
Analysing the ECE Water Convention: What Lessons for the Regional Management of Transboundary Water Resources?

Patricia Wouters and Sergei Vinogradov



Introduction

With the year 2003 designated as the year of ‘international freshwater’, it is an appropriate time to consider more critically the role of water law in meeting some of the global challenges related to the effective management of the world’s shared water resources. This article examines the regime established by the 1992 Helsinki Convention on the Protection and Use of Transboundary Watercourses and International Lakes (ECE Water Convention),¹ concluded under the auspices of the United Nations Economic Commission for Europe (UNECE), and identifies some of the challenges facing it in the future. Has the ECE Water Convention had any impact on improving transboundary water-resource management in Europe, or is it, as some assert, merely an instrument of ‘symbolic politics’? Is there an identifiable legal regime effectively operating and evolving? What is the level of implementation and how tangible are the results on the ground?

In addressing these questions, this article will first examine transboundary freshwater issues in the more broad international context, highlighting the current global focus on the urgent need to manage the world’s increasingly limited water resources effectively. Given the radical geopolitical changes in Europe—including the emergence of a large group of newly independent states (NIS) and the substantial expansion of the European Union (EU)—the article will then consider the issue of transboundary water resources in the regional European setting. And, finally, it will critically examine the evolution of the legal regime established under the ECE Water Convention, including its normative interface with other regional and global water-related legal and institutional vehicles through the prism of three main dimensions:

- the ‘internal dimension’—the evolution of the ECE Water Convention legal regime *per se*, through the adoption of auxiliary binding and non-binding instruments; the focus will be on operational mechanisms and implementation;
- the ‘external dimension’—the legal connection of the ECE Water Convention with other transboundary wa-

tercourse agreements that were concluded independently, but under the umbrella of the former, as well as with other relevant UNECE environmental conventions; the focus will be on the normative influence of the rules of the ‘water regime’ and their interaction with related legal instruments;

- the ‘global dimension’—the normative interface and legal relationship between the ECE Water Convention and other principal water-related instruments, adopted outside the scope of the UNECE; the focus here will be on the potential conflict or complementarities of the instruments in question and whether or not this may have an impact on the ECE Water Convention regime.

Transboundary Water Resources in the World and in the ‘New’ Europe

The international community now recognizes ‘water’ as one of the top priorities of its global environmental and developmental agenda. With over 40 per cent of the world’s population dependent on water resources shared by at least two countries, more than 250 major watercourses crossing one or more national boundaries, and the startling UN reports warning that water scarcity will soon pose severe problems for a significant number of states,² the importance of effective transboundary water-resource management is readily evident. The recent Kyoto World Water Forum identified key actions required to address the global water problems and, for the first time, expressly acknowledged the role of law, as an integral part of ‘good water governance’, in meeting these challenges.³

In the European context, the response to these issues emerges at two levels: at the regional level—through specific conventions and actions directed at European nations; and at the global level—through the EU development initiative on water, announced in Johannesburg at the World Summit on Sustainable Development.⁴ The continued expansion of the European Union also introduces a new concern for development support for those countries entering the EU with weaker economies and serious water

problems. It is estimated that one in seven people in Europe (120 million) do not have access to safe drinking water and adequate sanitation.⁵

Further, Europe, in geopolitical terms, has changed significantly over the past decade. The emergence of a large group of newly independent states created new international boundaries and, as a result, a host of legal problems related to the management of natural resources divided by them.⁶ For example, Poland now shares its waters with seven other countries, after years of having only three watercourse neighbours. A similar trend has affected many parts of the UNECE region, and this will have a direct impact on how transboundary (and national) water is managed in the region, which at present is criss-crossed by more than 150 major rivers, 25 major lakes, and some 100 aquifers shared by two or more states. What are the legal regimes, instruments, and institutions that govern these shared waters? How effective are these mechanisms? The limited space here does not permit an exhaustive treatment of this topic, but through the analysis of the ECE Water Convention this article will offer some insights of what the future might hold for the management of Europe's transboundary waters.

The next section provides an overview of the legal regime established under the ECE Water Convention and highlights the key issues tied to transboundary water-resource management, from a legal and institutional point of view.

ECE Water Convention: Legal Regime

Background

The UN Economic Commission for Europe is one of several regional commissions of the United Nations created to promote international co-operation on a broad range of social and economic issues.⁷ The UNECE is a pan-European organization whose remit includes environmental matters, with transboundary water-resource management being among the most important issues in that more broad-reaching rubric. Geographically, the UNECE region covers more than 47 million square kilometres. Currently it has 55 member states, which include not only European countries, but also countries in North America (Canada and the USA), Central Asia (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan), and the Middle East (Israel).

