

Seminar Report

Seminar Report on Transboundary Aquifers and International Law: The Experience of the Guarani Aquifer System, University of Surrey, Guildford, UK, 31 August 2010

Background

The world is currently facing a global water security challenge. Some regions are suffering water shortages, while others may have plentiful amounts of water, which is often of a contaminated nature. Competition over scarce water resources may lead to conflict between users, uses and communities that rely on that water, but may also lead to cooperation through the establishment of joint management strategies.

Within this picture, a staggering 97% of globally available fresh water resources are stored underground and often cross borders. Until now, 273 transboundary aquifers have been identified under the UNESCO Internationally Shared Aquifer Resource Management (ISARM) programme. The Guarani Aquifer System (GAS) is just one of these transboundary aquifers, but amongst the most important for its size and quality of its waters. The GAS is shared by Argentina, Brazil, Paraguay and Uruguay; it stretches for 1,087,879 km². An estimated population of 70 million people live in the GAS region, and economic development, and related water usages, is constantly increasing. The water quality is very good and there seem to be only minor problems of contamination and over-exploitation throughout the region. The importance of groundwater in the context of global water security should suggest the importance of groundwater management when an aquifer is shared by two or more countries, as is the case in the GAS.

While some argue that rules devised for surface water management and regulation can also apply for groundwater, the international community has acknowledged that these rules had to be complemented by specific ones tailored to the hydro-geological characteristics of aquifers. The United Nations International Law Commission (UNILC), in collaboration with a multidisciplinary team led by the UNESCO International Hydrological Programme (IHP), has dealt with the law of transboundary aquifers from 2002 to 2008. This work has led to the adoption of a set of Draft Articles on the law of transboundary aquifers, which have now been annexed to the UN General Assembly Resolution 63/124.

Seminar

The School of Law of the University of Surrey in Guildford, UK, through its Environmental Regulatory Research Group, brought together 43 participants from 23 countries and from very different backgrounds (international law, hydro-geology, geography, international relations, etc.) to discuss the current status of international law

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and policy of transboundary aquifers through the lens of a specific study: the management of the GAS. The timing could not have been better: the seminar took place a year after the UN annexed the Draft Articles on the law of transboundary aquifers in a General Assembly resolution; less than a month after that the four countries sharing the GAS signed the Guarani Aquifer Agreement on 2 August 2010; and a year before the international community will consider the future format of the Draft Articles on the law of transboundary aquifers, as already foreseen in the UN General Assembly resolution.

Funded by the UK Engineering and Physical Research Council, the Institute of Advanced Studies and the School of Law, both of the University of Surrey, the seminar was divided into three sessions followed by a panel of experts who opened the floor for the final debate.

The first session, entitled 'Groundwater in a Thirsty World', provided the seminar with the necessary background and theoretical framework. The first paper highlighted the numerous attempts to define water security. The speaker argued for a complex understanding of water security that comprises the socio-economic and environmental facets present therein, and suggested the conceptual framework of the 'water security web'. The following presentation highlighted the work of the UNESCO ISARM programme from 2000 onwards, and presented the next phase that begins in 2011. The ISARM project is the first worldwide attempt to undertake an inventory of transboundary aquifers in all continents. Legal and institutional components have been successfully introduced into the ISARM methodological approach to provide sound recommendations for coordinated actions and planning. The presentation also highlighted the successful cooperation established between the UNESCO IHP and the UNILC Special Rapporteur in the preparation of the UNILC draft articles which constitute a cornerstone in the legal study of transboundary groundwater. The final presentation of the first session gave participants a thorough understanding of the hydro-geological characteristics of the GAS together with a picture of the socio-political context of the countries that share the aquifer system. It highlighted the results of the Project for Environmental Protection and Sustainable Development of the Guarani Aquifer System (Argentina, Brazil, Paraguay, Uruguay, Global Environment Facility (GEF), The World Bank and Organization of American States) (Guarani Project) that has run from 2003 to 2009. The Guarani Project has provided the countries with a sound methodology, useful tools, management structures and institutional arrangements that will be invaluable in the future cooperation of the GAS.

The second session, entitled 'Transboundary Aquifers and International Law', brought together four leading experts in international water law. Their presentations allowed non-lawyers amongst the audience, and even those lawyers new to the topic, a clear and critical understanding of past and current regulation on transboundary aquifers and of the possible direction that regulation is taking. The presentations were also instructive for a lively and fruitful debate in the afternoon session. The first took participants through the different stages in the evolution of international groundwater law leading to the conclusion that the latter finds itself only in its infancy, while international surface water law has already a certain degree of maturity. The second presentation focused on the UNILC Draft Articles on the law of transboundary aquifers giving an overview of how the international community approached the topic and dealt with it. The contribution of the multidisciplinary team led by UNESCO IHP was praised as an example of collaboration between legal and non-legal communities. The third presentation critically assessed the UNILC Draft Articles on the law of transboundary aquifers against the backdrop of the

1997 UN Watercourses Convention. Both positive and negative developments were highlighted, but a cautious note on the role that state sovereignty seems to be playing in the field of transboundary aquifers was sent by the presenter in his conclusions. The fourth and final presentation dealt with a specific case study of two countries sharing a number of transboundary aquifers: the United States and Mexico. Despite the capacity of the two countries (and of the United States in particular), and apart from the aquifers underlying the border cities of El Paso and Ciudad Juarez, little effort has been made to develop the knowledge base of the hydro-geological characteristics of the border region's aquifers or of their sustainable management.

