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International Water Resources Law and the International Law Commission Draft Articles on Transboundary Aquifers: A Missed Opportunity for Cross-Fertilisation?

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Abstract

While the Draft Articles on the Law of Transboundary Aquifers adopted in 2008 by the International Law Commission (ILC)¹ follow the same format as the 1997 UN Watercourses Convention² and might reasonably have been expected to adopt a similar normative approach wherever possible, the Preamble to the Draft Articles fails to make any reference to this or to other seminal instruments or codifications in the area of international water resources law and the document takes, in some respects, a radically different and less progressive stance. The principal difference in the Draft Articles, and one which can be linked to most of the other deviations, is the inclusion of an express reference to the sovereignty of aquifer States in a manner implying that this is the key guiding principle of the instrument. This emphasis on State sovereignty over shared, and often migratory, water resources appears to represent something of a retreat from the distributive equity inherent in the firmly established principle of equitable and reasonable utilization and from the intense procedural and institutional cooperation required to achieve the community of interests approach necessary to give meaning to this principle. Reliance on sovereignty implies instead a drift towards a position based more on the narrow and immediate self-interest of States. In order to avoid such an interpretation, it would have been better if the Draft Articles had sought to establish two separate but parallel regimes, one based on sovereignty and covering the static geological formation of the aquifer, and one covering the shared water resources contained in, and transiting through, the formation and based on equitable and reasonable utilization.

Keywords

groundwater; surface waters; sovereignty; fragmentation

1. Introduction

The key principles of international water resources law are now firmly established and increasingly well understood in terms of their practical application, at least with regard to transboundary surface waters. Although already part of customary

¹ UN Doc. A/RES/63/124 (2009). See Report of the International Law Commission on the Work of Its Sixtieth Session, UN GAOR, 62nd Sess., Suppl. No. 10, UN Doc. A/63/10 (2008).

² 1997 UN Convention on the Law of the Non-Navigational Uses of International Watercourses (New York, 21 May 1997), not yet in force, (1997) 36 *ILM* 22.

international law, the key principle of equitable and reasonable utilisation³ and the related duty of States to prevent significant transboundary harm,⁴ along with various associated procedural requirements,⁵ have been endorsed under the 1997 UN Watercourses Convention and supported in recent statements of the International Court of Justice.⁶ In addition, the ongoing evolution of several emerging principles of international environmental law, including the precautionary principle⁷ and the ecosystems approach,⁸ lends some normative depth and environmental coherence to this body of rules.

The ILC has taken a further significant step in the elaboration of a comprehensive body of international rules on water resources by its adoption of the 2008 Draft Articles on the Law of Transboundary Aquifers. This elaboration of specific rules belatedly recognizes the vital importance of groundwater resources, their unique vulnerability, and their quite distinct geophysical characteristics. However, the current Draft Articles are likely to give rise to some uncertainty and confusion as regards their scope of application and that of the UN Watercourses Convention. This matters because the Draft Articles take a markedly different approach to the utilization and environmental protection of transboundary water

³ See Articles 5 and 6 of the 1997 UN Watercourses Convention, setting out the principle of equitable and reasonable utilization and the factors relevant to its application, represent a codification of the position under general international water resources law. For example, the ILC Commentary to Article 5 of the 1994 ILC Draft Articles, which were the precursor for the text of the 1997 UN Watercourses Convention adopted by the UN General Assembly, reports that

A survey of all available evidence of the general practice of States, accepted as law, in respect of the non-navigational uses of international watercourses... reveals that there is overwhelming support for the doctrine of equitable utilization as a general rule for the determination of the rights and obligations of States in this field.

International Law Commission, Report of the International Law Commission on the Work of its Forty-Sixth Session, UN GAOR 49th Sess., Suppl. No. 10, UN Doc. A/49/10 (1994), p. 222. See further, Stephen McCaffrey, *The Law of International Watercourses* (2nd ed., 2007) pp. 384–405; Owen McIntyre, *Environmental Protection of International Watercourses under International Law* (2007) pp. 53–86.

⁴ See Article 7 of the UN Watercourses Convention. See further, McCaffrey, *ibid.*, pp. 406–445; McIntyre, *ibid.*, pp. 87–119.

⁵ See Articles 8–9 and 11–19 of the UN Watercourses Convention. See further, McCaffrey, *ibid.*, pp. 464–480.

⁶ See in particular *Case Concerning Pulp Mills on the River Uruguay (Argentina v. Uruguay)*, International Court of Justice, 20 April 2010; *Case Concerning the Gabčíkovo-Nagymaros Project (Hungary/Slovakia)*, (1997), ICJ Reports 7. See further, Owen McIntyre, ‘Environmental protection of international rivers: *Case concerning the Gabčíkovo-Nagymaros Project (Hungary/Slovakia)*, 10 *Journal of Environmental Law* (1998) pp. 79–91; Owen McIntyre, ‘The Proceduralisation and Growing Maturity of International Water Law: *Case Concerning Pulp Mills on the River Uruguay (Argentina v. Uruguay)*, International Court of Justice, 20 April 2010’, 22 *Journal of Environmental Law* (2010) pp. 475–497.

⁷ See further, McIntyre, *supra*, n. 3, pp. 265–283.

⁸ See further, McCaffrey, *supra*, n. 3, pp. 446–462; McIntyre, *ibid.*, pp. 286–313; Owen McIntyre, ‘The “Ecosystems Approach” to the Protection of Shared International Freshwater Resources’ 13 *Review of European Community and International Environmental Law* (2004) p. 1; Attila Tanzi and Maurizio Arcari, *The United Nations Convention on the Law of International Watercourses: A Framework for Sharing* (2002) p. 117.

resources from the UN Convention in a number of key respects. For example, due in part to the manner in which ‘transboundary aquifers’ are defined in the Draft Articles, they place emphasis on the principle of State sovereignty, which would appear to be at odds with current understanding of the principle of reasonable and equitable utilization. Further, some aspects of the Draft Articles might be regarded as rowing back on progress achieved under the UN Convention, for example, in the emphasis placed upon natural characteristics as a factor in the determination of an equitable and reasonable share of groundwater resources. Of course, other aspects of the Draft Articles can be regarded as entirely progressive, such as the clear emphasis placed on the distribution of ‘benefits’ to be derived from transboundary aquifers.

