Romania, Sudan, Sweden, Syria, Tunisia, United Kingdom, United States, Uruguay, Venezuela. The representative from Mexico introduced the draft resolution and informed the General Assembly that Cameroon, Grenada, Honduras, Jordan, Latvia and Vietnam requested they be added as co-sponsors.

[124] UN Doc. A/51/L.72.

Burundi, (all upstream States) voted against.[125] Several States explained their voting positions with respect to the draft resolution.[126] Only Bolivia and Spain were critical regarding provisions of Articles 5 and 7. France focused primarily on the procedure used by the Working Group in adopting the final text, but also expressed some concerns about Articles 3, 33 and Part III.

The voting record in the General Assembly is quite instructive. A solid majority of the UN Members, including a significant number of States sharing important international watercourses, expressed their support for the Convention. At least half of the absent States were island countries with no apparent interest in transboundary water resources. Most of the other States in this group could not participate in the final deliberations and voting because of unrelated circumstances ranging from military conflicts to internal political unrest. With only 3 votes cast against the Convention, the level of endorsement makes it one of the most successful international instruments recently adopted. This is quite surprising given the difficult, protracted and surrounded by controversy history of its drafting. There is no doubt that the final outcome was generally acceptable to both upstream and downstream States, which managed to reach a pragmatic middle-of-the-road solution.

Containing 37 articles with a 14-article Annex, the instrument was opened for signature until 20 May 2000. Following is a record of the voting on the UN General Assembly Resolution containing the Convention.

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[125] UN Doc. A/51/869.

[126] *Id.*

TABLE 2 – Voting Record / UN General Assembly / 1997 Convention

FOR (104)	**AGAINST** (3)	**ABSTAINED** (27)
Albania, Algeria, Angola, Antigua & Barbuda, Armenia, Australia, Austria, Bahrain, Bangladesh, Belarus, Belgium, Botswana, Brazil, Brunei Darussalam, Burkina Faso, Cambodia, Cameroon, Canada, Chile, Costa Rica, Côte d'Ivoire, Croatia, Cyprus, Czech Republic, Denmark, Djibouti, Estonia, Federated States of Micronesia, Finland, Gabon, Georgia, Germany, Greece, Guyana, Haiti, Honduras, Hungary, Iceland, Indonesia, Iran, Ireland, Italy, Jamaica, Japan, Jordan, Kazakstan, Kenya, Kuwait, Laos, Latvia, Liechtenstein, Lithuania, Luxembourg, Madagascar, Malawi, Malaysia, Maldives, Malta, Marshall Islands, Mauritius, Mexico, Morocco, Mozambique, Namibia, Nepal, Netherlands, New Zealand, Norway, Oman, Papua New Guinea, Philippines, Poland, Portugal, Qatar, Republic of Korea, Romania, Russian Federation, Samoa, San Marino, Saudi Arabia, Sierra Leone, Singapore, Slovakia, Slovenia, South Africa, Sudan, Suriname, Sweden, Syria, Thailand, Trinidad & Tobago, Tunisia, Ukraine, United Arab Emirates, UK, USA, Uruguay, Venezuela, Vietnam, Yemen, Zambia	Burundi, China, Turkey	Andorra, Argentina, Azerbaijan, Bolivia, Bulgaria, Colombia, Cuba, Ecuador, Egypt, Ethiopia, France, Ghana, Guatemala, India, Israel, Mali, Mongolia, Pakistan, Panama, Paraguay, Peru, Rwanda, Spain, Tanzania, Uzbekistan *(*33 States were absent)*[127]

[127] The absent States: Afghanistan, Bahamas, Barbados, Belize, Benin, Bhutan, Cape Verde, Comoros, Democratic People's Republic of Korea, Dominican Republic, El Salvador, Eritrea, Fiji, Guinea, Lebanon, Mauritania, Myanmar, Niger, Nigeria, Palau, Saint Kitts & Nevis, Saint Lucia, Saint Vincent and the Grenadines, Senegal, Solomon Islands, Sri Lanka, Swaziland, Tajikistan, The former Yugoslav Republic of Macedonia, Turkmenistan, Uganda, Zaire, Zimbabwe.

4.2. UN Watercourses Convention: An Overview[128]

The 1997 Convention is a framework instrument which sets forth general substantive and procedural provisions to be applied by all Parties irrespective of their specific geographical location, or position vis-à-vis other watercourse States, or level of development.[129] To enter into force, the Convention requires endorsement by 35 States before 20 May 2000.[130]

The scope of the Convention covers primarily non-navigational uses of international watercourses.[131] The latter is defined as "a system of surface and groundwaters constituting by virtue of their physical relationship a unitary whole and normally flowing into a common terminus".[132] "Watercourse States"[133] and "regional economic integration organisations"[134] may become Parties to the Convention. Existing agreements are not affected by the Convention, but Parties "may consider harmonising such agreements with the basic principles" of it.[135] Partial agreements are permitted, provided that these do not significantly adversely affecting other watercourse States.[136] Where this might occur, the potentially adversely affected State is entitled to participate in consultations, and where necessary, negotiations, related to such agreement".[137]

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[128] *A. Tanzi* and *M. Arcari* (note 62).

[129] The UN Watercourses Convention is organised into the following four parts: Part I: Introduction (Preamble and Articles 1-4); Part II: General Principles (Articles 5-10); Part III: Planned Measures (Articles 11-19); Part IV: Protection, Preservation and Management (Articles 20-26); Part V: Harmful Conditions and Emergency Situations (Articles 27-28); Part VI: Miscellaneous Provisions (Articles 29-33): Part VII: Final Clauses (Articles 34-37); and one Annex on Arbitration (Articles 1-14). There also exist an attachment referred to as "Statements of Understanding Pertaining to Certain Articles of the Convention" which refers to Articles 1, 2, 3, 6, 7, 10, 21, 22, 23, 28, and 29 of the Convention.

[130] UN International Watercourses Convention (note 1), Article 34.

[131] Article 1 extends the scope of the Convention to apply to navigational uses "insofar as other uses affect navigation or are affected by navigation".

[132] UN International Watercourses Convention (note 1), Article 2(a); see also Article 2(b) which defines "international watercourse" as "a watercourse, parts of which are situated in different States".

[133] *Id.,* Article 1c) defines "Watercourse State" as " a State Party to the present Convention in whose territory part of an international watercourse is situated, or a Party that is a regional economic integration organisation, in the territory of one or more of whose Member States part of an international watercourse is situated".

[134] *Id.,* Article 1(d) defines "Regional economic integration organisation" as "an organisation constituted by sovereign States of a given region, to which its member States have transferred competence in respect of matters governed by this Convention and which has been duly authorised in accordance with its internal procedures, to sign, ratify, accept, approve or accede to it".

