The Law of Transboundary Aquifers and the Berlin Rules on Water Resources (ILA): Interpretive Complementarity

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ABSTRACT

The 2008 *Draft Articles* on "The law of transboundary aquifers", annexed to UNGA Resolution 63/124, are at present the most accurate set of rules regulating the utilization of transboundary aquifers or aquifer systems. The *Articles* attest the duty of States to protect and preserve transboundary aquifers or aquifer systems while utilizing them in an equitable and reasonable manner. Hence, the *Articles* reaffirm the pivotal customary rule of equitable utilization of shared resources embedding the obligation not to cause significant harm to other States, which stands out as the primary rule for the utilization of international shared resources. On a different and scholarly exercise, the International Law Association (ILA) adopted in 2004 the *Berlin Rules on Water Resources*, a more complete instrument than the *Helsinki Rules* that the ILA finalized in 1966, which addresses groundwater in a special chapter. The provisions on Groundwater included in the *Berlin Rules*, though somehow concise, are worth analyzing. In fact, each instrument starts from a different concept, the clue that makes the comparison attractive. Even considering their different perspectives and nature, both instruments share the common target of consolidating international law rules towards a cooperative, sound, protective and sustainable management of water. A conjunctive read of both instruments, then, will help to expose their common features and their distinct elements, aiming to complement the interpretation of the Draft Articles in some points that will be briefly highlighted *infra*. As a conclusion, the *Berlin Rules* reflect a trend for a comprehensive management and utilization of water which, as *de lege ferenda* provisions, help to construe the unwritten texts of the Draft Articles.

Key words: groundwater, equitable utilization, sustainability,

1. INTRODUCTION. GROUNDWATER PROVISIONS IN THE *BERLIN RULES*

1.1. The background the Berlin Rules on Groundwater

In 1990 the International Law Association (ILA), following the path of the *Helsinki Rules* on the Uses of the Waters of International Rivers, which it had adopted in 1966, took up again the subject of water resources law aiming to draw up a far-reaching body of rules able to encounter the vacuum of a comprehensive regulation of water. A new Water Resources Committee (WRC) was established by the ILA, whose task was crystallized with the adoption of the *Berlin Rules* in 2004. This comprehensive approach had been the target of the 1977 United Nations Mar del Plata Conference, and of its Action Plan, never revisited since. In the meantime, from 1966 onward the Helsinki Rules helped to shape international water law and became one of the most influential instruments in the field. At the same time, in the 1966-1986 period the Water Resources Law Committee of the ILA addressed specific topics, *i.e.* flood control, marine pollution of continental origin and international groundwaters, among others. On underground waters, the *Seoul Rules* were adopted in 1986, a short formulation of four provisions that made their way up to the 2004 *Berlin Rules*. In the 1966 *Helsinki Rules,* groundwater was only mentioned in the definition of 'drainage basins' in Article II as the area 'determined by the watershed limits of the system of waters, including surface and underground waters, flowing into a common terminus.'

1.2. The parallel development of the ILC and the ILA works

By the time the ILA undertook its process of dimensionally updating the task accomplished by the Helsinki Rules, a codification process of the international law rules focusing on the non-navigational uses of international watercourses had already begun at the International Law Commission of the United Nations. The ILC codification process on international watercourses culminated with the adoption of the 1997 UN Convention on the Law of the Non-Navigational Uses of International Watercourses (UN Water Convention Annex to UNGA Resolution 51/229). As may be noted, they were two differentiated processes indeed, the ILA as a scholarly body painstakingly drawing up rules stemming from conventions, customary rules, State laws, judicial decisions from international as well as national courts, enriched with the general principles of law and the relevant doctrine, in a systematic restatement of water rules, and, on the other hand, the ILC as a scholarly-political body engaged in the codification and progressive development of international law in the field of watercourse uses, imbibing from similar sources but subjected to intense review by States at the 6th Committee of the General Assembly. The ILA Committee concluded its thematically more ambitious work in 2004 with the adoption of the *Berlin Rules*, which gathered in seventy-three provisions many of the relevant rules for the management of water (International Law Association, *Report of the Seventy-First Conference, Berlin,2004,* 334-421). Though not all water topics were dealt with by the ILA work and a number of issues remained to be addressed, with the completion of the draft, adopted as *The Berlin Rules on Water Resources,* the Water Resources Law Committee was wound up.