This article seeks to explore the opportunities, missed and remaining, for the ‘cross-fertilisation’ of ideas between the UN Watercourses Convention and the ILC Draft Articles in respect of the normative content, relative significance and practical application of key principles of international water resources law. Given the dearth of State and treaty practice in relation to transboundary aquifers, it is useful to try to identify which aspects of general international water law might inform inter-State practice on groundwater resources. Conversely, the more progressive aspects of the Draft Articles can help to advance understanding of water resources law generally. At any rate, a coherent and integrated framework for State cooperation on the utilization and protection of all shared water resources must be preferable to one that is fragmented and confused.

2. Cross-fertilisation vs. Fragmentation⁹

Whereas international law relating generally to the use and environmental protection of shared freshwater resources is reasonably well developed, the accepted rules and principles have largely evolved from practice in respect of surface waters, despite the vital significance of groundwater resources for meeting human needs. There are currently over 400 international agreements relating to transboundary surface waters,¹⁰ including binding regional framework agreements, such as the 1992 UNECE Helsinki Convention,¹¹ which has inspired several subsequent

⁹ On the phenomenon of fragmentation, see Martti Koskenniemi, *Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law*, Report of the Study Group of the International Law Commission, UN Doc. A/CN.4/L.682, 13 April 2006, pp. 10–30. See also, Jaye Ellis, ‘Sustainable Development and Fragmentation in International Society’, in D. French (ed.), *Global Justice and Sustainable Development* (2010) pp. 57–73.

¹⁰ Kerstin Mechlem, ‘Moving Ahead in Protecting Freshwater Resources: The International Law Commission’s Draft Articles on Transboundary Aquifers’, 22 *Leiden Journal of International Law* (2009) p. 803, citing the International Freshwater Treaties Database managed by Oregon State University, available at <http://www.transboundarywaters.orst.edu/database/interfreshwatdata.html>.

¹¹ UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Helsinki, 17 March 1992) 31 *ILM* 1312.

river basin agreements.¹² Groundwater resources tended either to be completely ignored or only nominally included under such arrangements.¹³ Significantly, the law relating to the utilization of shared international ‘watercourses’ has been meticulously codified by the work of the ILC leading to the adoption of the 1997 UN Watercourses Convention which, though not in force, is immensely influential upon the practice of States¹⁴ and has provided the basis for subsequent binding regional frameworks, such as the 2000 Revised SADC Protocol on Shared Watercourses.¹⁵ International water resources law has received considerable attention from learned societies, notably including the International Law Association (ILA), which adopted an absolutely seminal early codification of the area in the form of its 1966 Helsinki Rules,¹⁶ which have since been overtaken by the more progressive but contentious 2004 Berlin Rules on Water Resources.¹⁷ As a high-profile environmental and developmental issue, international water resources received considerable scrutiny in the lead up to the 1992 Rio process and benefited from the guidance provided under Chapter 18 of Agenda 21,¹⁸ as well as from the key rules and principles set out under the Rio Declaration.¹⁹ In addition, international courts and arbitral tribunals have examined the practical application of a variety of aspects of international water law, with the International Court of Justice delivering two landmark judgments in recent years concerning disputes over international rivers.²⁰ It is telling that in each of these cases, the dispute turned on the practical implications of existing bilateral river basin agreements. Not surprisingly perhaps, this area has recently been the subject of intense and illuminating academic scrutiny and debate.

In stark contrast, prior to the adoption of the 2008 ILC Draft Articles the specific topic of shared international groundwater resources has been quite neglected. International treaty practice consists of a mere handful of international

¹² See, for example, Agreement on the Protection of the Scheldt (Charleville-Mézières, 26 April 1994); Agreement on the Protection of the Meuse (Charleville-Mézières, 26 April 1994); Convention on Cooperation for the Protection and Sustainable Use of the River Danube (Sofia, 29 June 1994); Convention on the Protection of the Rhine (Rotterdam, 22 January 1998).

¹³ See Mechlem, *supra*, n. 9, p. 804.

¹⁴ See McIntyre, *supra*, n. 3, p. 2; Attila Tanzi, ‘The UN Convention on International Watercourses as a Framework for the Avoidance and Settlement of Water Law Disputes’ 11 *Leiden Journal of International Law* (1998) 441.

¹⁵ 40 *ILM* (2001) 321.

¹⁶ International Law Association, *Report of the Fifty-Second Conference of the International Law Association* (Helsinki, 1966).

¹⁷ 2004 Berlin Rules on Water Resources adopted at the ILA seventy-first conference, Berlin, August 2004, by Resolution No. 2/2004. See International Law Association, *Fourth Report of the Committee on Water Resources Law* (2004).

¹⁸ *Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3–14 June 1992*, UN Doc. A/CONF.151/26 (vol. II) (1992).

¹⁹ Rio Declaration on Environment and Development, UN Doc. A/CONF.151/Rev.1 (1992), 31 *ILM* 876.

²⁰ *Supra*, n. 6.

agreements applying specifically to groundwaters, only two of which create binding substantive arrangements,²¹ while two others relate, respectively, to monitoring and data sharing for the Nubian Sandstone Aquifer System and a consultation mechanism for the Northwest Sahara Aquifer System.²² Of course, in August 2010 the four States sharing the Guarani Aquifer System concluded a detailed binding agreement, which took inspiration from and largely follows the guidance provided by the ILC's 2008 Draft Articles.²³ In 1986, the ILA adopted its Seoul Rules on International Groundwaters,²⁴ which sought to outline the application of the 1966 Helsinki Rules to shared groundwater resources, but were not widely endorsed by the practice of States. Additional non-binding guidance on national measures was provided by the 1989 UNECE Charter on Groundwater Management.²⁵ Although the need for integration of surface and groundwater resources for the purposes of water quantity and quality management was stressed under Agenda 21, and a separate Chapter VIII on *Groundwater* was included in the ILA's 2004 Berlin Rules, the area had remained underdeveloped.

