

## Forthcoming developments in international groundwater law: proposals for the way ahead

● A new global legal instrument is being prepared to provide a framework for managing aquifers shared by two or more countries. This is at a time when the existing UN Convention on transboundary river basins has still not been ratified by enough countries to bring it into force. Here, **FLAVIA LOURES** and **JOSEPH DELLAPENNA**, on behalf of WWF, argue that the groundwater instrument should be established as a protocol to the UN Convention and that the articles of the groundwater instrument as currently drafted should be increased in scope and include governance mechanisms to ensure implementation.<sup>1</sup>

**The Draft Articles on the Law of Transboundary Aquifers and Aquifer Systems ('ILC Draft Articles')** are a set of international rules governing the utilization, management, and protection of water beneath the territories of two or more countries.<sup>2</sup> They were adopted by the International Law Commission (ILC) in 2006 as a first draft of 19 articles, under its United Nations mandate to develop and codify international law. States are invited to present comments on the ILC Draft Articles by January 2008. The ILC will then prepare and submit to the UN General Assembly a revised set of articles as the basis for the negotiation and adoption of a global instrument on international groundwater law.

This article is a component of WWF's work on global freshwater governance and discusses the shape, scope, and implementation of this future instrument. In particular, we argue that the ILC Draft Articles should be adopted as a protocol to the United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses ('UN Convention').<sup>3</sup> The convention underpins interstate cooperation in transboundary river basins and determines the rights and duties of basin countries. Currently having 15 parties, the convention is not in effect, as 35 ratifications are necessary for entry into force. The ILC Draft Articles build on and adjust the convention to the specificities of groundwater resources. With this article, WWF aims to contribute to the draft articles' final text, while also supporting ratification of the convention, so that the two combined may serve in the future as a binding, coherent, systematic, and global frame-

work for improved freshwater governance. We also argue that the ILC Draft Articles should cover all aquifers through which transboundary harm may be caused and regulate the role of all states with a significant relationship to those aquifers. Finally, the draft articles should include governance mechanisms for their future implementation and the progressive development of international groundwater law.

### The UN Convention on international watercourses

The UN Convention has served as the basis for negotiations on the ILC Draft Articles, which represent the continuation of the ILC's work on the law of the non-navigational uses of international watercourses.<sup>4</sup> The overview of the convention presented here will inform discussions in the later section on the shape of the ILC Draft Articles. The UN Convention applies to transboundary freshwater systems, i.e., major watercourses, their tributaries, and connected lakes and aquifers, accommodating competing uses across international borders. As a framework treaty, the convention encourages states to apply and adjust its provisions to a particular basin, but it neither affects existing water agreements, nor imposes a duty on states to adopt specific treaties compatible with its provisions where none exist. Following an integrated river basin management approach, all riparians are entitled to participate in consultations and negotiations for, and to become a party to, regional and sub-regional water agreements, to the extent that such an agreement would significantly affect their rights under the convention.<sup>5</sup>

The convention's cornerstone is the principle of equitable and reasonable utilization, which aims to 'provide the maximum benefit to each basin state

from the uses of the waters with the minimum detriment to each.'<sup>6</sup> States must endeavour to achieve the sustainable utilization<sup>7</sup> of international river systems, in conformity with their adequate protection against environmental degradation. The correlated idea of reasonable and equitable participation refers to active cooperation and sharing of costs that generate equitable benefits to basin states from the joint management and use of shared waters. In applying these principles, basin states must consider all relevant factors under specific circumstances (e.g., cross-border effects of a water use, riparians' social and economic needs, hydrological conditions, environmental protection, existing and future uses, etc.).<sup>8</sup>

Article 7 clarifies the scope of the no-harm rule. Under this due diligence duty, a state's compliance depends on the country's appropriate preventive behaviour to avoid causing significant harm to another state. The term significant qualifies the type of harm countries must avoid, excluding minor disturbances. When a state adopts all appropriate preventive measures and yet the use of an international watercourse results in significant transboundary harm, such harm may be considered equitable under certain circumstances, i.e., 'the no-harm rule would not automatically override that of equitable utilization.'<sup>9</sup> In overexploited rivers, any new water uses have a great impact on existing ones, and so the convention balances the rights of basin states by requiring them to consult with each other on the adoption of the appropriate measures to eliminate or mitigate the harm, aiming for a reasonable and equitable result. Under the convention, therefore, substantive and procedural rules guide states in complying with minimum environmental and good neighbourliness requirements.