After the adoption of the 1997 Water Convention, the ILC started the consideration of the topic of 'Shared natural resources' in 2002, which focused on the law of transboundary aquifers. This new task was readily accomplished in 2007, and the Draft Articles were annexed to UNGA Resolution 63/124 (2008). The joint lecture of the ILC's Draft Articles and the Groundwater chapter of the ILA's Berlin Rules, two bodies that are aware of each other's work, will shed some light on their respective differences and similarities. It might also help to construe the Draft Articles and support its implementation.

2. DISTINCT APPROACHES OF RELEVANT TOPICS

2.1 Rules for transboundary aquifers and for national aquifers

(a) With regard to water resources, international law has traditionally refrained from establishing rules for their management at the national level. In fact, the early conventions on navigation, the rules for drawing boundaries on rivers, the river commissions, the non-conventional Helsinki Rules on the Uses of the Waters of International Rivers, the 1992 UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes, to mention only a few relevant instruments, contain rules strictly applicable to the utilization of international or transboundary waters. The same approach was maintained in the most recent instruments on water developed by the United Nations system, *i.e,* the 1997 UN Water Convention, the 2000 UNECE Guidelines on Monitoring and Assessment of Transboundary Groundwaters, and the 2008 UNGA Draft Articles on the Law of Transboundary Aquifers. Environmental conventions, for their part, have adopted a different criterion, establishing rules and duties for States both at the national and international levels, as is the case in the 1971 Convention on Wetlands (article 3), and in the 1994 Convention to Combat Desertification (Articles 2 and 3), even when those provisions apply to water.

(b) Beyond the conventions' universe, non-mandatory instruments like the Agenda 21, adopted at the 1992 UNCED Conference, made recommendations for the Protection of the Quality and Supply of Freshwater Resources: Application of Integrated Approaches to the Development, Management and Use of Water Resources (Chapter 18) meant to impinge on national water policies. Similar recommendations were also included within the contents of the Plan of Implementation of the World Summit on Sustainable Development (2002) (Section IV. *Protecting and managing the natural resource base of economic and social development*) addressing the need of national strategies for water management in numerals 24, 25 (d) and 26 (a).

(c) It appears to be that international water conventions had only been drawn up to regulate international or transboundary waters, while environmental conventions could go further and regulate, when it is embedded in the object of the treaty, both international and national waters. The Berlin Rules strive to overcome the legal divide between international and national waters, starting from the reality that, (a) all transboundary waters are at the same time national waters, (b) national water policies have transboundary effects, and (c) the obligations of States vis a vis other States are equally mandatory at the local level. In fact, even if "States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies", such discretionary capacity is constrained with regard to foreign subjects by "the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction" (Article 3, 1992 Convention on Biological Diversity), a provision replicated in an abridged version by Article 3 of the Draft Articles (see *infra* 2.3).

2.2. The scope and content of the Berlin Rules on Groundwater

The *Berlin Rules* are a comprehensive set of rules aiming to formulate -in a non-governmental setting and looking into the future, a legal framework for the management of water resources, whether national or transboundary, surface or underground, and the concomitant rights and duties of States. This is, certainly, the innovative feature of the proposed Rules. What they state is not as important as what they intend to regulate. Then, moving aside from its previous drafts restricted to shared resources, the *Berlin Rules* move its object to water resources at large. With reference to aquifers, it is also worth considering that all aquifers, connected and not connected with surface waters, are addressed by these Rules. In this regard, it is also necessary to take into consideration the Resolution adopted in 1994 by the ILC on Confined Transboundary Groundwater, clarifying the applicability of the future UN Water Convention to groundwaters related to an international watercourse (second paragraph), and commending States to apply the principles established by the Convention to confined groundwaters as well.

