

The United Nations World Water Development Report 3 Water in a Changing World

Coordinated by the World Water Assessment Programme, the *United Nations World Water Development Report 3: Water in a Changing World* (WWDR3) is a joint effort of the 26 United Nations agencies and entities that make up UN-Water, working in partnership with governments, international organizations, non-governmental organizations and other stakeholders.

The United Nations' flagship report on water, the WWDR offers a comprehensive review of the state of the world's freshwater resources and provides decision-makers with the tools to implement sustainable use of our water. The WWDR3 represents a mechanism for monitoring changes in the resource and its management and tracking progress towards achieving international development targets. Published every three years since 2003, it offers best practices as well as in-depth theoretical analyses to help stimulate ideas and actions for better stewardship in the water sector.

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Freshwater and International Law:

The Interplay between Universal, Regional and Basin Perspectives

Laurence Boisson de Chazournes

Introduction

International freshwater resources law started to emerge at the beginning of the nineteenth century. In the last two decades it has experienced considerable change. This paper will focus on some of the characteristics of these latest developments, which concern primarily the protection and management of freshwater resources, by looking at the interplay of norms adopted at three levels where important new instruments have been adopted: the universal, regional and basin levels.

The analysis of universal, regional and basin agreements sheds light on their specific characteristics and the interactions among them, and on mutual feedback with respect to the content of their norms. We propose a systemic interpretation of the law applicable in this area, arguing that norms of international law should be interpreted in an integrated manner, because each of them forms part of the international legal system and they function and interact in the context of the system as a whole.

The rule of law plays a significant role in managing transboundary freshwater resources. While laws do not in and of themselves provide solutions to the many concerns about water use, conservation and protection, they certainly provide a means of finding potential solutions to international water problems. Co-operation on transboundary water resources is unlikely to be established sustainably without appropriate legal support. In providing stability and predictability to regulation, the rule of law contributes both to the avoidance of and the settlement of disputes.

The first part of the paper will focus on instruments adopted at the universal level, such as the United Nations Convention on the Law of Non-Navigational Uses of International Watercourses¹ (hereinafter the 1997 UN Watercourses Convention) and the 2008 International Law Commission (ILC) Draft Articles on the Law of Transboundary Aquifers.² An interesting phenomenon will be stressed, i.e. the existence of a double process of nurture. Both of these instruments are based on state practice and on agreements concerning individual river basins or regional watercourses. And while each asserts itself as a guiding instrument for treaties at the regional and basin levels, providing comprehensive codifications of general, universal norms, both at the same time claim to offer a frame of reference or basis for the development of more specific instruments that can address the specificities of the watercourses

¹ UN Doc. A/RES/51/869, 21 May 1997, *International Legal Materials (ILM)*, Vol. 36. Washington, The American Society of International Law, p. 700.

² UN Doc. A/RES/63/124, 11 December 2008, *Yearbook of the International Law Commission*. Geneva, United Nations, p.19.

concerned. Universal norms furthermore facilitate the harmonization of practices relating to the management and protection of freshwater resources in light of the principles they contain.

The second part of the paper will deal with the development of laws at the regional and basin levels. In general, regional instruments and basin agreements address the protection of transboundary rivers in a more extensive manner than do universal instruments. The smaller number of parties can make it possible to reach agreement on targeted and sometimes more stringent norms. Thus, for example, some regional and basin treaties integrate progressive principles of international environmental law, such as the precautionary principle, the principle of sustainable development, or the polluter-pays principle.³ Furthermore, regional and basin instruments have led to the establishment of joint institutional mechanisms on transboundary watercourses. The development of joint mechanisms on specific watercourses or aquifers has contributed to the emergence of universal principles on institutional co-management of freshwater resources. In a similar way, regional agreements and treaty regimes on specific watercourses have led to the emergence of principles, for example water quality principles, at the universal level.

A third and last part of the paper will look at the interplay between universal, regional and basin instruments from other legal angles. This part will also present some concluding remarks. Agreements among states at the regional level or the basin or aquifer level should be read alongside universal principles to ensure harmonization of rules, regional and basin agreements should not be isolated from norms adopted at the universal level. There must be an awareness of the development of law at all levels.

I. The development of international water law: the interaction between universality and particularism

In the last two decades, freshwater law has gone through significant developments. The adoption, under the aegis of the United Nations, of universal instruments to deal with freshwater resources management and protection is one of the major developments in this field of international law. In addition, several regional and basin agreements have been adopted in recent years. In this context it is important to stress that states have shown some reluctance to conclude instruments on transboundary freshwater resources at the universal level. International practice illustrates that drafting universal norms on either navigational or non-navigational uses of transboundary freshwater resources is a difficult exercise.

3 See O. McIntyre, 2007, *Environmental Protection of International Watercourses under International Law*, Hampshire, UK, Ashgate.

Navigational uses of international rivers

The majority of the early treaties drawn at the end of the eighteenth century and through the nineteenth and early twentieth centuries dealt almost exclusively with navigational uses and the freedom of navigation on international rivers.⁴ Among European powers, the principle of freedom of navigation gained momentum through the pursuit of colonial and commercial interests in many regions of the world, and until the end of the First World War, European countries supported a liberal regime of navigation.⁵

This liberal vision of the freedom of navigation culminated in the Treaty of Versailles on 28 June 1919 and in the Barcelona Statute on the Regime of Navigable Waterways of International Concern, adopted under the aegis of the League of Nations on 20 April 1921.⁶ These two treaties provided for the opening of the waterways of Europe to all nations. Part of the reason for the limited success of the Barcelona Statute in achieving universal acceptance was that it did not effectively combine the different approaches to the principle of freedom of navigation that had emerged on different continents and for various river basins into one universal document.⁷

The liberal interpretation of the principle of freedom of navigation was not adhered to by later agreements. These embraced different concepts of the principle that varied depending on the region or watercourse they applied to. The advent of authoritarian regimes in Europe in the nineteen-thirties, along with the Cold War, further weakened the liberal interpretation of the principle of freedom

4 See L. Cafilisch, 1989, Règles générales du droit des cours d'eau internationaux, *Recueil des cours, Collected Courses*, vol. 219. The Hague, Hague Academy of International Law, pp. 104–32.

