

# International Water Law Volume I

*Edited by*

**Laurence Boisson de Chazournes**

*Professor of International Law  
University of Geneva, Switzerland*

**Mara Tignino**

*Senior Lecturer and Coordinator, Platform for International Water Law  
University of Geneva, Switzerland*

INTERNATIONAL LAW

**An Elgar Research Collection**  
Cheltenham, UK • Northampton, MA, USA

- 
8. Green Cross International (2000), 'Introduction', 'Sovereignty and Water', 'Interdependencies in the Water Cycle', 'The Value of Water', 'Water and Culture', 'Cooperation as Allocation', 'Cooperation as Salvation', 'Cooperation as Opportunity', 'Cooperation and Participation of Stakeholders', 'Framework for the Integrated Management of International Watercourses', 'A Human Right to Water?', 'Water and Security' and 'Water for Peace – Peace for Water' in *National Sovereignty and International Watercourses*, The Hague, the Netherlands: Green Cross International, Chapters 1–13, 16–59 242
9. Patricia K. Wouters (1992), 'Allocation of the Non-Navigational Uses of International Watercourses: Efforts at Codification and the Experience of Canada and the United States', *Canadian Yearbook of International Law* 1992, 30, December, 43–88 286
- PART III TRANSBOUNDARY GROUNDWATERS**
10. Gabriel E. 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*, 18 (3), 537–610 335
11. Owen McIntyre (2011), 'International Water Resources Law and the International Law Commission Draft Articles on Transboundary Aquifers: A Missed Opportunity for Cross-Fertilisation?', *International Community Law Review*, 13 (3), 237–54 409
12. Francesco Sindico (2011), 'The Guarani Aquifer System and the International Law of Transboundary Aquifers', *International Community Law Review*, 13 (3), 255–72 427
- PART IV ACCESS TO WATER, NON-STATE ACTORS AND WATER RESOURCES MANAGEMENT**
13. Carl Bruch (2005), 'Evolution of Public Involvement in International Watercourse Management', in Carl Bruch, Libor Jansky, Mikiyasu Nakayama and Kazimierz A. Salewicz (eds), *Public Participation in the Governance of International Freshwater Resources*, Chapter 2, Tokyo, Japan: United Nations University Press, 21–72 447
14. Catarina de Albuquerque (2010), 'Report of the Independent Expert on the Issue of Human Rights Obligations Related to Access to Safe Drinking Water and Sanitation', *United Nations General Assembly, Human Rights Council: Fifteenth Session, Document Number A/HRC/15/31*, New York, NY, USA: United Nations, 1–22 499
15. Christina Leb (2012), 'The Right to Water in a Transboundary Context: Emergence of Seminal Trends', *Water International*, 37 (6), October, 640–53 521

# Contents

---

<i>Acknowledgements</i>	ix
<i>Introduction</i> Laurence Boisson de Chazournes and Mara Tignino	xiii
<b>PART I NOTIONS AND PRINCIPLES</b>	
1. Eyal Benvenisti (1996), 'Collective Action in the Utilization of Shared Freshwater: The Challenges of International Water Resources Law', <i>American Journal of International Law</i> , <b>90</b> (3), July, 384–415	3
2. Laurence Boisson de Chazournes (2009), 'Freshwater and International Law: The Interplay between Universal, Regional and Basin Perspectives', <i>United Nations World Water Development Report 3: Water in a Changing World</i> , Paris, France: United Nations Educational, Scientific and Cultural Organization, 1–10	35
3. Charles B. Bourne (1996), 'The International Law Association's Contribution to International Water Resources Law', <i>Natural Resources Journal</i> , <b>36</b> (2), Spring, 155–216	45
4. Stephen C. McCaffrey (1996), 'The Harmon Doctrine One Hundred Years Later: Buried, Not Praised', <i>Natural Resources Journal</i> , <b>36</b> (3), Summer, 549–90	107
<b>PART II INTERNATIONAL WATERCOURSES AND LAKES</b>	
5. Maurizio Arcari (1997), 'The Codification of the Law of International Watercourses: The Draft Articles Adopted by the International Law Commission', <i>Anuario de Derecho Internacional</i> , <b>XIII</b> , 3–32	151
6. Lucius Cafilisch (1998), 'Regulation of the Uses of International Watercourses', in Salman M.A. Salman and Laurence Boisson de Chazournes (eds), <i>International Watercourses: Enhancing Cooperation and Managing Conflict, Proceedings of a World Bank Seminar, World Bank Technical Paper Number 414</i> , Chapter 1, Washington, DC, USA: World Bank, 3–16	181
7. United Nations (1996) 'Draft Articles on the Law of the Non-Navigational Uses of International Watercourses' in <i>Yearbook of the International Law Commission 1994, Volume II, Part Two: Report of the Commission to the General Assembly on the Work of Its Forty-Sixth Session</i> , Chapter III, Section D, New York, NY, USA and Geneva, Switzerland: United Nations, 89–135	195

- 
16. Stephen McCaffrey (1992), 'A Human Right to Water: Domestic and International Implications', *Georgetown International Environmental Law Review*, 5 (1), 1–24 535
  17. Dinah Shelton (2013), 'Water Rights of Indigenous Peoples and Local Communities', in Laurence Boisson de Chazournes, Christina Leb and Mara Tignino (eds), *International Law and Freshwater: The Multiple Challenges*, Chapter 5, Cheltenham, UK and Northampton, MA, USA: Edward Elgar Publishing, 69–94 559
  18. Attila Tanzi (2010), 'Reducing the Gap between International Water Law and Human Rights Law: The UNECE Protocol on Water and Health', *International Community Law Review*, 12 (3), 267–85 585
  19. Mara Tignino (2014), 'The Right to Water and Sanitation in Post-Conflict Legal Mechanisms: An Emerging Regime?', in Erika Weinthal, Jessica Troell and Mikiyasu Nakayama (eds), *Water and Post-Conflict Peacebuilding*, Part 5, Abingdon, UK and New York, NY, USA: Earthscan, 383–402 604

# Introduction

*Laurence Boisson de Chazournes and Mara Tignino*

---

Water is an essential resource that constitutes the lifeblood of the human environment. There is no substitute for water and people have relied on it in many different ways throughout the ages. Although water is the most abundant resource on Earth, only a small quantity – around 2.53 per cent – is fresh water that can be used for agriculture, human consumption and industrial purposes. Moreover, a significant part of this fresh water is locked up in ice or in groundwater resources. Some of the latter, because they are insignificant or have no way of being replenished by surface waters, can become non-renewable resources and risk being exhausted. While the size of the world's population has tripled over the last century, water consumption has increased by a factor of six. With this rate of exploitation, the non-renewable character of water resources (especially fossil aquifers not connected to surface waters) will come into sharp focus in the coming years.

Additionally, climate change has an impact on access to fresh water, be it from surface or underground resources. In 2014, the Intergovernmental Panel on Climate Change (IPCC) highlighted the impact of climate change on water resources and the risk of water scarcity, especially in regions that were already arid. More particularly, some specific aspects of climate change that may have an impact on the availability of water include warmer temperatures, as well as reduced rainfall in certain areas such as North Africa and the Middle East. In addition to these aspects, population growth, urbanization, increased use of water resources to meet food demands as well as changes in territorial management should also be underlined.<sup>1</sup>

This context highlights some of the challenges that the law applicable to water resources has to deal with. Water scarcity, competing water uses and rising tensions around the management of shared water resources between riparian States all prompt a reflection on the role of international water law. This area of law has mainly been concerned with the regulation of international watercourses, lakes and aquifers. However, as pointed out by the International Law Association (ILA) in its Berlin Rules on Water Resources of 2004, international water law is also concerned with water resources that are entirely situated within a State.<sup>2</sup> In fact, it is noteworthy that the principle of equitable and reasonable use – a cornerstone of international water law – has its origin in the jurisprudence of federal states.<sup>3</sup>

This research collection, *International Water Law*, aims to draw attention to areas where the contribution of international law to water issues has been particularly evident in recent decades and where it will continue to contribute. Therefore, following the parts devoted to the identification and analysis of the notions and principles governing the law on transboundary water resources, the collection focuses on the pillars of the management and protection of international watercourses, lakes and groundwaters. The subsequent parts deal with specific issues such as human rights, the protection of the environment, the relationship between water and international economic law, as well as water and international human rights law. These topics highlight the interaction between international water law and other areas of international

law, as well as the fact that international water law should be concerned with all water resources, whether they are transboundary or not. The relationship between the principles and norms of international water law and other areas of international law brings into sharp focus the need for a systemic interpretation of the law applicable to water resources.

