



# Legal Mechanisms for Water Resources in Practice

## KEY POLICY MESSAGES

- A strong state regulatory system can make a public provider as strong as, if not stronger than, private providers.
- Partial implementation of a legislative reform can make water governance less effective.
- For transboundary aquifers, informal ad hoc cooperation mechanisms may be a valid alternative to formal ones.
- Formal agreements and benefit sharing promote joint transboundary water infrastructure and contribute to regional stability.

■ The Niger River © Ariella D'Andrea

WI and IWRA Policy Briefs are published by IWRA with the support of Routledge. They aim to provide high quality analysis and practical recommendations for policy makers on important development issues.

• Access *Water International* by becoming a member of IWRA: [www.iwra.org](http://www.iwra.org)

• or subscribe only to the journal at:  
[www.tandfonline.com/toc/rwin20/current](http://www.tandfonline.com/toc/rwin20/current)

*IWRA Policy Briefs are based on WI Special Issues and are for the purpose of stimulating discussion and awareness; IWRA, as a neutral forum, does not necessarily endorse the views expressed.*



**Routledge**  
Taylor & Francis Group

Legal mechanisms can establish the bedrock for effective water governance when designed and implemented with care. In practice, the specific mechanisms applicable to water resources vary according to context. In particular, the governance framework largely determines the mechanisms adopted and their outcomes. Legal mechanisms can lead to more effective management of domestic freshwater resources, and create a basis for transboundary cooperation. Four cases from a recent special issue of *Water International* spell this out with two examples of domestic legal mechanisms, Scottish Water in Scotland, and the National Water Authority in Nicaragua, and two transboundary examples, informal ad hoc agreements for underground aquifers, and formal agreements with benefit sharing in the Senegal and Niger watersheds.

#### LEGAL MECHANISMS BRINGING DOMESTIC FRESHWATER MANAGEMENT UNDER GOVERNMENT CONTROL REQUIRE A STRONG REGULATORY SYSTEM AND AN EFFECTIVE GOVERNMENT ADMINISTRATION

Domestically, legal mechanisms can aid in the creation of many different types of public institutions that govern freshwater resources, such as municipal supply or general water use. For public municipal supply, a central question is the desirability of a public or private entity or combination of both. For general water use, a common issue is choosing among a centralized, decentralized or hybrid management structure. In both situations, successful freshwater management turns on the strength of the regulatory system supporting the managing entity.

*A strong state regulatory system can make a public provider as strong as, if not stronger than, private providers.*

Under most circumstances, private sector participation in, or divestiture of, municipal water management accompanies an inherent risk of balancing the achievement of public policy goals with fiduciary responsibilities to shareholders. In this respect, ownership of the entity matters, and as Sarah Hendry illustrates in the case of Scottish Water, a public entity with a strong regulatory system is indispensable to the achievement of progressive public policy.

Importantly, Scottish Water's organizational status facilitates its ability to obtain better information on assets, costs, and income streams, while simultaneously improving accountability and transparency. Additionally, evidence over the course of a decade demonstrates Scottish Water's ability to achieve substantial efficiency gains and full

cost recovery. Therefore, as public authorities governing water services face the pressures of private sector participation or divestiture, Scottish Water illustrates that with appropriate regulation and governance, a public provider can be equal to or better than the best private sector alternative.

■ Near Dunbar, Scotland © James E. Nickum.





*Partial implementation of a legislative reform can make water governance less effective.*

Regulatory reform can increase water security. Yet, when large-scale legislative reform centralizes water governance under an executive body without taking the role of pre-existing decentralized management regimes into account, Helle Munk Ravnborg reveals that a possible result is greater water insecurity or outright dispossession of water rights. In Nicaragua, broad regulatory reform led to the creation of the National Water Authority (NWA), which governs the country's water resources. One of the NWA's primary functions is to issue use permits to entities applying for the right to utilize surface or groundwater resources.