Then, the *Berlin Rules* chapter on Groundwater is to be construed taking into account this comprehensive scope. When they affirm that "The Rules of this Chapter apply to all aquifers", 'all aquifers' means not only transboundary aquifers, not only aquifers contributing or receiving water from surface waters (Article 36.1 Berlin Rules) but also national aquifers. All aquifers are equally implied in the provision establishing that "States, in managing aquifers, are subject to all Rules expressed in these Articles, taking into account the special characteristics of groundwater" (Article 36.2 Berlin Rules). These special features of groundwater are, mainly, slow movement, uncertain recharge/discharge and tiniest capacity to decontaminate itself once it is polluted, aggravated with unchecked abstraction. For its part, the ILC Draft Articles point out that their provisions apply to the "utilization of transboundary aquifers or aquifer systems" (Article 1 (a) Draft Articles), adopting the scope of the UN Water Convention.

2.3 Sovereignty of aquifers States

The Draft Articles include a provision underlining that "Each aquifer State has sovereignty over the portion of a transboundary aquifer or aquifer system located within its territory. It shall exercise its sovereignty in accordance with international law and the present articles." This clause is a safeguard against the eventuality that a limit could be established to the underground sovereignty of States, an unforeseen possibility at present, taking into account that oil and gas deposits are also deep underground assets, or that underground water could be considered a 'common good of mankind' similar to the status of 'common heritage of mankind' of the deep sea bed established by the 1982 Law of the Sea Convention. The Draft Articles provision was not drafted as a legal barrier to co-aquifer States, but as a reassurance towards the international community as a whole. However, it could be invoked in relation to co-aquifer States. The factors relevant to equitable and reasonable utilization listed in Article 5 of the Draft Articles, which include "The social, economic and other needs, present

and future, of the aquifer States concerned" and "The existing and potential utilization of the aquifer or aquifer system" (Article 5 (b) (e)) stress the discretion of States regarding the uses of the aquifer, an element which reinforces the sovereignty safeguard of Article 3. Although that prerogative is subject to the limits imposed by international law and the Draft Articles, States are usually powerless faced with depletion of aquifers or dewatering of recharge areas outside their territory.

There is no such a provision in the Berlin Rules, neither in the general rules listed in Chapter II – VI nor in the groundwater provisions in Chapter VIII. Certainly, sovereignty of States over their water resources was not perceived to be threatened during the elaboration of the Berlin Rules, but it is also certain that circumstances change. To claim sovereignty that is not challenged could be redundant, but it is not harmful. However, it has to be highlighted that such sovereignty should be exercised "in accordance with international law and the present articles" (Article 3 *in fine*, Draft Articles).

2.4. Protecting the aquifer

The duty "to protect and preserve ecosystems within, or dependent upon, their transboundary aquifers or aquifer systems" (Article 10 Draft Articles) incorporated in the Draft Articles is included in the *Berlin Rules* as a general duty for all waters (Article 22 Berlin Rules) and it is equally applicable to groundwater. The provisions in the Draft Articles envisage that the measures for protection of ecosystems should encompass the quality and the quantity of water in the aquifer. This is the only rule in the Draft Articles establishing an obligation that embraces quality and quantity of groundwater, an obligation established specifically for the protection and preservation of the aquifers' ecosystems. On the other hand, the *Berlin Rules* under the heading of 'Protecting Aquifers' establish that "States shall take all appropriate measures to prevent, insofar as possible, any pollution of, and the degradation of the hydraulic integrity of, aquifers" (Article 41.1 Berlin Rules), embracing both elements in the protection of the aquifers.

When addressing pollution, the Draft Articles establish that aquifer States shall, individually or jointly, "prevent, reduce and control pollution of their transboundary aquifers or aquifer systems, including through the recharge process, that may cause significant harm to other aquifer States" (Article 12 Draft Articles). It is a programmatic provision that establishes no guidance as to the actions that should be prevented, and leaves to the national environmental policies the measures to be adopted. The *Berlin Rules*, on their part, indicate that, in order to fulfill their obligation to prevent pollution of an aquifer, States "shall take special care to prevent, eliminate, reduce, or control: (a) The direct or indirect discharge of pollutants, whether from point or non-point sources; (b) The injection of water that is polluted or would otherwise degrade an aquifer; (c) Saline water intrusion; or (d) Any other source of pollution" (Article 41.2 Berlin Rules) and "shall take all appropriate measures to abate the effects of the pollution of aquifers" (Article 41.3 Berlin Rules). They also add that "States shall integrate aquifers into their programs of general environmental protection, including but not limited to: (a) The management of other waters; (b) Land use planning and management; and (c) Other programs of general environmental protection" (Article 41.4 Berlin Rules), reaffirming the concept that surface and underground waters should be managed conjunctively.