[135] *Id.,* Article 3(1) and 3(2).

[136] *Id.,* Article 3(4).

[137] *Id.,* Article 4(2).

Part II, "General Principles", sets forth basic substantive rules applicable to international watercourses, having as a cornerstone principle, "equitable and reasonable utilisation", contained in Article 5. Article 7, "Obligation not to cause significant harm", and Article 10, "Relationship between different kinds of uses", must be read in the context of Articles 5, 6 and 7.[138] Article 6 provides a non-exhaustive list of factors and an indication of how these are to be used, in order to ascertain an equitable and reasonable use in accordance with Article 5. Article 8 imposes a general obligation to cooperate, supported, in Article 9, by a requirement for the regular exchange of "readily available date and information on the condition of the watercourse".[139] Part III, "Planned Measures", provides a detailed procedural framework for implementing the general principles of the Convention in the particular context of planned measures.

Part IV, "Protection, Preservation and Management", contains six articles dealing with the "protection and preservation of ecosystems"[140] and the promotion of individual and, where necessary, joint measures to prevent, reduce and control pollution.[141] Watercourse states are required to consult with each other to achieve this goal.[142] There are also provisions dealing with "introduction of alien or new species" (Article 22), "protection and preservation of the marine environment" (Article 23), "regulation" (Article 25), and "installations" (Article 26).

Part V deals with "Harmful Conditions and Emergency Situations", in Articles 27 ("Prevention and mitigation of harmful conditions") and Article 28 ("Emergency situations"). These offer guidance to States in the event of disasters, water-borne diseases, erosion, emergency situations and so forth. Part VI, "Miscellaneous Provisions" introduces rules related to armed conflict (Article 29), indirect procedures where there are

[138] *Wouters* (note 7), chapter 3.
[139] UN International Watercourses Convention (note 1), Article 9 refers more specifically to data and information of "a hydrological, meteorological, hydrogeological and ecological nature and related to the water quality as well as related forecasts". Where requested, a watercourse State shall supply data not readily available "using its best efforts" and for payment of the reasonable costs incurred to collect it. States "shall employ their best efforts to collect and, where appropriate, to process data and information in a manner which facilitates its utilisation by the other watercourse States to which it is communicated".
[140] *Id.,* Article 20 runs as follows: "Watercourse States shall, individually and, where appropriate, jointly, protect and preserve the ecosystems of international watercourses".
[141] *Id.,* Article 21 contains 3 subparagraphs which together impose the obligation on watercourse States to "prevent, reduce and control the pollution of an international watercourse that may cause significant harm to other watercourse States or to their environment, including harm to human health or safety, to the use of the waters for any beneficial purpose or to the living resources of the watercourse".
[142] *Id.,* Article 21(3) proposes consultations "with a view to arriving at mutually agreeable measures and methods to prevent, reduce and control pollution" and includes a list of suggestions in this regard. Article 24, "Management", requires States "at the request of any of them" to enter into consultations regarding "the management of an international watercourse which may include the establishment of a joint management mechanism".

serious obstacles to direct contact between watercourse States (Article 30), data vital to national defence or security (Article 31), non-discrimination (Article 32), and, settlement of disputes (Article 33). The last section, Part VII, "Final Clauses", includes provisions related to ratification, entry into force and authentic texts. The Annex contains the details regarding the arbitration procedure referred to in Article 33.

5. The UN Convention's Response to Water Scarcity and Water Conflicts

> *Nearly a third of the world's population will face severe water shortages in 25 years' time, increasing the danger of war over water supplies.*[143] *Unless we change our ways, we will soon be facing a very serious water crisis. Consequently, competing claims to water between users within countries and between countries will have to be managed in a cooperative rather than a confrontational fashion. The needs of the poor and of future generations must be secured and issues of quantity and quality of water must be addressed".*[144]

What are the issues that watercourse States, externally and internally, have to deal with in the era of increasingly scarce transboundary water resources? The primary concerns relate to the prevention and resolution of the conflicts of uses resulting from the growing competition for diminishing freshwater resources. The three central issues that arise in this context are: (a) legal entitlement, (b) framework for allocation, and (c) compliance with the agreed watercourse regime. To put it differently: *Who* has a right to use *what* water -- *when*, *why* and *how*?[145] Is the UN Watercourses Convention an adequate instrument to respond to these complex questions? How can watercourses States employ the Convention to prevent and, if necessary, resolve international disputes over water?

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[143] *V. Houlder*, UN Warns of Water Wars Next Century, Financial Times, 19 March 1999. "Research published . . . by the International Water Management Institute, based in Colombo, Sri Lanka, predicts "absolute water scarcity" in 17 countries in the Middle East, South Africa and the drier regions of western and south India and northern China. Another 24 countries, mainly in sub-Saharan Africa, will suffer from extreme water scarcity."

[144] *I. Serageldin*, Rivers of the World Mismanaged, Polluted, Environment News Service, 29 November 1999, <http:ens.lycos.com/ens/nov00/1999L-11-29-03.html> (visited 1 December 1999). I. Serageldin is Chairman of the World Commission on Water for the 21st Century (also Chairman of the Global Water Partnership and Vice President of the World Bank).

[145] The *who* includes stakeholders at various levels; *what* refers to quality and quantity requirements; also relevant are *when* (i.e. seasonal flows, needs), *how* (engineering / hydrology) and *why* (policy-driven allocation rules).

The UN Convention offers two avenues for determining the legal entitlement to use international waters: (a) as defined by existing or future agreements,[146] and (b) in accordance with the principle of equitable and reasonable utilisation.[147] The mechanisms for determining legal entitlement are also set forth in the Convention, primarily through its procedural rules,[148] including, in the final instance, the dispute settlement procedure.[149] The process is supported by the provisions requiring consultations,[150] joint measures and management. [151]

Where issues of legal entitlement arise, the determination of what is equitable and reasonable will constitute the basis of the overall solution, since it is against this benchmark that the lawfulness of State's activities is assessed, unless agreed otherwise. How should the principle of reasonable and equitable use be operationalised in a particular case? The Convention facilitates this task by providing a broad but non-exhaustive list of factors to be considered in deciding what qualifies as a reasonable and equitable use in any particular case.[152] The Convention's procedural rules establish a framework within which States can cooperate, exchange information, provide prior notification of planned measures, establish joint management mechanisms, and so forth. This is a strength of the Convention: a flexible rule governing legal entitlement, accompanied by the requirement of preventive behaviour and complemented by a comprehensive set of relatively detailed procedural rules.