5 The principle of freedom of navigation was of paramount importance to the European powers in their colonial expansion and the development of their commercial activities. As the International Court of Justice (ICJ) observed in the *Kasikili/Sedudu Island* case 'that navigation appears to have been a factor in the choice of the contracting powers in delimiting their spheres of influence. The great rivers of Africa traditionally offered the colonial powers a highway penetrating deep into the African continent'. *Kasikili/Sedudu Island*, Judgment, *ICJ Reports 1999*, par. 44. See the General Act of the Berlin Conference which includes the extension of a liberal regime on navigation to the Congo and Niger rivers. *Acte général de la Conférence de Berlin, in Jules Hopf, Recueil général de traités et autres actes relatifs aux rapports de droit international, deuxième série, Tome X, Göttingen, Librairie de Dieterich, 1885, pp. 416–18.*

6 See esp. articles 108 to 117 of the Final Act of the Congress of Vienna of 9 June 1915, containing provisions relating to navigation on the international watercourses of signatory States. See also the Appendix XVI B to the Act of the Congress of Vienna, available in C. Parry (ed.), *Consolidated Treaty Series*, Dobbs, Ferry, NY, Oceana, 1967, vol.64, 1815, p. 453. See also Article 2 of the Barcelona Statute on the Regime of Navigable Waterways of International Concern, *League of Nations Treaty Series*, Vol. VII, p. 50.

7 See H. R. Fabri, 1990, Règles coutumières générales et droit fluvial, *Annuaire français de droit international*, Vol. 36. Paris, Université de Paris II, p.832. The Barcelona Statute was ratified by twenty states, one of which, India, withdrew in 1956; in the period after 1960 ten more states acceded to or succeeded to the Statute, four of which were island States, <http://treaties.un.org/Pages/LONViewDetails.aspx?src=LON&id=555&lang=en#3>.

of navigation.⁸ The 1948 Convention Regarding the Regime of Navigation on the Danube restricted the freedom of navigation on the river to vessels carrying the flags of the riparian states of Eastern Europe.⁹ The riparian states of the River Rhine imposed, in parallel, limitations on the vessels of Eastern European states.¹⁰ The end of the Cold War brought about the end of these restrictions and the recognition of a right to navigate to the benefit of ships of all riparian states.

In other regions of the world, navigation regimes are more restrictive than in Europe. In Africa, the 1972 Convention Relative to the Statute of the Senegal River restricts the application of the principle of freedom of navigation to ships flying the flags of contracting states only¹¹ and in Asia, the 1995 Agreement on The Cooperation for the Sustainable Development of the Mekong River Basin provides for the application of this principle to all riparian states.¹² The navigation regime on the American continent has been either restricted to riparian countries¹³ or contracting parties.¹⁴ These examples

of international practice serve as reminders of the importance that riparian states in various parts of the world attach to the principle of freedom of navigation. It needs to be pointed out that this principle takes its substance from economic, historic and political realities that are specific to each waterway and each region.

Universal instruments that address non-navigational uses of international freshwater resources

From the beginning of the twentieth century, particularly in the years after World War 1, international law started addressing activities other than navigation. But in doing this, states did not show much willingness to give priority to multilateral treaties to regulate these matters. The 1923 Convention Relating to the Development of Hydraulic Power Affecting More than One State hence remained an exception.¹⁵ This convention prompts state parties to take the interests of other riparian states into account when carrying out water management works.¹⁶

Other non-navigational uses such as irrigation and industrial and recreational exploits also became more and more important. In the course of the twentieth century, economic development and population growth resulted in an increased demand for water. These factors and the concerns about the limited availability of water resources, as well as a growing awareness of the need for protection led to the adoption of the 1966 Rules on the Uses of the Waters of International Rivers, the so-called 'Helsinki Rules', which deal with navigational as well as non-navigational uses of rivers.¹⁷ These rules, which have been drafted by the International Law Association, a non-governmental association of legal experts, have codified principles derived from state practice with the objective of clarifying the rules of the game in terms of the use, sharing and management of international watercourses.

The Finnish delegation to the UN proposed that the Sixth Committee include an item entitled 'Progressive development and codification of the

reciprocal basis, that there shall be complete freedom of commercial navigation on the Amazon and other international Amazonian rivers, observing the fiscal and police regulations in force now or in the future within the territory of each. Such regulations should, insofar as possible, be uniform and favor said navigation and trade.'

¹⁵ Convention Relating to the Development of Hydraulic Power Affecting More than One State, 1923, *League of Nations Treaty Series*, Vol. 36. Geneva, UN Publications, p.77. The Convention has been ratified by seventeen States.

¹⁶ In the instance where a state wants to carry out such works and these works could potentially result in serious harm to another state, the Convention calls on the states to negotiate 'with a view to the conclusion of agreements which would allow such operations to be carried out' (Article 4 of the Convention). On this Convention see: G. Sausser-Hall, 1953, *L'utilisation industrielle des fleuves internationaux, Recueil des cours, Collected Courses*, vol.83. The Hague, Hague Academy of International Law, pp. 536–538.

¹⁷ See the International Law Association, *Report of the Fifty-Second Conference 1966, Helsinki*, p. 506.

⁸ L. Caflisch, *Règles générales du droit des cours d'eau internationaux, op.cit.*, p. 42.

⁹ Article 1 of the Convention Regarding the Regime of Navigation on the Danube, 1948. Belgrade, *UN Treaty Series*, Vol. 33, p. 196.

¹⁰ Article 1 of the Revised Convention for Rhine Navigation, 1963. Strasbourg, Central Commission for Navigation on the Rhine. <http://www.ccr-zkr.org/>

¹¹ Article 6 of the Convention relative to the Statute of the Senegal River adopted in Nouakchott on 11 March 1972 reads as follows: *sur les territoires nationaux des Etats contractants, la navigation sur le fleuve Sénégal et ses affluents, qui seront désignés ultérieurement, est entièrement libre et ouverte aux ressortissants, aux bateaux marchands et marchandises des Etats contractants, aux bateaux affrétés par un ou plusieurs Etats contractants, sur un pied d'égalité en ce qui concerne les droits de port et les taxes sur la navigation commerciale. Les bateaux marchands et navires étrangers, de toute origine, seront soumis à une réglementation commune qui sera élaborée ultérieurement*, in Nations Unies, *Traités concernant l'utilisation des cours d'eau internationaux à des fins autres que la navigation, Ressources naturelles/Série eau n°13, Afrique*, p. 16.