## 1. Notions and Principles

The institutions and agreements of international law have had a decisive influence on the profile and regime of the management of fresh water resources since as early as the nineteenth century. Various notions and principles were developed in this context. Navigation and the development of infrastructure along watercourses have had an impact on the creation of rules and principles applicable to international watercourses and have shaped their content. Early examples of multilateral treaty practice in this field include the *Barcelona Statute on the Regime of Navigable Waterways of International Concern* of 1921 and the *Convention relating to Development of Hydraulic Power Affecting More than One State* of 1923, both of which were adopted under the aegis of the League of Nations.

At the end of the 1960s, international water law underwent significant developments. The regulation of the utilizations other than navigation had become the focus of interest for international law. The development of the world economy, concerns about the limited availability of water, as well as an increased awareness of the need to protect water resources prompted the adoption of the 1966 *Rules on the Uses of the Waters of International Rivers* – the so-called ‘Helsinki Rules’ – by the ILA<sup>4</sup> and the initiation of the work on this issue by the International Law Commission (ILC).<sup>5</sup> These initiatives, taken at the non-governmental and inter-governmental level, show the increasing need to clarify the law applicable to the use, management and protection of water resources. Cooperative use and management of transboundary water resources between riparian States progressively appeared as a crucial component of international water law.

Noteworthy is the fact that, over the time, States have changed their positions as to the applicable law on shared water resources. The famous US–Mexico dispute of 1895 is illustrative of different conceptions that were put forward in practice. On the one hand, the American Harmon doctrine – after the name of the Attorney General who first outlined it – asserted that the US had an unfettered right to dispose of the Rio Grande waters. On the other hand, Mexico responded that any act potentially altering either the quality or the quantity of the water reaching it constituted an infringement of its territorial integrity. However, the same Attorney General, a few years later, abandoned his approach on absolute sovereign rights. A treaty between Mexico and the United States was concluded in 1906 that includes the principle of the equitable use of transboundary waters of the Rio Grande.<sup>6</sup>

Interests akin to those at stake in the US–Mexico dispute were also handled in the *Lake Lanoux* arbitral award rendered in 1957. In this case, Spain was concerned about the diversion of the waters of Lake Lanoux planned by France and the impact of this project on its territory. The Arbitral Tribunal took this dispute between France and Spain as an opportunity to elucidate some of the cornerstone principles and notions of international water law, such as those relating to the consultation and negotiation among riparian States, the equitable and reasonable utilization of international watercourses and the obligation not to cause damage.<sup>7</sup>

These principles are in sharp contrast to the sovereign-driven approaches. Today, the doctrine of limited territorial sovereignty is widely accepted by States and constitutes the basis upon which the rules of the law of international watercourses have evolved.

## 2. International Watercourses and Lakes

Within the United Nations, efforts towards the design of a multilateral framework on international watercourses and lakes started in 1970 when the Finnish delegation proposed in the Sixth Committee to include an item entitled 'Progressive development and codification of the rules of international law relating to international watercourses' on the agenda of the General Assembly meeting.<sup>8</sup> In that same year the General Assembly adopted Resolution 2669, which entrusted the ILC with the task of initiating a study on the law of non-navigational uses of international watercourses. The completion of the ILC work, which took almost three decades, led to the adoption by the General Assembly of the *United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses* (hereinafter the UN Watercourses Convention) on 21 May 1997. This Convention entered into force on 17 August 2014. The long duration of negotiations within the ILC, as well as the long process of ratification, are evidence of the difficulty of identifying and specifying principles and norms at the universal level, dealing with the whole range of non-navigational uses of international watercourses and lakes.

The UN Watercourses Convention provides a relatively comprehensive list of principles related to the management and protection of shared water resources. They include the principle of equitable and reasonable utilization, the obligation not to cause significant damage, the obligation to cooperate, the protection of the environment and the procedures for dispute settlement. These principles are also enshrined in the 1992 *Convention on the Protection and Use of Transboundary Watercourses and International Lakes* (hereinafter the 1992 Helsinki Convention), adopted under the aegis of the United Nations Economic Commission for Europe (UNECE). In 2003, the Parties adopted an amendment to Articles 25 and 26 of the Helsinki Convention which enables States outside the UNECE region to accede to it. It entered into force in 2015, allowing the Helsinki Convention to gain universal scope.

The 1997 UN Watercourses Convention and the 1992 Helsinki Convention codify many principles of customary international law. They complement each other with respect to pollution control, reasonable and equitable use, and cooperation between riparian States. However, these instruments put emphasis on certain aspects such as the protection of the environment and the obligation of cooperation. The protection of water ecosystems is addressed in a more extensive manner by the Helsinki Convention than by the UN Watercourses Convention. The precautionary principle, the polluter-pays principle, and an ecosystem approach are all affirmed in the Helsinki Convention.<sup>9</sup> This Convention also contains the obligation that riparian Parties must enter into bilateral or multilateral agreements providing for the establishment of joint bodies.<sup>10</sup> These obligations do not find an explicit place in the UN Watercourses Convention. This focus can be attributed to the fact that there were fewer negotiating parties for the Helsinki Convention, and that the issues of water management at stake in the UNECE region concern mainly the protection of water quality and aquatic ecosystems. In contrast, in the UN Watercourses Convention the definition of the principle of

equitable and reasonable utilization and the obligation not to cause significant damage to other riparian States, as well as their relationship, was central to the negotiations. Access to water was a primary concern for many States in various regions of the world.

Both the UN Watercourses Convention and the Helsinki Convention must be supplemented by more precise legal regimes, which take into account the specificity of each water basin. In this context, it is interesting to note that both the UN Watercourses Convention and the works which led to its adoption (that is, the ILC *Draft Articles on the Law of the Non-Navigational Uses of International Watercourses* of 1994) have been taken into account for formulating international agreements. Examples include the *Revised Protocol on Shared Watercourses in the Southern African Development Community* (SADC) of 7 August 2000, which to a large extent mirrored parts of the UN Watercourses Convention, the *1995 Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin*, as well as the *Nile Cooperative Framework Convention* of 2010, all of which were inspired by the ILC's work. The 1992 Helsinki Convention has also 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 River* and the *1999 Convention on the Protection of the Rhine*. The 1997 UN Watercourses Convention and the 1992 Helsinki Convention constitute frameworks that leave space for the formation of particular norms at the basin level.