Therefore, one might reasonably have expected that the ILC's efforts to elaborate a legal framework for transboundary aquifers would have been guided to a very significant degree by the more developed corpus of rules on international watercourses, particularly as the UN Watercourses Convention purports to apply to groundwaters physically linked to surface waters. The ILC's 1994 Resolution on Confined Groundwaters,²⁶ adopted on completion of its 1994 Draft Articles on the Non-Navigational Uses of Transboundary Watercourses, which went on to form the basis of the UN Convention, made a clear distinction between groundwater 'related to an international watercourse', which was to be covered by the 1994 Draft Articles (and thus by the UN Convention), and 'confined transboundary groundwater', in relation to which the Resolution would apply, commending States to be guided where appropriate by the principles contained in the Draft Articles. Similarly, Article 42 of the ILA's 2004 Berlin Rules, for example, provides that the rules applicable to internationally shared waters apply to an aquifer that is connected to shared international surface waters or that is unconnected to international surface waters but is intersected by the boundaries of two or more States. Of course, the ILC's 1994 Resolution on Confined Groundwaters can be understood as having implicitly recognized the particular hydro-geological

²¹ 2007 Franco-Swiss Geneva Aquifer Convention, replacing a 1997 arrangement concerning groundwater quality, abstraction and recharge. See Mechlem, *supra*, n. 9, at 803.

²² See Mechlem, *ibid.*, at 803–4. Both instruments are reprinted in Stefano Burchi and Kerstin Mechlem (eds.), *Groundwater in International Law: Compilation of Treaties and other Legal Instruments* (2004) pp. 4–8.

²³ Guarani Aquifer Agreement (San Juan, 2 August 2010).

²⁴ International Law Association, *Report of the Sixty-Second Conference of the International Law Association* (Seoul, 1987).

²⁵ UN Doc. E/ECE/1197 ECE/ENVWA/12.

²⁶ *Yearbook of the International Law Commission, 1994*, vol. II (Part Two), p. 135.

characteristics and unique regulatory challenges of shared groundwater resources, while also advocating coherence in international water law. First of all, in terms of ‘regulating transboundary groundwater’, which would appear sufficiently broad to include both ‘related’ and ‘confined’ groundwater, the Resolution merely commended States to be guided by the general principles contained in the 1994 Draft Article ‘where appropriate’, thus recognizing the need for some specific rules on groundwater.²⁷ Indeed, the Resolution simultaneously highlighted ‘the need for continuing efforts to elaborate rules pertaining to confined transboundary groundwater’ while also stating the ILC’s view that ‘the principles contained in its draft articles... may be applied to transboundary confined groundwater’.²⁸ Anyway, it is not clear that groundwater resources can be so neatly divided between ‘confined’ groundwater and groundwater ‘related to an international watercourse’. Also, it appears that neither the UN Convention nor the 1994 Resolution would apply to aquifers that are recharged solely from precipitation or that discharge either into the sea or into another aquifer.²⁹ It must also be borne in mind that, during the elaboration of the ILC’s 1994 Draft Articles and of the final text of the UN Convention, the drafters did not focus on the unique regulatory challenges posed by groundwater.³⁰

Alternatively, to the extent that it is inevitable that the 2008 Draft Articles would diverge substantively from the approach taken under the UN Watercourses Convention, one might have expected that this imperative ought to have been explained and that the scope of application of the Draft Articles would have been very clearly set out, in order that conflicts with the UN Convention might have been avoided. However, this does not appear to be the case. While the UN Convention defines a “watercourse” to include ‘*surface waters and ground waters* constituting by virtue of their *physical relationship* a unitary whole and normally flowing into a common terminus’,³¹ the corresponding provision of the Draft Articles defines an “aquifer” as ‘a permeable water-bearing geological formation underlain by a less permeable layer and the water contained in the saturated zone of the formation’,³² thereby declining to restrict its scope of application merely to ‘confined’ or non-recharging aquifers or to ground waters unconnected to surface waters. Indeed, the inclusion of “recharging aquifers”,³³ “recharge zones”³⁴ and

²⁷ Para. 1.

²⁸ Preambular paras. 4 and 5.

²⁹ See Mechlem, *supra*, n. 9, p. 805–6, citing as examples

the Rus Aquifer shared by Saudi Arabia and Qatar which terminates in marine springs in the Persian Gulf or the Mountain Aquifer underlying Israel and the West bank, which is recharged solely by precipitation in the highlands of the Judean Mountains.

³⁰ Mechlem, *ibid.*, p. 806.

³¹ Article 2(a) (emphasis added).

³² Draft Article 2(a).

³³ Draft Articles 2(f) and 12.

³⁴ Draft Articles 2(g) and 11.

“discharge zones”³⁵ within the regime proposed under the Draft Articles strongly suggests that aquifers connected to surface waters are covered. Thus, though scientific and legal uncertainty as to the nature, extent or adequacy of any connection between groundwaters and surface waters would anyway be likely to persist, the issue arises of which set of rules ought to apply to ground waters physically connected to a system of surface waters. The Commentary to the 2008 Draft Articles acknowledges that the danger of overlap, and the need for clear priority in the case of conflict, between these sets of rules would become all the more urgent in the event of the Draft Articles eventually becoming a convention and, though the Commission declined to include the proposed Article 20 on the relationship between the Draft Articles and other conventions and international agreements³⁶ until the outcome of its ‘two-stage approach’ was apparent, this decision merely defers discussion of a difficult but central issue and confuses the precise scope, and thus the appropriate substantive content, of the Draft Articles.³⁷ To provide an example of the type of potential confusion caused by the mismatch between these two instruments, it is worth noting that the 2008 Draft Articles do not apply to an aquifer that is situated entirely in one State but contributes to the flow of an international watercourse, as they only apply to a ‘transboundary aquifer’ or ‘transboundary aquifer system’.³⁸ The waters of such an aquifer would normally be covered by the concept of an ‘international watercourse’ to which the UN Convention would apply,³⁹ though this deliberate exclusion from the scope of the Draft Articles ‘exempts an important constellation from their *lex specialis* rules, so that only more general rules of international law apply’.⁴⁰

It is regrettable that the 2008 Draft Articles exacerbate the obvious potential for confusing overlap with the UN Watercourses Convention. For example, the

³⁵ See Draft Articles 2(h), 6, 10 and 11.

