

REGIME BUILDING FOR TRANSBOUNDARY WATERS: THE EVOLUTION OF LEGAL AND INSTITUTIONAL FRAMEWORKS IN THE EECCA REGION

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INTRODUCTION

Transboundary water resources play an increasingly important role in the countries of Eastern Europe, Caucasus and Central Asia (hereinafter EECCA),¹ where a majority of the population relies upon them for drinking water, irrigation, industrial development and energy production.² During the Soviet times these waters were predominantly managed as a national natural resource with very limited reference to any obligations under international law. With the emergence of the newly independent states in the 1990s, new borders were drawn in Europe and Central Asia creating an entirely new geopolitical setting. Most of the watercourse systems in the region acquired the new status of transboundary, ie watercourses shared by two or more sovereign states. See map on p 94.

Today, the utilization and protection of these water resources in a sustainable manner is impossible without effective transboundary cooperation.³ This, however, can only be achieved with the help of adequate normative and institutional frameworks based upon recognized principles and rules of international law and fully incorporating well-established concepts and approaches to the management of transboundary water resources. During the last 15 years a rapid proliferation of legal regimes, either bilateral or multilateral, for transboundary watercourses has taken place throughout the entire EECCA region. Notwithstanding their diversity these regimes have one common feature – steadily growing reliance on international law as a foundation and a principal tool of regime creation and evolution.

In the European context this means that along with certain general legal principles and norms relevant to transboundary water resources and mostly embodied in the 1997 UN Convention on the Law of the Non-Navigational Uses of International Watercourses⁴ (hereinafter UN Watercourses Convention), more specific regional, basin-wide and bilateral arrangements constitute the backbone of transboundary water cooperation. In this respect, the 1992 UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes⁵ (hereinafter UNECE Water Convention) is the principal legal instrument, which provides a blueprint for the development of normative and institutional frameworks for transboundary water resources in Europe. Since its adoption it has served as the legal foundation and matrix for transboundary water cooperation and provided institutional assistance to both Parties and non-Parties in water resource management.⁶

The UNECE Water Convention is a framework instrument, which, to be effective, has to be supplemented and supported by separate agreements governing individual rivers or drainage basins, or parts thereof. The Water Convention is directly applicable to the EECCA region and has been adopted by a number of states in the region. To fulfil their principal obligations the EECCA countries have entered into specific arrangements with respect to the water resources they share. A number of such agreements have been concluded over the last 15 years, adding significantly to the corpus of international law of water resources. However, this practice remains largely unknown to a wider circle of water law professionals and experts around the world, which is regrettable given the geopolitical significance of the region and its particular importance in terms of global and regional availability and distribution of water resources.

1 The EECCA States include the 12 former republics of the Soviet Union except the Baltic States (Estonia, Latvia, Lithuania). In the UN parlour this abbreviation has replaced terms frequently used in the past such as FSU (former Soviet Union) and NIS (Newly Independent States). These countries are also members of the Commonwealth of Independent States (CIS) – an organisation created in 1991 to replace the Soviet Union. Since its formation, the member-states of CIS have signed a large number of documents concerning integration and cooperation on matters of economic development, environmental protection, defence and foreign policy.

2 See eg Assessment of Transboundary Waters in the UNECE Region, Sixth Ministerial Conference 'Environment for Europe' Belgrade, 10–12 October 2007, Doc. ECE/BELGRADE.CONF/2007/INF/1ECE/MP.WAT/23.

3 For a detailed review of the initial efforts to create the legal foundation for cooperation in transboundary water resource management S Vinogradov 'Transboundary Water Resources in the Former Soviet Union: Between Conflict and Co-operation' (1996) 36 *Natural Resources Journal*, No 2.

4 United Nations: Convention on the Law of the Non-Navigational Uses of International Watercourses, Adopted by the UN General Assembly and opened for signature 21 May 1997, 36 ILM 700 (1997); not yet in force.