¹² Agreement on the Cooperation for the Sustainable Development of the Mekong River basin, 1995. Chiang Rai, Thailand *ILM*, Vol. 34, p. 865, Article 9 of the Agreement reads as follows: 'On the basis of equality of right, freedom of navigation shall be accorded throughout the mainstream of the Mekong River without regard to the territorial boundaries, for transportation and communication to promote regional cooperation and to satisfactorily implement projects under this Agreement. The Mekong River shall be kept free from obstructions, measures, conduct and actions that might directly or indirectly impair navigability interfere with this right or permanently make it more difficult. Navigational uses are not assured any priority over other uses, but will be incorporated into any mainstream project. Riparians may issue regulations for the portions of the Mekong River within their territories, particularly in sanitary, customs and immigration matters, police and general security.' Though riparian to the Mekong River, China and Myanmar are not parties to this agreement.

¹³ See Article 7 of the Treaty between Argentina and Uruguay of 19 November 1973, *ILM*, vol.13, 1974, p. 251. Article 7 reads as follows: 'Each Party shall, permanently and in all circumstances, recognize the freedom of navigation throughout the river of vessels flying the other's flag'.

¹⁴ See Article 3 of the Amazon Cooperation Treaty, 3 July 1978, *UN Treaty Series*, vol.1202, 1980, pp. 76–83. Article 3 reads as follows: 'In accordance with and without prejudice to the rights granted by unilateral acts, to the provisions of bilateral treaties among the Parties and to the principles and rules of International Law, the Contracting Parties mutually guarantee, on a

rules of international law relating to international watercourses' in the agenda of the General Assembly (GA) meeting of 1970.¹⁸ The Finnish proposal was endorsed by the representatives of other Member States and the GA adopted resolution 2669, which entrusted the UN International Law Commission (ILC) – a subsidiary body of the GA – with the task of initiating a study on the law of non-navigational uses of international watercourses.¹⁹ The completion of the work of the Commission, which took almost three decades, led to the adoption of a multilateral treaty by the GA on 21 May 1997. This treaty, called the Convention on the Law of the Non-Navigational Uses of International Watercourses, covers all uses other than navigation.²⁰ The long duration of negotiations within the ILC attests to the difficulty of identifying and specifying principles and norms at the universal level.

In 2003, the ILC again considered the issue of international water law, this time dealing with the law applicable to transboundary groundwater resources. In 2008, it adopted the Draft Articles on the Law of Transboundary Aquifers.²¹ The shorter time frame might be explained by the fact that the Draft Articles rely heavily on the principles codified in the 1997 UN Watercourses Convention.

Both instruments are non-binding *per se*; the 1997 UN Watercourses Convention has not yet entered into force²² and the 2008 ILC Draft Articles on the Law of Transboundary Aquifers is not intended to become a treaty. However, the 1997 UN Watercourses Convention and the 2008 ILC Draft Articles on Transboundary Aquifers are important reference documents. These two instruments put forward an integrated approach focusing on the management and protection of water resources, which aims at being replicated and followed at the basin level. Both instruments codify universal principles such as the principles of equitable utilization and the no-harm rule, and contain provisions establishing a general obligation on riparian states to co-operate. According

to these instruments, such co-operation may be achieved through different means: setting up joint mechanisms and commissions of which riparians are members, regularly exchanging information and data, and notifying other riparian states about planned measures. The 1997 UN Watercourses Convention affirms the obligation on riparian states to exchange information concerning the conditions of the watercourse, particularly information of a hydrological, meteorological, hydrogeological or ecological nature.²³ It also establishes information exchange mechanisms for dealing with planned measures and deals with the obligations of notification and consultation.²⁴ The 2008 ILC Draft Articles set forth the general obligations on aquifer states to prevent, reduce and control the pollution of their transboundary groundwaters that may cause significant harm to other aquifer states.²⁵ Considering the fragility of and limited state of knowledge about aquifers, a precautionary approach is required.²⁶ The Draft Articles also affirm the obligations on aquifer states with regard to the protection of recharge and discharge zones that exist within their territory.²⁷ These areas are part of the aquifer and their proper management is crucial for protecting the quality of groundwater. What occurs in recharge and discharge zones has an impact on the aquifer. Industrial or agricultural activities might potentially affect the water of the aquifer. According to the Draft Articles, protection of the aquifer includes the control of these activities.²⁸

The interplay between universal and specific instruments

The principles and rules codified by the ILC in the 1997 UN Watercourses Convention and the 2008 Draft Articles on the Law of Transboundary Aquifers are based on state practice and earlier treaties as well as on regional and local realities. Reading the reports of the ILC's special rapporteurs on the Law of International Watercourses for Uses other than

18 See A. Tanzi and M. Arcari, 2001, *The United Nations Convention on the Law of International Watercourses*, London, Kluwer Law International, pp. 36–37.

19 See UN General Assembly Resolution 2669 (XXV), 8 December 1970. The General Assembly requested the ILC 'to take up the study of the law of the non-navigational uses of international watercourses with a view to its progressive development and codification'.

20 See S. McCaffrey, 2007, *The Law of International Watercourses*, Oxford, Oxford University Press.

21 ILC Draft Articles on the Law of Transboundary Aquifers, UN Doc. A/CN.4/L.724, 29 May 2008, *Yearbook of the International Law Commission* Geneva, United Nations Publications, p.19.

22 As of April 2009, the Convention had been signed by 22 States – of which only 16 either subsequently ratified (Germany, Portugal, South Africa, Jordan, Namibia, Norway, Syrian Arab Republic), accepted (Finland, The Netherlands), approved (Hungary), or acceded to it (Iraq, Lebanon, Libyan Arab Jamahiriya, Qatar, Sweden and Uzbekistan). Those 16 Parties fall short of the minimum number of 35 ratifications required for the entry into force of the Convention. Information available on: <http://untreaty.un.org/ENGLISH/bible/englishinternetbible/part1/chapterXXVII/treaty43.asp>.

23 See Articles 8–9 and 11–19 of the 1997 UN Watercourses Convention. See also Articles 8 (regular exchange of data and information) of the ILC Draft Articles on the Law of Transboundary Aquifers.