³⁶ The proposed Draft Article 20 would have given clear priority to the provisions of the 2008 Draft Articles over the provisions of the 1997 UN Watercourses Convention in the case of any incompatibility.

³⁷ See Report of the International Law Commission on the Work of Its Sixtieth Session, *supra*, n. 1, pp. 15–17.

³⁸ Draft Articles 1 and 2. Ironically, in the light of the emphasis placed on the sovereignty of aquifer States under Draft Article 3, such internal water resources are elsewhere classified as ‘sovereign resources’, *i.e.* those ‘located wholly within the territory of a single state’, as opposed to ‘shared resources’, *i.e.* ‘those subject to the exclusive jurisdiction of two or more states’. See Coalter G. Lathrop, ‘Finding the Right Fit: One Design Element in the International Groundwater Resource Regime’, 19 *Duke Journal of Comparative and International Law* (2009) pp. 422–3.

³⁹ Article 2.

⁴⁰ Mechlem, *supra*, n. 9, p. 809. This strict focus only on transboundary aquifers might also be understood as a rejection of the more integrative, though somewhat controversial, approach taken by the ILA in the elaboration of the 2004 Berlin Rules on Water Resources Law, which represented

a major development of the rules relating to water resources, integrating the traditional rules regarding transboundary waters with rules derived from the customary international environmental law and international human rights law that apply to all waters, national as well as international.

Supra, n. 16, p. 2.

Draft Articles follow a format which is very similar to that of the Convention, with the titles employed for the four parts into which they are divided mirroring those used for the corresponding parts of the Convention.⁴¹ Clearly, this may cause some uncertainty where the normative requirements applying under each instrument differ substantively or procedurally. Indeed, it is quite extraordinary that the preambular paragraphs of the Draft Articles do not include a single reference to the UN Watercourses Convention or to any other significant framework water resources agreement or codification of the rules of international water resources law.

3. Progressive vs. Regressive Aspects of the ILC Draft Articles

In addition to setting out a highly specific regime for transboundary aquifers based on a sound scientific and hydrological understanding of their unique characteristics, the 2008 Draft Articles include a number of quite progressive elements, which reflect the ongoing evolution of international water resources law since the adoption of the UN Watercourses Convention. For example, in relation to the scope of application of the regime set out therein, Draft Article 1 sensibly includes, in addition to the '[u]tilization of transboundary aquifers', '[o]ther activities... likely to have an impact upon such aquifers'. This is significantly broader in scope than the corresponding provision of the UN Convention, which only applies to 'uses of international watercourses and of their waters for purposes other than navigation' and to related measures of protection, preservation and management.⁴² The ILC Commentary to the 2008 Draft Articles cites the careless use of chemical fertilizer or pesticide in the vicinity of the aquifer or the construction of a subway which might impair a geological formation of an aquifer as examples of such activities.⁴³ The broader scope of the regime set out under the Draft Articles would also extend to cover such activities as the use of aquifers for carbon sequestration or for the recovery of heat or energy. Similarly, recognizing that impacts may be caused or endured beyond the territory of aquifer States, Draft Articles 6, 11, 15, 16 and 17 can apply to States other than aquifer States, though they provide few rights to States in which discharge zones are located and seek to impose only obligations on States in which recharge zones are located, making it highly unlikely that either would wish to cooperate.⁴⁴

In relation to the articulation of the principle of equitable and reasonable utilization, Draft Article 4 emphasizes long-term *benefits* rather than utilization,

⁴¹ See Stephen McCaffrey, 'The International Law Commission Adopts Draft Articles on Transboundary Aquifers', 103 *American Journal of International Law* (2009) p. 274.

⁴² Article 1.

⁴³ Report of the International Law Commission on the Work of Its Sixtieth Session, *supra*, n. 1, p. 33.

⁴⁴ Mechlem, *supra*, n. 9, pp. 809–10.

thus potentially permitting broader consideration of relevant factors leading to more efficient use of resources and optimization of human benefits.⁴⁵ In the same vein, Draft Article 5 employs a logical reordering of the factors relevant to equitable and reasonable utilization, giving sequential priority to the ‘population dependent on the aquifer’⁴⁶ and then to the ‘social, economic and other needs’⁴⁷ of the aquifer States. This corresponds with the relative priority normally accorded to such factors in the established practice of international water resources law.⁴⁸ Indeed, ‘vital human needs’ not only enjoy a special status under Draft Article 5(2),⁴⁹ but also in respect of emergency situations under Draft Article 17(3) and, implicitly, in respect of technical cooperation with developing States under Draft Article 16 and in respect of armed conflict under Draft Article 18. These latter three situations correspond with the directions set out by the Committee on Economic, Social and Cultural Rights in its 2002 General Comment No. 15 on the Right to Water⁵⁰ at, respectively, paras. 34 and 38, and paras. 21 and 22, suggesting that the Draft Article were informed by the ongoing international discourse on the human right to water. Draft Article 5(g) further highlights the inherent vulnerability of aquifers by emphasizing consideration of alternative sources of water supply, while Draft Article 5(i) highlights the ‘role of the aquifer... in the related ecosystem’, thus expressly advocating an ecosystems approach to the protection of transboundary aquifers.⁵¹ Generally, the Draft Articles might be seen to bring some clarity to determination of equitable and reasonable utilization by declining to risk confusing to some extent ‘factors relevant to equitable and reasonable utilization’ with ‘different kinds of uses’ as, arguably, occurs in the case of Articles 6 and 10 of the UN Watercourses Convention.

⁴⁵ On the concept of “benefit-sharing” in respect of transboundary water resources, see Patricia Wouters and A. Dan Tarlock, ‘Are Shared Benefits of International Waters an Equitable Apportionment?’, 18 *Colorado Journal of International Environmental Law and Policy* (2007), pp. 523–536; Innes Dombrowsky, ‘Revisiting the Potential for Benefit-Sharing in the Management of Transboundary Rivers’, 11 *Water Policy* (2009) pp. 125–140.

⁴⁶ Draft Article 5(1)(a).

⁴⁷ Draft Article 5(1)(b).