The UNECE first dealt with transboundary water-related issues in the late 1960s and early 1970s, a period that coincided with the increased global awareness of the importance of environmental matters generally. One of the Commission's initial attempts to formulate coherent policy objectives and principles in the field of transboundary

water resources was made in the 1980 Declaration of Policy on Prevention and Control of Water Pollution, including Transboundary Pollution,⁸ derived partially from the recommendations of the 1966 ECE Declaration of Policy on Water-pollution Control. States sharing water resources were called on to 'undertake ... concerted action to improve the quality of surface and ground water' and 'to define their mutual relations on water pollution control' by means of bilateral and multilateral agreements.⁹

The 1980 Declaration was followed by a succession of non-binding instruments, among them the 1982 Decision on International Co-operation on Shared Water Resources,¹⁰ the 1984 Declaration of Policy on the Rational Use of Water, the 1986 Decision on Co-operation in the Field of Transboundary Waters,¹¹ the 1989 Charter on Groundwater Management,¹² and the 1990 Code of Conduct on Accidental Pollution of Transboundary Inland Waters.¹³ This process culminated with the conclusion of the 1992 ECE Water Convention, which entered into force on 6 October 1996 and currently has 33 parties, including the European Union.¹⁴

Legal Framework

The ECE Water Convention is a typical 'framework' international instrument, the primary purpose of which is to foster international co-operation in the area of transboundary water resources in the wider European region. Its objectives include, *inter alia*:

- strengthening national and international actions aimed at the protection and ecologically sound management of transboundary waters, both surface waters and groundwaters, and related ecosystems;
- prevention, control, and reduction of transboundary pollution;
- reasonable and equitable utilization of transboundary water resources.

The objectives of the Convention are to be achieved through a two-tiered approach, which envisages two main categories of obligations. The first set of duties, contained in Part I, are more general and apply to all parties to the Convention. The second, contained in Part II, are more concrete and must be implemented through the conclusion of specific agreements by the so-called Riparian Parties, i.e. parties to the Convention that border 'the same transboundary waters'.¹⁵ The legal framework is more detailed than one would generally expect to find in an umbrella agreement; this is especially true with respect to provisions contained in Part II. The next section reviews the institutional framework under the Convention.

Institutional Framework

At the heart of the institutional framework of the ECE Water Convention is the Meeting of the Parties (MoP). To date, there have been two such MoPs, the first in July 1997 in Helsinki, and the second in March 2000 in The Hague. The next (third) MoP is scheduled for November 2003 in Spain.

The MoP established a number of subsidiary bodies, primarily in the form of working groups, to tackle issues that require concrete actions, such as the Working Group on Water Management, the Working Group on Monitoring and Assessment, and the Working Group on Legal and Administrative Aspects. Each of these is under the leadership of different states and meets and reports periodically. At present the MoP focuses on moving forward with compliance measures.

One of the most important policy decisions taken by the parties—the Declaration of The Hague—envisages cooperation under the Convention with new partners, such as the Global Water Partnership, the World Bank, and the UN Development Programme (UNDP), and contains an offer of the parties to share their experiences around the world.¹⁶ This demonstrates the deliberate global outreach of this Convention, making it a rather distinctive legal instrument in this regard.

Evolution of the Regime

Given the relatively short period of time that has elapsed since the adoption of the ECE Water Convention, and especially since its entry into force in 1996, the progress achieved in attaining its principal objectives has been quite remarkable. In less than ten years the conventional regime has evolved into a comprehensive and continuously self-maturing system of international regulation of transboundary water-resource management and protection.

The evolution of the regime can be seen and analysed in three different lights. First, consistent with the nature of a ‘framework’ instrument, the ECE Water Convention lays down certain general principles and requirements for its parties that have been further developed and made concrete through the adoption of subsequent protocols and certain ‘soft-law’ instruments in the form of guidelines and recommendations. This process can be seen as the ‘internal dimension’ of the regime’s evolution.

On the other hand—and this is probably a special feature of the ECE Water Convention which distinguishes it from many other framework-type instruments¹⁷—its objectives are achieved primarily through the conclusion by the parties to the Convention of separate bilateral and multilateral agreements with respect to the specific water-courses that they share. The adoption of such instru-

ments—first and foremost in order to implement the conventional obligations pursuant to its Part II—can be perceived as the ‘external dimension’ of the regime’s evolution. As part of this external dimension, but distinct from the above, is the legal interface between the ECE Water Convention and other environmental conventions established under the auspices of the UNECE. This applies primarily to the 1992 Convention on the Transboundary Effects of Industrial Accidents (Industrial Accidents Convention),¹⁸ the 1991 Convention on Environmental Impact Assessment in a Transboundary Context (Espoo (EIA) Convention),¹⁹ and the 1998 Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Århus Convention).²⁰

Finally, the third facet of the ECE Water Convention regime, which must not be overlooked, is its ‘global dimension’—its normative interaction with certain global and regional water instruments that have been adopted outside the scope of the UNECE—such as the 1997 UN Watercourses Convention²¹ and the European Union Water Framework Directive²²—but which are relevant to the ECE Water Convention regime evolution.