### 3. Transboundary Groundwaters

The law applicable to groundwater resources has received increasing attention in recent years, which is not unwelcome given that groundwater represents 97 per cent of available fresh water. Both the UN Watercourses Convention and the Helsinki Convention cover these resources, with the scope of the Helsinki Convention being wider than that of the UN Watercourses Convention. According to the Helsinki Convention, the notion of transboundary waters covers 'any surface or groundwaters which mark, cross or are located on boundaries between two or more States'.<sup>11</sup> With respect to groundwaters, both 'confined' and 'unconfined' aquifers are covered. For its part, the UN Watercourses Convention defines its scope of application using the term 'watercourse', defined as 'a system of surface waters and groundwaters constituting by virtue of their relationship a unitary whole and normally flowing into a common terminus'.<sup>12</sup> The UN Watercourses Convention thus only covers groundwaters that are connected to surface waters forming part of an international watercourse. At the time of the adoption of the Draft Articles in their second reading, the ILC adopted a resolution on international groundwaters calling on States to apply the principles of the Draft Articles to groundwaters.<sup>13</sup> In 2003, the ILC again considered the issue of the law applicable to transboundary groundwater resources, and in 2008, it adopted the *Draft Articles on the Law of Transboundary Aquifers*.<sup>14</sup> The UN General Assembly has since considered the Draft Articles in 2008, 2011 and 2013, and commended the Draft Articles to States 'as guidance for the adoption of regional agreements or arrangements for the proper management of transboundary aquifers'.<sup>15</sup>

The 2008 ILC Draft Articles set forth the general obligation on aquifer States to prevent, reduce and control the pollution of their transboundary groundwaters that may cause significant harm to other aquifer States. Considering the fragility and limited state of knowledge about

aquifers, a precautionary approach is required.<sup>16</sup> The Draft Articles also contain obligations which require aquifer States to protect the recharge and discharge zones that exist within their territory. These areas are part of the aquifer and their proper management is crucial for protecting the quality of groundwater<sup>17</sup> given that what occurs in recharge and discharge zones has an impact on the aquifer. In particular, industrial or agricultural activities could potentially affect the water of the aquifer. According to the Draft Articles, protection of the aquifer includes the control of these activities.

The *Model Provisions on Groundwater Resources*, adopted within the framework of the Helsinki Convention in 2012, reflect the language of the ILC Draft Articles.<sup>18</sup> The compatibility of the provisions with the ILC Draft Articles reinforces the law on groundwater resources.

In the same way as the 1997 UN Watercourses Convention, the 2008 ILC *Draft Articles on the Law of Transboundary Aquifers* is an important reference document. A case in point is the 2010 *Guaraní Framework Agreement*, which is the first international agreement taking into account the ILC Draft Articles. The Agreement on the Guaraní explicitly refers to the Draft Articles in its preamble. This approach is similar to the reference made to the UN Watercourses Convention in the preambles of the Charter of the Senegal Waters of 2002 and the Charter of the Niger Waters of 2008, as well as the Water Charter of the Lake Chad Basin of 2012.

Similarly to the UN Watercourses Convention, the Draft Articles on the Law of Transboundary Aquifers are also based on agreements developed at the regional and local level. The Franco-Swiss Agreement on the Genevese Aquifer of 1977, renewed in 2007, creating a Joint Exploitation Committee, was taken into consideration in the ILC's negotiating process. This constant process of interaction between legal frameworks at the universal, regional and local levels, illustrates the dynamic character of international water law.

#### **4. Access to Water, Non-State Actors and Water Resources Management**

The body of norms associated with the protection and management of fresh water was primarily developed in the context of inter-State relations. However, this *corpus juris* is becoming increasingly concerned with issues related to the rights and duties of non-State actors. The concept of human needs and the emerging recognition of the human right to water and sanitation have progressively found their place in the law applicable to transboundary water resources as well as with respect to other sources of water.

Both the UN Watercourses Convention and the ILC Draft Articles contain provisions that speak to human needs. Human needs are to be taken into consideration in applying both the principle of equitable and reasonable utilization and the prohibition on causing significant harm.<sup>19</sup> In the case of the notification of planned measures, human needs should also be taken into consideration for their impacts on riparian communities.

In the case-law of international tribunals too, human needs have been considered in the adjudication of disputes over watercourses. For example, in the *Kasikili/Sedudu* case, the Court reminded the Parties of their commitment to cooperate with each other regarding navigation and environmental protection.<sup>20</sup> In highlighting this, the International Court of Justice (ICJ) put a human focus on the issues concerning the delimitation of rivers. It recognized that social and economic interactions between the people living in the two co-riparian States must be preserved and encouraged.<sup>21</sup>

Over and above a mere cognizance of human needs, there has been in recent years a definite movement towards the recognition of the human right to water. Several international documents recognizing the right to water have been adopted. These include the General Comment No. 15 adopted by the UN Committee on Economic, Social and Cultural Rights in 2002<sup>22</sup> as well as the resolutions adopted by the UN General Assembly and the Human Rights Council in 2010. These resolutions call for the need to recognize and protect the right to access drinking water and sanitation. In particular, the General Assembly ‘recognizes the right to safe and clean drinking water and sanitation as a human right that is essential for the full enjoyment of life and all human rights’.<sup>23</sup> As such, the General Assembly links the right to water and sanitation to the right to life, and views it as a prerequisite for the realization of all human rights. On its side, the Human Rights Council ‘affirms that the human right to safe drinking water and sanitation is derived from the right to an adequate standard of living and inextricably related to the right to the highest attainable standard of physical and mental health, as well as the right to life and human dignity’.<sup>24</sup> This formulation of the right to water is in line with the General Comment of the Committee on Economic, Social and Cultural Rights on the right to water, adopted in 2002, which derives this right from other rights.<sup>25</sup>

It should be noted that the recognition of the right to water is not only present within human rights law. Agreements dealing with the law of international watercourses also recognize this right. This is the case with the London Protocol on Water and Health to the 1992 Helsinki Convention, the Charter of the Senegal Waters of 2002, the Charter of the Niger Waters of 2008 and the 2012 Water Charter of the Lake Chad Basin.

The effective realization of the human right to water cannot be isolated from health and environmental concerns, and a comprehensive approach is required that links the human right to water to other rights. Cases brought before human rights bodies and courts illustrate these linkages. The African Commission on Human and Peoples’ Rights,<sup>26</sup> the Inter-American Commission on Human Rights and the Inter-American Court of Human Rights<sup>27</sup> have all been active in this area, shedding light on various aspects of access to water and their linkages with various existing human rights. In this context, the treatment of indigenous populations deserves particular attention. The inter-American bodies on human rights have rendered important decisions. In its decision in *Xakmok Kasek Indigenous Community v. Paraguay*,<sup>28</sup> the Inter-American Court spoke of the right to access to water as part of a right to a decent existence.<sup>29</sup> More particularly with respect to access to and quality of water, it stated that: ‘the Court considers that the measures taken by the State ... have not been sufficient to provide the members of the Community with water in sufficient quantity and of adequate quality, and this has exposed them to risks and disease’.<sup>30</sup>

## 5. Water and International Economic Law

The relationship between the management and the protection of water resources and international economic law is increasingly important and presents several challenges. The analysis of this relationship raises the issue of the status of water, and two perspectives have emerged. According to some, water should be considered as an economic good in order to ensure efficient use; whereas, according to others, given its crucial link with life, water should be perceived as a public good and its regulation not driven by economic considerations.

The qualification of water has been the object of debate in international circles. Since the 1990s, there has been a tendency to describe water as an economic good. Principle Four of the *Dublin Statement on Water and Sustainable Development* of 1992 states that ‘water has an economic value in all its competing uses and should be recognized as an economic good’.<sup>31</sup> However, the Statement also declares that ‘within this principle, it is vital to recognize first the basic right of all human beings to have access to clean water and sanitation at an affordable price’.<sup>32</sup>

Agenda 21, adopted at the United Nations Conference on Environment and Development in Rio de Janeiro, also referred to the plurality of qualifications of water, stating that ‘integrated water resources management is based on the perception of water as an integral part of the ecosystem, a natural resource and a social and economic good’.<sup>33</sup> Although the economic facets of water are increasingly emphasized, there is a need to strike a balance between economic approaches with social, cultural and environmental aspects of water management, most notably in relation to the claim of a human right to water. Economic aspects of water management should not be isolated from social, environmental and human rights considerations. An example is a dispute brought to the Inter-American Commission of Human Rights in 2015.<sup>34</sup> In this dispute, which concerns pineapple plantations in Costa Rica, local communities claim that the use of herbicides has a negative impact on the quality of both surface and groundwater resources and has caused health problems. On this basis, the Siquirres community argues that there has been a violation of the human right to water by Costa Rica.<sup>35</sup>

The management of water should be considered in light of the increasing participation of the private sector in the distribution of water services. The desire to have efficient water services has encouraged States to get involved in privatization decisions. In most countries, water is public property and the right to use it belongs to the State. A State may enter into concession contracts with private companies to ensure the water supply. Issues relating to the privatization of public water are, at least in part, concerned with international investment law.