Due to its small operational budget and staff, the NWA lacks the capacity to handle its regulatory burden. Therefore, the NWA is a gatekeeper rather than a custodian for those seeking to formalize their water rights. This benefits better organized powerful interests. A handful of corporations claimed 81% of permits for irrigation between 2010 and 2016, dispossessing many small farmers. In the past, under decentralized management, district authorities regulated water resources effectively and relatively fairly. By failing to cooperate with district authorities, the NWA leaves a void that powerful interests are more than willing to fill.



**LEGAL MECHANISMS FOSTER COOPERATION, LEADING TO MORE EFFECTIVE MANAGEMENT OF TRANSBOUNDARY FRESHWATER**

For transboundary freshwater management, an international legal framework represents the starting point for cooperation. International legal frameworks incentivize good faith efforts to fulfill reciprocal obligations or expectations between nations. However, a legal framework requires a mechanism to implement it. Legal mechanisms take many forms, ranging from informal ad hoc approaches to the formalization of state relations through international agreements. The success of either type depends on a myriad of local factors, such as people, place, and water resource.

*For transboundary aquifers, informal ad hoc cooperation mechanisms may be a valid alternative to formal ones.*

Existing international instruments on the use of transboundary groundwater resources encourage neighboring states to address the issues facing a particular aquifer through ad hoc agreements, either formal or informal. So far, as Laura Movilla Patero points out, ad hoc legal mechanisms have mainly been established through informal, non-binding agreements between nations affected by a particular aquifer. However, because international treaty law does not govern informal ad hoc agreements, there are no binding obligations holding aquifer states to their collective commitments.

■ Nicaragua Irrigation Canal © Ariella D'Andrea





Despite this shortcoming, informal ad hoc legal mechanisms are effective starting points, especially for transboundary groundwater aquifers as they face unique obstacles to cooperation, such as lack of information, issues relating to state sovereignty, and few applicable international treaties. Even if the agreements are informal, they can still establish institutional mechanisms for cooperation and guide the generation and exchange of information in a manner that is simple, flexible, rapid and with a low public profile. The next challenge in the governance of transboundary aquifers will be to embed the preventive and precautionary principles in these cooperation agreements.

*Formal agreements and benefit sharing promote joint transboundary water infrastructure and contribute to regional stability.*

The formalization of state relations through international law creates binding obligations that can support joint management efforts. Mara Tignino describes how international

agreements between West African countries (Guinea, Mali, Mauritania and Senegal) alongside a system for sharing benefits help make joint management of water infrastructure (the Diama and Manantali Dams) on the Senegal River possible. After constructing the Diama and Manantali Dams, socio-economic development projects went into force to increase the standard of living for local people and uphold meaningful environmental protections.

The principle of benefit sharing ensures direct benefits from cooperation appropriately balance with the level of investment each riparian state contributes. Pairing the formalization of state relations with benefit sharing also puts a community of interests surrounding joint infrastructure into practice. In the near future, the implementation of similar arrangements for the management of planned collective water infrastructure along the Niger River could provide another example of the stabilizing influence of benefit sharing mechanisms in one of the most vulnerable regions in the world.

## REFERENCES

*From Water International, 2016 Issue 6: Legal Mechanisms for Water Resources in Practice* (Stefano Burchi, Ariella D'Andrea, Gabriel Eckstein & Marcella Nanni, Eds.)

- Shanna N. McClain, Carl Bruch & Silvia Secchi - *Adaptation in the Tisza: innovation and tribulation at the sub-basin level.*
- Mara Tignino - *Joint infrastructure and the sharing of benefits in the Senegal and Niger watersheds.*
- Laura Movilla Pateiro - *Ad hoc legal mechanisms governing transboundary aquifers: current status and future prospects.*
- Rhett B. Larson - *Governing water augmentation under the Watercourse Convention.*
- Eric L. Garner - *Adapting water laws to increasing demand and a changing climate.*
- Sarah Hendry - *Scottish Water: a public-sector success story.*
- Michael Kidd - *Compulsory licensing under South Africa's National Water Act.*
- Helle Munk Ravnborg - *Water governance reform in the context of inequality: securing rights or legitimizing dispossession?*

### ACKNOWLEDGEMENTS

Authors: Ariella D'Andrea and Stefano Burchi

Editors: Nick Griffin and James E. Nickum

Layout: Nathalie Lyon-Coen