These three ‘dimensions’ of the Water Convention regime will be analysed in more detail in the next part of this article. Central to the discussion are issues related to regime operation, implementation, and effectiveness.

‘Internal Dimension’ of the Regime

a) Binding Subsidiary Instruments

The development of a ‘framework’ convention regime through supplementary protocols has become a well-established common practice in situations where more concrete actions are required to achieve the purposes of the regime or to respond to new evolving problems. One such additional instrument to the ECE Water Convention, the Protocol on Water and Health,²³ was adopted in 1999, soon after the Convention entered into force.

The principal objective of the Protocol is to promote, at appropriate levels, the protection of human health and well-being through improving water management, including the protection of water ecosystems, and by preventing, controlling, and reducing water-related disease. The Protocol is the first international agreement of its kind adopted specifically for the purpose of attaining an adequate supply of wholesome drinking water, adequate sanitation, and effective protection of water resources used as a source of drinking water. The primary target to be achieved by the parties is access to drinking water and the provision of sanitation for everyone within a framework of integrated water-management systems aimed at sustainable use of water resources, ambient water quality which

does not endanger human health, and the protection of water ecosystems.

To realize these goals, the parties are required to establish national and local targets for the standards to be achieved with respect to the quality of drinking water and the quality of discharges, as well as levels of performance for water supply and wastewater treatment. In determining what should be taken as a benchmark in establishing such standards, the Protocol refers to the World Health Organization (WHO) guidelines for drinking-water quality and the WHO/UNEP (UN Environment Programme) guidelines for the safe use of wastewater and excreta in agriculture and aquaculture, thus creating another link stretching beyond the UNECE institutional boundaries. It is worth mentioning that the secretariat functions for the Protocol are jointly carried out by the UNECE and the WHO/EURO secretariats.

The second binding instrument is the Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters ('Civil Liability Protocol').²⁴ The Protocol was the result of a joint effort undertaken under the auspices of the two UNECE conventions—the Water Convention and the Industrial Accidents Convention. The joint special session of the governing bodies of the two conventions launched in July 2001 an intergovernmental negotiating process and created a special working group entrusted with the task of preparing the draft instrument, which was finally adopted at the fifth Ministerial Conference, 'Environment for Europe', held in May 2003 in Kiev (Ukraine).

The Civil Liability Protocol is aimed at filling a significant gap in the regional legal framework, a gap that became particularly obvious after a series of pollution accidents involving transboundary waters. The most serious was the Baia Mare tailings mine spill in Romania, which caused pollution by cyanide-laced wastewater of the Lapus–Tisza–Danube river system that affected the populations and economy of the three basin states—Romania, Hungary, and Serbia. This incident highlighted the shortcomings of the existing regimes on civil liability and the inadequacy of the legal remedies available to the victims of transboundary pollution.

The new Protocol seeks to provide a comprehensive regime for civil liability, including adequate and prompt compensation for transboundary damage caused by industrial accidents affecting transboundary watercourses. The Protocol follows the established approach of imposing strict liability on the operator, subject to certain traditional (restricted) exonerations. The latter is liable for causing transboundary damage, which may include personal injury and harm to property and other legally protected in-

terest, as well as the cost of response measures and measures of reinstatement of the impaired transboundary waters.²⁵

b) 'Soft-Law' Instruments

While recognizing the unquestionable value of the legally binding instruments, it must be acknowledged that the major contribution to the development and implementation of the UNECE environmental regimes has been accomplished through the adoption of non-binding instruments in the form of various guidelines and recommendations. Given the relatively short life span of the ECE Water Convention, the number of such supporting instruments adopted over the last ten years is impressive. They deal with the entire range of issues that have to be addressed in order to make the 'water regime' actually workable. A set of water-related guidelines and recommendations adopted under the auspices of the UNECE and its Water Convention deal, *inter alia*, with such questions as:

- ecosystem approach in water management (1993 guidelines);
- water quality criteria and objectives (1993 recommendations);
- prevention of water pollution by hazardous substances (1994 recommendations);
- prevention and control of water pollution from fertilizers and pesticides in agriculture (1995 guidelines);
- licensing of wastewater discharges from point sources into transboundary waters (1996 guidelines);
- measures to prevent, control, and reduce groundwater pollution from chemical storage facilities and waste-disposal sites (1996 recommendations);
- monitoring and assessment of rivers and lakes (1996 guidelines);
- monitoring and assessment of transboundary groundwaters (2000 guidelines);
- monitoring and assessment of transboundary rivers (2000 guidelines);
- sustainable flood prevention (2000 guidelines);
- monitoring and assessment of transboundary and international lakes (2002 guidelines).