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[146] UN International Watercourses Convention (note 1), Article 3.
[147] *Id.,* Articles 5, 6, 7, 10 and 21(2), UN Watercourses Convention.
[148] *Id.,* Articles 8, 9 and all of Part III, Planned Measures (Articles 11-19).
[149] *Id.,* Article 33, UN Watercourses Convention. This means involves interpretation of the provisions of the Convention and thus will inherently include the primary rule of equitable and reasonable use.
[150] *Id.,* Articles 3(5), 4(1), 4(2),6(2) 7(2), 15(1), 15(2), 17(1), 19(3), 21(3), 24, 26(2).
[151] *Id.,* Articles 8(2), 20, 21(2), 21(3), 23,24, 25, 27, 28(4).
[152] *Id.*, Article 6, "Factors relevant to equitable and reasonable utilisation:"
(1) Utilisation 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 effects of the use or uses of the watercourse in one watercourse State on other watercourse States; (d) existing and potential uses of the watercourse; (e) conservation, protection, development and economy of use of the water resources of the watercourse and the costs of measures taken to that effect; (f) the availability of alternatives, of corresponding value, to a particular planned or existing use.
(2) In the application of article 5 or paragraph 1 of this article, watercourse States concerned shall, when the need arises, enter into consultations in a spirit of cooperation.
(3) The weight to be given to each factor is to be determined by its importance in comparison with that of other relevant factors. In determining what is a reasonable and equitable share, all relevant factors are to be considered together and a conclusion reached on the basis of the whole.

Allocation, or, more accurately, *re*-allocation of the uses of international waters is to be achieved through a balancing of all factors relevant to each particular case, an approach, which stems from the principle of equitable and reasonable use. According to Article 6(2), "the weight to be given to each factor is to be determined by its importance in comparison with that of other relevant factors. In determining what is a reasonable and equitable use, all relevant factors are to be considered together and a conclusion reached on the basis of the whole".[153] This provision, added by the Working Group of the Whole, is taken directly from Article V of the ILA's Helsinki Rules. The commentary to this article is instructive: "In short, no factor has a fixed weight nor will all factors be relevant in all cases. Each factor is given such weight as it merits relative to all the other factors. And no factor occupies a position of pre-eminence *per se* with respect to any other factor. Further, to be relevant, a factor must aid in the determination of the social and economic needs of the co-basin States."[154] This offers support for the proposition that the particular interests referred to in Article 10 (vital human needs) and Article 21 (pollution harm) must be treated within the allocation framework established under Articles 5, 6 and 7. [155] Existing uses must also be considered in the same vein, i.e. as "but one factor", albeit an important one, in the overall assessment of what is reasonable and equitable.[156] In short, the operational mechanism for the allocation framework established in the UN Watercourses Convention, borrowed from the ILA's Helsinki Rules, is flexible enough to permit consideration of all interests relevant to each particular case.

Do the rules governing legal entitlement and the framework for allocation contained in the Convention respond to conflicts of uses involving the environment? Critics claim that the Convention fails to adequately prohibit pollution harm[157] and to safeguard ecosystems.[158] The "mitigated-no-substantial-harm" rule has been

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[153] *Id.,* Article 6(3).

[154] Commentary to Article 6, ILA Helsinki Rules, in: *Garretson* (note 12), 784.

[155] *A. 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. XXVII, 1996, 54, agrees that the legal significance of Articles 10 and 21 "is not that of 'trump norms' that *a priori* outweigh conflicting norms. Rather, they will have a slow and diffuse influence on the language and idiom of water law. They provide senses of direction, value and purpose within which the doctrine of equitable utilisation has to be applied. As such, they may in particular cases alter the outcomes of balances of interests." [footnote reference omitted].

[156] Commentary to Article 6, ILA Helsinki Rules, in: *Garretson* (note 12), 785. Article 10, UN International Watercourses Convention (note 1), supports this, "In the absence of agreement or custom to the contrary, no use of an international watercourse enjoys inherent priority over other uses". See also, Article VI, ILA Helsinki Rules (note 58).

[157] *J.G. Lammers*, Balancing the Equities' in International Environmental Law, in: *R.J. Dupuy* (ed.), The Future of the International Law of the Environment, 1985,153.

[158] *J. Brunée*, The Challenge to International Law: Water Defying Sovereignty or Sovereignty Defying Reality, in: Nação e Defesa, O Desafio das Aguas, Verao 98, no. 86, 51-66; paper presented at International Seminar, Institute of National Defence, 30-31 March 1998, Lisbon.

recommended as a remedy to address the first "shortcoming".[159] This rule "provides a less flexible standard" more suited to conflicts over pollution harm, since it permits a "*limited* weighing between the interests which cause transfrontier pollution and the interests which are impaired by that pollution".[160] However, applying such a "limited" approach may lead to inequitable results. Focusing on the competing interests over pollution harm would ignore other relevant factors such as the "existing and potential uses of the watercourse"[161] and "the availability of alternatives, of comparable value, to a particular planned or existing use".[162] One could envisage a planned measure that would cause transboundary pollution harm that, nonetheless, could be considered to be reasonable and equitable given additional arrangements negotiated between the States concerned. For example, a planned polluting activity by an upstream State might be regarded as a reasonable and equitable use if it is accompanied by effective efforts mitigating the adverse impacts in the (downstream) affected State. This may be accomplished in a number of ways, including the installation and operation of treatment plants in the affected State,[163] or even more innovative solutions, such as transboundary trading of "virtual water"[164] or the swapping of other beneficial uses.[165] The idea that planned measures involving pollution harm should be subjected to a "limited weighting" system aimed at balancing the competing interests of the particularly affected parties

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[159] *J.G. Lammers* (note 157) 153.

[160] *J.G. Lammers* (note 157), 162. Lammers asserts: "The principle of equitable utilisation or apportionment cannot be deemed to apply to instances of transfrontier pollution. It applies to the (quantitative) sharing of physically common natural resources such as, e.g. the waters of an international watercourse or drainage basin, the capacity of the air to absorb waste gases and dust particles without giving rise to air pollution or gas or oil deposits lying across an international border", at 163. In cases of transboundary pollution harm he considers that only a "limited" balancing of the equities can take place.

[161] UN International Watercourses Convention (note 1), Article 6(1) (e).

[162] *Id.,* Article 6(1)(g),

[163] Solutions of this kind have been used by Mexico and the USA on the Colorado River, where the USA agreed to cover the cost of water treatment plants in Mexico to mitigate the pollution originating from uses in the USA. On Lake Geneva, Switzerland devised a scheme whereby it pays French authorities upstream to implement pollution prevention measures, thus reducing the adverse effects in Switzerland.