In terms of procedural rules, states must regularly exchange available basin-related information, enabling each other to assess compliance with the convention and to identify mutually beneficial water management opportunities. A special process applies to planned activities in the basin that may have negative significant effects on co-basin states.<sup>10</sup> Through this process, riparians coordinate the analysis of such activities' effects, discuss mitigation, prevention, and compensation measures, and assess any related benefit-sharing potential. Implementing measures remain suspended during consultations. If no agreement is reached in the end of the process, the project may proceed.

The UN Convention also requires states to protect and preserve the

ecosystems of international watercourses. Since the integrated management of interconnected natural resources is necessary to conserve freshwater ecosystems, a concern with land-based activities taking place within the river basin that might affect the environmental conditions of an international watercourse is implicit in the convention.<sup>11</sup> States must act diligently in dealing with water pollution, preventing the introduction into aquatic ecosystems of potentially harmful invasive species, and protecting the marine environment as it may be affected through freshwater systems, in cooperation with non-basin states.<sup>12</sup>

In regards to enforcement mechanisms, the convention establishes dispute settlement procedures, with emphasis on negotiations. States may resort to mediation or conciliation, joint bodies, arbitration, or the International Court of Justice. If, after a specific period, parties remain in dispute, they may unilaterally submit the controversy to an impartial fact-finding commission, unless agreed otherwise. The parties involved are to consider the commission's final report in good faith.<sup>13</sup>

All this indicates that the UN Convention would offer the world what comparable mechanisms have accomplished regionally. For example, the Convention on the Protection and Use of Transboundary Watercourses and International Lakes<sup>14</sup> paved the way for the EU Water Framework Directive<sup>15</sup> – a milestone policy tool for the sound management of the region's watersheds. The world's 263 transboundary basins cover half the Earth's surface, cross the territories of 145 states, are home to 40% of the world's population, and generate 60% of global freshwater flow.<sup>16</sup>

Once in force, the UN Convention would operate through a number of different routes to improve global water governance and prevent water-related interstate disputes.<sup>17</sup>

In the first instance, the UN Convention is a common denominator to future water agreements. The convention clarifies to the extent possible basic principles and rules, setting a general and flexible framework from which to negotiate and develop basin-specific treaties.<sup>18</sup>

The convention would add to customary law<sup>19</sup> as a binding governance framework, enforceable through dispute settlement mechanisms, in transboundary watersheds not covered by interstate agreements (60% of those basins) or subject to agreements not including all basin states (80% of existing agreements).<sup>20</sup> Therefore, the convention would provide a 'firm common ground ... which is what

watercourse negotiations lack most at the present time.<sup>21</sup>

The convention clarifies aspects of customary international water law that remain as a point of contention among basin countries, e.g., the extent of a data-sharing duty and the harmonious application of the principle of equitable utilization and the no-harm rule. Clarification of the applicable law makes states aware of their basic rights and duties and so is central to dispute prevention.

The convention's implementation would intensify state practice and enhance its contribution to the formation of new customary law (e.g., in regards to Articles 5(2) and 20, on equitable participation and ecosystem protection, the convention's 'authoritative guideline function in de lege ferenda terms'<sup>22</sup> would push even non-parties to comply spontaneously with those provisions).

As the convention has informed the ILC Draft Articles' preparation, it is a foundation for the development of global treaty law on emerging water issues. Its implementation would facilitate the detection of relevant areas in need of better or new international regulation through agreements, amendments, protocols, and guidelines (e.g., public participation in transboundary negotiations).