These and other soft-law instruments influence the development of the legal regime in general and at the same time facilitate the implementation of the conventional provisions by providing clear and precise parameters of the actions required from the parties.

c) Implementation

While policy decisions and recommendations for some time have been the primary focus of activities under the ECE Water Convention, the spotlight is now shifting towards the implementation of more practical measures to ensure the effectiveness of the regime. An example of this is the adoption of programmes that test and 'operationalize' guidelines through pilot projects²⁶ and technical assistance to countries.²⁷

Another emerging trend in the ECE 'water regime' is to support more strongly the parties' compliance with the convention provisions and soft-law instruments in general. To be successful, the water regime must initiate or intensify national and international processes leading to improvements in water-resource management, water supply, and water quality. These processes must in turn be monitored, evaluated, and if necessary corrected, to make certain that they achieve the aims of international instruments.²⁸ Although the ECE Water Convention does not contain any explicit provision concerning compliance, efforts to promote its effective implementation have accelerated over the last few years. A special guidance on compliance was prepared by the secretariats of the UNECE and UNEP's Regional Office for Europe.²⁹ This was followed by the adoption, in May 2003 in Kiev, of the new guidelines on strengthening compliance with multilateral environmental agreements in the ECE region,³⁰ which will undoubtedly have positive implications for the Water Convention regime. The key elements of the compliance and implementation mechanisms proposed, which include, *inter alia*, reporting, performance review, and evaluation, will form the foundation for assessing the overall effectiveness of the regime.

Finally, the main emphasis in making the ECE Water Convention a practical and useful tool for improving water management in Europe has been on initiating new or bringing up to date the existing arrangements and institutions with respect to particular transboundary watercourses. These will be considered in the following section.

'External Dimension' of the Regime

a) Transboundary River Basin Instruments in the UNECE Area

The most remarkable development under the 'umbrella' of the ECE Water Convention is the proliferation of basin-specific agreements concluded in accordance with its Part II. As mentioned earlier, the Water Convention requires its Riparian Parties to enter into specific 'bilateral or multilateral agreements or other arrangements ... in order to define their mutual relations and conduct regarding the prevention, control and reduction of transboundary impact' (Article 9). While the scope of the ECE Water

Convention may seem to be rather limited as it applies to 'transboundary waters' (defined as 'any surface or ground waters which mark, cross or are located on boundaries between two or more States'), the Riparian Parties are expected to enter into agreements concerning particular catchment areas or their parts.

The number of such specific watercourse or river-basin agreements, both multilateral and bilateral, concluded under the auspices of the Water Convention over the last ten years is quite significant. Suffice it to mention the 1994 Convention on Co-operation for the Protection and Sustainable Use of the Danube River,³¹ the twin agreements on the rivers Meuse and Scheldt,³² the 1998 Convention on the Protection of the Rhine,³³ the 1998 Convention on Co-operation for the Protection and Sustainable Use of the Waters of the Luso-Spanish River Basins between Spain and Portugal,³⁴ and other similar instruments. Some bilateral 'framework' treaties, such as the 1992 Russian-Kazakh transboundary waters agreement,³⁵ have evolved into relatively comprehensive regulatory systems, supported by their own supplementary protocols³⁶ and decisions of joint bodies.

Most of these agreements either refer specifically to the ECE Water Convention as their 'parental' instrument or adopt terminology and various provisions of the latter. The 2002 Agreement on the Protection and Rational Utilization of Transboundary Waters between Russia and Belarus³⁷ is a good example of a 'daughter' instrument whose language and content has been greatly influenced by the ECE Water Convention. The preamble of the 2002 Agreement refers to the Water Convention as its 'governing' instrument. Its norms concerning general obligation of co-operation, prevention of transboundary impact, monitoring, and exchange of information all bear the imprint of the relevant conventional provisions.

It is worth noting here that the 2002 Agreement can be regarded as a by-product of the negotiating process involving Russia, Belarus, and Latvia, which started in 1999 with a view to conclude a tripartite agreement concerning the Daugava (Zapadnaya Dvina) river basin. This process has been facilitated by the Swedish Environment Protection Agency (SEPA), which has been engaged in supporting a number of comparable initiatives, including the Lake Peipsi Agreement between Russia and Estonia.³⁸ Another similar tripartite agreement, which is expected to be concluded in 2003, involves Russia, Belarus, and Lithuania and will apply to the Neman (Nemunas) river basin.