⁴⁸ For a comprehensive account of State practice in respect of factors relevant to the equitable and reasonable utilization of international watercourses, see in particular, Ximena Fuentes, ‘The Criteria for the Equitable Utilization of International Rivers’, 67 *British Yearbook of International Law* (1996) pp. 337–412. See also, McIntyre, *supra*, n. 3, pp. 155–189.

⁴⁹ After denying the inherent priority of any of the factors listed under Draft Article 5(1), Draft Article 5(2) goes on to state

However, in weighing different kinds of utilization of a transboundary aquifer or aquifer system, special regard shall be given to vital human needs.

⁵⁰ Committee on Economic, Social and Cultural Rights, *General Comment No. 15, The Right to Water (Articles 11 and 12 of the International Covenant on Economic, Social and Cultural Rights)*, U.N. DOC. E/C.12/2002/11, 26 November 2002.

⁵¹ See further, *supra*, n. 8.

1 However, certain aspects of the Draft Articles might be regarded as less pro-
 2 gressive than the UN Convention. For example, in respect of the principle of
 3 equitable and reasonable utilization, Article 5(1)(d) appears to place quite consid-
 4 erable emphasis on ‘contribution to the formation and recharge of the aquifer’,
 5 which the Commentary explains ‘means the comparative size of the aquifer in
 6 each aquifer State and the comparative importance of the recharge process in each
 7 State where the recharge zone is located’.⁵² Despite the fact that corresponding
 8 factors are listed first in Article 6(1) of the UN Convention, this approach is
 9 totally at odds with the very minor significance normally attributed under general
 10 international water resources law to such geophysical factors as the extent of a
 11 shared watercourse or drainage basin within the territory a riparian State or its
 12 contribution to the river’s flow,⁵³ and suggests that the version of the principle
 13 adopted under the Draft Articles may be less distributive in that it is less con-
 14 cerned with human needs and dependence.⁵⁴ Indeed, this emphasis on hydro-
 15 logical factors is more in keeping with the concepts of State sovereignty over and
 16 of property in water.⁵⁵ Similarly, though Draft Article 15 on planned activities
 17 suggests strongly that States might conduct an EIA and links any EIA to the pro-
 18 cedures of notification, consultation, negotiation and fact-finding, thereby antic-
 19 ipating to some degree the understanding of international water law articulated
 20 by the ICJ in the recent *Pulp Mills on the River Uruguay* case,⁵⁶ the Draft Articles
 21 provide considerably less detail and place less emphasis on procedural obligations
 22 than Articles 11–19 of the UN Convention. This omission is hardly in keeping
 23 with the ICJ’s recent findings on the central importance of procedural obligations
 24 for the general duty of cooperation, the requirements of good faith, and satisfac-
 25 tion of the due diligence requirements of the key substantive obligations set out
 26 in the Draft Articles.⁵⁷ However, Draft Article 7(2) does state clearly that ‘aquifer
 27 States should establish joint mechanisms of cooperation’ for the purposes of the
 28 general duty to cooperate, another element stressed by the ICJ.⁵⁸ Further, despite
 29 the travails of the Commission in its earlier work on watercourses in this regard,⁵⁹

⁵² Report of the International Law Commission on the Work of Its Sixtieth Session, *supra*, n. 1, p. 45.

⁵³ Tanzi and Arcari, *supra*, n. 8, p. 124; Fuentes, *supra*, n. 47, pp. 398–407; McIntyre, *supra*, n. 3, pp. 179–183.

⁵⁴ On the human needs focused or ‘distributive’ nature of equity as applied in international water resources law, see McIntyre, *ibid.*, p. 149.

⁵⁵ On the issue of sovereignty over, and the related of property in, shared water resources, see *infra*.

⁵⁶ *Supra*, n. 6.

⁵⁷ See McIntyre (2010), *supra*, n. 6, pp. 488–491.

⁵⁸ *Ibid.*, p. 491.

⁵⁹ The Commentary to the ILC’s 1994 Draft Articles went to considerable lengths to clarify the relationship between the principle of equitable and reasonable utilization and obligation to prevent transboundary harm stating, for example, that

the State whose use causes the harm shall... consult with the State suffering such harm over... the extent to which such use is equitable and reasonable taking into account the factors listed in Article 6.

by declining to include a reference to compensation in Draft Article 6, it is not now implicit that the principle of equitable and reasonable utilization enjoys priority over the duty to prevent significant harm in the case of transboundary aquifers. This may again convey the impression that the Draft Articles are less concerned with distributive equity than with sovereignty, which would only be restricted to extent strictly necessary under the *sic utere tuo* principle.⁶⁰ Finally, though Draft Article 5 includes as relevant factors the ‘development, protection and conservation’ of the aquifer and its ‘role... in the related ecosystem’ and Draft Article 10 requires protection and preservation of ecosystems, Draft Article 12 on prevention, reduction and control of pollution might be regarded as somewhat anaemic in comparison to Article 21 of the UN Watercourses Convention, which provides a definition of “pollution of an international watercourse” and suggests a number of types of measures on which States might cooperate.⁶¹ Though Draft Article 12 requires aquifer States to ‘take a ‘precautionary approach’, Article 21 is more explicitly eco-centric, including reference to pollution causing ‘significant harm to other watercourse States *or their environment*’ and to ‘the *living resources* of the watercourse’. Perhaps this reflects the 2008 Draft Articles’ greater focus on the economic rather than the environmental dimension of shared water resources, once again stemming from a notion of property in water resources supported by that instrument’s reliance on the principle of State sovereignty.

4. The Problem of Sovereignty

The definition of “aquifer” contained in the 2008 Draft Articles gives rise to a number of problems, not least the fact that the assertion of State sovereignty over transboundary aquifers contained in Draft Article 3 extends to shared

See Report of the International Law Commission on the Work of its Forty-Sixth Session, *supra*, n. 3, p. 236. See further, McIntyre, *supra*, n. 3, pp. 104–116; McCaffrey, *supra*, n. 3, pp. 407–8; Tanzi and Arcari, *supra*, n. 8, pp. 178–9.

⁶⁰ Indeed, it is in relation to internal groundwater resources, *i.e.* those located wholly within the territory of a single State, that one commentator notes

Such sovereign resources, being fully excludable, are private goods. Their “ownership” structure most closely resembles private property: a single rights-holder... that is subject only to the omni-present rule of property ownership *sic utere tuo ut alienum non laedas* (use your own so as not to injure another).