This rapidly evolving partnership between the public and the private sector could not be expected to operate without difficulties. It has, in some cases, resulted in contract termination and dispute settlement. In particular, during the last decade arbitration disputes over investments in water have arisen. Such disputes have allowed for third-party interests to be raised and petitions of *amici curiae* by non-governmental organizations (NGOs) in arbitration disputes have involved various issues related to human rights. These disputes expand arbitration beyond its focus on investors and States.<sup>36</sup>

International trade law may also affect the qualification of water. A case in point is the establishment of commercial water markets. While international trade agreements such as the *General Agreement on Tariffs and Trade* (GATT) and the *General Agreement on Trade in Services* (GATS) do not explicitly state whether fresh water is subject to their international trade regimes, some criteria – such as the degree of human intervention and valuation of price – have been utilized in clarifying the concept of a product for the purpose of qualifying tradable goods. Notwithstanding, there are differing schools of thought as to whether water, as a natural resource, can be the subject of trade rules. Some authors contend that a distinction should be made in this context between diversions of water resources and the transportation of water by pipelines. Other authors have emphasized that water, even if transferred on a large scale, is a natural resource and its management cannot be subject to trade rules. Indeed, the provisions of the GATT could be a constraint on managing a natural resource like water. In a

case where water would be the subject of a World Trade Organization (WTO) dispute, trade restrictive measures would have to be justified. This could be done on the basis of the need to protect human health or to conserve an exhaustible natural resource.<sup>37</sup>

As such, it should be noted that trade agreements provide for exceptions for natural resource use and essential products. For example, Articles XI and XX of the GATT contain exceptions which may find application with respect to water. Article XI may be invoked to justify quantitative restrictions on water exports under the condition that these measures are temporary and prevent a critical situation (for example, a drought, or water contamination caused by an industrial accident or a disaster).<sup>38</sup> Furthermore, Article XX allows a State to implement national measures which, under certain conditions, are inconsistent with other provisions of this instrument. Under paragraph (b) of Article XX, a State may adopt a measure 'necessary to protect human, animal or plant life or health', and under paragraph (g) a State may maintain a measure 'relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption'. The conformity assessment of a measure to Article XX is linked closely to the facts underlying a dispute and the dispute settlement bodies of the WTO have discretion in this respect. The absence of case law in this area means it is difficult to know how these provisions would be applied in a dispute over water.

## 6. Water and the Protection of the Environment

Principles of international environmental law have progressively made their way into the management of fresh water resources, notably so since the Stockholm Conference of 1972. Many of the principles articulated in the 1972 Declaration on the Human Environment<sup>39</sup> and in the 1992 Rio Declaration on Environment and Development<sup>40</sup> have become guiding standards for international agreements regulating the protection and management of fresh water resources.

The *Draft Principles of Conduct in the Field of the Environment for the Guidance of States in the Conservation and Harmonious Utilization of Natural Resources Shared by Two or More States* adopted by the United Nations Environment Programme (UNEP) Governing Council and endorsed by the UN General Assembly in 1979 have also had a significant impact in increasing the international awareness about the need to protect shared water resources.<sup>41</sup> The Draft Principles encourage States sharing a natural resource, such as an international watercourse or a transboundary aquifer, to cooperate in the field of the environment, and call upon States sharing natural resources to conclude bilateral and multilateral agreements on the protection of these resources.<sup>42</sup>

Since the 1990s, the number of international water agreements that concern the protection of riverine ecosystems and water quality has seen a remarkable increase. Joint commissions have been established through agreements on fresh water resources in order to deal with the sources and nature of pollution and to put in place measures to fight against contamination. The *Great Lakes Water Quality Agreement* between the United States and Canada of 1978, as amended in 1983, 1987 and 2012, the *Agreements concerning the protection of the Meuse and the Scheldt* of 1994, as amended in 2002, and the *Convention on Cooperation for the Protection and Sustainable Use of the Danube* of 1994, are just some of the numerous examples that can

be cited in this context. 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. Institutions are charged with monitoring and coordinating activities related to environmental and ecosystem protection of transboundary water resources.<sup>43</sup> Furthermore, international organizations with a regional scope such as the United Nations Economic Commission for Europe (UNECE) and the Council of Europe have also been active in promoting measures against pollution since the end of the 1960s.<sup>44</sup>

Multilateral environmental agreements (MEAs) also contribute to the protection of water resources. Among them are the 1971 *Convention on Wetlands of International Importance especially as Waterfowl Habitat*, the 1972 *Convention concerning the Protection of the World Cultural and Natural Heritage*, the 1992 *Convention on Biological Diversity*, the 1992 *United Nations Framework Convention on Climate Change* and the 1992 *Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, particularly in Africa*. The decisions adopted by the Conferences of the Parties (COPs) established by these treaties may help to clarify the rights and obligations of States in relation to the management and protection of water resources. In this context, the COP of the Ramsar Convention (the *Convention on Wetlands of International Importance, especially as Waterfowl Habitat*) has adopted, since 1996, a number of guidance notes on water resources management for Parties to the Convention. They include guidelines for the allocation and management of water for maintaining the ecological functions of wetlands, guidelines for the management of groundwater to maintain wetland ecological character, and consolidated guidance for integrating wetland conservation and wise use in river basin management.<sup>45</sup> Incidentally, an investment claim was brought against Barbados in which the claimant alleges Barbados's failure to enforce the obligations deriving from the Ramsar Convention on Wetlands.<sup>46</sup> The outcome of this dispute will be particularly interesting in terms of the relationship between international investment law and international environmental law.

## 7. Water and Institutional Cooperation

Institutions of varied natures and with diverse mandates are involved in the protection and management of fresh water resources. They include basin organizations and commissions but also international organizations such as the United Nations Educational, Scientific and Cultural Organization (UNESCO) and UNECE. For example, the International Hydrological Programme (IHP) of UNESCO was involved in the preparation of the ILC *Draft Articles on the Law of Transboundary Aquifers*.<sup>47</sup>

The role of international institutions in the management of fresh water resources emerged a long time ago. Since the nineteenth century, basin organizations and commissions have been perceived as important institutional frameworks for dialogue between riparian countries. Examples are the Central Commission for Navigation on the Rhine created in 1815 and the Danube Commissions set up in 1856. In some cases, the scope of jurisdiction of basin organizations has been the source of disputes between member States. An example is the *Case relating to Territorial Jurisdiction of the International Commission of the River Oder* of 1929.<sup>48</sup> In more recent times, the *Pulp Mills on the Uruguay River* case has brought into focus

the role of basin organizations in assessing the environmental impact of a planned measure. In its decision of 2010, the ICJ stressed that:

the environmental impact assessments which are necessary to reach a decision on any plan that is liable to cause significant transboundary harm to another State must be notified by the Party concerned to the other party, through [the Administrative Commission of the River Uruguay] CARU, pursuant to Article 7, second and third paragraphs, of the 1975 Statute.<sup>49</sup>

Over time, the protection of the environment has become an important field of activity for basin organizations and commissions. In Europe, for instance, the 1994 *Convention on the Cooperation for the Protection and Sustainable Uses of the Danube* established a joint mechanism entrusted with environmental tasks, known as the Commission on the Protection of the Danube River (ICPDR). The 1999 *Convention on the Protection of the Rhine River* widened the environmental mandate of the Rhine Protection Commission, which had been 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 becoming a Party in 2007) and the Tripartite Permanent Technical Committee (established in 1983 by South Africa, Swaziland and Mozambique) are examples of joint mechanisms that have environmental tasks to ensure the sustainable management of fresh water resources.