This is significant, since the ECE Water Convention has served as a template for the principal substantive and procedural obligations adopted by watercourse states in their specific river-basin agreements. The Convention has not

only influenced the normative content of the numerous new instruments, but has also provided an organizational framework facilitating the international law-making process in the ECE region.

b) UNECE Environmental Conventions

Environmental treaties adopted under the aegis of the UNECE in the early 1990s, primarily the 1991 Espoo (EIA) Convention, the 1992 Industrial Accidents Convention, and the 1998 Århus Convention on public participation, have substantially added to the evolution of the regime under the ECE Water Convention. The linkages between the Water Convention and other UNECE instruments exist in different forms—from direct co-operation in formulating policies to the provision of operational and technical support at the country level. The close collaboration between the ECE Water Convention and the Industrial Accidents Convention has been particularly successful. It resulted in the adoption of a new Civil Liability Protocol as a supplementary instrument to both conventions, as well as in the range of joint meetings, safety guidelines, and recommendations aimed at the prevention of accidental water pollution.³⁹

On the other hand, the external dimension of the ECE Water Convention regime manifests itself in a close normative interface with related UNECE instruments. The proper implementation and interpretation of various conventional provisions is made significantly easier through reference to 'kindred' environmental conventions, which contain a number of corresponding obligations. These include an obligation of co-operation and its more specific requirements such as transboundary notification, joint assessment and monitoring, consultations, exchange of information and technology, and mutual assistance.

In certain cases general commitments under one convention can be better understood and implemented by reference to another, more specific instrument. Thus, the obligations of the ECE Water Convention concerning public information (Article 16) should be viewed through the prism of the Århus Convention on public participation. The same applies to the Espoo (EIA) Convention, which has at least three references to public participation. Similarly, the ECE Water Convention requires its Riparian Parties 'to participate in the implementation of environmental impact assessments relating to transboundary waters, in accordance with appropriate international regulations' (Article 9, para. 2(j)). Obviously, the most relevant 'international regulations' can be found in the Espoo (EIA) Convention.

It is indicative that the Helsinki Declaration, adopted in July 1997 by the first MoP of the ECE Water Convention, encourages the executive bodies of the related conventions

to co-operate so that all sides can benefit from one another's experience. The obvious synergies between the Water Convention and other UNECE instruments provide an excellent opportunity to create a relatively cohesive legal framework of environmental protection for the entire UNECE region in general and for transboundary river basins in particular.

Linkages with other Water-Related Instruments

a) The 1997 UN Watercourses Convention

Any analytical comparison of the 1992 ECE Water Convention with the 1997 UN Watercourses Convention must be based on the recognition of the fundamentally different purposes of the two instruments. The first instrument reflects the principal concerns of predominantly developed European countries and deals mainly with prevention and control of transboundary water pollution by creating sophisticated water-resource management regimes. The second, on the other hand, is a framework agreement primarily providing some basic principles for the allocation of the beneficial uses of international watercourses and is addressed to the global community of watercourse states.⁴⁰

The two instruments are also quite different in terms of their scope, substantive rules, procedural rules, and dispute-settlement mechanisms. The principal provision of the 1997 UN Watercourses Convention is that states are entitled to a reasonable and equitable use of their shared waters—which, under certain circumstances, might permit causing some transboundary impact. The instrument, as a whole, is intended to provide the means that can be used to achieve equitable utilization of shared water resources. Its most relevant provisions *vis-à-vis* the ECE Water Convention are those dealing with protection of the watercourse ecosystems and prevention and control of pollution that may cause significant harm to other watercourse states. By comparison, the ECE Water Convention contains a cursory reference to the need to ensure that transboundary waters are utilized in an equitable and reasonable way, but does not go beyond that. However, a recent comparative study of the two instruments concluded that there was a basic compatibility between them. Moreover, they appear to be complementary to each other, and the ECE Water Convention may offer more specific guidelines for the application and implementation of the 1997 UN Convention.⁴¹ As such, neither Convention can be said to be 'better' than the other. They are different, but each serves an important role in promoting the effective management of transboundary waters.

b) EU Water Framework Directive

The entry into force in December 2000 of the EU Water Framework Directive and further eastward expansion of

the EU will probably have the most far-reaching and profound implications for the ECE Water Convention regime. The adoption of the EU Water Directive marked a radically new phase in the water-resource management policy for Europe, which was considered by the MoP of the ECE Water Convention as a major development affecting its implementation. Both the EU Directive and the ECE Water Convention pursue very similar objectives: each provides for the prevention of deterioration and the enhancement of the quality of aquatic ecosystems, and for the promotion of sustainable water use based on a long-term protection of available water resources. In many respects the two instruments are not only compatible but complement each other. It is not accidental that the preamble of the EU Water Directive specifically refers to the ECE Water Convention as an instrument 'containing important obligations' for the Community and its members, although one must admit that the Directive establishes more stringent requirements than the Convention.

