



# Water Cooperation

Rosa Cuppari, visiting scientist at the International Centre for Water Resources and Global Change

## Water Cooperation versus Water Diplomacy

Although there is no singular definition of water cooperation, it can be defined as a voluntary arrangement in which two or more parties engage in a mutually beneficial exchange instead of competing for the same water resources.<sup>1</sup> Unlike water diplomacy, cooperation over transboundary water resources does not require a shared, long term vision for peace and stability in a region, and it is usually more technical than political.



Water diplomacy, which can lead to or result from water cooperation, generally includes objectives beyond the water resource itself. It puts transboundary water issues on the foreign policy and aid agenda. Both can include technical components, but water diplomacy integrates high level, interstate political engagement as well.

### Impacts

#### Water as a fundamental resource

There are over 286 transboundary rivers in the world, shared by 151 countries, and 592 transboundary aquifers shared by more than two countries.<sup>2</sup> These provide drinking water, irrigation, hydropower, and

*Poor management of high-value resources constitutes a threat to peace.*

water for industrial purposes, connecting them to a country's agricultural production and food security; sustainability and energy security; and water security.

#### Cooperation now prevents problems later

Despite the amount of transboundary water resources, only one overt "water war" has been recorded in human history. Water cooperation tends to significantly outweigh conflict over water.<sup>3</sup> Conflict is not inevitable though, and unilateral development of water resources often creates tensions within a basin, especially when riparians have the domestic capabilities to develop their water resources, but lack the institutions to manage them.<sup>4</sup> In water scarce regions, like the Middle East or Central Asia, building a dam on a transboundary river can

become an act of provocation. Instead, jointly planning water-related projects can yield shared benefits for states (value creation) and avoid latent conflicts.

#### Climate Change: Forcing Cooperation

If the current predicted climate change scenario is realized, almost half of the world's population will be living in areas of high water stress by 2030.<sup>5</sup> Weather patterns will change and there will be more extreme weather events across the world. Coupled with increases in population and often, increased development, this will push countries to maximize usage of their water resources. Cooperation on how to optimize these resources can increase the value derived from a river as opposed to generating competition over which state controls the water.

## The 'Crisis Curve': One Way to Water Cooperation



### Conflict

- Unilateral action by one riparian impacts another
- Over-appropriation of resources
- Water quality and quantity diminish



### Water Diplomacy

- Mediation
- Facilitation
- Third party/NGO engagement
- Negotiation
- Arbitration
- Adjudication



### Cooperation

- Joint data collection
- Joint-management
- Treaties, agreements
- Sharing technical expertise
- Integrated, basin-wide planning

Adapted from: UNESCO-IHP. Hydrodiplomacy, Legal and Institutional Aspects of Water Resources Governance. (2016) (1st ed.). Paris.

## Recommendations

### Knowledge and Information Sharing

- Agreeing on facts – both on what facts to gather, and how to gather them – is the first step to approaching basin management jointly and gives a platform for moving forward
- Creating a joint database institutionalizes a mechanism for transparent data sharing, including between riparians' own internal agencies, like those responsible for agriculture, irrigation, environment, and meteorology

### Technical Assistance and Scientist Working Groups

- Along with the exchange of data, the exchange of scientists and other professionals ensures that domestic assessments are being conducted in a consistent and accurate manner by each riparian. It is another trust building mechanism, but can also help build capacity between states, which can result in further efficiency

- Sharing advanced water technology with another riparian can also mean increasing efficiency across the basin and offers an opportunity to reduce overall water consumed

### Institutions and Capacity Building

- The national institutional capacity for water governance is just as important as the basin-level capacities for water management. Riparian states must build their human resources and educational infrastructure to both raise awareness about water management issues and ensure the availability of water-related expertise
- Establishing a binding framework for cooperation, supported and enforced through national legislation within riparian countries, gives a guarantee of continued cooperation and a means to found basin-level decisions in high level political decision-making

- River basin organizations (RBOs) commonly provide the institution through which water management can be coordinated, preventing unilateral development of water resources that could harm downstream countries. The autonomy granted to the RBO impacts its perceived objectivity and fairness, and can increase its success