The third session, entitled 'The Law and Policy of the Guarani Aquifer System', focused on the management and regulation of the GAS. The first presenter made the case that the institutional framework that the Guarani Aquifer Agreement provides for—that being a Commission to be created under the framework of the Cuenca de la Plata Treaty—could work. The second presenter looked at this possibility from a practitioner perspective, highlighting challenges and opportunities therein. From an institutional point of view, she seemed to suggest that the creation of a Commission under the framework of the Cuenca de la Plata Treaty is what the treaty foresees, but it will only be an efficient option if established as a separate and independent organ from the Intergovernmental Coordinating Committee (CIC by its Spanish/Portuguese acronym), as it was already the case for FONPLATA and the Paraguay–Paraná Waterway Committee (CIH by its Spanish/Portuguese acronym). The third presenter highlighted state sovereignty, cooperation, attention for border areas that require specific measures and the (current) lack of an arbitral procedure as the main features of the Guarani Aquifer Agreement. He then moved on to discuss the possible overlap and cross-fertilization between the UNILC Draft Articles on the law of transboundary aquifers and the Guarani Aquifer Agreement. On the one hand, the adoption of the UNILC Draft Articles can be considered as 'one' of the elements that helped to trigger political will that led to the agreement. On the other hand, the Guarani Aquifer Agreement constitutes current state practice that may play a role in advancing towards a global convention on the law of transboundary aquifers. Whether the latter will be a positive or a negative development depends, according to the presenter, on the weight that state sovereignty will have as a principle within a possible future global convention.

Conclusions and future research

The last session of the seminar was introduced by short remarks from four prominent speakers, followed by a lively and fruitful debate. This led to the following four conclusions and areas for future research that can be divided into two categories. Regarding international groundwater law:

- The emerging international law of transboundary aquifers needs to be critically addressed through the lens of sustainable development. This concept not only applies to the use of a natural resource, but also encompasses other elements such as human rights (including the rights of future generations). It is a chapeau concept, reliance on which will be very useful and instructive in the future study of such a vital issue as aquifers as it is such a multifaceted and multifunctional doctrine. Considering as well the existence of the Commission on Sustainable Development, a suggestion can be made to request states to submit in their reports

information regarding the use of aquifers. That would be very important from the point of view of the access to practice of states in this area.

- State sovereignty and a human right to water will inevitably crop up as future points of contention.

Regarding more specifically the GAS, the following observations were made:

- The GAS experience has shown the usefulness of bringing together different disciplines, as happened also in the process leading to the adoption of the UNILC Draft Articles on the law of transboundary aquifers.
- The experience of the GAS and of the Guarani Aquifer Agreement highlight the importance of considering scale in the case of transboundary aquifers. In the case of large aquifer systems such as the GAS, transboundary problems are more likely to appear at border regions. The experience of the pilot projects in the Guarani Project—Santana do Livramento/Rivera (Brazil/Uruguay) and Concordia/Salto (Argentina/Uruguay)—should not be lost. On the other hand, there seems to be scope, where possible and feasible, to replicate best practices arising from the management of one pilot project to other critical areas along the borders of the four countries sharing the GAS.

In conclusion, the seminar was a success in raising awareness and understanding amongst the participants of the importance of groundwater and of its management in a transboundary context in order to achieve global water security. It also positioned the GAS on the map for some of the seminar's participants who had not previously worked on Latin American issues. The seminar also highlighted best practices in the field of groundwater management coming from that region of the world which should be considered as examples for other regions. Nevertheless, it was highlighted that particular attention should be given to the different socio-economic and cultural characteristics of the regions where the transboundary aquifers are located. Best practices and methodological approaches developed in the Guarani Aquifer project co-financed by the GEF are worthy of dissemination.

As for the seminar outcomes, some papers will be published by the *International Community Law Review* (second issue, 2011). A book in Spanish and Portuguese on the seminar topic will also be published that year. Finally, the Surrey Centre on Transboundary Aquifer Governance (ScTAG) was launched at the seminar. It will focus on the law and policy of transboundary aquifer management, and one of its goals will be to exchange information about the latter to researchers and policy-makers. One of the first activities that goes in this direction can be found in the framework of ScTAG's collaboration with the UNESCO ISARM programme by means of a joint publication on the Guarani Aquifer Agreement, which will be presented at the UNESCO ISARM conference on 4–6 December 2010 in Paris, France.

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