24 See Articles 11–19 of the 1997 UN Watercourses Convention

25 See G. Eckstein, 2007, Commentary on the U.N. International Law Commission's Draft Articles on the Law of Transboundary Aquifers, *Colorado Journal of International Environmental Law and Policy*, Vol. 18. Boulder Colorado, University of Colorado at Boulder, pp.537–610.

26 According to Article 12 'aquifer States shall take a precautionary approach in view of uncertainty about the nature and extent of a transboundary aquifer or aquifer system and of its vulnerability to pollution'.

27 The recharge zone is defined as 'the catchment area of rainfall water and the area where such water flows to an aquifer by runoff on the ground and infiltration through soil' and the discharge zone is defined as 'the zone where water originating from an aquifer flows to its outlets, such as a watercourse, a lake, an oasis, a wetland or an ocean'. Article 2 (g) and (h) of the ILC Draft Articles of Transboundary Aquifers.

28 Article 11 provides that states 'shall take appropriate measures to prevent and minimize detrimental impacts on the recharge and discharge processes'.

Navigation, the large quantity of regional and local practice cited for supporting universal principles is impressive.²⁹ Indeed, the ILC's work illustrates that principles of international law adopted at the universal level are based on either state practice and agreements concerning individual river basins, or on agreements of regional scope.

It also needs to be pointed out that the UN Watercourses Convention is a framework Convention. The fifth paragraph of the preamble to the Convention affirms 'the conviction that a framework convention will ensure the utilization, development, conservation management and protection of international watercourses and the promotion of the optimal and sustainable utilization thereof for present and future generations'. Being a framework convention, the UN Watercourses Convention should be used as a basis for the development of more specific instruments and, in fact, it does call for the adoption of more specific instruments. The Convention affirms that agreements concluded at the basin level will 'apply' and 'adjust' universal norms 'to the characteristics and uses of a particular watercourse or part thereof'.³⁰

The 1997 UN Watercourses Convention, although not yet in force, has already played an important role. Following the work of the ILC and the adoption of the 1997 UN Watercourses Convention, new agreements have been concluded or are currently being negotiated that draw heavily on its provisions. Examples are the Revised Protocol on Shared Watercourses in the Southern African Development Community (SADC) of 7 August 2000, which to a large extent copied parts of the UN Watercourses Convention;³¹ the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes (hereinafter the Helsinki Convention), adopted under the aegis of the United Nations Economic Commission for Europe;³² and the 1995 Agreement on the Cooperation for the Sustainable Development of the Mekong River basin – all of which were inspired by the ILC's works.³³

29 For instance, Special Rapporteur Stephen C. McCaffrey relies abundantly on regional and bilateral treaties for formulating the general duty of co-operation and the principles of notification and consultation. See 'Third Report on the Law of Non-Navigational Uses of International Watercourses', in *Yearbook of the International Law Commission*, 1987, Vol. II, (1).

30 Article 3.3. of the UN Watercourses Convention.

31 Revised Protocol on Shared Watercourses in the Southern African Development Community (SADC), August 2000, Windhoek, Namibia. <http://www.internationalwaterlaw.org/documents/regionaldocs/Revised-SADC-SharedWatercourse-Protocol-2000.pdf>. See also Salman M. A. Salman, 2001, Legal Regime for Use and Protection of International Watercourses in the Southern African Region: Evolution and Context, *Natural Resources Journal*, Vol. 41. Albuquerque, The University of New Mexico School of Law, pp. 981–1022.

32 Convention on the Protection and Use of Transboundary Watercourses and International Lakes, 1992, Helsinki, United Nations Publications, doc. ENWA/R.53 and Add.1, <http://www.unece.org/env/water/pdf/watercon.pdf>. As April 2009, the Convention had been signed by 36 States.

33 See Draft Articles on the Law of the Non-Navigational Uses of

Other agreements also build on the principles and rules codified in the 1997 Convention and go even further. This is the case for the 2003 Protocol for Sustainable Development of the Lake Victoria Basin,³⁴ which refers to the precautionary principle and the polluter-pays principle, and also for the 2002 Senegal River Water Charter, which recognizes the principles of sustainable development and the human right to water.³⁵ These two instruments hence go beyond the codification of universal norms in the 1997 UN Watercourses Convention.

Compared to universal and, to some extent, to regional instruments, agreements adopted at the basin level reflect the specific characteristics of the watercourse they apply to. An example of this is the 1995 Agreement on the Cooperation for the Sustainable Development of the Mekong River basin, whose drafting was inspired by the work of the ILC. This agreement relies on some universal principles such as the obligation to co-operate, the principle of reasonable and equitable utilization, and the prevention of harmful effects among riparian states. However, given that the Mekong basin is characterized by its sensitivity to the changes in its flow that might be affected by inter-basin diversion projects, the 1995 Mekong Agreement specifies the obligation to co-operate for maintaining the flows on the mainstream of the Mekong.³⁶ In addition, in order to prevent changes to the Mekong's flow, the parties to the 1995 Mekong agreement adopted an additional document in 2003 to regulate their co-operation: the Procedures for Notification, Prior Notification and Agreement.³⁷ This instrument takes into account general norms, i.e. norms on notification and consultation adopted at the universal level. At the same time, it sets down particular procedures for inter-basin diversion during the wet and dry seasons.³⁸

Universal instruments and norms have helped to shape the content of instruments adopted at the regional and basin levels. The latter, as we will see, are at the same time contributing to the emergence of universal norms.

International Watercourses, 1994, *Yearbook of the International Law Commission*, Vol. II, part 1. Geneva, United Nations Publications.

34 Protocol for sustainable development of Lake Victoria basin, 29 November 2003, Article 4 (f) and (g) http://www.eac.int/lvd/p/Protocol_LV_Basin.pdf.

35 The text of the Charter is available in L. Boisson de Chazournes, R. Desgagne, M. M. Mbengue and C. Romano, 2005, *Protection internationale de l'environnement*. Paris, Editions Pedone, pp. 297–312. See Article 4 of the Charter.