See Lathrop, *supra*, n. 37, p. 423.

⁶¹ Article 21(3) lists indicative measures to prevent, reduce and control pollution of an international watercourse on which watercourse States shall consult with a view to reaching agreement, including

- a. Setting joint water quality objectives and criteria;
- b. Establishing techniques and practices to address pollution from point and non-point sources;
- c. Establishing lists of substances the introduction of which into the waters of an international watercourse is to be prohibited, limited, investigated or monitored.

groundwater resources.⁶² This single definition includes both the ‘underground geological formation which functions as a container for water’, essentially a static territorial element, and ‘the water contained therein’, which will often refer to a moving natural resource which might transit from the territory of one State to that of another.⁶³ Thus, it combines and confuses a geological element, in respect of which it is wholly appropriate to think in terms of sovereignty and even, by analogy, property, with a migratory natural resource, in respect of which it would be more in keeping with established international practice to think in terms of sovereign rights to utilize.⁶⁴ The important distinction is that sovereign rights to utilize are limited by the obligation to consider the sovereign rights of other States, identified by means of the process of equitable balancing of needs and benefits inherent to the principle of equitable and reasonable utilization. Though the Commentary to the Draft Articles refers to the definition of an “aquifer” provided in Article 2(11) of the EU Water Framework Directive,⁶⁵ this definition only includes the ‘geological strata’ and not the water contained therein. It is not immediately clear why the Commission could not have provided separate definitions for an “aquifer”, focusing on the geological formation, and for “groundwater” contained therein, and then set out parallel legal regimes for the sovereign control and protection of the functioning of the former and for the utilization and shared management of the latter. Though the relevant provisions of the 2004 Berlin Rules apply to all aquifers, whether or not recharging or connected to surface waters, Article 3 defines “aquifer” and “groundwater” separately and Chapter VIII provides for the precautionary management and sustainable use of each, including the taking of measures to prevent ‘the degradation of the hydraulic integrity of aquifers’, which relates principally to prevention of the related processes of subsidence and compaction.⁶⁶ Similarly, both the Ixtapa Draft

⁶² According to Draft Article 2(a)

“aquifer” means a permeable water-bearing geological formation underlain by a less permeable layer and the water contained in the saturated zone of the formation.

⁶³ See Commentary, at Report of the International Law Commission on the Work of Its Sixtieth Session, *supra*, n. 1, p. 35.

⁶⁴ As early as 1878, the Swiss Federal Court recognised, in a shared water resources dispute between cantons (States), that it was necessary, on the basis of the sovereign equality of States, for the normal exercise of sovereignty to be severely curtailed. The Court stated that

it follows from the equality of the cantons that none of them may, to the prejudice of the others, take such measures upon its territory, as the diversion of a river or brook, construction of dams, *etc.*, as may make the exercise of the rights of sovereignty over the water impossible for the other cantons, or which exclude the joint use thereof or amount to a violation of territory.

Argau v. Zurich, Entsch. Des Schweizerischen Bundesgerichts (1878), vol. IV, p. 34, quoted by McCaffrey, *supra*, n. 3, p. 390 (emphasis added).

⁶⁵ Directive 2000/60/EC, (OJ L 327, 22 Dec. 2000).

⁶⁶ *Supra*, n. 16.

Agreement Relating to the Use of Transboundary Groundwaters⁶⁷ and the Bellagio Draft Agreement Concerning the Use of Transboundary Groundwaters,⁶⁸ related initiatives by multidisciplinary groups of specialists to draft model international groundwater treaties, define “aquifers” and “groundwater” separately”. Indeed, though the ILA’s Seoul Rules do not attempt to define either “aquifer” or “groundwater”, Article III(2) suggests that both elements should be considered separately by requiring that basin States consult and exchange relevant available information

(a) for the purpose of preserving the groundwaters of the basin from degradation and protecting from impairment the geologic structure of the aquifers, including recharge areas; (b) for the purpose of considering joint or parallel quality standards and environmental protection measures applicable to international groundwaters and their aquifers.⁶⁹

The assertion in Draft Article 3 that ‘[e]ach aquifer State has sovereignty over the portion of a transboundary aquifer or aquifer system located within its territory’ is without doubt the single most controversial departure from established international water resources law. While it is self-evident that a State enjoys territorial sovereignty over any geological formation located within its borders, it was not felt necessary to include in the UN Watercourses Convention such a reiteration of sovereignty in relation to the portion of the bed of an international river located within the territory of each riparian State. More seriously, the move to extend the notion of sovereignty to cover the second element of an “aquifer” as defined in the Draft Articles, that of the shared waters contained therein, marks a significant retreat from the core principles of established international water resources law. Indeed, such a move would appear to be inconsistent with the entire historical and conceptual development of the principle of equitable and reasonable utilization, which at the most basic level can be understood as a means of limiting, on the basis of the sovereign equality of States, the application of absolute theories of territorial sovereignty to shared water resources.⁷⁰ A more sophisticated understanding of this cardinal principle of international water law appreciates that equitable and reasonable utilization requires establishment of a “community of interests” approach, normally achieved by means of cooperative institutional machinery of the type envisaged under Draft Article 7(2). The community of interests approach to the management of shared waters has been endorsed by the

⁶⁷ See Ann Berkeley Rodgers and Albert Utton, ‘The Ixtapa Draft Agreement Relating to the Use of Transboundary Groundwaters’, 25 *Natural Resources Journal* (1985) p. 715, Article 1.

⁶⁸ See Robert D. Hayton and Albert E. Utton, ‘Transboundary Groundwaters: The Bellagio Draft Treaty’ 29 *Natural Resources Journal* (1989) p. 663, Article 1.

⁶⁹ *Supra*, n. 23.

⁷⁰ McIntyre, *supra*, n. 3, pp. 76–78.