An effective UN Convention would have a stronger standing as a soft law instrument in basins where not all countries ratify it. Regarding both parties and non-parties, the convention would aid in the application and revision of existing agreements and provide guidance for lawyers and diplomats to frame negotiations and pledge their case, as well as for arbitral or judicial decision-making.<sup>23</sup>

Finally, the convention constitutes a mandate and a framework for interstate good faith dialogue and data-sharing, with its cooperation standards and its mandatory consultations/negotiations procedures (e.g., determination of reasonable and equitable uses; effects from planned measures; basin states' request for consultations on management plans, river agreements, and joint institutions, etc.).

### Suggested changes to the ILC Draft Articles

Having the ILC Draft Articles as a protocol to the UN Convention would address the greater environmental vulnerability of groundwater within the framework of the mother treaty.<sup>24</sup> Indeed, many delegations at the UN General Assembly's 61<sup>st</sup> Session highlighted the convention's authority to shape the draft articles.<sup>25</sup> But a few governments preferred to avoid linking the two instruments.



Cover shows the Iguazu Falls on the border of Argentina and Brazil. The waterfalls are within the area of the Guarani aquifer system, shared by Argentina, Brazil, Paraguay and Uruguay.

<sup>1</sup> This paper derives from a thorough legal opinion proposing amendments that would strengthen the ILC Draft Articles, address concerns related to their shape and scope, and outline the areas in which the draft articles and the convention overlap or supplement each other. A draft protocol to the UN Convention is then proposed. The authors are available to share the legal opinion and answer any related questions.

<sup>2</sup> International Law Commission, *Titles and Texts of the Draft Articles Adopted by the Drafting Committee on First Reading: The law of transboundary aquifers* Article 1, U.N. Doc. A/CN.4/L.688 (7 June 2006) ("ILC Draft Articles"). See *Report of the International Law Commission on the work of its 58<sup>th</sup> Session*, 61 U.N. GAOR Supp. (No. 10) at 195-245, U.N. Doc. A/61/10 (2006) ("2006 ILC Report"), for commentaries to the ILC Draft Articles.

<sup>3</sup> Convention on the Law of Non-Navigational Uses of International Watercourses, UN Doc. A/51/869, 21 May 1997.

<sup>4</sup> See 2006 ILC Report, *supra* note 2, at 194.

<sup>5</sup> UN Convention, *supra* note 3, Articles 2 & 3.

<sup>6</sup> 52<sup>nd</sup> Conference of the International Law Association (ILA), Helsinki, Finland, 14-20 Aug. 1966, *Report of the 52<sup>nd</sup> ILA Conference*, at 487.

<sup>7</sup> UN Convention, *supra* note 3, Article 5(1) (*emphasis added*).

<sup>8</sup> *Id.* Article 10.

<sup>9</sup> Stephen C. McCaffrey & Mpazi Sinjela, *Current Development: The 1997 United Nations Convention on International Watercourses*, 92 AM. J. INT'L L. 97, 101-02 (1998). This interpretation essentially derives from the words 'having due regard for the provisions of Articles 5 and 6' contained in Article 7(2) of the convention. *Id.*

<sup>10</sup> UN Convention, *supra* note 3, Articles 11-19.

<sup>11</sup> See STEPHEN McCaffrey, THE LAW OF INTERNATIONAL WATERCOURSES 34-50 (2001). See also Attila Tanzi, *The Relationship*

between the 1992 UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes and the 1997 UN Convention on the Law of the Non-Navigational Uses of International Watercourses 10-11 (2000),

[www.unece.org/env/water/publications/documents/conventiontotal.pdf](http://www.unece.org/env/water/publications/documents/conventiontotal.pdf).

<sup>12</sup> See UN Convention, *supra* note 3, Articles 20-26.

<sup>13</sup> *Id.* Article 33.

<sup>14</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, 17 Mar. 1992 (in force 6 Oct. 1996), reprinted in 31 I.L.M. 1312 (1992) ("ECE Convention").

<sup>15</sup> Council and Parliament Directive 2000/60/EC, Establishing a Framework for Community Action in the Field of Water Policy, 2000 O.J. (L 327) ("WFD").