36 Article 6 provides: 'To cooperate in the maintenance of the flows on the mainstream from diversions, storage releases, or other actions of a permanent nature; except in the cases of historically severe droughts and/or floods (...)'.
37 Procedures for notification, prior notification and agreement, 13 November 2003, http://www.mrcmekong.org/download/agreement95/agreement_procedure.pdf

38 See Article 6 of the Procedures for notification, prior notification and agreement.

II. Regional and basin instruments: developing and fostering the development of new norms of international law

This second part of the paper will deal with regional trends in the law on transboundary freshwater resources, focusing on regional and basin instruments. These instruments contribute to the progressive development of universal principles, for instance, in dealing with environmental protection and issues of public participation or with the creation of river commissions. Regional and basin agreements have put into place numerous joint bodies on transboundary freshwater resources. These institutional mechanisms, which facilitate and ensure the regular exchange of information, are important tools for co-operation and for the prevention of water disputes between riparian states.

From universal to regional instruments and vice versa: the relationship between universal and regional codification endeavours

Universal codification leaves space for particularities in the formulation of norms on the regional level and it is important that the regional specificities are reflected and addressed in specific treaties. At the same time, regional instruments have been influenced by the ILC's negotiating process. The Helsinki Convention, as a framework agreement for transboundary water management and protection in the European region, is a case in point. This Convention was negotiated around the same time and adopted even before the UN Watercourse Convention. The negotiation processes of these two instruments informed each other. Indeed, the two Conventions reveal similarities with respect to pollution control, reasonable and equitable use and cooperation between riparian States.

However, the protection of transboundary rivers and lakes is addressed in a much more extensive manner by the Helsinki Convention than by the UN Convention. This can be attributed to the fact that the number of negotiating parties was smaller for the first, and that the issues of water management at stake in the UNECE region concern mainly the protection of water quality and of related ecosystems. In contrast, at the universal level, the definition of water sharing principles such as the equitable and reasonable utilisation and the obligation not to cause significant damage to other riparian states and their mutual relationship formed the core of the negotiating process.³⁹

The scope of the Helsinki Convention is wider than that of the UN Convention; the notion of transboundary waters covers 'any surface- or ground-waters which mark, cross or are located on

boundaries between two or more States'⁴⁰ and not only 'a system of surface- waters and ground-waters constituting, by virtue of their physical relationship, a unitary whole and normally flowing into a common terminus'⁴¹. The Helsinki Convention is also more attentive to the protection of the environment; it requires an ecologically rational management of waters and addresses the conservation and restoration of damaged ecosystems. It includes the precautionary and polluter-pays principles, applying them to the implementation of measures aimed at achieving the sustainable development of water resources, and provides a definition of the notion of 'best available technology', and thus allows for the taking into account of technological advances.⁴² These are all provisions which did not find a place in the 1997 UN Convention.

A distinctively 'European' feature of the Helsinki Convention is the emphasis that's put on public participation. The 1997 UN Convention only vaguely touches on the principle,⁴³ while the Helsinki Convention contains a set of obligations with respect to the provision of information to the public.⁴⁴ This concern for the public is also found in the two additional protocols of the Helsinki Convention which were subsequently adopted; the Protocol on Water and Health, from 17 June 1999, and the Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters, from 21 May 2003.⁴⁵

Another distinctive element of the 1992 Helsinki Convention deals with institutional mechanisms. This aspect will be dealt with later in more detail. At this stage, it can be stressed that according to this instrument, common management mechanisms play a crucial role. The approach of the Helsinki Convention was followed by the 2000 EU Water Framework Directive, requiring the setting up of river basin districts.⁴⁶ The fact that the EU is a party to the 1992 Helsinki Convention strengthens the

40 See Article 1.1 of the Helsinki Convention.

41 See Article 2 (a) of the 1997 UN Watercourses Convention.

42 See Article 1, par. 7, of the Convention and Annex I, titled 'Definition of the term "Best available technology"'.

43 See Article 32 of the 1997 Convention.

44 See Article 16 of the Helsinki Convention.

45 These Protocols allowed for pioneering an international law approach to issues relating to the security and safety of water supplies and to issues relating to civil liability with respect to water resources. The first Protocol, which entered into force in 2005, aims at promoting the protection of health and the human well-being through the improvement of water management and the fight against waterborne diseases. The second Protocol, which has been ratified by only one State (Hungary), as of April 2009, provides for a comprehensive civil liability scheme and a fast and adequate compensation regime in the case of damages caused by transboundary impact of industrial accidents on international waters.

46 See Article 3 of the Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a Framework for Community Action in the Field of Water Policy, OJ L 327, 22.12.2000, pp. 1-73.

39 See L. Boisson de Chazournes, *Eaux internationales et droit international: vers l'idée de gestion commune*, in L. Boisson de Chazournes, 2005, Salman M. A. Salman, (ed.), *Water Resources and International Law*. The Hague, Hague Academy of International Law and Kluwer Law International, pp. 3-43.

mutual supportiveness between these instruments. The Water Framework Directive contributes to the implementation of the obligations contained in the Helsinki Convention in a specific context.

An interesting element to be observed is that the parties to the Helsinki Convention have been willing to give this instrument a universal scope. In 2003, the parties adopted an amendment which aims at extending the Convention's geographic scope. According to the terms of the amendment, even non-member states of the Economic Commission for Europe may adhere to the Convention upon approval by the Meeting of the Parties.⁴⁷ The objective of this amendment was to regroup as many states as possible, most notably those adjacent to the region covered by the UNECE, under the framework, in order to extend the reach of the extensive regulatory framework of the Convention. It remains uncertain whether the aspiration of the Helsinki Convention towards more universality will meet approval; so far eleven States have deposited their instruments of acceptance.⁴⁸

The emulation between the work of the ILC, the work of the United Nations Economic Commission for Europe and the work of the European Union shows the importance of regulatory efforts at both the regional and universal levels. What is more, each and every effort has allowed for watercourse-specific agreements to be signed at basin level. The Protocol on shared watercourse systems in the Southern African Development Community (SADC) reveals a similar sort of interaction between the universal and regional levels. The 1995 Protocol on shared watercourse systems in the Southern African Development Community as well as its 2000 revised version have been influenced by the work of the ILC on freshwater resources. Just as with regional European instruments, the 2000 SADC Revised Protocol promotes the adoption of agreements on specific watercourses. Regional agreements constitute frameworks of norms of regional application that facilitate the development of specific watercourse conventions.

