

# First International Environment Forum for Basin Organizations

## Issue Paper No. 3

### Theme 3: Laws and Regulations

#### **Background:**

Water is a resource that knows no boundaries. It traverses borders without regard to politics or diplomacy, and in its natural state, abides by no laws other than those compelled by nature. When artificial partitions and management schemes are imposed on freshwater resources, the laws of nature can clash with those of man.

Worldwide, there are over 260 watercourses and more than 270 groundwater basins shared by two or more sovereign States. International watercourses alone encompass parts of the territory of at least 145 sovereign States. Of these, twenty-one nations lie in their entirety within an international surface water basin and another thirty-three have more than 95% of their territory within such a basin. Given the geographic scope and breadth of global freshwater resources, it is evident that nearly every country in the world is hydrologically connected to its neighbor.

Transboundary watercourses and aquifers are today facing an increase in competing demands from both the human and environmental sectors. Nearly half of the world's population now lives within the geographic boundaries of a surface water basin that traverses an international boundary. Approximately the same number of people obtain their daily domestic freshwater needs from groundwater resources which are transboundary in nature. As a result, transboundary waters are being strained in an effort to meet ever-increasing demand for irrigation, power, navigation, flood control, and recreation, as well as the sustainable preservation of fish, plants, and wildlife. The challenge is to find a balance between water for human and economics-based demands and water for maintaining ecosystem integrity and environmental sustainability.

Today, international water law serves as a tool for nations to employ for the peaceful management and allocation of freshwater resources traversing international political boundaries. While substantive principles

establish standards and guidelines by which States are to allocate, use and protect the quality of transboundary waters, procedural rules offer means for encouraging cooperation and coordination in the management of shared water resources.

Significantly, international water law has also evolved beyond its people-focused and commerce-based origins and has expanded its attention to address environmental protection. Increasingly international water management agreements have provided for consideration of environmental protection and sustainability. In addition, a number of countries have adopted domestic laws and regulations which seek to balance socio-economic and environmental considerations in developing and using water resources. Water law, domestic and international, is also beginning to address environmental problems specific to groundwater use and management.

#### **Main Issues:**

##### **Adequate Integration of Environmental Considerations:**

Many existing transboundary (as well as national) water management regimes do not provide adequately for environmental considerations, or neglect key components for a sustainable management of these resources for people and the environment, such as pollution prevention and abatement, environmental impact assessment, minimum environmental flows or promotion and conservation of ecosystems and their related services.

Some tools and principles are enshrined in multilateral environmental agreements (MEAs) such as the Convention on Biological Diversity or the Ramsar Convention on Wetlands, or in overarching policy objectives like the Millennium Development Goals (MDGs). Nonetheless, law seems to be falling behind other sciences such as economics and ecology on ecosystem services in recognizing and prioritizing the benefits of an ecosystem services approach in the transboundary context.

At the transboundary scale it is common to find great disparities between basin states in terms of their level of economic development, which can lead to differing objectives for ecosystem protection in a basin. Many national legal systems also maintain enshrined disparities between management of freshwater resources for people and development, and for species, habitats, and ecosystems.

The benefits of incorporating environmental considerations into water law at all levels can be manifold and range from economic advantages and social and health benefits, to the more obvious environmental benefits. This requires amendments to the existing agreements or the signing of additional or new agreements between the relevant parties. In some cases, the need for a more integrated management at the basin level may require addition of new parties.

### **The Unique Situation of Transboundary Aquifers:**

Groundwater raises a host of particular legal issues which need to be addressed in the negotiation of new agreements as well as in the implementation of existing agreements, especially from an environmental law point of view. Groundwater is typically more vulnerable than surface water to pollution and other forms of contamination. Once contaminated, an affected aquifer may be rendered unusable for years, decades or longer.

As underlined by the Draft Articles on the Law of Transboundary Aquifers developed by the International Law Commission (ILC) the protection of the recharge zone of an aquifer is a critical component of any effort to ensure the sustainability and viability of an aquifer for human use as well as for the environment.