5 Convention on the Protection and Use of Transboundary Watercourses and International Lakes (17 March 1992, Helsinki), 31 ILM (1992) 1312. In force 6 October 1996.

6 On the process of implementation of the UNECE Water Convention see P Wouters and S Vinogradov 'Analysing the ECE Water Convention: What Lessons for the Regional Management of Transboundary Water Resources', *Yearbook of Int'l Cooperation on Environment & Development*, 2003/2004 (Earthscan 2003).

Thus, the purpose of this paper is to provide a synopsis of the development of the international law of water resources in the EECCA region in general, and the emergence and evolution of legal regimes for individual transboundary watercourses in particular. The paper begins with a brief overview of the current state of international law of water resources, including the principal international legal instruments in this field – the 1997 UN Watercourses Convention, the 1992 UNECE Water Convention and other pertinent instruments, both binding and non-binding, of relevance to the EECCA region. This will provide the legal context and place into a proper perspective the subsequent study and analysis of the evolving legal regimes of cooperation between the EECCA states in the management, protection, and use of transboundary water resources. The paper will concentrate on a few selected case studies involving important legal arrangements or significant transboundary watercourses in the region. The primary focus of the paper is on transboundary water resources shared by the EECCA states and, in particular, between Russia, the largest country in the region, and its numerous neighbours. Some attention will be paid also to the most contentious issues involving countries neighbouring the EECCA region. This will help to demonstrate both the relative progress achieved in the region, in terms of regime-formation with regard to transboundary water resources, and the complexity of the problems that remain to be addressed. Finally, the paper will highlight some specific challenges faced by the EECCA countries in their efforts to further advance transboundary water cooperation, and will recommend the most feasible ways of improving the overall situation with transboundary water resources in the EECCA region.

INTERNATIONAL LEGAL FRAMEWORKS FOR TRANSBOUNDARY WATER RESOURCES OF RELEVANCE TO THE EECCA REGION

A considerable number of rivers, lakes and groundwater aquifers in the EECCA region fall into the category of 'transboundary' – they either form or cross boundaries between two or more states.⁷ Suffice it to mention such multinational rivers in the European part of the EECCA region as the Dnieper (Dniipro) (Russia, Belarus and Ukraine), Zapadnaya Dvina/Daugava (Russia, Belarus and Latvia), Neman (Belarus, Lithuania and Russia), and the Dniester (Ukraine and Moldova). In the Trans-Caucasus there are two important international watercourses – the Koura and Araks, which flow into the Caspian Sea and whose catchments are located within the territories of Turkey, Georgia, Armenia, Azerbaijan and Iran. The Caspian itself is the largest salt-water lake in the world; its littoral states

7 As well as the term 'transboundary watercourse' international legal practice also uses other terms such as 'international watercourse' and 'international river/drainage basin', which are generally defined as 'a system of surface waters and groundwaters constituting by virtue of their physical relationship a unitary whole and normally flowing into a common terminus', 'parts of which are situated in different States' (Article 2 of the 1997 Watercourses Convention). For the most recent and complete review and evaluation of transboundary water resources in the UNECE region see *Our Waters: Joining Hands Across Borders* First Assessment of Transboundary Rivers, Lakes and Groundwaters (UN: NY and Geneva, 2007) available at: <http://www.unece.org/env/water>.

include Russia, Azerbaijan, Kazakhstan, Turkmenistan and Iran.

In the Asian part of the EECCA region the drainage basin of the Aral Sea – another lake of international importance – spreads across the territories of five former Soviet republics – Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan and Uzbekistan, that share the water resources of two main transboundary watercourses, the Syr Darya and Amu Darya rivers. Afghanistan is another country in the Aral Sea Basin, and a riparian state of the Amu Darya River. There are also a number of large watercourses such as the Ural, Tobol and Ishim (an important tributary of the Irtysh River), shared by Russia and Kazakhstan. The Irtysh River Basin spreads mostly over the territories of Russia and Kazakhstan, with its headwaters located in China. Another important basin, the Ili River, which flows into Lake Balkhash, is predominantly located in Kazakhstan and China with a small part shared with Kyrgyzstan. Finally, there are two major river basins which Russia shares with Mongolia and China – the Yenisey and Amur, each extending over 2 million km².