47 The amendment reads as follows: '3. Any other State, not referred to in paragraph 2, that is a Member of the United Nations may accede to the Convention upon approval by the Meeting of the Parties. In its instrument of accession, such a State shall make a declaration stating that approval for its accession to the Convention had been obtained from the Meeting of the Parties and shall specify the date on which approval was received. Any such request for accession by Members of the United Nations shall not be considered for approval by the Meeting of the Parties until this paragraph has entered into force for all the States and organizations that were Parties to the Convention on 28 November 2003'. Amendment to Articles 25 and 26 of the Convention, Third Meeting of the Parties, ECE/MP.WAT/14 <http://www.unece.org/env/documents/2004/wat/ece.mp.wat.14.e.pdf>.

48 As of April 2009, eleven States, namely Croatia, Czech Republic, Finland, Hungary, Latvia, Luxemburg, Moldova, Netherlands, Poland, Romania and Sweden, had deposited their instruments of acceptance of the amendment.

From universal and regional to basin agreements

Universal and regional efforts promote the negotiation and adoption of watercourse-specific agreements. At the basin level, the Helsinki Convention led to the adoption of, and acted as a frame of reference for, agreements such as the 1994 Convention on Cooperation for the Protection and Sustainable Use of the Danube River⁴⁹ and the 1999 Convention on the Protection of the Rhine.⁵⁰

Basin agreements can be based both on regional and universal codification efforts. The 1998 Treaty between Portugal and Spain on the Cooperation for the Protection and Sustainable Use of the Waters of the Luso-Spanish River Basins is a case in point.⁵¹ This agreement develops general principles related to the sharing of transboundary water resources contained in the 1997 UN Watercourses Convention. Given the scarcity of water on the Iberian Peninsula, the Luso-Spanish Convention establishes annual guaranteed stream flows between Spain and Portugal, adapting the principle of equitable sharing of transboundary water resources to local circumstances. At the same time, this basin agreement takes into account some regional features affirmed both in the 1992 Helsinki Convention and in the EC Water Framework Directive.⁵² Water quality aspects, the principle of environmental impact assessment as well as the obligation to inform the public rely on these European instruments and not on universal norms.

Moreover, some agreements have been revised in order to take into account the obligations set out in the EU Water Framework Directive.⁵³ Examples are the agreements on the Meuse and Scheldt rivers, both signed in 2002, which replace earlier treaties signed in Charleville-Mézières in 1994.⁵⁴ The new

49 Convention on Cooperation for the Protection and Sustainable Use of the Danube River, 29 June 1994, Sofia, International Commission for the Protection of the Danube River. http://europa.eu.int/eur-lex/fr/lif/reg/fr_register_151040.html.

50 Convention on the Protection of the Rhine, 12 April 1999, Bern, http://www.admin.ch/ch/f/rs/c0_814_284.html.

51 Treaty between Portugal and Spain on the Cooperation for the Protection and Sustainable Use of the Waters of the Luso-Spanish River Basin, Albufeira, 30 November 1998, <http://faolex.fao.org/watertreaties/index.htm>. See also the Protocol revising the Cooperation Convention on the Protection and Sustainable Use of Waters in the Portuguese-Spanish River Basins, 11 November 2008.

52 Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a Framework for Community Action in the Field of Water Policy, OJ L 327, 22.12.2000, p. 1–73. See L. Costa, J. Verges, B. Barraqué, 2008, Shaping a New Luso-Spanish Convention, Porto, Universidade Católica Portuguesa, Working Papers No.8/2008, <http://ideas.repec.org/p/cap/wpaper/082008.html>.

53 See G. Reichert, 2005, The European Community's Water Framework Directive: A Regional Approach to the Protection and Management of Transboundary Freshwater Resources?, in L. Boisson de Chazournes, Salman M. A. Salman, (ed.), *Water Resources and International Law*, The Hague Academy of International Law, The Hague, Kluwer Law International, pp. 429–472.

54 Agreement on the Meuse River, Ghent, 3 December 2002, <http://www.meuse-maas.be/files/files/FR1.pdf>; Agreement on the Scheldt River, Ghent, 3 December 2002, http://www.isc-cie.com/members/docs/documents/4_653.pdf.

agreements develop water quality principles, embody principles such as the precautionary principle and the polluter-pays principle, and strengthen the role of the river commissions in environmental matters.

A similar process of transcribing principles via regional and universal instruments into basin agreements took place in the case of the 2000 Revised Protocol on Shared Watercourse Systems in the SADC region. In 2002 Mozambique, South Africa and Swaziland adopted the Tripartite Interim Agreement for Co-Operation on the Protection and Sustainable Utilisation of the Water Resources of the Incomati and Maputo Watercourses.⁵⁵ General principles set out in the 1997 UN Watercourses Convention and in the 2000 SADC Revised Protocol on Shared Watercourses apply to this agreement. However, the 2002 agreement specifies the principles for the protection and sustainable utilization of the water resources of the Incomati and Maputo watercourses in more detail. For example, the agreement stresses the importance of the principle of environmental impact assessment in order to evaluate the likely impact of a planned measure on the environment and on human health⁵⁶ and the principle of the sustainable development of water resources;⁵⁷ issues which are of vital importance in that basin and which have not been dealt with in the SADC agreement.

The establishment of institutional mechanisms in regional and water-basin agreements

A specific feature of regional and basin agreements is the establishment of joint institutional mechanisms. While the 1997 UN Watercourses Convention and the ILC's Draft Articles on the Law of Transboundary Aquifers recommend only the establishment of joint institutional mechanisms,⁵⁸ states have been more audacious at the regional and basin levels in acknowledging the need for such institutions. This feature of regional and basin agreements in turn nurtures universal principles and contributes to the development of a general obligation to jointly manage freshwater resources, although it is still in a nascent status.

55 Tripartite Interim Agreement for Co-Operation on the Protection and Sustainable Utilisation of the Water Resources of the Incomati and Maputo Watercourses, 29 August 2002, <http://faolex.fao.org/watertreaties/index.htm>

56 See Article 13 and the definition of 'impacts' in Article 1.

57 See preamble and Articles 1 and 3. In particular, Article 3 recognizes the principle of sustainable utilization of water resources.