The EU Water Directive requires member states to manage their waters (inland surface waters, transitional waters, coastal waters, and groundwater) in such a way as to achieve the overall objective of 'good water status' within a certain timeframe. The Directive adopts a 'river-basin' approach to the management of water resources. EU members are required to manage their waters on the basis of 'river-basin districts' by adopting 'river-basin management plans'. In the event the river basin is international, EU members must establish '*international* river-basin districts', using, if necessary, existing structures created by international agreements. Where a river-basin district extends beyond the territory of the EU, the member states concerned are expected to co-ordinate their activities with the relevant non-member states in order to achieve the objectives of the Directive.

The interrelated system of river-basin legal regimes created under the ECE Water Convention could play a particularly important role in the implementation of the EU Water Framework Directive through the use of already established, and in many cases successfully functioning, legal and institutional mechanisms. On the other hand, it is clear that the EU Directive, which goes significantly further than either the ECE Water Convention or related watercourse agreements, will undoubtedly influence the way the parties to these instruments, both members and non-members of the EU, implement their respective international obligations. As was correctly suggested, the 'future activities under the Convention and the Protocol on Water and Health should be closely linked to the implementation of this piece of supranational legislation and use the results of its implementation strategy.'⁴²

Lessons Learned and Challenges Ahead

The ECE Water Convention is a relatively 'young' international instrument, which, nonetheless, has already significantly influenced the management of transboundary waters in Europe in a number of ways. Firstly, the Convention has created a region-wide legal framework aimed at addressing the water-related issues at different levels (regional, watercourse-specific, and bilateral), having replaced the *ad hoc* patchwork of unrelated legal regimes for individual watercourses. Secondly, it is acting as a catalyst of accelerated treaty making and legal regime-building processes for transboundary basins in the areas where none existed before. It serves as a normative template for future international agreements in this regard, offering a readily available set of relevant legal provisions and access to supporting legal expertise and institutional and state practice. Thirdly, it provides an institutional infrastructure for increased region-wide co-operation, including practical actions focused on knowledge and information sharing, technical assistance at the country and river-basin levels, and concrete measures aimed at improving water-resource management. Finally, by developing the means to monitor and ensure compliance with the legal obligations, it provides the foundation to assess the overall effectiveness of the regime.

The adequacy and effectiveness of any convention regime can be assessed using different criteria such as its comprehensiveness, the level of states' acceptance, participation, national implementation, and measurable impact on the problem addressed. Although it is too early to judge the success of the ECE Water Convention, from the point of view of regime evolution its progress has been quite remarkable. It has developed into a coherent and flexible legal framework capable of quick response to new emerging issues such as the prevention and control of water-related diseases and civil liability for transboundary environmental damage. Among all of the UNECE environmental conventions, the Water Convention is second only to the UNECE Convention on Long-Range Transboundary Air Pollution, adopted 13 years earlier, in terms of support from states. There are only a few countries in the UNECE region which might realistically benefit from participation, that are not yet parties.

However, it is clear that the real measure of success would be the tangible results on the ground in terms of improved water-resource management, reduced transboundary pollution, better quality of water, and increased access to safe drinking water and sanitation. In this respect, the actual impact of the ECE Water Convention is difficult to assess. Changes in the ecological status of transboundary watercourses may result from

intended environmental measures as well as from changing socio-economic conditions. Secondly, there are still insufficient data and information concerning water quality and pollution input in different river basins. Indicators of the effectiveness of environmental measures are still to be developed at the basin and national levels. These might include data collection and analysis of the reduction or mitigation of pollution or restoration of wetlands, as relevant. The means of ensuring an objective analysis and evaluation have already begun to be developed through the pilot programmes for monitoring under the auspices of the UNECE.

One of the main challenges facing the regime is the development of a proper compliance and implementation review system, possibly as a formal mechanism, akin to implementation committees created under some UNECE environmental conventions. The other challenge is to expand the reach of the conventional regime in terms of its ratification by the NIS in Central Asia (where there is noticeable reluctance) and the Balkans.⁴³ This situation is already changing, with an agreement on the Sava recently concluded and work progressing on the Dnepr, Dniestr, and other rivers. The horizon of the regime is also being extended in several important ways: firstly, to encourage links between transboundary watercourse joint bodies and regional sea commissions; secondly to encompass cross-cutting issues such as integrated river-basin management, coastal-zone management, and wetland conservation; and thirdly, to include consideration of the social and economic aspects of water management.⁴⁴ These ambitious goals are currently being pursued, but will require special attention and careful nurturing in the future.

Despite these challenges, the ECE Water Convention regional regime offers many examples of good practice and should be examined more closely internationally. Its flexibility, responsiveness, and organic evolution make the ECE Water Convention regime a valuable model of regional co-operation in the field of transboundary water-resource management.