[164] *T. Allan*, Water Scarcity and Water Rights: An Economic Perspective, in: Securing Water Rights and Managing Water Scarcity, conference papers (1999, CEPMLP University of Dundee), available from R. Carstairs, r.carstairs@dundee.ac.uk. "Virtual water" is a term used to define the amount of water which might be required to produce a given amount of food. In many cases it may be less expensive to import the food then to produce it through costly and inefficient use of limited water resources.

[165] The Lesotho Highlands Water Project (note 50), was concluded through agreements between Lesotho and South Africa that linked a number of issues. To ensure its access to transboundary waters originating upstream in Lesotho, South Africa agreed to cover most of the cost of the large dams constructed in Lesotho. These structures, in addition to controlling the downstream flow to South Africa of the transboundary waters, also provide Lesotho with hydroelectric power. Thus, a solution responding to the very different needs of the two States was arrived at through linkages of issues important to each side.

would reduce the incentive for States to seek more comprehensive solutions to the problems.

Application of the "mitigated-no-substantial-harm" rule may also lead to unequal bargaining positions of States involved in consultations or negotiations over planned measures, which may cause pollution harm. Two inequities may result. Firstly, since the rule is founded on the prohibition of substantial harm (albeit "mitigated"), the State wishing to undertake such a planned measure may find itself in an *a priori* defensive position. Secondly, the focus on "competing interests" increases the likelihood of adversarial claims. The principle of equitable and reasonable use, on the contrary, permits each State to present all factors relevant to the particular situation, places the parties on equal grounds and facilitates, both in process and in substance, a more "needs"-focused approach. This, in turn, levels the playing field between the parties and encourages the search for solutions by technical experts, as opposed to assertions of legal "rights" advanced through a series of claims and counter-claims. This is important, since it is likely that the State desiring to undertake the new activities is the less economically developed, and, thus, often the "weaker" party in the negotiations.[166]

In sum, the "mitigated-no-substantial-harm" approach, due to its serious shortcomings, may negatively affect a watercourse State's desire and ability to seek equitable solutions in their utilisation and development of transboundary waters. The principle of equitable and reasonable use has the capacity to consider factors relevant to pollution harm, and has the added benefit that this can be done through linkages with issues not necessarily tied to pollution, i.e. viewed and addressed in the overall context of inter-State relations. The Convention's approach permits variable "weighting" to be given the factors put forward in each particular case and this may often strengthen the case against pollution harm. Thus, even insignificant pollution may be considered inequitable where it might destroy pristine water resources. Equally, a joint assessment by watercourse States of how their water needs may be met, might lead to "trade-offs" of economic and other benefits, or to other special arrangements, which may reduce polluting activities overall. Such results might not be achievable under the "mitigated-no-substantial harm" approach.

The second "green" criticism of the Convention, that it is not an "ecosystem-oriented" instrument, must be considered in its context. It must be recalled in this respect that some proposals to "strengthen" the Draft ILC rules by more emphasis on sustainable development, precaution, protection of ecosystems and so forth, and to include these

[166] See discussion on this in *Wouters,* (note 42).

obligations as part of the general principles of the Convention failed to materialise.[167] One explanation for this may be that it was not within the purview of the ILC to address water-related environmental issues in great detail. The UN General Assembly requested the ILC to "take up the study of the law of international watercourses with a view to its progressive development and codification".[168] States were asked to present their views "regarding, *inter alia*, the scope of the proposed study, the uses of water to be considered and whether the problem of pollution should be given priority, the need to deal with flood control and erosion problems, and the interrelationship between navigational uses and other uses".[169] Based on States' responses[170] the ILC recommended the Special Rapporteur to rely on the outline of uses contained in question "D" of the questionnaire, "but taking into account the various suggestions made by Governments".[171] It was also recommended that "pollution problems should, so far as possible, be dealt with in connection with the particular uses that give rise to pollution".[172] From the outset States focused on the broad range of water uses, including the problem of pollution as one such use. Thus, the main task of the ILC was to elaborate rules designed to govern States' behaviour with respect to transboundary waters in light of the entire range of (competing) uses, including pollution, but not focusing exclusively on it.

It is alleged in the same vein that international water law, as embodied in the UN Watercourses Convention, lacks the ability to meet the imperatives of environmental security and sustainable development. This "unfortunate" trait of the watercourse law is rooted primarily in its immediate focus on the interests of the watercourse States and in

[167] For example, Canada considered Article 5 should take into account recent developments in environmental law (UN Doc. A/C.6/51/SR.15, 6), Ethiopia suggested that the principle of sustainable development and vital human needs should be in the chapeau of Article 6 (UN Doc. A/C.6/51/SR.15, 4), Finland suggested the principles of sustainable development and precaution should be included in Part II, General Principles and that Article 6 should refer to sustainable development, vital human needs, and the interests of future generations (UN Doc. A/C.6/51/SR.15, 2 and 9). Similar views were held by Germany, Hungary, the Netherlands, Mexico, Portugal, and South Africa. However, the majority of States were generally satisfied with the Draft.

[168] UN GA Resolution 2669 (XXV), 8 December 1970.

[169] Report of the International Law Commission to the UN General Assembly, 32nd Session, UN Doc. A/35/10, in: Yearbook of International Law Commission, Vol. II, Part Two, 1980, 104, 105.

[170] Yearbook of the International Law Commission, Vol. II, Part One, 1976, 150, UN Doc. A/CN.4/294 and Add.1, para. 6.

[171] Yearbook of International Law Commission, Vol. II, Part Two, 1980, 104, 106. The uses in question D were subdivided into 3 major headings, including, "Agricultural uses", "Economic and commercial uses" and "Domestic and social uses".

[172] *Id*., The problem of pollution was highlighted in a separate question in the Commission's questionnaire. Each State was asked whether it was "in favour of the Commission taking up the problem of pollution of international watercourses as the initial stage in its study".

its sovereignty-based orientation.[173] "Rather than reflect the growing range of common environmental interests, the law of international watercourses continues to rely primarily upon competing sovereign rights of riparian states as conceptual devices for the limitation of sovereignty. If international law is to meet the challenges of the water, the principles of ecosystem orientation and sustainable development cannot remain at the periphery, but must move to the conceptual core of international watercourse law".[174] It is argued, in particular, that the customary law principles of equitable utilisation and no significant harm "do not effectively address environmental security concerns."[175]

Thus, there are persistent calls to the effect that the "notion of sustainable development must become anchored in international watercourse law".[176] It is asserted that the rules and regulations on sustainable water use are not to be found in the Watercourses Convention, as opposed to the Rio Declaration, Agenda 21 (chapter 18) and other non-binding and binding instruments, including the 1992 UN ECE Helsinki Convention.[177] The latter, in particular, is praised for its ecosystem-oriented approach, which puts this instrument in "stark contrast" to the Watercourses Convention.