58 See Articles 8 and 24 of the UN Watercourses Convention and Articles 7 and 13 of the Draft Articles on the Law of Transboundary Aquifers. Article 13 reads as follows: 'Aquifer States shall establish and implement plans for the proper management of their transboundary aquifer or aquifer system in accordance with the provisions of the present draft Articles. They shall, at the request by any of them, enter into consultations concerning the management of the transboundary aquifer or aquifer system. A joint management mechanism shall be established, wherever appropriate'.

At the regional level, two instruments, the 1992 Helsinki Convention and the EU Water Framework Directive are particularly forward-looking and comprehensive in the way they deal with co-operation through institutional mechanisms.⁵⁹ While the 1992 Helsinki Convention binds states – the territories of which border or are crossed by the same transboundary waters – to create common institutional organs, the EU Framework Directive on Water establishes that Member States have to ensure that international rivers are assigned to an 'international river basin district'.⁶⁰ In addition, according to the 1992 Helsinki Convention, joint institutional mechanisms are entrusted with various tasks. For example, they have to draw up joint action programs, monitor and evaluate the quality of waters jointly, facilitate joint research and development activities, set up channels for the ongoing exchange of information, and set up warning mechanisms and systems for mutual assistance in emergency situations.⁶¹ The EU Framework Directive on Water also establishes that a river-basin district deals with both the qualitative and quantitative aspects of surface waters and groundwater resources providing for an integrated approach in the management of freshwater resources.

At the basin level, as far back as the nineteenth century, agreements led to the establishment of joint institutional mechanisms to deal with the regulation of navigational uses of rivers. The first such institutions, the Rhine Commission and the European Commission for the Danube, were created in 1815 and 1856 respectively.⁶² With the development of international law, joint mechanisms on watercourses have been entrusted with multiple tasks on non-navigational uses of rivers, including ecosystem protection and water quality management. In Europe, for instance, the 1994 Danube River Protection Convention established a joint

59 See Article 9 of the 1992 Helsinki Convention on the Protection and Use of Transboundary Watercourses and International Lakes.

60 Article 3 reads as follows: '1. Member States shall identify the individual river basins lying within their national territory and, for the purposes of this Directive, shall assign them to individual river basin districts. Small river basins may be combined with larger river basins or joined with neighbouring small basins to form individual river basin districts where appropriate. Where groundwaters do not fully follow a particular river basin, they shall be identified and assigned to the nearest or most appropriate river basin district. Coastal waters shall be identified and assigned to the nearest or most appropriate river basin district or districts. [...] 3. Member States shall ensure that a river basin covering the territory of more than one Member State is assigned to an international river basin district. At the request of the Member States involved, the Commission shall act to facilitate the assigning to such international river basin districts'. When rivers cross the EU boundaries, Member States concerned 'shall endeavour to establish appropriate coordination with the relevant non-Member States, with the aim of achieving the objectives of this Directive throughout the river basin district'. (Article 3.5).

61 See Articles 11 to 15 of the Helsinki Convention.

62 For other references on joint mechanisms of this type, see Third Report on the law of the Non-navigational uses of international watercourses, *Yearbook of the International Law Commission*, Vol. II, (1), 1990 Geneva, United Nations Publications, pp. 42–48.

mechanism entrusted with environmental tasks, the International Commission for the Protection of the Danube River. The 1999 Rhine Convention widened the environmental mandate of the Rhine Protection Commission, originally established in the 1950s. In Africa, the *Organisation pour la mise en valeur du fleuve Sénégal* established in 1972 by Senegal, Mali and Mauritania, with Guinea having become a party to it in 2007, as well as the Tripartite Permanent Technical Committee established in 1983 by South Africa, Swaziland and Mozambique, are examples of joint mechanisms that have environmental responsibility for ensuring sustainable management of freshwater resources.⁶³

Entrusting institutional mechanisms with environmental functions is important for the common management of transboundary freshwater resources and contributes to their sustainable development.

Also important is the vesting of water institutions with dispute-avoidance and dispute-settlement functions in order to prevent conflicts from emerging or to settle them in a peaceful manner. Dispute-settlement functions of joint river institutions, spelled out in an explicit manner, are still an exception in international water law. Among these rare cases, one can cite the 1909 Boundary Waters Treaty between the United States and Canada, which provides that 'questions or matters of difference' arising between riparians and 'involving the rights, obligations, or interests of either in relation to the other or to the inhabitants of the other, along the common frontier [...] shall be referred [...] to the International Joint Commission for examination and report', as a case in point.⁶⁴ Other examples of institutional mechanisms having dispute-settlement functions are the Administrative Commission on the Rio de la Plata (CARP), the Administrative Commission on the Rio Uruguay (CARU), and the Mekong River Commission. These joint bodies are entrusted with conciliatory functions.⁶⁵ Institutional mechanisms on freshwater resources can prevent disputes from arising and contribute to peaceful relations between states.

The acknowledgement of the contribution of institutional mechanisms to the maintenance of

peace should be strengthened at the universal level and states should be more courageous in asserting the obligation that all riparian states are under to create specific institutional mechanisms for ensuring trust, mutual respect and the willingness to settle their water disputes in a legal manner within the context of specific institutions. This may help to level the playing field among the riparian countries. In addition, states still tend to have a preference for endogenous approaches for settling their disputes in the context of water management.

III. The interplay between universal, regional and basin-specific norms

Of interest in the relationship between the universal norms and those norms agreed upon by states at the regional and basin levels is the manner in which these different sets of rules interact with each other. As with other areas of international law, the law applicable to transboundary freshwater resources includes the problematic of the articulation between general norms (*lex generalis*) and specific rules (*lex specialis*). Even if specific agreements have been concluded, general and universal norms continue to be applied. The principle of *lex specialis* finds application only where there is a conflict of norms.⁶⁶ Norms established at the universal, regional and basin levels have to be read together, and a systemic interpretation of international law has to be promoted.

Reading the norms that have been established at different levels in a conjoint way sheds light on some features of the development of the law applicable to transboundary freshwater resources. It allows for the identification of the process of how the different levels have been nurturing each other. As a result, all levels, universal, regional and local, characterize international water law. Reading norms in such a way as to isolate universal or regional norms from each other and from basin norms would endanger the harmonized development of international law as a whole. Agreements should not be understood and read in clinical isolation from each other. Harmonization of water practices and emulation between universal norms and specific instruments on transboundary water resources are happening and are to be promoted further.⁶⁷

The important role played by universal norms does not prevent specific agreements from being concluded in order to update or to provide a more specific interpretation of existing norms of a general

63 See Articles 19–23 of the 2002 Water Charter of the Senegal River and Article 8 of the 2002 Agreement on the Incomati and Maputo rivers.