Notes and References

- Convention on the Protection and Use of Transboundary Watercourses and International Lakes (17 March 1992, Helsinki), 31 *ILM* (1992) 1312. Entered into force 6 October 1996.
- UNWire, 'Water: Good Policies Can Avert World Crisis, Global Water Outlook to 2025', at <<http://www.unfoundation.org>>.
- Kyoto World Water Forum. See opening speech by Dr Abu-Zeid, President of the World Water Council (on file with author), and found at <www.dundee.ac.uk/law/iwrl>.
- The Johannesburg summit made mixed progress on the various 'sustainable development' agendas. One notable success was in the area of water. In the Johannesburg 'Plan of Implementation', governments agreed to 'halve, by 2015, the proportion of people without access to safe drinking water and basic sanitation', and also to 'develop integrated water resources management and water efficiency plans by 2005'. See the UN Summit on Development, Johannesburg 2002, at <<http://www.johannesburgsummit.org>>.
- Sustainable Management of Transboundary Waters in Europe* (2003), Proceedings of the Second International Conference (Miedzzydroje, Poland, 21–4 April 2002), 15.
- See on this, e.g., Sergei Vinogradov (1996), 'Transboundary Water Resources in the Former Soviet Union: Between Conflict and Cooperation', *Natural Resources Journal*, 36 (spring), 393–415.
- See <<http://www.UNECE.org/env/water/welcome.html>>.
- 'Declaration of Policy on Prevention and Control of Water Pollution, including Transboundary Pollution', Decision B (XXV) Geneva, 1980, in FAO (1998), *Sources of International Water Law*, FAO Legislative Study No. 65 (Rome: FAO), 121–5.
- Ibid.*, para. 12.
- 'Decision on International Co-operation on Shared Water Resources', Decision D (XXXVII), Geneva, 1982, in FAO (1998), *Sources of International Water Law*, 126–8.
- 'Decision on Co-operation in the Field of Transboundary Waters', Decision B(41) Geneva, 1986, in FAO (1998), *Sources of International Water Law*, 129.
- Charter on Groundwater Management, 1989 (Doc. ECE/ENVWA/12).
- 'Code of Conduct on Accidental Pollution of Transboundary Inland Waters', Decision C(45), New York, 1990, in FAO (1998), *Sources of International Water Law*, 130–52.
- The parties to the ECE Water Convention are: Albania, Austria, Azerbaijan, Belgium, Croatia, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Kazakhstan, Liechtenstein, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Portugal, Moldova, Romania, the Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine and the European Community. In addition Belarus acceded the Convention on 29 May 2003. Bulgaria and the United Kingdom have signed, but not yet ratified, the Convention.
- For more information on the ECE Water Convention, see this *Yearbook*.
- Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Report of the Second Meeting of the Parties (23–5 March, The Hague), Doc. ECE/MP.WAT/5 (29 August 2000, Geneva), at <http://www.unece.org/env/water/pdf/ece_mp_wat5.pdf>.
- Two other instruments are based on a similar approach of concluding separate but related bilateral and multilateral agreements under the 'umbrella' of the framework convention—the SADC Revised Protocol on Shared Watercourses, Windhoek, 7 August 2000, at <http://www.sadc.int/english/protocols/p_shared_watercourse_revised.html> and the Convention on the Conservation of Migratory Species of Wild Animals (23 June 1979, Bonn), 19 *ILM* (1980) 15, whose implementation requires conclusion of agreements between 'range States'.
- Convention on the Transboundary Effects of Industrial Accidents (17 March 1992, Helsinki), 31 *ILM* (1992), 1333. Entered into force 19 April 2000.
- Convention on Environmental Impact Assessment in a Transboundary Context (25 February 1991, Espoo), 30 *ILM* (1991) 1461. Entered into force 10 September 1997.
- Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (25 June 1998, Århus), 38 *ILM* (1999) 517. Entered into force 30 October 2001.
- The United Nations Convention on the Law of the Non-