<sup>1</sup> Derived from the Business Dictionary's definition of cooperation. Retrieved 28 March 2017, from <http://www.businessdictionary.com/definition/cooperation.html>

<sup>2</sup> Explore Layers – [ihp-wins.unesco.org](http://ihp-wins.unesco.org). Retrieved 28 March 2017, from <http://ihp-wins.unesco.org/layers/?limit=100&offset=0>

<sup>3</sup> Wolf, A. (1998). Conflict and cooperation along international waterways. *Water Policy*, 1(2), 251–265. Retrieved 28 March 2017, from [http://dx.doi.org/10.1016/s1366-7017\(98\)00019-1](http://dx.doi.org/10.1016/s1366-7017(98)00019-1)

<sup>4</sup> Busby, Joshua. (2017). *Water and US National Security*. (Discussion Paper). Retrieved 28 March 2017, from [http://i.cfr.org/content/publications/attachments/Discussion\\_Paper\\_Busby\\_Water\\_and\\_US\\_Security\\_OR.pdf](http://i.cfr.org/content/publications/attachments/Discussion_Paper_Busby_Water_and_US_Security_OR.pdf)

<sup>5</sup> Water scarcity | International Decade for Action 'Water for Life' 2005-2015. UN.org. Retrieved 24 March 2017, from <http://www.un.org/waterforlifedecade/scarcity.shtml>

## Case Study: The Rio Grande Basin

The US and Mexico cooperate over a multitude of issues, including the management of the shared Rio Grande.

The Rio Grande flows through four US and four Mexican states. Each country, as well as their internal states, vies for a share of the Rio Grande's waters, used mainly for irrigation and agriculture. Unilateral management of the Rio Grande would make over appropriation of its waters very easy.



Because the US and Mexico recognize their interdependency on the water though, the two countries have been co-managing the river for over a hundred years. Treaties regarding the Rio Grande and water allocation were signed several times. The beginning of cooperation was the establishment of the International Boundary and Water Commission (IBWC) in 1889.

The first treaty, in 1906, was instigated by a shortage of water on the Mexican side of the river. The Mexicans blamed Texans for withdrawing too much water from the river. The treaty laid out the water allocation between the states in the northwestern portion of the basin, with the US delivering water to Mexico. An additional treaty was ratified in 1944, documenting water deliveries to the southeastern part from Mexico to the US; because the Rio actually dries up in certain points, it can be governed in these two smaller units. The latter treaty

can be amended through minutes, which are approved or disapproved by the executive branch. In this way, the treaty has built in flexibility. In 2000, a further memo was signed regarding water supplies for border areas.

The agreements between the two countries have their flaws. In particular, the Rio is over-allocated because of the increased presence of agriculture and industry since the original treaties were ratified. That being said, the cooperation between the two countries has continued.

This is also an ideal case to see where the lines blur between water cooperation and water diplomacy though. In the last five years, US and Mexican politicians have intervened in the water dispute

regarding Mexico falling behind on its water deliveries. There has been diplomatic engagement at high levels, including the purported prioritization of binational water issues by the Mexican president.



Rio Grande River, Big Bend National Park, Texas

### Reference:

Carter, N., Mulligan, S., & Seelke, C (2011). U.S.-Mexican Water Sharing: Background and Recent Developments (CRS Report No. R43312). Retrieved from Congressional Research Service. Retrieved 28 March 2017, from <https://fas.org/sgp/crs/row/R43312.pdf>



United Nations  
Educational, Scientific and  
Cultural Organization



International Centre  
for Water Resources and Global Change  
under the auspices of UNESCO

**International Centre  
for Water Resources and Global Change**

Federal Institute of Hydrology  
P.O. Box 200253 • 56002 Koblenz • Germany

Telephone: +49 (0)261/1306-5313

Telefax: +49 (0)261/1306-5422

[contact@waterandchange.org](mailto:contact@waterandchange.org)

[www.waterandchange.org](http://www.waterandchange.org)