ICJ in both the *Gabčíkovo-Nagymaros*⁷¹ and *Pulp Mills on the River Uruguay*⁷² cases, and can only be understood as a diminution of individual State sovereignty over shared water resources.⁷³ In a detailed analysis of the community of interests concept, McCaffrey concludes that:

it expresses more accurately the normative consequences of the physical fact that a watercourse system is, after all, a unity. It is one thing that is shared by more than one state. All states sharing the watercourse system have an interest in it. Because these interests are all in the same thing – even if they are not identical – they can be described as forming a community.⁷⁴

In terms of its practical significance, he further explains that ‘[w]hereas the doctrine of limited territorial sovereignty merely connotes unilateral restraint, the concept of a *community* of interest evokes shared governance, joint action’.⁷⁵ Such an approach is totally at odds with the unfounded view expressed by certain States, and seemingly supported by the ILC, that ‘water resources *belong* to the States in which they are located and are subject to the *exclusive* sovereignty of those States’.⁷⁶

At any rate, the ILC’s Commentary to Draft Article 3 does not make a persuasive case for inclusion of an explicit reference to the sovereignty of aquifer States. Most of the instruments cited in support of the principle of sovereignty are not specifically concerned with the law of shared water resources and, in the case of the couple that are, the Commentary is positively misleading in that the two references to sovereignty cited in water resources agreements merely reproduce the qualified formulation of the sovereign right to exploit natural resources set out under Principle 2 of the Rio Declaration.⁷⁷ Indeed, it is telling that in one of

⁷¹ *Supra*, n. 6, para. 85, where the Court quoted from a seminal statement on the community of interests principle by the Permanent Court of International Justice in the *Territorial Jurisdiction of the International Commission of the River Oder* case, Judgment No. 16 (10 Sept. 1929), PCIJ Series A, No. 23, pp. 5–46, and concluded that

Modern development of international law has strengthened this principle for non-navigational uses of international watercourses as well, as evidenced by the adoption of the Convention of 21 May 1997 on the Law of the Non-Navigational Uses of International Watercourses by the United Nations General Assembly.

⁷² *Ibid.*, para. 281, where the Court pointed out in the concluding paragraph of its judgment that

the Parties have a long-standing and effective tradition of co-operation and co-ordination’ by means of which they ‘have established a real community of interests and rights in the management of the River Uruguay and in the protection of its environment.

⁷³ See McIntyre, *supra*, n. 3, pp. 28–40. See also, Tim Stephens, ‘Sustainability Discourses in International Courts: What Place for Global Justice?’, in D. French (ed.), *Global Justice and Sustainable Development* (2010) pp. 53–56.

⁷⁴ *Supra*, n. 3, p. 165.

⁷⁵ *Ibid.*, (original emphasis).

⁷⁶ See Commentary, at Report of the International Law Commission on the Work of Its Sixtieth Session, *supra*, n. 1, p. 39.

⁷⁷ Commentary, *ibid.* See Stephen McCaffrey, ‘The International Law Commission Adopts Draft Articles on Transboundary Aquifers’, 103 *American Journal of International Law* (2009) p. 286.

the instruments cited, the 2003 Convention on the Sustainable Development of Lake Tanganyika, the reference to the sovereign right of States is included in the Preamble rather than among the general principles listed in Article 5, while the Preamble also recognizes ‘that Lake Tanganyika is a shared heritage of the riparian States’ and that ‘the riparian States share a common interest in the conservation and equitable utilization of the resources of Lake Tanganyika’.⁷⁸ Similarly, Article 5 of the UNECE Protocol on Water Health, which sets out the instrument’s ‘principles and approaches’, including the sovereign right to exploit, also places considerable emphasis on the social, economic and environmental values of water, equitable access to water for all, and integrated management of water resources.⁷⁹ Thus, in each case, the language used is more supportive of the principle of equitable and reasonable utilisation and of a community of interests approach to shared water resources. Further, the Commission’s assertion that the explicit reference to sovereignty ‘was reaffirmed by many States’⁸⁰ does not stand up to serious scrutiny and, arguably, the support from a very limited number of States that this provision did receive reflects ‘advocacy of a position they considered supportive of their interests’ rather than State practice.⁸¹

If an illustration were needed of the potentially regressive influence that the ILC’s reassertion of State sovereignty over shared water resources might exert upon subsequent State practice, it has been duly provided by the 2010 Guarani Aquifer Agreement.⁸² The Agreement defines the Guarani Aquifer System as ‘a transboundary water resource’,⁸³ thereby focusing on the water resource element rather than the geological formation, but reiterates that ‘[e]ach Party exercises sovereign territorial control over their respective portions’⁸⁴ after identifying the four aquifer States as ‘the sole owners of this resource’.⁸⁵ The ILC Draft Articles are expressly cited in the Preamble to the Guarani Aquifer Agreement and clearly played a key role in informing its normative content.⁸⁶ Anecdotal evidence suggests that the Parties were also motivated to include a reference to sovereignty due

⁷⁸ Available at <http://www.ecolex.org/server2.php/libcat/docs/TRE/Multilateral/En/TRE001482.pdf>.

⁷⁹ Available at <http://www.unece.org/env/documents/2000/wat/mp.wat.2000.1.e.pdf>.

⁸⁰ Commentary, at Report of the International Law Commission on the Work of Its Sixtieth Session, *supra*, n. 1, p. 38.

⁸¹ McCaffrey, *supra*, n. 75, pp. 289–291.

⁸² Guarani Aquifer Agreement (Argentina, Brazil, Paraguay, Uruguay), (San Juan, 2 August 2010).

⁸³ Article 1.

⁸⁴ Article 2 (emphasis added). Article 3 further states that

The Parties exercise in their respective territories the sovereign right to promote the management, monitoring, and sustainable utilization of the Guarani Aquifer System water resources, and shall use such resources on the basis of reasonable and sustainable uses criteria, respecting the obligation of not causing significant harm to the other Parties or the environment.

⁸⁵ Article 1 (emphasis added).