<sup>16</sup> UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP) ET AL., ATLAS OF INTERNATIONAL FRESHWATER AGREEMENTS (2002), at 2, available at <http://www.transboundarywaters.orst.edu/publications/atlas/>.

<sup>17</sup> In a scenario of increased competition over diminishing water resources, due to pollution and overexploitation from exponential population growth and accelerated economic development, aggravated by climate change, disputes between basin states are bound to increase, unless nations cooperate on transboundary water issues. DAVID PHILLIPS ET AL., TRANSBOUNDARY WATER COOPERATION AS A TOOL FOR CONFLICT PREVENTION AND BROADER BENEFIT SHARING (2006), at xviii.

<sup>18</sup> McCaffrey, *supra* note 11, at 316-17.

<sup>19</sup> Joseph W. Dellapenna. *The Nile as a Legal and Political Structure in THE SCARCITY OF WATER: EMERGING LEGAL AND POLICY RESPONSES* 121, 123 (Edward H.P Brans et al. eds., 1997).

<sup>20</sup> UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP), CHALLENGES TO INTERNATIONAL WATERS: REGIONAL ASSESSMENTS IN A GLOBAL PERSPECTIVE (2006), at 35, available at [http://www.giwa.net/publications/final-report/giwa\\_final\\_report.pdf](http://www.giwa.net/publications/final-report/giwa_final_report.pdf).

<sup>21</sup> See International Law Commission, *Draft Articles on the Law of the Non-navigational Uses of International Watercourses (with Commentaries)*, G.A. Res. 49/52, at 93, U.N. Doc. A/RES/49/52 (9 Dec. 1994) ("1994 ILC Draft Articles"), available at

**An aerial view of the neighbouring cities of Ciudad Juarez and El Paso on the Mexican/USA border. Much of the water used is extracted from the Rio Grande and aquifers under the Chihuahua desert. Credit / copyright WWF-Canon / Edward Parker.**



Relying on the fact that the convention is currently not ratified, these governments wrongly assumed that most states do not accept the convention.<sup>26</sup> During the nearly thirty years of study and negotiations preceding its adoption, comments and statements from several countries were considered, in a process open to all UN member states. The convention was adopted at the UN General Assembly, with 103 approving votes, only three countries voting in the negative, and the sponsorship of 38 states.<sup>27</sup> The convention is the first and only global codification of the law on the non-navigational uses of international watercourses endorsed under the auspices of the United Nations. In particular, its provisions on equitable and reasonable use, harm prevention, and notification for implementing planned measures reflect customary law.<sup>28</sup>

There is plenty of evidence of international support to the convention as an authoritative statement of the relevant international law. In 1997 – the year of its adoption – the International Court of Justice justified its decision on the Gabcikovo-Nagymaros case by expressly invoking the convention's principles.<sup>29</sup> Even before that, several water agreements<sup>30</sup> were drafted on the basis of the 1994 ILC Draft Articles,<sup>31</sup> which informed interstate negotiations on the text of the convention. The slow rate of ratification does not challenge the international community's support to the convention. Many nations may regard the convention as not directly relevant to them and prioritize ratification of other treaties: states that are satisfied with existing water treaties perceive little national gain from a global water convention; states involved in disputes may prefer customary law than a written legal statement; and island states may assume that they have no direct interest in becoming a party to the convention.<sup>32</sup> There is no opposition to the convention, as no countries are campaigning against it. That the convention is not in force is thus not a valid point against adopting the ILC Draft Articles as a protocol to it, especially now with Germany's recent ratification and the active engagement by other actors in the global community for bringing the convention into force.

Just as important as the authoritative status of the UN Convention for justifying the protocol approach are the interconnections within the hydrological cycle between surface and underground waters. With rare exceptions, the UN Convention and the ILC Draft Articles deal with the same natural resource. Freshwater systems as hydrological units require integrated river

basin management, i.e., conjunctive use and management of water systems as an integrated whole. This is true even for non-renewable aquifers,<sup>33</sup> since comprehensive planning must consider all available water sources within a border region, so as to manage them all in an integrated fashion. In this sense, the protocol approach would facilitate the elaboration and implementation of transboundary integrated river basin management plans.