64 Article IX of the Treaty relating to Boundary Waters, Washington 11 January 1909, <http://www.ijc.org/rel/agree/water.html>. See Caflisch, L., 2000, Règles générales du droit des cours d'eau internationaux, *op. cit.*, pp. 207–208. On the International Joint Commission, see Romano, C., 2000, *The Peaceful Settlement of International Environmental Disputes. A Pragmatic Approach*, Leiden, the Netherlands, Kluwer Law International, pp.264–265.

65 Article 68 of the Treaty between Argentina and Uruguay concerning the Rio de la Plata and the corresponding Maritime Boundary, 19 November 1973, *ILM*, vol.13, 1974, p. 251. See also Article 58 of the Statute of the Uruguay River, 26 February 1975, *UN Treaty Series*, Vol. 1295, p.340. Article 58 reads as follows: 'Any dispute which may arise between the Parties concerning the river shall be considered by the Commission at the proposal of either Party'. See also Article 34 of the 1995 Mekong Agreement.

66 On the *lex specialis* principle, see Conclusions of the work of the Study Group on the Fragmentation of International Law: Difficulties arising from the Diversification and Expansion of International Law, *Yearbook of the International Law Commission*, 2006, Vol. II, part 2 Geneva United Nations Publications.

67 See L. Boisson de Chazournes and M.M. Mbengue, A propos du principe du soutien mutuel: les relations entre le Protocole de Cartagena et les accords de l'OMC, 2007 *Revue générale de droit international public*, Vol. 111, n°4, 2007. Paris, Editions Pedone, pp. 829–862.

content. Indeed, it is important that basin-specific treaties, which allow for the consideration of particularities and characteristics of individual river basins and aquifers are concluded, as illustrated by the 1995 Mekong Agreement and the 1998 Treaty on the Luso-Spanish River Basins. The geographical or sociological particularities of each watercourse or aquifer are better taken care of by specific agreements, because these agreements are more likely to take the interests and concerns of riparian states into account. **General norms are aimed at giving direction for the creation, interpretation and application of specific agreements.**

One also has to stress that universal norms do play a crucial role where no specific agreement exists. There are still international watercourses, such as the Salween River in South East Asia, that are without an agreement regulating their management and protection. Moreover, some existing agreements are not inclusive as some of the respective co-riparian states are not parties to them. This is the case with the agreement on the Mekong River, which does not include China and Myanmar. Other agreements lack a comprehensive character and cover only some aspects of river-basin management; an example is the 2002 Agreement between Syria and Lebanon on the El Kébir River, which does not include water quality regulation.⁶⁸ In addition, the small number of existing agreements on groundwater resources renders universal norms on their management and protection particularly important. In all these cases the universal corpus of norms and principles plays an important role in terms of legal stability, clarity and predictability, even though its content is rather general.

68 'Convention entre le Liban et la Syrie pour le partage des eaux du bassin du Fleuve El-Kebir et la construction d'un barrage commun sur le cours principal du Fleuve', 20 April 2002, <http://www.semide-lb.org/common/pdf/72.pdf>.

Conclusion

As illustrated, universal principles and rules and those forged at the regional or basin level complement and nurture each other. When analyzing the work of the ILC, which led to the adoption of the 1997 UN Watercourses Convention and the 2008 ILC Draft Articles on Transboundary Aquifers, the process of transcription of regional and local principles to universal agreements is evident. At the same time, principles and norms that are universal in character provide a legal foundation of general scope in the field of transboundary water resources management. Where an agreement is in place, universal principles and rules can help to clarify its content. Where no agreement is in place, these principles and rules provide guidance on how sustainable management on shared freshwater systems should be carried out.

In conclusion, regional and basin agreements define the content of the 'rules of the game' more precisely and allow for the adjustment of the general framework to the specificities of a watercourse. It is important to highlight that the contemporary trends of the law applicable to freshwaters are multi-level oriented, with emulation between universal, regional and local levels. The relationships between universal norms and specific norms nurture the development of international law. In addition, universal law brings answers to some issues of a problematic nature, such as the absence of agreements for several international watercourses and groundwater resources. Yet, universal law is not sufficient in itself to ensure a sound management of freshwater systems. It needs to be complemented by regional and basin agreements.

World Water Assessment Programme side publications, 2009

During the consultation process for the third edition of the World Water Development Report, a general consensus emerged as to the need to make the forthcoming report more concise, while highlighting major future challenges associated with water availability in terms of quantity and quality.

This series of side publications has been developed to ensure that all issues and debates that might not benefit from sufficient coverage within the report would find space for publication.

The 21 side publications released so far represent the first of what will become an ongoing series of scientific papers, insight reports and dialogue papers that will continue to provide more in-depth or focused information on water-related topics and issues.

Insights

Freshwater and International Law: The Interplay between Universal, Regional and Basin Perspectives — *by Laurence Boisson de Chazournes*

IWRM Implementation in Basins, Sub-Basins and Aquifers: State of the Art Review — *by Keith Kennedy, Slobodan Simonović, Alberto Tejada-Guibert, Miguel de França Doria and José Luis Martín for UNESCO-IHP*

Institutional Capacity Development in Transboundary Water Management — *by Ruth Vollmer, Reza Ardakanian, Matt Hare, Jan Leentvaar, Charlotte van der Schaaf and Lars Wirkus for UNW-DPC*

Global Trends in Water-Related Disasters: An Insight for Policymakers — *by Yoganath Adikari and Junichi Yoshitani at the Public Works Research Institute, Tsukuba, Japan, for the International Center for Water Hazard and Risk Management (ICHARM), under the auspices of UNESCO.*

Inland Waterborne Transport: Connecting Countries — *by Sobhanlal Bonnerjee, Anne Cann, Harald Koethe, David Lammie, Geerinck Lieven, Jasna Muskatirovic, Benjamin Ndala, Gernot Pauli and Ian White for PIANC/ICIWaRM*

Building a 2nd Generation of New World Water Scenarios — *by Joseph Alcamo and Gilberto Gallopin*

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