It is questionable whether achieving "environmental security", whatever this term may mean in practice,[178] should be considered as an ultimate goal of international water law; unless, of course, "environmental security" is construed as embracing the entire range of water-related economic, developmental as well as environmental interests. However, neither the 1997 Watercourses Convention, nor its cornerstone principle of equitable and reasonable use is aloof to environmental concerns. The ILC's normative development effort, albeit cautious, to introduce the ecosystem concept to international watercourse law has been admitted even by its critics. Rather than paying lip service to fashionable but vague and legally imprecise concepts of sustainable development,

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[173] This view, for example, was expressed by *E. Hey*, International Watercourse Law: Constraints on Unilateral Development, in her presentation at the International Water Conference, University of Dundee, 11-12 June 1997 (on file with the author). See also *A.D. Tarlock*, Safeguarding River Ecosystems in Times of Scarcity: Irreconciliable Interests?, paper presented at "Securing Water Rights and Managing Water Scarcity, International Water Conference, University of Dundee, 7-10 June 1999 (paper on file with the author).

[174] *Brunée* (note 158), 6. *Brunée* and *Toope* (note 174, 64. To remedy the shortcomings of these principles, the authors suggest: (i) elaborating legal concepts "that reach beyond the specific water resource at issue and encompass all relevant components of an ecosystem" and (ii) reshaping "normative frameworks . . . according to ecological criteria to better reflect both the short and long-term needs of ecosystems", and (iii) shifting emphasis from [a] territorial focus to a more ecosystem-oriented approach . . . [which] requires consideration of whole systems rather than individual components", *Id*., p. 55 [footnote references omitted].

[175] *J. Brunée and S. Toope*, Environmental Security and Freshwater Resources: A Case for International Ecosystem law, in: *Günther Handl* (ed.), Yearbook of International Environmental Law, vol. 5, 1994, 41, 54.

[176] *Id*., 67.

[177] *Hey* (note 173).

[178] *Brunée* and *Toope* (note 174), 45-46.

precaution and intergenerational equity by directly incorporating them, the Convention accommodates them in a more subtle but legally meaningful way. As was noted before, the "green" provisions of the 1997 Convention - Articles 5, 6, 7, 20, 21 and 23 – adequately reflect these notions. They not only allow but require States to protect the ecosystems and the environment, as well as to attain *optimal and sustainable* utilisation of an international watercourse.[179]

Further, there is an obvious failure to appreciate the amplitude and flexibility of the principle of equitable and reasonable use. The perception of what is reasonable and equitable is not frozen in perpetuity reflecting the predominant views of, say, the beginning of the century. On the contrary, it cannot but change with time in response to new problems and challenges. The notion of equity could be invoked and used by concerned States in an intertemporal context in order to protect the interests of future generations, as well as present, from the abusive current practices. The notion of "reasonableness" adds another crucial safeguard against unsustainable water use.

One can hardly object to the argument that "equitable utilisation and sustainable utilisation are not the same – a use may be equitable as between two parties without necessarily being sustainable."[180] But should this necessarily lead to "the most radical re-writing of the law relating to international watercourses since the *River Oder* case" in order to place the equitable utilisation "in a broader context of sustainable development".[181] What about *reasonable* utilisation – an integral part and requirement of the fundamental principle of the watercourse law – so easily forgotten in this line of argument? Can unsustainable water utilisation practices be treated today as reasonable, given our current knowledge of the interdependence between environment and development? Is "reasonable utilisation" not sufficient to fulfil the function of "sustainable utilisation"? Is it always necessary to introduce new and new notions, often as ambiguous and imprecise, as allegedly the ones to be replaced?

As to the preference given to the regional 1992 Helsinki Convention vis-à-vis its global counterpart, these are indeed different instruments pursuing different objectives. What is necessary and relevant for Europe, the most (apart from North America) industrially developed region with capacity to implement the most advanced and far-reaching environmental requirements, is not always suitable for many other parts of the world. While in Europe pollution of transboundary watercourses represent the most serious challenge, this is not necessarily the case in other regions, where competition over increasingly scarce water resources overshadow all other concerns. However, even within the geographical scope of the Helsinki Convention, many countries, especially in Central and Eastern Europe and Central Asia, find it increasingly hard to comply with sophisticated and complex conventional provisions. The often suggested imposition of

[179] *Id*., 47.
[180] *Boyle* (note 34),16.
[181] *Id*.

the same requirements on developing nations will in practice make them non-implementable, which will defeat the very objective of the proposed regime.

Finally, it is often contended that "from an environmental protection and security perspective, giving priority to the transboundary harm rule is preferable". [182] Some go even further, insisting that "under international watercourse law, …a more established principle than that of equitable and reasonable use is the obligation of States not to cause significant harm".[183] This view, primarily espoused by the "green" advocates, holds that granting priority to the no-harm rule would best ensure environmental protection. It must be asked whether implementation of the principle of equitable and reasonable use could not accomplish this same goal. Given the increasingly strong environmental pressure, there is no doubt that environment interests will always be included among the most important "relevant factors" together with an indication of the "strong" weight to be given to such factors, in the assessment of a reasonable and equitable use. This, of course, will depend on the circumstances particular to each case, which would have to be evaluated on its individual merits. Nonetheless, as was already shown, there are important advantages for watercourse States to come to the bargaining table under the umbrella of equitable utilisation, as compared with the "stick" of no-harm.[184]

The recent decision in the Danube case[185] (*Gabcikovo-Nagymaros* case), between Hungary and Slovakia, the only decision involving an international watercourses rendered by the International Court of Justice over the last 60 years,[186] is particularly relevant and instructive in this respect. The decision reanimated the academic debate[187] over the wide range of issues, from the interaction of international environmental law and the watercourse law to the role of the concept of sustainable development. This is not the place for a detailed analysis of all the issues of that case, however, some of the points raised deserve attention. The case revolved primarily around the issues of treaty law, particularly the question whether Hungary was justified in suspending and later abandoning the construction works on the Danube, which were contemplated and agreed to in its 1977 Treaty with Czechoslovakia. Hungary's refusal to proceed with these works

[182] *Brunnée* and *Toope* (note 174), 63.
[183] *Stec* and *Eckstein* (note 34), 45-46.
[184] *Brunnée* and *Toope* (note 174), 63. This appears to be acknowledged by some of the critics, "While from an environmental protection and security perspective, giving priority to the transboundary harm rule is preferable", the cooperative aspect inherent in the equitable use principle brings an equally important element of balance to environmental relations among States".
[185] Case Concerning the Gabcikovo-Nagymaros Project (note 34).[hereinafter Danube decision].