Looking at the role of international law, the unified treatment of surface and underground waters would consider their interconnections and distinctive features and govern them under a coherent and integrated international legal system. While dispute prevention is at the centre of the development of international law, the dual applicability of independent and separately evolving international conventions would create confusion, increasing the potential for interstate conflict. International law would ultimately fail to support and guide states in applying integrated river basin management in a transboundary context. Moreover, one single regime represents an economy in costs related to conferences of the parties and executive bodies and conforms to a recognized need to limit the proliferation of global environmental agreements. Hence, the UN Convention is the solid framework from which international groundwater law has emerged and should be the mother treaty to future instruments in the field.

## Expanding the scope of the ILC Draft Articles

There are a number of aquifer or aquifer system types of relevance to international law, being those through which transboundary harm might be caused. These are: *transboundary aquifers or aquifers with transboundary hydraulic connections to other aquifers*, i.e., single aquifers with transboundary geological structures or a series of interconnected aquifers underlying the territories of two or more countries; *transboundary aquifer systems*, i.e., single aquifers or interconnected aquifers with discharge or recharge zones located outside the territory of the state(s) underlain by the geological formation(s); and *domestic aquifers connected to transboundary freshwater systems* (e.g., aquifers connected to river basins, lakes, or wetlands forming or crossing international boundaries).

The ILC Draft Articles in their current form apply only to groundwater systems with a geological structure intersected by international boundaries.<sup>34</sup> The ILC Draft Articles therefore only cover the first of these relevant types, i.e., transboundary

aquifers and aquifers with transboundary hydraulic connections to other aquifers. Domestic aquifers linked to international watercourses are subject to the UN Convention. However, such aquifers would not receive the same level of protection as they would were they included under the draft articles (e.g., an aquifer country would not have to develop the utilization plans).<sup>35</sup> Transboundary aquifer systems not connected to international watercourses fall outside the scope of both the UN Convention and the ILC Draft Articles. In addition to not covering all relevant types of aquifers and aquifer systems, the draft articles do not sufficiently clarify the rights and duties of states not overlying the aquifer, but with recharge and discharge zones or connected surface waters within their territories. We address these scope-related concerns below.

#### *Transboundary aquifer systems*<sup>36</sup>

The scientific definition of an aquifer as a hydrogeological system includes an aquifer's geological formation, the water it contains, and its recharge and discharge zones.<sup>37</sup> States not overlying the aquifer, but with recharge or discharge zones within their territories, are in a position to affect the integrity of the system (or be affected by it). The ILC Draft Articles do not incorporate that definition and artificially regard countries without direct access to an aquifer as 'non-aquifer states',<sup>38</sup> even when their territories are home to recharge and discharge zones that form an integral part of an aquifer system. Because recharge and discharge zones interconnect different components of a larger natural system, all states within such a system are vulnerable to unilateral mismanagement of portions of shared natural resources located outside their respective territories. For example, a state could be affected by groundwater pollution in a domestic aquifer, from pesticides used in agricultural activities outside that state's territory, but around recharge areas.

Notwithstanding their limited definition of an aquifer state, the draft articles impose on states overlying recharge or discharge zones a duty of cooperation to protect transboundary aquifers connected to such zones.<sup>39</sup> Hence, the ILC Draft Articles create duties for 'non-aquifer states' without securing their sovereign rights over natural resources within their own territories. The draft articles should attract not only the states with direct access to the resource. For all states within an aquifer system, the rights over and duties toward freshwater and related resources should be established, within a legal framework for benefit-sharing and regional cooperation.

Countries in whose territory recharge and discharge zones are located are part of the aquifer system and, as such, are aquifer states. The reciprocal rights and duties of aquifer states must be balanced just as in the case of basin countries sharing a transboundary basin formed by a system of domestic tributaries. All aquifer states are entitled to utilize and develop in a reasonable and equitable manner the portions of an aquifer system (including their recharge and discharge zones) within their territories, just as they are under a duty to participate equitably in the management of these resources. The ILC Draft Articles should thus expand its definition of aquifer states, establish the rights and duties of all states within the aquifer system, and also cover domestic aquifers with discharge and recharge zones located beyond the borders of the state overlying the resource.

