

# SOME REFLECTIONS ABOUT AN INTERNATIONAL WATER LAW SYSTEM TO THE HYDROLOGICAL SYSTEM MANAGEMENT

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Water Law Treaties have existed since Antiquity, since the geographical extension of some watercourses and the multiple interests regarding their exploitation called for the accordance of inter-civilization rules<sup>1</sup>. We first have records of an International Water Law, however, only between the fifteenth and sixteenth centuries, initially in the form of bilateral treaties and concerning navigation<sup>2</sup>. In the nineteenth century, when the International Water Law took on a multilateral dimension, navigability was still so important that it was considered a condition of watercourse internationalization by the law<sup>3</sup>, and only in the twentieth century, when non-navigational uses began to increase (at pace with the new technical and economic human possibilities), did these other uses become a subject of International Water Law. The multiplication of uses of water in the 1900s gave rise to problems such as the overexploitation and pollution of resources thus making regulation urgent<sup>4</sup>.

From the perspective of International Water Law, the inclusion of other utilisations reveals the need to overcome the international rivers approach in order to create a larger concept for the International Water Law subject. It leads to the use of the concept of ‘basin’, imported from hydrological studies, and to elaborate the idea of ‘integrated management’<sup>5</sup>. The use of the term basin is, however, problematic, as his concept has no generally accepted definition as yet – because of the inclusion of non-hydraulic elements. Also the International Water Law cannot perform the integrated management because its definition is not clearly structured.

In fact, what happens nowadays is that management rules have to include a large number of complex situations: the different uses of water, the various users (private and public, national and international) and the different kinds of water resources (rivers, lakes and aquifers). Considering the fact that most water resources are international, and that the hydrological cycle is unconstrained by boundaries it would seem incontestable that water management needs to be treated internationally. At the same time, however, considering that water resources are necessarily regionally and locally situated, water management also needs to be treated regionally and locally.

Even before the middle of the twentieth century we can see that there was movement towards universal water regulation. This movement became stronger as the number of actors on the international scenario increased. Initially, it was expressed in the context of Non-governmental organizations: the International Law Institute<sup>6</sup> and the International Law Association<sup>7</sup>, for example, both undertook long-term studies and made universal normative proposals in the field of international water law. The ‘universalistic’ movement became even more important in the 1970s when the International Law Commission began to codify water management<sup>8</sup>. The codification carried out by the Commission resulted in the adoption of The Convention on the Law of the Non-navigational Uses of International Watercourses by the General Assembly of the United Nations on 21 May 1997. It should, however, be noted that it is not finished yet: they are working at the moment on a project of the Convention concerning international ground waters.

I believe that this universal regulation phenomenon is only the first measure necessary to achieve an integrated management. A more coherent approach is still needed, in the sense of organising the norm relations by integrating the list of complexities (resources, users and uses). First of all, it is

indispensable to clarify the water law subject boarding the regulation and including all the water resources. Secondly, it is essential that a good model of organisation capable of integrating all the complexities mentioned be adopted.

I adopt the perspective of a regional groundwater resource model, illustrated by the Guarani Aquifer (one of the biggest groundwater reservoir in the world located in the South America, underlining Brazil, Argentine, Paraguay and Uruguay), to try to identify some needs to an integrated management and to propose a model to universalise the international water law postulates aiming to integrate surface and ground waters and international proposals with regional realities. Indeed it has been said that the paradigm underpinning the universality and particularities in water regulation may be the main cause of the problem of the integrated management. If we accept this, then focusing on the issue surrounding the 'Transboundary Groundwater Management' and on the need to include these resources in the context of the Integrated management, it would seem clear that a more pragmatic model to organize the International Water Law rules needs to be found. This therefore is my aim in this paper.

The existence of a hydrological cycle as a natural system allows supposing that a systematic approach is perhaps the most useful tool for organizes the law to reach the integrated management goal. I thus propose an International Water Law System as a toolkit that could facilitate the relations between the law and the water system itself. The utilisation of a systematic approach on both sides (subject and law) could allow the above-mentioned problems to be harmonised, because it would deal precisely with the relations between the whole (universality) and its parties (particularities), organizing its structure and its intercommunications.

The idea was conceived in three steps. The first step fixes the concept of 'earth hydrological system' as the best concept to define the water law subject. The second step consists in abstracting from the "Law General Theory" the law system concepts and choosing the ones that seem useful for building an International Water Law System. The last step is to elaborate a system structure considering some of the contemporary International Water Law elements. In this sense, I would like to focus on the Guarani Aquifer case model to develop a subsystem and I will try to demonstrate the importance of the international law principles for the system's structure. These three steps were developed as follows:

First, by fixing the signification of the 'earth hydrological system' we mean the water involved on the land's stage of the hydrological cycle: the sources of water in oceans, lakes, ice sheets, brooks, streams, rivers, underground streams, or other kinds of reservoirs, which may or may not interact with each other (being considered as water individual systems)<sup>9</sup>. This conceptual delimitation made it possible to identify various relations of universality – in the nature of the hydrological system as a whole – as well as particularities in the water systems as the elements. It was possible to verify that the environmental natural syncretism has no problem by dealing with the relations between the universality and the particularities. In fact, the environmental systematic synergy serve only as paradigmatic model for believing that a juridical system model can also reach the goal of harmonising universality and particularities.

Second, when looking for useful system concepts with which to construct the International Water Law System, I found the general concept of system and the special concepts of external and internal system to be very good tools<sup>10</sup>. The general concept offers the first fundamental elements valid for all systems concepts: the idea of unities; the sense of aggregation; and, last but not least, the purpose of organisation. The concept of external system, the first with a scientific function, is an instrument of knowledge, which works by organising the subject. If it is to be applied certain requirements have to be met, the most important of which regarding the law are coherence and completeness. These two requirements are also important for the purpose of organising an International Water Law system. The concept of the internal system, specific to the juridical sciences, presupposes the law as a normative system whose enterprise is that of decision-making. The utility of this concept is in the model of interaction between the norms (elements of the system) and the need to overcome problems like gaps and antinomies.

Third, by applying the received law system concepts, I finally propose an International water law system. In general sense, I use to identify the unities of the system as the law sources including both that from international, regional and national levels, I defend the inclusion of not only governmental sources and the imperative of aggregation of all these sources in one same system, believing on the necessity of organization to its implementation. In an external system approach I propose organising these sources from the international to the local and from the general to the particular in a deductive way considering the requirements of coherence and completeness, for understanding the International Water Law System. And, finally, in the internal aspect I try to take the proposed Groundwater Regional Resource model to look for the most appropriate normative system model of decision considering the actual juridical elements and institutions in all the levels. In this case, the net system model, proposed by François Ost and Michel van de Kerchove<sup>11</sup>, despite some points of divergence, seems to be the one which fits best with the nowadays International Water Law needs: “think the law whose cotidien exercise is precisely a permanent go-and-back from the principle to the concret case, from the rule to the story, from the abstract justice to the equity in case (..) without stoping to ocilate between potential universalism of the nets and the well localised anchoring of the pyramides(...)” (p. 539). Thus, basing myself on the net juridical system model, I took the Convention on the Law of the Non-navigational Uses of International Watercourses and the Groundwater Articles elaborated by the International Law Commission as the centre of the net (as the universalistic element of the system), and, considering the regional groundwater system model proposed, I would like to illustrate all the other particular elements that could be in touch with the central element in order to deduce the parties of the net. At the end, I would like to demonstrate the role of the International Water Law Principles, explicit and implicit, as the net structuring fundaments.

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