[186] The last ICJ case which involved an international watercourse was the *River Meuse* case; see judgement of 28 June 1937, Permanent Court of International Justice, Series A/B, No. 70, 3.

[187] *Bourne*, *Boyle*, *Canelas de Castro*, *Stec* and *Eckstein* (note 34); also *A. Kiss*, Legal Procedures Applicable to Interstate Conflicts on Water Scarcity: The Gabcikovo Case, in: *Brans* (note 6), 59.

prompted Slovakia to implement a "provisional solution", which involved construction of a dam in its own territory and a temporal diversion of the Danube waters. Each side claimed that the other had breached its international obligations under either the 1977 Treaty or general international law.

The Hungary's position was based mostly on the allegations that irreversible environmental harm would result from the implementation of the works. It tried to justify its unilateral termination of the 1977 Treaty by the reference to a "state of ecological necessity". The Court rejected this argument, having not found that the situation was of a "grave and imminent peril" that would threaten an "essential interest" of Hungary. The Court also supported and confirmed the legal validity of the 1977 Treaty. Regarding Slovakia's unilateral diversion of the Danube, the Court referred to Hungary's "basic right to an equitable and reasonable sharing of the resources of an international watercourse".[188] The Court found that Slovakia "failed to respect the proportionality required by international law"[189] and thus deprived Hungary of its "right to an equitable share of the natural resources of the Danube".[190] The Court added:

> Modern development of international law has strengthened the principle expressed in the River Oder case that "the community of interest" in a navigable river becomes the basis of a common legal interest for non-navigational uses of international watercourses.[191]

To sum up, the Court found Hungary in breach of its international obligations under the 1977 Treaty and found also that Slovakia had violated international law by putting into operation its provisional solution. In so doing, the Court emphasised, in particular, the importance of balancing environmental and developmental concerns.[192] The parties to the dispute were requested by the Court to conduct negotiations to ensure continued compliance by each side with the 1977 Treaty. These negotiations were to find "an agreed solution that takes into account the [1997] Treaty . . . as well as the norms of international environmental law and the principles of the law of international watercourses". [193]

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[188] Danube decision (note 6), para. 78.

[189] *Id.,* para. 85.

[190] *Id*.

[191] *Id*.

[192] *Id.,* the Danube case, the judgement including the dissenting opinion of Judge Oda ("Any construction work relating to economic development would be bound to affect the existing environment to some extent but modern technology would . . . be able to provide some acceptable ways of balancing the two conflicting interests"), p. 224; and separate opinion of Judge Weeramantry (". . .in the arena of international law . . . there must be both development and environmental protection, and neither of these rights can be neglected"), p. 213.

[193] Danube decision (note 6), para. 141.

The decision is important in many respects. It explicitly referred to the 1997 Watercourses Convention as an authoritative statement of the law of international watercourses. It is particularly remarkable given the fact that by that time the 1997 Convention had not been ratified by a single State. The Court also implicitly endorsed the principle of equitable and reasonable utilisation as a governing principle of the watercourse law. The ICJ decision contained "no mention of the *sterile and misconceived* debate over the relationship between Articles 5 and 7" of the UN Watercourses Convention.[194] This happened for one simple reason: the Court was unable to ascertain any significant environmental harm inflicted on Hungary, apart from a legal injury to its sovereign right to a reasonable and equitable share of the Danube waters. If the situation had been different, i.e. if there had been prove of significant harm resulting from the actions of Slovakia, the Court could not easily avoid dealing with this issue.

Apart from the environment focused criticism, the Convention is often maligned as offering no fixed formula for determining legal entitlement,[195] or indeed, as being void of any substantive rules.[196] The latter observation is quite surprising given the number of well-established customary rules of international law, such as the principles of equitable and reasonable utilisation, no-significant harm and the procedural rules of prior notification and exchange of information, codified by the Convention. The former comment, however, merits closer examination. It is claimed that "the principle of equitable use justifies opposing claims . . . without offering a resolution . . . [it] is little more than an open-ended framework for political compromise without an independent legal identity".[197] It appears, on the contrary, that the very fact that this principle does "justify opposing claims . . . without offering a resolution" must be considered as a particular strength of the Convention, since it leaves each case involving competing claims to be judged (and not pre-judged) on its own merits. This may, or may not, result in a "political compromise", but the rule, and its implementation, have an independent legal identity tied to the broader legal concept of allocational fairness. This is especially relevant to the management of scarce water resources, "when moderate scarcity threatens to become unmanageable scarcity *unless* some means of allocation is devised which caps what would otherwise be an unbridled and ultimately self-defeating scramble for too little by too many.[198] It is correctly asserted that an allocational choice "must meet the test of perceived fairness [if] it is to suceed in allocating. . . . the pursuit of a shared perception

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[194] *Boyle* (note 34), 16.

[195] *Nollkaemper*, (note 156), 46.

[196] *Hey* (note 172). E. Hey expressed similar views in a working document prepared jointly with *E. Mostert, E. van Beek, N. Bouman, H. Savenije,* and *W. Thissen,* River Basin Management and Planning, distributed as working document for International Workshop on River Basin Management (note 26) (on file with the author).

[197] *Nollkaemper* (note 157), 46. See also *Wolf* (note 7), 3.

[198] *T. Franck*, Fairness in the International Legal and Institutional System, in: General Course on Public International Law, Recueil des cours, vol. 240 (1993-III) 30-31.

of fairness is the necessary starting point for devising any lasting allocation rules, rules that are likely to command respect and pull towards voluntary compliance".[199] A rule of allocation that assigns certain factors (such as "no-significant harm", pollution prevention, protection of the environment and vital human needs) special priority, unequivocally, may foreclose the possibility of seeking fair and legitimate solutions. A system of "automatic trumping entitlement" precludes not only agreement, but "negotiated agreement", which becomes superfluous in such a context.[200] A rule providing general principles guiding allocation may be vague, but, "to some extent indeterminacy is inherent in all rule-creating discourse".[201] This indeterminacy, however, may lead to legitimacy gains "achieved when a law's standard opens a fairness-discourse and avoids a rigid standard that may produce extreme unfairness in practice".[202] This certainly may be the case here. [203]