Though increasing, the number of instruments directly addressing the use, allocation, and protection of transboundary aquifers is relatively small as compared to those focusing on surface waters. Nevertheless, the lack of such arrangements creates substantial opportunities for implementing 'green' laws and agreements related to the management of such transboundary resources, ideally in conjunction with surface waters (Box 1). Whether and how governance of transboundary aquifers should be integrated into existing surface water agreements requires careful consideration.

### **Box 1: The Guarani Aquifer Agreement**

The Guarani Aquifer system is one of the largest groundwater reserves in the world, covering over a million square kilometers, containing more than 30,000 cubic kilometers of water, and underlying a region with a population of 92 million spread between four countries. Managing such a system raises several legal issues, including territorial sovereignty, liability for pollution and degradation of recharge and discharge processes, dispute settlement, institutional structure, and monitoring and information exchange.

The Agreement is based on the key principle that each country has sovereignty over its portion of the aquifer, which it must exercise in accordance with domestic and international law and the obligation to promote the conservation and environmental protection of the system so as to ensure multiple, reasonable, sustainable and equitable use of its water resources. (arts 2-4). The Agreement also provides for information exchange and cooperation in developing projects and identifying critical areas for specific treatment. (arts 8, 13, 14). The Agreement establishes a Commission and dispute resolution mechanism under the existing framework of the Prata Basin Treaty. (arts 15-19). Though the Agreement does not specifically provide for protection of the recharge and discharge processes, the general obligation to promote conservation and reference in the preamble to the ILC Draft Articles may imply such an obligation.

*Sources: Guarani Aquifer Agreement (2010); Sindico, The Guarani Aquifer System, 13 Int'l Community L. Rev. 255 (2011).*

### **Successful Compliance and Implementation:**

Many water agreements contain provisions promoting sustainable and ecologically sensible management of water resources, but these provisions too often do not translate into actual implementation on the ground, for various reasons including political opposition, legislative stagnation, or lack of capacity. Effective implementation of environmental provisions of agreements at the domestic level requires domestic legislation consistent with international obligations, and effective implementation and enforcement of this legislation.

Basin Organizations are at the core of this interaction between international obligations agreed to by riparian States and action by member countries to fulfill them. Upon embarking on a cooperative course of action, and upon negotiating and signing agreements, States sharing a river, a lake, an aquifer, or an entire basin must ensure that their respective domestic water legislation is consistent with the agreed parameters of cooperation, and conducive to the fulfillment of the relevant terms. This requires a review of the water and water-related legislation and the revision or reform of such legislation as necessary, through the domestic lawmaking process. It equally requires anticipatory action with respect to the implementation and enforcement capabilities of States regarding their domestic water legislation, particularly when such States contemplate negotiating an agreement with their neighbours over a shared freshwater resource.

### **Effective Conflict Prevention and Resolution:**

Transboundary water management can be a contentious issue, particularly in the context of increasing water stress. Conflict can arise between different uses and/or users. Failure to adequately address environmental issues can also create conflict. This is evident in cases of transboundary water pollution. Misperceptions and misunderstandings of water law and the duties and rights derived from it can exacerbate conflict and obstruct its resolution.

An effective legal regime should anticipate potential sources of conflict and provide effective tools to address these conflicts, including adequate dispute settlement procedures that take into account the importance of the conflicting interests. These could include alternative dispute resolution techniques, such as negotiation, mediation, and consensus building, which build trust and facilitate dialogue among players. Any dispute resolution process should ensure sufficient clarity of relevant legal obligations and rights to avoid misunderstandings and conflicting interpretations. It should also provide for an equitable sharing of the benefits and the costs of cooperation.

The existence of hard environmental data can in certain cases help circumvent pre-existing political positions and reservations

towards the effective cooperative management of a particular freshwater resource. Emphasis on the human aspect of environmental issues and the necessity of environmentally sensible management to sustain human welfare may help re-frame and resolve the apparent conflict between human and environmental need.

In some respects transboundary environmental problems present a window of opportunity – as evidence shows that states find it easier to commit themselves to cooperating around water quality issues rather than water quantity issues – most prominently in arid zones. Thus international agreements between basin states covering issues such as reduction of pollution, protection of aquatic zones and control of invasive alien plant species could precipitate long-term agreements over more contentious issues later down the line.