2.5. Recharge and discharge areas

Both the Draft Articles and the Berlin Rules establish the duty to protect the aquifer from pollution also including "the recharge process" (Article 12 Draft Articles) or, in other words, the "sites where groundwater is withdrawn from or recharged to an aquifer" (Article 41.5 Berlin Rules).

The Draft Articles contain a specific rule for the protection of the recharge and discharge zones of aquifers, stating that States "shall take appropriate measures to prevent and minimize detrimental impacts on the recharge and discharge processes" (Article 11.1 Draft Articles), a duty that also comprises, in a transboundary context, non aquifer States "in whose territory a recharge or discharge zone is located" (Article 11.2 Draft Articles). In a transboundary context, the *Berlin Rules* establish

the duty to "cooperate in managing the recharge of the aquifer" (Article 42.5 Berlin Rules), not a special rule for the protection of aquifers but a specific rule for transboundary aquifers.

2.6. Terminology issues. Aquifers and groundwater

Law is language, words, terminology, which define legal institutions. In the case of "groundwater" and "aquifers," the shift in terminology between these terms in the instruments devoted to the subject is loud and could not remain unnoticed. In the wording of the General Assembly Resolution 63/124 the object is 'aquifers', and as such, the heading and body of the Resolution refer to 'aquifers'. In the Annex, on the other hand, the ILC Draft Articles refer to both 'groundwater' and 'aquifers' in the preliminary paragraphs and exclusively to 'aquifers' in substantive provisions. The differences are qualitative, because aquifer implies geological strata while groundwater identifies water beneath the surface of the ground, the liquid element of the aquifer. While groundwater moves, the geological strata do not and, in a transboundary context, those differences do not remain unnoticed.

In this regard, which was the approach of the doctrine? If the ILA work is reviewed, the title of the *Seoul Rules,* approved in 1986, is "The Seoul Rules on International Groundwaters", although the first provision addresses "The waters of international aquifers" and the second, dealing with hydraulic interdependence, expresses that basin States "shall take into account any interdependence of the groundwater and other waters including any interconnections between aquifers, and any leaching into aquifers caused by activities and areas under their jurisdiction". The two remaining provisions of the Seoul Rules focus on the "Protection of groundwater" and on "Groundwater management and surface waters", stressing that the content of the aquifer, groundwater, is the main object of the Rules.

Another non-governmental instrument, the 1989 Bellagio "Model Agreement Concerning the Use of Transboundary Groundwater", drafted in the context of the Mexico-United States utilization of border aquifers, defines "aquifer", "transboundary aquifer" and "transboundary waters". Its provisions address groundwater -establishing rules for 'water quantity and quality measures' (Article IV) and for the operation of a database for their 'transboundary groundwaters' (Article V), and aquifers - advancing rules for the protection of 'the quality of transboundary aquifers and their waters' (Article VI). The Model Agreement proposes to set up a Commission, to prepare a Comprehensive Management Plan and to declare a Transboundary Groundwater Conservation Area, addressing "groundwater" in general and, eventually, "aquifers".

FAO, on its part, carried out a compilation of treaties and other legal instruments under the title of "Groundwater in international law" (Legislative Study No 86, Rome, 2005) giving preference to the liquid component of the aquifer. New programs and agreements, however, prefer the term "aquifer" in their instruments on the subject, *i.e.,* the Guarani Aquifer agreement of 2 August 2010 between Argentina, Brazil, Paraguay and Uruguay. On their part, Chapter VIII of the Berlin Rules is titled, laconically, "Groundwater", though in the text of the provisions both terms, groundwater and aquifers, are used. So, elaborating on the previous and other not quoted examples, the conclusion prevails that the term 'aquifer', comprehensive and technically accurate, supersedes the previous preference for 'underground water' and should be preferred as the more adequate denomination.