Basin organizations and commissions also play an important role in the prevention and settlement of disputes. An example is the International Joint Commission established by the 1909 Boundary Waters Treaty between Canada and the United States. In its Article IX the Parties agreed that any 'questions or matters of difference arising between them involving the rights, obligations or interests of either ... along the common frontier' shall be referred to the International Joint Commission whenever either Party requests it. The 1997 UN Watercourses Convention has taken note of this practice and underlines this role, stating that Parties may make use of 'any joint watercourse institutions that may have been established by them' if a dispute arises.<sup>50</sup>

Case law has also underscored the significance of joint commissions in the resolution of international water disputes. In the *Pulp Mills* case, the ICJ, in underlining the 'central role in the 1975 Statute'<sup>51</sup> of the Administrative Commission of the River Uruguay (CARU) and referring to the text of the 1975 Statute on the River Uruguay, declared that 'at the proposal of either party, the Commission can act as a conciliation body in any dispute which may arise between the Parties'.<sup>52</sup> Moreover, in the case on the *Indus Waters Kishenganga Arbitration* between India and Pakistan, an arbitral tribunal pointed out that the Permanent Indus Commission put into place by the 1960 Indus Waters Treaty is 'the appropriate mechanism for the exchange of data and for the monitoring of the Parties' uses on tributaries of the Indus River'.<sup>53</sup> In this context, the Tribunal recalled that the Indus Commission has the right to 'undertake promptly, at request of either Commissioner, a tour of inspection of such works or sites on the Rivers as may be considered necessary by him for ascertaining the facts connected with those works or sites'.<sup>54</sup> Given the important functions conferred to the Indus Commission, the Tribunal concluded that it was not necessary 'to mandate a special monitoring regime in the implementation of this Award'.<sup>55</sup>

## 8. International Peace and Security and Dispute Settlement

Competing demands over fresh water resources may result in tensions. In some cases, disputes arise between users of fresh water whose requirements and specific uses conflict. Dispute settlement mechanisms increasingly attract a wide variety of actors, including international organizations, private companies and individuals. The nature of the disputes is also varied, and reflects the multiple values attached to water resources. They can concern quantity and quality aspects, the delivery of goods and services, or they can be linked to investment activities. Almost all dispute settlement bodies have dealt with water issues, which illustrates their complex and cross-cutting nature. Water disputes are often embedded in wider disputes involving issues of pollution abatement, investment protection, human rights or trade policies.

Water disputes have been brought to the Permanent Court of International Justice (PCIJ) and the ICJ since their establishment.<sup>56</sup> Moreover, they have also been brought before inter-State arbitration tribunals. The *Lake Lanoux* case between France and Spain and the case concerning the application of the 1976 *Convention on the Protection of the Rhine against Pollution by Chlorides* and its 1991 Additional Protocol<sup>57</sup> submitted by France and the Netherlands to the Permanent Court of Arbitration (PCA) provide examples of the resort to arbitration in water-related disputes. An arbitration also arose under the 1960 Indus Waters Treaty in May 2010 and the final award was rendered in December 2013.<sup>58</sup>

The Indus Waters Treaty is an outcome of a mediation of the World Bank between India and Pakistan during the 1950s. Indeed, in 1951, the President of the Bank wrote to the Prime Ministers of both India and Pakistan offering the Bank's 'good offices'. Both countries accepted the offer and nine years later, on 19 September 1960, the Indus Waters Treaty was signed by India and Pakistan, with the Bank signing for the purposes specified in certain Articles and Annexures.<sup>59</sup> Since then, the provisions on the differences and disputes have been tested by the Parties. In 2005, Pakistan approached the World Bank stating that a 'difference' had arisen with India with regard to the Baglihar hydropower plant which India is constructing on the Chenab River. This was the first time since the Treaty was concluded in 1960 that the Bank had been called upon by one of the Parties to exercise its role and responsibilities under the Treaty with regard to the settlement of a difference or a dispute. In February 2007, the Neutral Expert delivered the final decision on the Baglihar dispute, determining that both States' 'rights and obligations ... should be read in the light of new technical norms and new standards as provided by the Treaty'.<sup>60</sup> This means that the Baglihar dispute was addressed with a cognizance of the technical standards for hydropower plants as they have been developed in the first part of the twenty-first century, and not as perceived in the 1950s when the Treaty was negotiated.

For its part, the Tribunal in the Partial and Final Awards on the *Indus Waters Kishenganga Arbitration* rendered respectively in February 2013 and December 2013 emphasized the importance of taking into account customary principles of international environmental law when interpreting treaties concluded before the development of that law.<sup>61</sup> The customary obligation not to cause significant damage and the principle of sustainable development played an important role in fixing the minimum environmental flow that has to reach Pakistan.<sup>62</sup>

Water disputes involve both State and non-State actors. The latter increasingly submit claims concerning access to water, health protection and environmental issues to international

dispute settlement mechanisms. Procedures in which non-State actors are entitled to participate can be found mainly in the field of investment law and human rights law. Under international investment law, in particular multilateral and regional treaties such as the 1966 *Convention on the Settlement of Investment Disputes between States and Nationals of Other States* (ICSID) and Chapter 11 of the 1994 *North American Free Trade Agreement* (NAFTA) dealing with investment protection, private parties may challenge a State in an international forum.

Human rights instruments can also offer avenues for settling water disputes, providing a human rights-based approach in the settlement of water-related issues. Compliance procedures adopted under the aegis of agreements such as the *Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters* of 1998 (hereinafter the Aarhus Convention) and the *London Protocol on Water and Health* of 1999 to the 1992 Helsinki Convention are all open to non-State actors.

In addition to judicial and arbitration procedures, several investigatory mechanisms created by international financial institutions (IFIs)<sup>63</sup> and compliance mechanisms established under environmental agreements have dealt with issues related to water resources. As an example, a dispute was submitted by 'Ecopravo Lviv', an NGO based in Ukraine and Romania, to the Aarhus compliance mechanism regarding the Bystroe channel project located in the Danube Delta on Ukrainian territory. Ecopravo Lviv and Romania protested against the construction of the channel, invoking violations of both the Aarhus Convention and the 1991 *Espoo Convention on Environmental Impact Assessment in a Transboundary Context*. The Compliance Committee of the Aarhus Convention established that Ukraine had not complied with obligations with respect to access to information and participation of the public in the environmental impact assessment.<sup>64</sup> Since 2005, the Meeting of the Parties of the Aarhus Convention has asked Ukraine to take steps to come into compliance with the provisions of the Aarhus Convention and has also issued warnings, which will be lifted if the Party adopts measures in conformity to the Aarhus Convention.<sup>65</sup>

This multiplication of dispute settlement mechanisms and procedures has an impact on the resolution of water disputes. It raises the issue of potential conflicts between different interpretations of specialized fields of law (for example, environmental and trade law). Access to varied dispute settlement procedures has made courts and tribunals more sensitive to each other's existence. With increased sources of case law, decisions have tended to include more diverse cross-references to other courts' and tribunals' decisions, and this has helped to strengthen the coherent interpretation and application of fresh water law in water disputes.<sup>66</sup> These cross-references also concern compliance and investigatory mechanisms. One case is *Albania: Power Sector Generation and Restructuring Project* which concerns a World Bank-funded construction of a thermal power plant and an energy park near the city of Vlora in Albania, brought in 2007 before the World Bank Inspection Panel after having been submitted to the Aarhus Compliance Committee in 2005. The World Bank Inspection Panel, in its investigative report of 2009, makes reference to the decision of the Aarhus Compliance Committee and concludes that the 'management did not ensure that project preparation activities complied with the consultation and public participation requirements of the Aarhus Convention' and that this was not in accordance with the operational policies of the World Bank.<sup>67</sup>