⁸⁶ For example, the Preamble to the Guarani Aquifer Agreement cites UN General Assembly Resolution 1803 (XVII), which features so prominently in the Preamble and Commentary to the Draft Articles. See Report of the International Law Commission on the Work of Its Sixtieth Session, *supra*, n. 1, p. 39.

to concerns of the aquifer States that the recent emergence of the human right to water in international law discourse might confer rights to these waters upon other, non-aquifer States.⁸⁷ This reflects confusion as to the possible legal implications of the human right to water and it is hardly ideal to address one misunderstanding with yet more legal confusion as to the implications of a reassertion of sovereignty over shared waters. Such concerns might be more effectively addressed by making it clear that the shared water resources in question are subject to the exclusive jurisdiction of the aquifer (or riparian) States.⁸⁸

Further, the ILC's inappropriate assertion of sovereignty is tantamount to creating "property" in shared freshwater, which is fundamentally at odds with the development of international water resources law, as evidenced by the Commission's earlier rejection of the doctrine of "prior appropriation" or "acquired rights" in respect of the waters of a shared watercourse.⁸⁹ The ILC's Commentary to the 2008 Draft Articles explains that, during their elaboration, the need for an explicit reference to sovereignty was promoted by those aquifer States which took the view that 'groundwaters must be regarded as belonging to the States where they are located, along the lines of oil and natural gas',⁹⁰ suggesting that the unhelpful inclusion of Draft Article 3 might be partly due to the fact that the issue of aquifers and groundwater was originally, and entirely inappropriately, programmed for examination by the ILC within the topic of "shared natural resources", which was to include confined transboundary groundwaters, oil and gas. The view that a comparable approach is taken under international law to water and hydrocarbon resources is generally erroneous and fails to take account, for example, of the markedly different approach traditionally taken by international courts and tribunals to equitable sharing of water resources and equitable delimitation of the continental shelf and the coastal maritime territory of States.⁹¹ The uniquely

⁸⁷ Comments made during an open discussion at the seminar on *Transboundary Aquifers and International Law: The Experience of the Guarani Aquifer System*, University of Surrey, 31 August 2010.

⁸⁸ See Lathrop, *supra*, n. 37, p. 423.

⁸⁹ As regards existing and potential uses as criteria to be taken into account in the determination of a regime for the equitable and reasonable utilisation of shared waters, the Commentary to the ILC's 1994 Draft Articles states clearly that 'neither is given priority' and that 'one or both factors may be relevant in a given case'. See Report of the International Law Commission on the Work of its Forty-Sixth Session, *supra*, n. 3, at 233. See further, Jerome Lipper, 'Equitable Utilization', in A. H. Garretson, R. D. Hayton and C. J. Olmstead (eds.), *The Law of International Drainage Basins* (1967) pp. 51–57; McIntyre, *supra*, n. 3, pp. 164–173.

⁹⁰ Report of the International Law Commission on the Work of Its Sixtieth Session, *supra*, n. 1, p. 39.

⁹¹ See McIntyre, *supra*, n. 3, pp. 121–153, who concludes at p. 152 that, in contrast to the law on maritime delimitation,

it is abundantly clear that in international water resource disputes, the factors to be considered most relevant will relate to the water needs of the States concerned, and vital human needs in particular, with factors related to the physical and geographical characteristics of the drainage basin relegated to secondary considerations.

See further, Fuentes, *supra*, n. 47, p. 412.

distributive approach traditionally taken to the former reflects a recognition of the immediate and total human dependence on water. Renewed emphasis on sovereignty and on viewing water resources through the prism of “property” might have negatively regressive implications for the practice of international water resources law generally,⁹² and may give rise to particular problems in respect of emerging water resources issues, such as cooperative management of glaciers and glacial meltwater.⁹³

Though the second sentence of Draft Article 3 purports to limit the exercise of State sovereignty over transboundary aquifers ‘in accordance with international law and the present draft articles’, by listing sovereignty first among the ‘general principles’ guiding application of the instrument, by relegating the principle of equitable and reasonable utilization to the following article, and by including such a vague reference in its Commentary to the ‘other rules of general international law which remain applicable’,⁹⁴ the Commission strongly suggests, and at least one corresponding State agrees,⁹⁵ that sovereignty is the primary guiding principle which is to inform the interpretation and application of all others. As a leading commentator on international water law observes, ‘the first sentence of Article 3 lets the genie of sovereignty out of the bottle, and the second sentence cannot put it back in’.⁹⁶

5. Conclusion

It is important to note that shared international waters have traditionally been regarded as a quite unique resource in international law, and have tended to be treated in a manner that recognizes the immediate and total dependency of peoples upon water, thus placing greater emphasis on equitable distribution of benefits on the basis of needs rather than geographical or hydrological circumstances. However, the Draft Articles appear to presage a drift away from the community of interests approach which facilitates such distributive equity and towards an

⁹² It is important to note that the Commentary is expansive in its language, citing in support of its position on sovereignty

States that are of the opinion that *water resources* belong to the States in which they are located and are subject to the exclusive sovereignty of those States.

Report of the International Law Commission on the Work of Its Sixtieth Session, *supra*, n. 1, p. 39 (emphasis added).

⁹³ See Erica J. Thorson, ‘Sharing Himalayan Glacial Meltwater: The Role of Territorial Sovereignty’, 19 *Duke Journal of Comparative and International Law* (2009) pp. 487–514.

⁹⁴ Report of the International Law Commission on the Work of Its Sixtieth Session, *supra*, n. 1, p. 40.

⁹⁵ Shared Natural Resources, Comments and Observations by Governments on the Draft Articles on the Law of Transboundary Aquifers, UN Doc. A/CN.4/595 (26 March 2008), comment of Austria, pp. 21–22, cite by McCaffrey, *supra*, n. 75, p. 291.

⁹⁶ McCaffrey, *ibid.*

1 approach based on sovereignty and the narrow and short-term self-interest of
2 States. If this paradigm-shift in thinking about water resources stems inevitably
3 from real and fundamental differences in the hydrological and geophysical nature
4 of groundwater resources, then this point should be made clearly so as not to
5 undermine decades of progressive development of international law relating to
6 shared (surface) water resources. The fact that groundwater has traditionally been
7 neglected under international law does not in itself warrant such deviation and
8 regression. In order to ensure the overall coherence of international water resources
9 law, and to reconcile any future Convention on the Law of Transboundary Aquifers
10 with the UN Watercourses Convention, it may be necessary to elaborate
11 separate yet parallel regimes for the geological formation and shared water
12 resources making up a transboundary aquifer.