The open-ended principle of equitable and reasonable use should not be regarded as a unique legal phenomenon. One can refer to a number of legal standards based "reasonableness" or "equity". For example, the cornerstone rule of the law of torts, the "reasonable man (woman) test" has worked well in hundreds of years of litigation, and continues to do so. Is there any reason that a "reasonable use" approach could not also work well in practice?[204] In the international law of the sea, "equitable principles" established themselves as both the primary method and ultimate goal of delimitation, as opposed to the more concrete method of equidistance. Given the Convention's detailed and extensive requirements for consultations, cooperation, exchange of information, prior notification and joint measures, the foundation is laid for a "fairness discourse" based on *needs*, as compared with the more adversarial, *rights*-based claims. The principle of reasonable and equitable use undoubtedly incorporates factors related to protection of vital human needs, protection of ecosystems and the sustainability of water use.[205] Further, a watercourse State's needs may be met through mechanisms not necessarily

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[199] *Id.*

[200] *Id.,* 36. In addition to this important no-trumping principle, there is at least one other which, despite disagreement by some on political and philosophical grounds, may be coming close to universal acceptance as a core principle of fairness. The principle is this: that inequalities in the access to, or the distribution of, goods must be justified by demonstrating that the inequality of benefits not only its beneficiaries, but also, in absolute terms, everyone else." .

[201] *Id.,* 33.

[202] *Id.,* 51.

[203] *E. Benvenisiti*, Collective Action in the Utilisation of Shared Water Resources, American Journal of International Law, vol. 90, 1996, 384. Benvenisti believes that a vague standard of equitable use is more acceptable than a clear rule such as no significant harm. A vague standard increases the likelihood of co-operation by encouraging riparian states to negotiate rather than litigate, which in turn allows for changed circumstances by incorporating flexibility into the agreed-upon initial allocation.

[204] *Bourne* (note 66), at 83 refers to the "reasonable State" test.

[205] These three factors are considered to "emerging substantive concepts" that challenge the equitable use doctrine by *Nollkaemper* (note 157), see his discussion at 60-73.

directly connected to "blue" water[206] management and allocation. Instead, solutions based on a broader approach may result in a more efficient use of transboundary water resources.[207]

6. Issues of Implementation and Compliance

The implementation of the principle of equitable and reasonable use can be facilitated through the work of effective institutional mechanisms.[208] While some watercourse States have resisted joint management,[209] many watercourse agreements establish an international body with a specific mandate to supervise their implementation. Such organs could play an important role in monitoring, and even facilitating, compliance and dispute avoidance.[210] Special Rapporteur Schwebel stated:

> Ideally, system States should create, where they have not already done so, the necessary machinery for authoritative ascertainment of equitable utilisation whenever the need arises. And this machinery for ascertainment of equitable use, as well as for working out the technical and compensatory adjustments that often are required, should not in the first place be considered "dispute settlement". Rather, such determinations, including where necessary their attendant, often complex, shaping of the package of modifications of use and of measures for avoidance of harm, need to be an integral part of the system States' affirmative cooperation in their international watercourse system. In the past, such machinery has been lacking in most international watercourse systems, and the defensive,

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[206] "Blue" water refers to surface and groundwater resources, which represents an insignificant amount of the world's water resources; see *Falkenmark* (note 22).

[207] One such example is a recent decision of the Aral Sea basin States to create a mechanism of "trading" water resources needed downstream for irrigation in exchange for other energy resources.

[208] *L. Caflisch*, The Law of International Waterways in its Institutional Aspects, Festschrift für Dietrich Schindler, 1989, 21. See also Recommendations and Guidelines on Sustainable River Basin Management, Workshop Report, International Workshop on River Basin Management (note 26) (on file with the author), also available at http://www.ct.tudelft.nl/rba/rba.htm.

[209] *A.E. Utton*, Water Quality, in: *A.E. Utton* and *L.A.Teclaff* (eds.), International Environmental Law, 1974. Utton's survey of State practice in Latin America, Europe, the former Soviet Union and North America leads him to conclude that States invoke "State sovereignty" in support of their refusal of joint management.

[210] Art. XXXI, Helsinki Rules (note 58).

one might say "adversary", context within which use conflicts were taken up all too often gave rise to acrid and protracted disputes.[211]

The 1997 Watercourses Convention addresses these issues in a number of ways. Firstly, by permitting economic integration organisations[212] (REIOs) to become parties, it encourages their members to make coordinated efforts within such organisations in achieving the objectives of the Convention. It is noteworthy that the EU Draft Water Framework Directive refers to both the 1997 UN Watercourses Convention and the 1992 Helsinki Convention as the guiding international instruments with respect to the European Community transboundary water resources. Secondly, by consistently referring to joint mechanisms, it encourages States to establish such mechanisms in order "to facilitate cooperation on relevant measures and procedures in the light of the experience gained through cooperation in existing joint mechanisms and commissions in various regions."[213] Article 24 clarifies what kinds of "management" joint commissions might undertake.[214]

These measures are important not only in managing water scarcity and avoiding dispute, but also in facilitating compliance. However, the UN Watercourses Convention, apart from the dispute settlement provisions[215] and a reference to non-discrimination,[216] offers no other guidance to States on how they might attempt to ensure the integrity of their watercourse regimes. While this would appear consistent with state practice in the

[211] *Schwebel* (note 85), 89.

[212] UN International Watercourses Convention (note 1), Art. 2(d) provides "regional economic integration organisation" means an organisation constituted by sovereign States of a given region, to which its member States have transferred competence in respect of matters governed by this Convention and which has been duly authorised in accordance with its internal procedures, to sign, ratify, accept, approve or accede to it".

[213] *Id.,* Art. 8(2).

[214] *Id.,* Article 24(2), "For the purposes of this article, "management" refers in particular, to: (a) Planning the sustainable development of an international watercourse and providing for the implementation of any plans adopted; and (b) Otherwise promoting the rational and optimal utilisation, protection and control of the watercourse".

[215] *Id.,* Article 33.