#### **Box 2: The Amu Darya Basin**

The Amu Darya Basin represents a special case of transboundary management. The Soviet Union implemented systems to optimize use of water for energy and irrigation across the system. Upstream areas would refrain from using water for hydropower in winter, in order to ensure sufficient water for downstream irrigation. In return, fossil-fuel rich downstream areas would provide power upstream.

After the dissolution of the Soviet Union, management of the Amu Darya was spread between four countries, each of which prioritized its own interests. It was no longer in the interest of upstream states to provide water to downstream states at the expense of power generation.

To resolve the inevitable conflicts, it was necessary to replace the centralized management of the Soviet Union with a regime based on international agreement. Establishing an effective regime has been difficult, because the quotas established under the Soviet Union allocated much more water to downstream countries as a result of prioritizing irrigation, and did not include Afghanistan, a significant source and user of water for the basin. Armed conflict and instability in Afghanistan continues to prevent it from participating fully in water management regimes.

*Source: UNEP/ENVSEC, Environment and Security in the Amu Darya Basin (2011).*

## Possible Responses:<sup>1</sup>

### **Spotlighting environmental issues:**

Information plays a key role in the process of legal reform on the international and domestic levels. Improving scientific, technical, and legal information about the importance of environmental issues in transboundary freshwater management, and the relationship between surface water and aquifers, could encourage negotiators to address these issues in new basin agreements. International forums such as this one could bring these environmental issues to the world's attention and make this information available to stakeholders and decision makers.

### **Technical assistance:**

Provision of concrete technical assistance to basin organizations can contribute to effective integration of environmental considerations into basin regimes and management of surface and groundwater resources. This assistance could include training in legal, scientific, and practical areas ranging from alternative dispute resolution to monitoring and assessment. A possible vehicle could be basin or region-wide centres for research and training in water law and its implementation.

### **Understanding international obligations:**

A better understanding of the relationship between international obligations and domestic water legislation could help basins and States negotiate, and implement international and regional agreements pertaining to freshwater. This could be achieved by systematically mapping out the links that exist between international instruments and domestic legislation, in general as well as with reference to specific shared freshwater basins. Such an approach could result in a methodology for the use or inspiration of States as they (a) gauge retrospectively the consistency of their domestic water legislation with freshwater agreements in place, or (b) size up the domestic water law implications of negotiating an agreement with one or more neighboring States sharing a particular freshwater resource, including aquifers.

### **Global conventions and principles:**

Seeking increased engagement with global conventions and international principles relevant for sustainable basin management,

### **Box 3: Okavango Basin Wide Forum**

In the Okavango River Basin, shared between Angola, Botswana, and Namibia, communities come together regularly in a Basin Wide Forum to share experiences and perspectives on basin management.

The forum was established through the Every River Has Its People Project supported by the Okavango River Basin Water Commission (OKACOM), is comprised of 10 community representatives from each of the riparian states who meet twice a year at national level and once a year at basin level. The forum provides an opportunity to increase understanding of the socio-economic and environmental state of various parts of the basin, and formulate environmental action plans and strategies to improve community livelihoods.

Through the forum, the communities are able to contribute in a real way to results on the ground, a process OKACOM is increasingly supporting.

Source: [www.okacom.org](http://www.okacom.org)

such as those contained in the UN Convention on the Non-Navigational Uses of International Watercourses, the UNECE Watercourse Convention or the Draft Articles on the Law of Transboundary Aquifers.

### **International forums:**

International forums can play a role in enabling basin organizations to deal with legal challenges as well as collecting and disseminating lessons learned with regard to successful implementation of basin regimes. In the SADC region an annual river basin organization workshop has been run for five years allowing representatives from basin organizations to share experiences and contribute to developing sustainable solutions. The present forum could play a similar role on a global scale.

<sup>1</sup> This list is not exhaustive. It is merely intended to guide the discussions and point towards possible avenues for action which, if implemented, could assist and benefit basin organizations in their work around the world and strengthen freshwater governance overall.