#### *Domestic aquifers connected to transboundary freshwater systems*

An aquifer located entirely within one country's territory, but connected to an international river basin, although not transboundary per se, is part of a larger hydrological unit that is physically shared among different states. A domestic aquifer is vulnerable to pollution originating in a river that discharges into such an aquifer, when contamination is caused by industrial activities upstream. Or, in dry periods, when aquifers become the main recharge source of a river's flow, overexploitation of an aquifer may significantly reduce the volumes of discharge into surface waters and have effects on dependent ecosystems and water uses downstream in the territories of co-riparians beyond the borders of the aquifer states. In the reverse situation, where surface waters feed into underground flows, water diverted from rivers by states that are upstream of recharge zones may interfere with an aquifer's recharge process and disrupt its hydrological balance.

The ILC Draft Articles should thus apply to all aquifers connected to international watersheds and better clarify the role of basin states in relation to such watersheds and their interconnected aquifers. Those basin states are entitled to their equitable and reasonable share of such international watercourses, as they may be injured within their own territories through a connected aquifer. In utilizing and managing such river systems, basin states must take into account the right of aquifer states to the equitable and reasonable use of the portions of these aquifers within their own territories and associated to such watercourses. They must also avoid significant harm

[http://untreaty.un.org/ilc/texts/instruments/english/commentaries/8\\_3\\_1994.pdf](http://untreaty.un.org/ilc/texts/instruments/english/commentaries/8_3_1994.pdf).

<sup>22</sup> Tanzi, *supra* note 11, at 51, 54. See also McCaffrey & Sinjela, *supra* note 9, at 106 & n.58, citing ANTHONY D'AMATO, THE CONCEPT OF CUSTOM IN INTERNATIONAL LAW, ch.8 (1971); North Sea Continental Shelf (F.R.G. v. Den; F.R.G. v. Neth.), 1969 I.C.J. 3, 244 (Feb.20).

<sup>23</sup> See MCCAFFREY, *supra* note 11, at 315-17, highlighting "a sense among the overwhelming majority of delegations that the rules embodied in [it] are generally acceptable."

<sup>24</sup> Since the convention's drafting and approval process was open to all UN member states, such states would follow the UN General Assembly's voting requirements and procedures to adopt such a protocol pending the convention's entry into force. See Vienna Convention on the Law of Treaties Article 2(1)(e), 23 May 1969, 1155 U.N.T.S.331.

<sup>25</sup> See, e.g., Statement of the Delegation of Mexico to the UNGA 6<sup>th</sup> Committee (30 Oct. 2006) (on file with authors), qualifying the convention as an indispensable source of reference for the ILC Draft Articles.

<sup>26</sup> UNITED NATIONS GENERAL ASSEMBLY, 61<sup>st</sup> Session, Topical Summary of the Discussion held in the Sixth Committee, prepared by the Secretariat at 5-6, U.N. Doc. A/CN.4/577 (19 Jan. 2007) ("2007 Topical Summary").

<sup>27</sup> UN GENERAL ASSEMBLY, 51<sup>st</sup> Session, 99<sup>th</sup> Plenary Meeting at 2, 7-8, U.N. Doc. A/51/PV.99 (21 May 1997).

<sup>28</sup> See Stephen McCaffrey, *The Contribution of the UN Convention on the Law of the Non-Navigational Uses of International Watercourses*, 1 INT. J. GLOBAL ENVTL. ISSUES 250, 259 (2001).

<sup>29</sup> Gabčíkovo-Nagymaros case (Hungary v. Slovakia), 1997 ICJ No. 92 (25 Sept.), Para. 85.