The 1997 *United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses* provides for dispute settlement mechanisms under the terms of

Article 33. Where negotiations or any other means of dispute settlement provided for in the Convention have failed, 'the dispute shall be submitted, at the request of any of the parties to the dispute, to impartial fact-finding'.<sup>68</sup> In the latter case, the procedure can be invoked by any of the Parties. This is a significant provision for solving water disputes, as a Party to a dispute will have the right to request the establishment of the fact-finding Commission unilaterally and the Commission will be able to recommend an equitable solution for the dispute that the Parties of the dispute will have to consider in good faith.<sup>69</sup>

One of the main concerns regarding the possibility of conflict over water is the occurrence of armed hostilities between States. Hostilities may take several forms, such as intra-State armed conflicts, national violence, skirmishes or the occupation of a territory. In looking at the linkage between water and international peace and security, one may consider water not only as a factor triggering war but also as a weapon and an objective of armed conflict. Limitations on access to water and the environmental damage to water resources caused by armed conflict endanger the security of a population as a whole, rendering the return to peace longer and more difficult in countries affected by war. The 1977 Additional Protocols to the Geneva Conventions contain specific rules for protecting water during an armed conflict. Notably, the poisoning of water as a means of combat is prohibited, as is the destruction of dams and reservoirs that provide access to water for civilian populations. Further still, through the provision on the destruction of indispensable goods for their survival, civilians are protected against actions conducive to famine.<sup>70</sup>

In times of armed conflict, international human rights law can enhance the protection of access to water. This was emphasized in the case of *Sudan Human Rights Organization v. Sudan*. The decision of the African Commission on Human and Peoples' Rights makes reference to the General Comment No. 14 on the Right to Health of the Committee on Economic, Social and Cultural Rights.<sup>71</sup> In a situation of occupation under international humanitarian law, human rights such as the right to water also find application and, through its Advisory Opinion on the *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory*, the ICJ has reinforced this point.<sup>72</sup>

The law on transboundary water resources also contributes to ensuring basic water needs. This is the case with the principle of equitable and reasonable utilization, as well as the obligation not to cause a significant damage to the environment of the other watercourse States, for example. Watercourse regimes, such as the regimes of the Senegal, Danube, Mekong or Indus rivers, have demonstrated their usefulness in contributing to the protection of water in times of armed conflict as well as in facilitating dialogue.<sup>73</sup> The institutional mechanisms established by these agreements appear to be essential for maintaining cooperation between riparian States, even in the event of armed conflict.

## Notes

1. Intergovernmental Panel on Climate Change (IPCC), *Fifth Assessment on Climate Change, Impacts, Adaptation, and Vulnerabilities*, 2014, <http://ipcc-wg2.gov/AR5/report/> (last accessed 22 October 2015).
2. International Law Association, *Berlin Conference on Water Resources Law*, 2004, [http://internationalwaterlaw.org/documents/intldocs/ILA\\_Berlin\\_Rules-2004.pdf](http://internationalwaterlaw.org/documents/intldocs/ILA_Berlin_Rules-2004.pdf) (last accessed 22 October 2015).

3. See L. Caflisch, 'La Convention du 21 mai 1997 sur l'utilisation des cours d'eau internationaux à des fins autres que la navigation', *Annuaire français de droit international*, vol. 43, 1997, p. 756.
4. See International Law Association, *Report of the Fifty-Second Conference*, 1966, Helsinki, p. 506.
5. See *infra* on the International Law Commission.
6. See the *Convention on the Equitable Distribution of the Waters of the Rio Grande* between Mexico and the United States, 21 May 1906, <http://www.ibwc.gov/Files/1906Conv.pdf> (last accessed 22 October 2015). See also the *Treaty for the Utilization of Waters of the Colorado and Tijuana Rivers of the Rio Grande*, 14 November 1944, <http://www.ibwc.state.gov/Files/1944Treaty.pdf> (last accessed 22 October 2015).
7. *Lake Lanoux* case (Spain v. France) (16 November 1957), *Report of International Arbitral Awards*, 12 (1957).
8. See A. Tanzi and M. Arcari, *The United Nations Convention on the Law of International Watercourses: A Framework for Sharing*, The Hague: Kluwer Law International, 2001, pp. 36–7.
9. Article 2.5 of the Helsinki Convention.
10. Article 9 of the Helsinki Convention.
11. Article 1.1 of the Helsinki Convention.
12. Article 2.2 (a) of the UN Watercourses Convention.
13. Resolution on Confined Transboundary Groundwater, *Yearbook of the International Law Commission*, 1994, Vol. II (Part Two), p. 135.
14. Draft Articles on the Law of Transboundary Aquifers, *Official Records of the General Assembly, Sixty-third Session, Supplement No. 10(A/63/10)*, 2008, [http://legal.un.org/ilc/texts/instruments/english/draft\\_articles/8\\_5\\_2008.pdf](http://legal.un.org/ilc/texts/instruments/english/draft_articles/8_5_2008.pdf) (last accessed 22 October 2015).
15. UN General Assembly, Resolution 68/118, 16 December 2013.
16. Article 12 of the ILC Draft Articles reads as follows: 'Aquifer States shall, individually and, where appropriate, jointly, prevent, reduce and control pollution of their transboundary aquifers or aquifer systems, including through the recharge process, that may cause significant harm to other aquifer States. 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'.
17. According to Article 11 of the ILC Draft Articles: '1. Aquifer States shall identify the recharge and discharge zones of transboundary aquifers or aquifer systems that exist within their territory. They shall take appropriate measures to prevent and minimize detrimental impacts on the recharge and discharge processes'.
18. UNECE, *Model Provisions on Groundwater Resources*, [http://www.unece.org/fileadmin/DAM/env/water/publications/WAT\\_model\\_provisions/ece\\_mp.wat\\_40\\_eng.pdf](http://www.unece.org/fileadmin/DAM/env/water/publications/WAT_model_provisions/ece_mp.wat_40_eng.pdf) (last accessed 22 October 2015).
19. L. Boisson de Chazournes, *Fresh Water in International Law*, Oxford, UK: Oxford University Press, 2013, p. 147.
20. According to the Kasane Communiqué of 24 May 1992 agreed by the Presidents of Namibia and Botswana 'the Parties have undertaken to one another that there shall be unimpeded navigation for craft of their nationals and flags in the channels of Kasikili/Sedudu Island. As a result, in the southern channel of Kasikili/Sedudu Island, the nationals of Namibia, and vessels flying its flag, are entitled to, and shall enjoy, a treatment equal to that accorded by Botswana to its own nationals and to vessels flying its own flag. Nationals of the two States, and vessels, whether flying the flag of Botswana or of Namibia, shall be subject to the same conditions as regards navigation and environmental protection. In the northern channel, each Party shall likewise accord the nationals of, and vessels flying the flag of, the other, equal national treatment'. *Case Concerning Kasikili/Sedudu* (Botswana v. Namibia), Judgment of 13 December 1999, *ICJ Reports 1999*, para. 102.
21. *Ibid.*
22. UN Committee on Economic, Social and Cultural Rights (CESCR), *General Comment No. 15: The Right to Water (Articles 11 and 12 of the Covenant)*, 20 January 2003, E/C.12/2002/11.
23. Resolution 64/292 of the General Assembly, 3 August 2010, para. 1.
24. Resolution 15/L4 of the Human Rights Council, 24 September 2010, para. 3.
25. According to the General Comment of the Committee on Economic, Social and Cultural Rights, the right to water is derived from the right to an adequate standard of living, and is 'inextricably