Since the disintegration of the Soviet Union in 1991, the utilization and protection of these and other transboundary rivers and lakes have raised serious political, economic and environmental problems between nations sharing their increasingly limited water resources. A number of important watercourses, which were located wholly within the boundaries of the former Soviet Union and thus used and managed as 'national' water resources in accordance with domestic Soviet regulations, practically overnight became 'international', which thus created a serious regulatory vacuum. As a result of this radical shift from the 'national' to 'international' dimension, new legal and institutional approaches had to be applied. At present, the water governance in a transboundary context has to rely primarily on international law as its principal tool, while predominantly national regulatory mechanisms with regard to major watercourses or river basins have been replaced by appropriate international legal regimes.

Thus, currently it is international law, rather than national legislation, that shapes the regulatory regimes governing the utilization of transboundary watercourses (river basins).⁸ Transboundary water resources constitute an indivisible natural complex (hydrographical basin, watercourse system) and at the same time are 'shared' between different states, while each state exercises sovereignty over the part of the resource situated within its territory. International legal practice regarding the protection and use of such water resources varies and depends on the geographical and economic factors prevailing in each individual case. As a rule, agreements are concluded between the parties concerned with respect to all of their 'shared' water resources, or a specific international watercourse or a part thereof, or a certain type of water use or a particular transboundary water project. These

8 See eg L Caflish 'Regulation of the Uses of International Watercourses' in S Salman and L Boisson de Chazournes (eds) *International Watercourses: Enhancing Cooperation and Managing Conflict* World Bank Technical Paper No 414 (World Bank Washington DC 1998).

international agreements can be multilateral (for example, the Convention on Co-operation for the Protection and Sustainable Use of the Danube, 1994⁹) or bilateral (for example, the Boundary Waters Treaty of 1909 between the United States and Canada¹⁰).

During the last two decades, the practice of concluding so-called 'framework' treaties has been firmly established. Such framework treaties usually set out the general principles and rules of behaviour that states have agreed will govern their shared water resources. Additional protocols regarding special issues of co-operation, or agreements on specific watercourses are then adopted as a means of implementing the general principles contained in the framework instrument. The 1992 UNECE Water Convention and the 2000 Revised Protocol on Shared Watercourses of the Southern African Development Community (SADC) fall into the category of such framework treaties.

The ILA rules

Despite the existence of a number of international agreements on the use of transboundary waters, until recently there was no universal international legal instrument for incorporating into a system the key principles and standards of conduct of states in this field of international relations, or 'international water law', as it is often called. The first attempt to codify 'customary' international legal rules was made in the mid-1960s by the International Law Association (ILA), a non-governmental organization. After examining international treaties, usages and judicial practice, the ILA developed and adopted at its conference in Helsinki in 1966 the 'Rules on the Uses of the Waters of International Rivers',¹¹ commonly known as the 'Helsinki Rules'. The Helsinki Rules – a non-binding instrument – define the regime of the use and protection of the waters of an 'international drainage basin' and contain legal guidelines defining the reciprocal rights and obligations of the states in whose territories the parts of such basins are situated.

The fundamental rule of the legal regime of transboundary waters is the principle of 'reasonable and equitable utilization'. In accordance with this principle each basin state has the right within its own territory to a reasonable and equitable share in the uses of the waters of that basin and the obligation to respect reciprocal rights of other basin states. The degree to which one or another use of transboundary waters can be qualified as 'reasonable and equitable' is to be determined by taking into account all relevant factors, including hydrographical, hydrological and climatic conditions; past and present uses of the basin's waters; the economic and social needs of each basin state; the population which is dependent on the waters of the basin in each state of the basin and so forth. One

factor to consider in defining the 'equitableness' of a particular use is the extent to which the needs of a given state can be met without causing significant harm to other states within the basin. In accordance with the Helsinki Rules, no water use shall have inherent priority over other uses of the water resources of an international basin.