- Navigational Uses of International Watercourses (31 May 1997, New York), 36 *ILM* (1997) 700. Not yet in force. As of May 2003, the UN Watercourses Convention had twelve parties; eight more states had signed but not yet ratified it.
22. Directive 2000/60/EC of the European Parliament and the Council of 23 October 2000 establishing a framework for Community Action in the Field of Water Policy, *Official Journal* L327 (22/12/2000), 0001–0073.
 23. Protocol on Water and Health to the 1992 Convention on the Protection and Use of Transboundary Watercourses and Lakes (17 June 1999, London). Not yet in force. See <<http://www.who.dk/london99>>. States parties to the 1999 Protocol, as of May 2003, include Albania, Azerbaijan, the Czech Republic, Hungary, Luxembourg, Romania, the Russian Federation, and Slovakia; 30 more states signed the Protocol.
 24. Draft Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters, Doc. MP.WAT/2003/1, CP.TEIA/2003/3.
 25. For a more detailed description of the Protocol, see this *Yearbook*.
 26. The pilot projects, supported by the EU/TACIS programme, are aimed at demonstrating the application of the 1996 and 2000 guidelines on water-quality monitoring and assessment of transboundary rivers, and at assisting countries in their implementation in eight river basins (Bug, Morava, Ipoly, Mures, Latorica/Uzh, Tobol, Kura, and Severski Donets).
 27. The International Water Assessment Centre (IWAC) was created in the Netherlands specifically for the purpose of providing such assistance by drawing on a network of water resource experts in the ECE countries.
 28. Kaj Bärlund (2003), 'Co-operation on Transboundary Waters: A Challenge for Europe and Other Regions in the World', *Sustainable Management of Transboundary Waters in Europe*, 25.
 29. William Kakebeke, Patricia Wouters, and Nicolette Bouman (2000), *Management: Guidance on Public Participation and Compliance with Agreements* (Geneva: UNECE/UNEP). See also report, 'Geneva Strategy and Framework of Monitoring Compliance with Agreements on Transboundary Waters', UNECE Document MP. Water/2000/ December 1999.
 30. UNECE (2003), *Draft Guidelines for Strengthening Compliance with and Implementation of Multilateral Environmental Agreements (MEAS) in the ECE Region*, Task Force on Environmental Compliance and Enforcement, Report by the Chairman, Doc. CEP/2003/7 (13 December 2002, Geneva).
 31. Convention on Co-operation for the Protection and Sustainable Use of the Danube River (29 June 1994, Sofia), *International Environment Reporter*, 35: 251. Entered into force 22 October 1998.
 32. Agreement on the Protection of the Meuse (26 April 1994, Charleville Mezieres), 34 *ILM* (1995), 854; Agreement on the Protection of the Scheldt (26 April 1994, Charleville Mezieres), 34 *ILM* (1995), 859.
 33. Convention on the Protection of the Rhine (22 January 1998, Rotterdam), 1404 UNTS 59.
 34. Convention on Co-operation for the Protection and Sustainable Use of the Waters of the Luso-Spanish River Basins between Spain and Portugal (30 November 1998, Albufeira); text published in Evan Vlachos and Francisco Nunes Correia (eds.) (2000), *Shared Water Systems and Transboundary Issues with Special Emphasis on the Iberian Peninsula* (Proceedings of the Conference held at Luso-American Development Foundation, Lisbon, Portugal, March 11–12, 1999), 429.
 35. Agreement between the Government of the Russian Federation and the Government of the Republic of Kazakhstan Concerning the Use and Protection of Transboundary Waters (27 August 1992, Orenburg), on file with the authors. Entered into force 27 August 1992.
 36. Russia and Kazakhstan concluded three supplementary protocols on the joint use and protection of transboundary waters, co-ordination of water management in the Ural river basin (20 June 1996, Kurgan), the Tobol river basin (20 June 1996, Kurgan), and the Ishim river basin (26 June 1997, Pavlodar), on file with the authors.
 37. Agreement between the Government of the Russian Federation and the Government of the Republic of Belarus on Co-operation in the Field of Protection and Rational Utilization of Transboundary Waters (24 May 2002, Minsk), on file with the authors.
 38. Agreement between the Government of the Russian Federation and the Government of the Republic of Estonia Concerning Co-operation in Protection and Rational Use of Transboundary Waters (20 August 1997, Moscow), on file with the authors.
 39. These include, for example, a workshop on the prevention of chemical accidents and limitation of their impact on transboundary waters (7–9 May 1998, Berlin); a seminar on the prevention of chemical accidents and the limitation of their impact on transboundary waters (4–6 October 1999, Hamburg), whose conclusions and recommendations were adopted by the governing bodies of the two conventions; an international workshop and exercise on industrial safety and water protection in transboundary river basins (3–5 October 2001, Tiszaujvaros, Hungary); and a Polish–Russian transboundary response exercise and international seminar on the preparedness for and response to industrial accidents and the mitigation of their transboundary effects (13–15 June 2002, Ketzyn, Poland).
 40. For more on the 1997 UN Watercourses Convention, see Patricia Wouters (1999), 'The Legal Response to Water Scarcity: The UN Watercourses Convention and Beyond', *German Yearbook of International Law*, 42, 293. See also Attila Tanzi and Maurizio Arcari (2001), *The United Nations Convention on the Law of International Watercourses* (London, The Hague and Boston: Kluwer Law International).
 41. Attila Tanzi (2000), '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', Report of the UNECE Task Force on Legal and Administrative Aspects (Geneva), at <<http://www.unece.org/env/water/publications/documents/conventiontotal.pdf>>.
 42. *Sustainable Management of Transboundary Waters in Europe*, 16.
 43. Lea Kauppi and Sirkka Haunia (2003), 'The UNECE Convention on the Protection of Transboundary Watercourses and International Lakes: The Path Ahead', *Sustainable Management of Transboundary Waters in Europe*, 30.
 44. *Ibid.*, 16.