3. SIMILARITIES AND DIFFERENCES. LESS IS MORE OR VICEVERSA.

1. The *Berlin Rules* are a comprehensive set of rules addressing the management of all waters, surface waters and groundwaters, national and transboundary waters. The ILA proposal looks to formulate a unified body of rights and duties of States regarding water as a resource and as a common good; the Draft Articles, on their part, address specifically transboundary aquifers or aquifer systems.

2. The core interest of the *Berlin Rules* is the decantation of the general principles and the customary rules which constitute the international legal framework for water management, thus

making them applicable to each category of waters and to every use of water. Accordingly, there are no general principles in the Groundwater chapter of the Berlin Rules, there are only some principles specially underlined for this category of waters. But, the important thing is that all principles and customary rules are applicable to groundwater, and to its recharge and discharge zones, in every aspect. This approach could complement the interpretation of the Draft Articles provisions when it comes to their implementation.

3. Taking into account that the *Berlin Rules* on Groundwater address not only transboundary but also national aquifers, the general principles and customary rules dealing with the management of aquifers are also valid for non-transboundary aquifers, joining international and national rules by drawing intrusive obligations at the national level. This is a possibility that goes beyond the scope of the Draft Articles, but could support the implementation of its rules to national aquifers as well.

4. A distinctive character of the *Berlin Rules* on Groundwater is the duty to carry out a conjunctive management of surface waters and ground waters, an approach absent in the Draft Articles. However, the definition of watercourse in the 1997 UN Water Convention and the Declaration of the ILC already mentioned, have broken new grounds in this sense. Additionally, the UN Water Convention and the Draft Articles are driven by parallel general principles and customary rules, and their harmonization in concrete situations will become necessary. The Berlin Rules would be an appropriate tool to advance that harmonization.

5. The Draft Articles limit the application of the rule of 'precautionary management' to the prevention of pollution while the *Berlin Rules* stress the umbrella clause stating the 'precautionary management' of aquifers as a general safeguard principle to be applied in managing aquifers, either rechargeable or non-rechargeable. With regard to the 'principle of sustainability' to which the Berlin Rules adhere, it is not incorporated by the Draft Articles.

6. The Berlin Rules adopt as a general rule the obligation of the aquifer States of transboundary aquifers not to cause significant harm to another aquifer State (Article 42.6 BR). On the other hand, the wording of the Draft Articles establishes that this duty is directed "to prevent the causing of significant harm to other aquifer States or other States in whose territory a discharge zone is located" (Article 6.1 Draft Articles).

4. DISCUSSION. It is worth exploring the harmonization of the definition and scope of surface and underground water in the 1997 UN Water Convention, the ILC Declaration on Aquifers and the Draft Articles, as governmental instruments, between them and with the non-governmental structure of the *Berlin Rules*.

5. INTERPRETIVE COMPLEMENTARITY

The Draft Articles and the Berlin Rules implied different levels of rules. The Draft Articles, as an outcome of the process of codification of the United Nations carried out by the International Law Commission, are driven to compile the existing practice of States and, if practice is scarce or absent, to propose rules of progressive development. Codification is, in itself, a process of distilling from the past, shaping in an organic set of provisions the scattered practice of States, and filling out the gaps in State practice with new rules. It is, essentially, a process of consolidation and completion of rules already existing but not duly identified. On the other hand the Berlin Rules, as a scholarly proposal, equally starts from the existing practice of States, but with a different goal. In fact, the purpose of an academic body would not be satisfactorily fulfilled with the systematic exposition of the actual practice of the international community, but by projecting into the future what the rules might be. Hence, non-governmental proposals are a contribution for the further development of law, as a model for future agreements and national legislation, and for the elaboration of programmes of international organizations. They are also of assistance in order to construe existing legal bodies, in an active interpretive complementarity.