- related to the right to the highest attainable standard of health and the rights to adequate housing and adequate food'. UN Committee on Economic, Social and Cultural Rights (CESCR), *General Comment No. 15: The Right to Water (Articles 11 and 12 of the Covenant)*, 20 January 2003, E/C.12/2002/11, para 3.
26. See *Centre on Housing Rights and Evictions (COHRE) v. Sudan*, Communication 296/2005, ACHPR/LPROT/COMM/279/03 and 296/05/674.09 African Commission of Human Rights Decision of 29 July 2009, paras 207–12.
  27. See *Yakye Axa Indigenous Community v. Paraguay*, IACHR Judgment of 17 June 2005, 85–6, para 167; *Sawhoyamaxa Indigenous Community v. Paraguay*, IACHR Judgment of 29 March 2006, 83, para 164; *Xákmok Kásek. Indigenous Community v. Paraguay*, IACHR Judgment of 24 August 2010, 44–5, para 195.
  28. *Xakmok Kasek v. Paraguay*, IACHR Judgment of 24 August 2010.
  29. It underlined that: '174. The culture of the members of the indigenous communities corresponds to a specific way of life, of being, seeing and acting in the world, constituted on the basis of their close relationship with their traditional lands and natural resources, not only because these are their main means of subsistence, but also because they are an integral element of their cosmology, their spirituality and, consequently, their cultural identity', *ibid.*, para 174.
  30. *Ibid.*, para 196.
  31. Dublin Statement on Water and Sustainable Development, International Conference on Water and the Environment, Dublin, January 1992, Principle 4.
  32. *Ibid.*
  33. Agenda 21, Conference of the United Nations on Environment and Development (Rio de Janeiro, June 1992), para. 18.8.
  34. 'Water contamination case heads to Inter-American Commission of Human Rights', 20 March 2015.
  35. Noteworthy is the fact that the Special Rapporteur on the human right to water and sanitation indicated the health problems related to the use of agrochemicals in the report of her mission in Costa Rica in 2009 and recommended the adoption of a legislation regulating the use of pesticides in agricultural production. Report of the Independent Expert on the human right to water and sanitation, Mission to Costa Rica, 2009, paras 71 and 85.
  36. In a decision assessing the appropriateness of an *amicus curiae* submission, an arbitral tribunal of the International Center for the Settlement of Investment Disputes (ICSID) stated that: 'The factor that gives this case particular public interest is that the investment dispute centers around the water distribution and sewage systems of a large metropolitan area, the city of Buenos Aires and surrounding municipalities. Those systems provide basic public services to millions of people and as a result may raise a variety of complex public and international law questions, including human rights considerations'. *Aguas Argentinas S. A. Suez, Sociedad General de Barcelona S.A. and Vivendi Universal S.A. v. The Argentine Republic*, Order in Response to a Petition for Transparency and Participation as Amicus Curiae, ICSID Case No. ARB/03/19 of 19 May 2005, para. 19. This position was followed by an Arbitral Tribunal composed of the same members in a decision of March 2006 concerning a petition to submit an *amicus* brief; see *Aguas Provinciales de Santa Fe S.A. Suez, Sociedad General de Barcelona S.A. and InterAguas Servicios Integrales del Agua S.A. v. The Argentine Republic*, Order in Response to a Petition for Transparency and Participation as Amicus Curiae, ICSID Case No. ARB/03/19 of 17 March 2006, para. 19.
  37. Three disputes brought before the WTO dispute settlement mechanisms help to clarify the relationship between natural resources and international trade law. See *United States – Final Countervailing Duty Determination with Respect to Certain Softwood Lumber from Canada*, Report of the Appellate Body adopted on 17 February 2004 (WT/DS257/AB/R); *China – Measures Related to the Exportation of Various Raw Materials*, Report of the Appellate Body adopted on 22 February 2012 (WT/DS394/AB/R; WT/DS395/AB/R; WT/DS398/AB/R); and *European Communities – Measures Prohibiting the Importation and Marketing of Seal Products*, Report of the Appellate Body adopted on 22 May 2014 (WT/DS400/AB/R; WT/DS401/AB/R).
  38. In the WTO Appellate Body's Decision in *China – Raw Materials*, the Appellate Body said: 'We do not exclude that a measure falling within the ambit of Article XI:2 (a) could relate to the same

- product as a measure relating to the conservation of an exhaustible natural resource. It would seem that Article XI:2 (a) measure could be imposed, for example, if a natural disaster caused a “critical shortage” of an exhaustible natural resource, which, at the same time, constituted a foodstuff or other essential product’. *China – Measures Related to the Exportation of Various Raw Materials*, Report of the Appellate Body adopted on 22 February 2012 (WT/DS394/AB/R; WT/DS395/AB/R), para. 337.
39. UN Doc. A/CONF.48/14 at 2-65 and Corr. 1 (1972).
  40. UN Doc. A/CONF.151/26 (Vol. I) (1992).
  41. The General Assembly by Resolution 34/186 of 18 December 1979 requested all States ‘to use the principles as guidelines and recommendations in the formulation of bilateral or multilateral conventions regarding natural resources shared by two or more States, on the basis of the principles of good faith and in the spirit of good neighborliness and in such a way as to enhance and not to affect adversely development and the interests of all countries and in particular of the developing countries’.
  42. See Principle 2, *ibid.*
  43. See Article 56(a) of the *Statute on the Uruguay River*, Salto 26 February 1975; Article 8 of the 1998 *Convention on the Protection of the Rhine*; Article 18 of the 1994 *Convention on the Cooperation for the Protection and Sustainable Use of the Danube River*; Article 18 of the *Agreement on Cooperation for Sustainable Development of the Mekong River Basin*; Article 16 of the *Charter on the Senegal River*.
  44. For instance, in this regard, resolution No. 10, UNECE Declaration of Policy on Water Pollution adopted in 1966 affirms that: ‘States bordering on the same surface water should reach an understanding to the effect that such water represents for them a common asset, the use of which should be based on the desire to reconcile their respective interests to the greatest possible extent. This involves more particularly concerted action in pollution control, and such States should, by means of bilateral or multilateral agreements, define their mutual relations on water pollution. These agreements should provide that States are to maintain water at a quality such that neither public health nor the basic needs of the economy are jeopardized’. FAO Legislative Study No. 23, 1980, p. 144, <http://www.fao.org/docrep/012/ak459E/ak459E.pdf> (last accessed 22 October 2015). See also the Water Charter adopted by the Committee of Ministers of the Council of Europe on 6 May 1968.
  45. Resolution VIII.1, 8th COP, Valencia 2002, Resolution IX.1 Annex C ii; Resolution IX.1 Annex C, 9th COP, Kampala, 2005; Resolution X.19, 10th COP, Changwon, 2008, <http://www.ramsar.org> (last accessed 22 October 2015).
  46. This dispute is conducted under the United Nations Commission on International Trade Law (UNCITRAL) Arbitration Rules pursuant to the Agreement between Canada and Barbados for the Reciprocal Promotion and Protection of Investments. See *Peter A. Allard (Canada) v. Barbados* (PCA case No. 2012/06).
  47. In particular, the UNESCO IHP set up an international experts group to provide technical and scientific support to the International Law Commission. This has resulted in a concrete example of cooperation between different bodies of the UN System. See UNESCO IHP, *Transboundary Aquifers: Managing A Vital Resource. The UNILC Draft Articles on the Law of Transboundary Aquifers* (R. Stephan, ed.), 2009, <http://unesdoc.unesco.org/images/0018/001824/182431E.pdf> (last accessed 22 October 2015).
  48. *Case Relating to Territorial Jurisdiction of the International Commission of the River Oder* (Czechoslovakia, Denmark, France, Germany, Great Britain and Sweden v. Poland), *PCIJ Reports 1929, Series A No.23*.
  49. *Pulp Mills on the Uruguay River* (Argentina/Uruguay), *ICJ Reports 2010*, para. 119.
  50. See Article 33.2 of the UN Watercourses Convention.
  51. *Pulp Mills on the Uruguay River* (Argentina/Uruguay), *ICJ Reports 2010*, para. 91.
  52. *Ibid.*, para. 92.
  53. *In the Matter of the Indus Waters Kishenganga Arbitration* (India v. Pakistan) Final Award (Permanent Court of Arbitration), 20 December 2013, para. 121.
  54. See Article VIII (4) of the Indus Waters Treaty.