<sup>30</sup> See, e.g., Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin, 5 Apr. 1995, 34 I.L.M. 864; Protocol on Shared Watercourse Systems in the Southern African Development Community Region, 28 Aug. 1995, [http://www.sadc.int/english/documents/legal/protocols/shared\\_water-course.php](http://www.sadc.int/english/documents/legal/protocols/shared_water-course.php). The latter was in due course replaced by a second agreement closely modeled on the final text of the UN Convention. Protocol on Shared Watercourse Systems in the Southern African Development Community Region, 7 Aug. 2000, 40 I.L.M. 321.

<sup>31</sup> 1994 ILC Draft Articles, *supra* note 21.

<sup>32</sup> MCCAFFREY, *supra* note 11, at 314.

<sup>33</sup> See ILC Draft Articles, *supra* note 2, Article 2(e), defining a "recharging aquifer."

<sup>34</sup> This is determined by the following definitions: "(a) 'aquifer' means a permeable water-bearing underground geological formation underlain by a less permeable layer and the water contained in the saturated zone of the formation; (b) 'transboundary aquifer' or 'transboundary aquifer system' means, respectively, an aquifer or aquifer system, parts of which are situated in different states." *Id.* Article 2(a)&(c).

<sup>35</sup> *Id.* Article 4.

<sup>36</sup> The ILC Draft Articles apply the expression “aquifer system” to “a series of two or more aquifers that are hydraulically connected.” *Id.* Article 2(b). Above we referred to this series of aquifers as “aquifers with transboundary hydraulic connections to other aquifers,” so as to avoid confusion with the expression “aquifer system” as defined herein: an aquifer, together with its discharge and recharge areas.

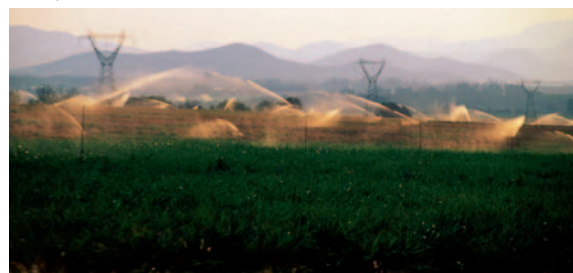
<sup>37</sup> See Gabriel E. Eckstein, *Protecting a Hidden Treasure: The UN International Law Commission and the International Law of Transboundary Ground Water Resources*, 5 SUST. DEVEL. L. & POL’Y 5, 7 (2005). As the ILC explains, “a recharge zone contributes water to an aquifer and includes the zone where the rainfall water directly infiltrates the ground, zone of surface runoff which eventually infiltrates the ground and the underground unsaturated zone of infiltration. The discharge zone is the area through which water from the aquifer flows to its outlet, which may be a river, a lake, an ocean, an oasis or a wetland. Such outlets are not part of the discharge zone itself.” 2006 ILC Report, *supra* note 2, at 201.

<sup>38</sup> See ILC Draft Articles, *supra* note 2, Article 2(a), (d).

<sup>39</sup> *Id.* Article 10.

<sup>40</sup> See ECE Convention, *supra* note 111, 2004-2006 Work-Plan, [www.unece.org/env/water/cooperation/area.htm](http://www.unece.org/env/water/cooperation/area.htm), Guidelines on Monitoring and Assessment of Transboundary Groundwater, [www.unece.org/env/water/publications/pub74.htm](http://www.unece.org/env/water/publications/pub74.htm), Decision III/2, Establishment of a Trust Fund, U.N. Doc. ECE/MP.WAT/15/Add.1 (8 Apr. 2004); Convention on Wetlands of International Importance especially as Waterfowl Habitat, 2 Feb. 1971, 11 I.L.M. 969, Guidelines for international cooperation, Res. VII 19, [www.ramsar.org/key\\_guide\\_cooperate.htm](http://www.ramsar.org/key_guide_cooperate.htm); 2<sup>nd</sup> Memorandum of Cooperation between the Ramsar Convention and the Convention on Biological Diversity, 10 May 2005, [http://ramsar.org/cbd/key\\_cbd\\_mou\\_2005.htm](http://ramsar.org/cbd/key_cbd_mou_2005.htm).

<sup>41</sup> Patricia Wouters, *The Legal Response to International Water Scarcity and Water Conflicts: The UN Watercourses Convention and Beyond*, <http://www.dundee.ac.uk/water/Documents/Publications/GYIL.pdf>, at 49 (emphasis added).