[216] *Id.,* Article 32, "Non-discrimination" provides, "Unless the watercourse States concerned have agreed otherwise for the protection of the interests of persons, natural or juridical, who have suffered or are under a serious threat of suffering significant transboundary harm as a result of activities related to an international watercourse, a watercourse State shall not discriminate on the basis of nationality or residence or place where the injury occurred, in granting to such persons, in accordance with its legal system, access to judicial or other procedures, or a right to claim compensation or other relief in respect of significant harm caused by such activities carried on in its territory.

field,[217] a regional model for the elaboration of a strategy and framework for compliance is currently evolving under the auspices of the UN ECE, in particular, under the umbrella of the 1992 Helsinki Convention.[218] The Parties to that instrument are at present engaged in developing a strategy and framework for compliance verification and facilitation.[219] The London Protocol on Water and Health[220] and the Aarhus Convention,[221] both concluded under the auspices of the UN ECE, each contain provisions regarding the monitoring of compliance. It is clear that measures aimed at facilitating compliance, based on a non-confrontational and non-judicial approach, can go a long way to ensure the ongoing peaceful regulation of international watercourses. The topic is a complex

[217] Most international water treaties make no reference to monitoring compliance, providing instead for dispute settlement mechanisms, or granting joint commissions limited mandates to facilitate cooperation. See, *inter alia*, the Mekong Treaty , Boundary Waters Treaty (Canada-USA), Indus Waters Treaty, Rio de la Plata Treaty. Compliance appears to be a topic not addressed in the "water law" context, although it takes a prominent place in international environmental law discourse. See, generally, R. Wolfrum, hague course, J. Werksman book on compliance; articles by Peter Sand; articles by E. Brown Weiss.

[218] Article 17 (2), Helsinki Watercourses Convention provides: "At their meetings, the Parties shall keep under continuous review the implementation of this Convention, and, with this purpose in mind, shall, . . . (f) consider and undertake any additional action that may be required for the achievement of the purposes of this Convention". The Convention also requires Riparian Parties to conclude further agreements which "shall provide for the establishment of joint bodies" with a list of proposed tasks. In accordance with this provision, a number of Parties to the Helsinki Convention have entered into such agreements; see Agreements on the Protection of the Rivers Scheldt and Meuse, 26 April 1994, *reprinted in* 34 ILM 851 (1995); Convention on Cooperation for the Protection and Sustainable Use of the Danube River Basin, 29 June 1994, *reprinted in* 19 International Environment Reports (BNA) 997 (30 October 1996); 1998 Rhine Convention;

[219] See "The Need for a Strategy and Framework for Compliance with Agreements on Transboundary Waters and Guidelines on Public Participation in Water Management", UN ECE MP. WAT/2000/ (December 1999); (on file with the author). The Work Plan of the Parties to the Helsinki Convention refers specifically to preparation of a Compliance Review Procedure for consideration by the Parties.

[220] On 17 June 1999, 35 countries signed the Protocol on Water and Health to the UN/ECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes. (Albania, Armenia, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Poland, Portugal, Romania, Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine and United Kingdom). The Protocol's aim is to reduce, control and prevent water-related disease. See Press Release, ECE/ENV/99/6, 18 June 1999, Geneva, http://www.unece.org/press/99env6e.htm. Article 15 of the Water and Health Protocol specifically requires the Parties to establish multilateral arrangements of a non-confrontational, non-judicial and consultative nature for reviewing compliance

[221] Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, 25 June 1998, < http://www.unece.org/env/europe/ppconven.htm > (visited on 10 December 1999). Article 15 of the Aarhus Convention provides, "Review of Compliance: The meeting of the Parties shall establish, on a consensus basis, optional arrangements of a non- confrontational, non-judicial and consultative nature for reviewing compliance with the provisions of this Convention. These arrangements shall allow for appropriate public involvement and may include the option of considering communications from members of the public on matters related to this Convention."

one, not yet fully studied in the context of transboundary watercourses.[222] Public participation, an important element of a compliance review process, is another area that could be further examined in the context of international watercourse regimes. It is strongly recommended that States consider compliance and public participation when they negotiate their international watercourse agreements.

7. Beyond the UN Convention: The Need for an Interdisciplinary Response to Water Scarcity

> *Sustainable river basin management requires proper study, sound understanding and effective management of water systems and their inherent components and processes (groundwater, surface water and return water; quantity and quality; biotic components; upstream and downstream relations. . . . the water itself should be seen as a social, environmental, and economic resource, and each of these three aspects must be represented in the political discourse."*[223]

> *Development was long seen as a function of economics and engineering. More recently, social scientists, political scientists and environmentalists have started to play an increasingly important role in what has come to be called 'sustainable development.' For development to be truly sustained, however, it has to be a comprehensive process in which all disciplines and professions fully participate. Law, in particular, as the formal instrument of orderly change in society, plays a pivotal role, even though this role has not always been readily recognised.* [224]

The complex issues arising out of water scarcity, generally, and in matters relating to legal entitlement, framework for allocation, and monitoring compliance, in particular, require more than a legal response. The input of the technical water experts, across the entire horizon of water resources management, including engineers, hydrologists, economists, social scientists, and so forth, is equally important.[225] A range of experts is required to identify the factors relevant to the determination of an equitable and

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[222] *P. Wouters*, "Ensuring the Integrity of International Watercourses Agreements: Compliance in the Making", working paper (work-in-progress on file with the author).
[223] Recommendations and Guidelines on Sustainable River Basin Management, prepared by panel of international water experts at The Hague, 29 October 1999. To be presented at World Water Vision ministerial forum, March 2000 in the Hague [Hague 1999 Recommendations].
[224] I.F.I Shihata, Good Governance and the Role of Law in Economic Development in Ann Seidman, Robert B. Seidman, Thomas W. Waelde (eds), Making Development Work (1999), xvii.
[225] The UN initiative, HELP (Hydrology for Environment, Life and Policy) represents a significant paradigmatic shift from the past "expert" orientation of the scientific community towards a much broader, interdisciplinary approach to water resources issues. See their website.

reasonable use. New concepts, such as "green" water[226] and "virtual" water[227] could be further developed and employed effectively in the response to transboundary water problems.

8. Conclusions

The legal response to water scarcity has a solid foundation in the UN Watercourses Convention. Its primary rule of equitable and reasonable utilisation, supplemented by the requirement of preventive behaviour in Article 7 and a well developed body of procedural rules, provides States a comprehensive framework to address the multitude of issues arising out of present and future conflicts over water. The German Government's initiative to encourage ratification of the UN Convention[228] is well-founded. Regardless of whether or not the Convention comes into force, it is destined to play a major role in the management of transboundary watercourses as an authoritative statement of relevant international law.

[226] M. Falkenmark, Competing Freshwater, (note). Falkenmark asserts, "Sustainable water-dependent socio-economic development will simply not be possible without taking an integrated perspective on all water dependent and water-impacting activities in a river basin and their relative upstream-downstream relations. . . . The river basin approach has to involve attention not only to green and blue freshwater services, but also to water-related ecosystem services, terrestrial as well as aquatic, and direct as well as indirect." M. Falkenmark, *"Competing Freshwater and Ecological Services in the River Basin Perspective"*, presentation at 9th Stockholm Water Symposium (August 1999).

[227] See T. Allan (note).

[228] Statement made at International Water Conference, "Securing Water Rights and Managing Water Scarcity", 7-10 June 1999, Dundee, Scotland.