55. *In the Matter of the Indus Waters Kishenganga Arbitration* (Pakistan v. India) Final Award (Permanent Court of Arbitration), 20 December 2013, para. 122.
56. See *Case Relating to the Territorial Jurisdiction of the International Commission of the River Oder* (United Kingdom, Czechoslovakia, Denmark, France, Germany and Sweden v. Poland), Permanent Court of International Justice, Judgment of 10 September 1929, *Permanent Court of International Justice Series A – No. 23*; *inter alia*, *Diversion of Water from the Meuse* (Netherlands v. Belgium) Judgment of 28 June 1937, *PCIJ Reports 1937, Series A/B No.70*; *Case concerning the Gabčíkovo–Nagymaros Dispute* (Czechoslovakia v. Hungary), Judgment of 25 September 1997, *ICJ Reports 1997*; *Pulp Mills on the Uruguay River* (Argentina/Uruguay), Judgment of 20 April 2010, *ICJ Reports 2010*; *Certain Activities Carried Out by Nicaragua in the Border Area* (Costa Rica v. Nicaragua), *Provisional Measures*, Order of 8 March 2011, *ICJ Reports 2011*; *Construction of a Road in Costa Rica along the San Juan River* (Nicaragua v. Costa Rica), *Provisional Measures*, Order of 22 November 2013, *ICJ Reports 2013*.
57. Case concerning the Audit of Accounts between the Netherlands and France in Application of the Protocol of 25 September 1991 Additional to the Convention for the Protection of the Rhine from Pollution by Chlorides of 3 December 1976, Netherlands/France, Final Award (12 March 2004), *Reports of the International Arbitral Awards*, Vol. XXV, pp. 267–344.
58. *In the Matter of the Indus Waters Kishenganga Arbitration* (Pakistan v. India) Partial Award of 18 February 2013 and Final Award of 20 December 2013 (Permanent Court of Arbitration).
59. For the text of the Treaty, see 419 *U.N.T.S.* 126.
60. This paragraph of the *Baglihar Hydroelectric Plant*, Expert Determination, of 12 February 2007 is quoted by the Partial Award of the Permanent Court of Arbitration, *In the Matter of the Indus Waters Kishenganga Arbitration* (Pakistan v. India), 18 February 2013, para. 185.
61. Permanent Court of Arbitration, *In the Matter of the Indus Waters Kishenganga Arbitration* (Pakistan v. India) Final Award of 20 December 2013, para. 111.
62. In particular, the Arbitral Tribunal said: ‘Taken as a whole, the task facing the Court – now having the benefit of significantly more information and analysis from the Parties – is to determine a minimum flow that will mitigate adverse effects to Pakistan’s agricultural and hydro-electric uses throughout the operation of the Kishenganga Hydro-Electric Project (KHEP), while preserving India’s right to operate the KHEP and maintaining the priority it acquired from having crystallized prior to the Neelum-Jhelum Hydro-Electric Project (NJHEP). At the same time, in fixing this minimum flow, the Court must give due regard, in keeping with Paragraph 29 of Annexure G, to the customary international law requirements of avoiding or mitigating transboundary harm and of reconciling economic development with the protection of the environment’. *In the Matter of the Indus Waters Kishenganga Arbitration* (Pakistan v. India) Final Award of 20 December 2013 (Permanent Court of Arbitration), para. 87. Moreover, the Tribunal indicated that India’s duty to ensure that a minimum flow reaches Pakistan stems from the ‘Treaty’s interpretation in light of the customary principles of international environmental law in force today’. *In the Matter of the Indus Waters Kishenganga Arbitration* (Pakistan v. India) Final Award of 20 December 2013 (Permanent Court of Arbitration), para. 85.
63. These mechanisms include the World Bank Inspection Panel as well as the parallel investigation procedures adopted by the Inter-American Development Bank, the Asian Development Bank, and the European Bank for Reconstruction and Development. The Compliance Advisor and Ombudsman (CAO) Office created by the International Finance Corporation/Multilateral Investment Guarantee Agency (1999) is also part of this category. See v. Richard, ‘Justice by any Other Name? The Grievance Mechanisms of Multilateral Development Banks’, in M. Tignino and K. Sangbana (eds), *Public Participation and Water Resources Management: Where Do We Stand in International Law?*, Paris, France: UNESCO-IHP, 2015, pp. 129–38.
64. See Decision II/5b of the Aarhus Compliance Committee in *Case Law of the Compliance Committee of the Aarhus Convention Compliance Committee 2004–2011*, p. 126, <http://www.eufje.org/images/DocAarhus/Aarhus%20CC%20case-law.pdf> (last accessed 22 October 2015).
65. See Decision II/5b, Second Session of the Meeting of the Parties, Almaty 2005, ECE/MP.PP/2005/2/Add.8; Decision III/6f, Third Session of the Meeting of the Parties, Riga 2008, ECE/MP.PP/2008/2/Add.14; Decision IV/9(h), Fourth Session of the Meeting of the Parties, Chisinau 2011, ECE/

- MP.PP/2011/L.19; Decision V/9m, Fifth Session of the Meeting of the Parties, Maastricht 2014, ECE/MP.PP/2014/2/Add.1.
66. Human rights case law provides interesting examples of cross-references between regional human rights dispute settlement mechanisms. One such example is *Saramaka People v. Suriname* brought before the Inter-American Court of Human Rights. See *Saramaka People v. Suriname*, Judgment (22 November 2007), para 122. In this case, the Inter-American Court of Human Rights stated that it 'takes notice' of the views of the African Commission on Human and Peoples' Rights to support its interpretation that natural resources found on indigenous territories are subject to property rights under the American Convention. See L. Boisson de Chazournes, *Fresh Water in International Law*, op. cit., pp. 243–7.
  67. World Bank Inspection Panel, *Albania: Power Sector Generation and Restructuring Project* (IDA Credit No. 3872-ALB), 7 August 2009, p. xxix.
  68. Article 3.3 of the UN Watercourses Convention.
  69. Article 33.8 of the UN Watercourses Convention.
  70. See Articles 54 and 56 of the *Additional Protocol to the Geneva Conventions of 12 August 1949 relating to the Protection of Victims in International Armed Conflicts* (Protocol I) and Articles 14 and 15 of the *Additional Protocol to the Geneva Conventions of 12 August 1949 relating to the Protection of Victims of Non-International Armed Conflicts* (Protocol II).
  71. *Sudan Human Rights Organization and Center on Housing Rights and Evictions (COHRE v. Sudan)*, African Commission of Human and Peoples' Rights, 13–27 May 2009, para. 210.
  72. *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory*, Advisory Opinion, ICJ Reports 2004, para. 136.
  73. See M. Tignino, *L'eau et la guerre. Elements pour un régime juridique*, Collection of the Geneva Academy on International Humanitarian Law and Human Rights, Brussels: Bruylant, 2011.