**Transvaal Province, Republic of South Africa. Intensive use of scarce groundwater resources to irrigate sugar cane Eastern Transvaal Republic Of South Africa. Credit / copyright: WWF-Canon / John E. Newby.**

to aquifer states, when undertaking activities that have or are likely to have an impact on aquifers connected to their watercourses. In addition, aquifer and basin states must cooperate with each other, to the extent necessary to ensure the system’s protection from detrimental effects originating in connected international watercourses or vice-versa.

### Provisions on governance mechanisms

The ILC Draft Articles should incorporate governance mechanisms. Amendments and annexes would allow the future agreement to progressively develop in areas that the ILC Draft Articles do not address. For example, if no political consensus can be reached at this stage to expand their scope, a future amendment to the respective provisions could address this issue.

Moreover, institutional governance structures such as a conference of the parties and a secretariat contribute to the effective implementation of multilateral agreements. Without such structures, a binding global groundwater instrument would be enforced solely through aquifer-specific agreements. Such agreements, however, do not eliminate the need for a global forum where, at regular intervals, members of the global community would meet to exchange knowledge, experience, information, and advice on how to promote, fund, and inform cooperation in the field. For example, strategic work-plans adopted by the decision-making bodies of certain international conventions focus activities on identified priority areas. As targets are achieved, new goals are established, facilitating progress and compliance assessment.<sup>40</sup> These bodies may also approve recommendations, model rules, and codes of conduct, to guide implementation and clarify a treaty’s interpretation (e.g., guidelines under the ECE Convention on joint interstate groundwater monitoring; or guidelines under the Ramsar Convention on interstate consultation on transboundary wetlands). In addition, executive bodies of different treaties explore goals they may have in common and the resulting joint programmes of work enhance synergies, avoid duplication of effort, and enable their coordinated implementation. Subsidiary bodies with advisory capacity and trust funds to support implementation may also be created.

### Conclusions

The UN General Assembly should consider adopting a protocol to the UN Convention to create a strong foundation for global freshwater policy. The convention has served as

the primary basis for the elaboration of the ILC Draft Articles and thus to the development of international groundwater law. Adopting them as a protocol would be the logical outcome of this process. The convention’s substantive provisions guide decision-making and interstate relations through its binding procedural rules, forming ‘a comprehensive framework to address the multitude of issues arising out of present and future conflicts over water.’<sup>41</sup> Unifying the law on transboundary river basins and aquifers would reflect sound science, simplify implementation of international law, and enable integrated water resources management in a transboundary context and at the basin and border-region scales. Of course, adopting the draft articles as a protocol to the UN Convention only makes sense if the convention comes into force or is ratified by a significant number of countries by the time the draft articles are put to a vote before the UN General Assembly. This is likely to happen between the end of 2008 and beginning of 2009, during the UN General Assembly 63<sup>rd</sup> Session. The advantages of having a protocol to the convention are directly related to the convention’s effectiveness, so that they can be implemented in an integrated fashion and support transboundary freshwater cooperation. Hence, WWF urges states to embrace the opportunity of creating an integrated policy framework for global freshwater governance by initiating the process for becoming a party to the convention, at the same time that they move forward the drafting process of the ILC Draft Articles.

Furthermore, the draft articles should address all aquifers through which transboundary harm may be caused and define rights and duties for all states that overly transboundary aquifers and aquifer systems, have recharge or discharge zones within their territories, or are drained by transboundary basins to which aquifers are connected. If negotiations within the UN General Assembly do not lead to an expanded scope for the ILC Draft Articles, countries should at least apply the resulting instrument as guidelines to all aquifers and aquifer systems of relevance to international law. Finally, the ILC Draft Articles should address procedures for the adoption of amendments and annexes, as well as the establishment of a meeting of the parties, as a decision-making body, and a secretariat with an executive function, regardless of whether they become a protocol to the UN Convention or a separate treaty, to ensure the development and effective implementation of the instrument. ●

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