The Helsinki Rules also identify certain general rights and obligations concerning the prevention and control of pollution, the regulation of navigation along navigable rivers, timber floating, and the prevention and settlement of international disputes over the rights and other interests of the states within the basin. In the years following the adoption of the Helsinki Rules, the ILA elaborated a number of additional recommendations, establishing regulations on such issues as flood control (New York, 1972), pollution of the marine environment from land-based sources (New York, 1972), maintenance and improvement of naturally navigable waterways separating or traversing several states (New Delhi, 1974/1975), protection of water resources and water installations in times of armed conflicts (Madrid, 1976), administration of international water resources (Madrid, 1976), regulation of the flow of international watercourses (Belgrade, 1980), the relationship of international water resources with other natural resources and environmental elements (Belgrade, 1980), water pollution in an international drainage basin (Montreal, 1982), international ground-water resources (Seoul, 1986), complementary rules applicable to international water resources (Seoul, 1986) and private law remedies for transboundary damage in international watercourses (Helsinki, 1996).¹² All these numerous rules and regulations were systematized and presented in a single instrument, the 'Consolidated Text of the ILA Rules on International Water Resources' (Campione, Italy, 1999).¹³ In August 2004, at the Berlin Conference, the Association adopted a set of new 'Rules on Water Resources',¹⁴ which in the opinion of some water lawyers go far beyond what is traditionally considered as international law *de lege lata*.

Although the rules developed and approved by the ILA are recommendations and have no binding legal force for states, they are widely recognized as generally reflecting established international practice. These rules have in many respects formed the basis of a large number of bilateral and multilateral agreements, including the only universal treaty in this field – the 1997 UN Watercourses Convention.

The 1997 UN Watercourses Convention

The 1997 UN Watercourses Convention is the outcome of almost 30 years of work by the UN International Law Commission (ILC) on the codification and progressive development of international law in the field of the non-navigational uses of international watercourses.¹⁵

9 Convention on Cooperation for the Protection and Sustainable Use of the Danube River, signed 29 June 1994, available at: <http://www.icpdr.org/icpdr-pages/drpc.htm>.

10 Treaty between the United States and Great Britain respecting Boundary Waters Between the United States and Canada (Washington), 4 AJIL (Suppl) 239.

11 See S Bogdanovic *International Law of Water Resources. Contribution of the International Law Association (1954–2000)* (Kluwer Law International London, The Hague, Boston 2001).

12 *ibid.*

13 *ibid.*

14 ILA, Report of the Conference, Berlin, 2004.

15 For more detailed information, see S McCaffrey 'UN Convention on the Law of Non-Navigational Uses of International Watercourses: Prospects and Pitfalls', in *International Watercourses: Enhancing Cooperation and Managing Conflict* (n 8).

The Convention is a framework international agreement open for participation by all states. The provisions of the Convention define the reciprocal rights and obligations of the watercourse states regarding the use of the waters of a shared 'international watercourse' parts of which are situated within their respective territories.

The 1997 Watercourses Convention establishes both 'substantive' and 'procedural' rules, which States Parties accepted as governing their relations and activities regarding the utilization of an international watercourse. The Convention encourages the states that share the same watercourse to enter into agreements that apply and adjust the provisions of the Convention to the specific characteristics and uses of this particular watercourse, and expressly provides that the participation in the Convention does not affect the legal force of previously concluded agreements.

The fundamental rules of international law of water resources were further developed and elaborated in the Convention. This refers primarily to the principle of equitable and reasonable utilization of the waters of an international watercourse and to the obligation of not causing significant harm ('no harm' rule), which is implicitly subordinated to the former. This instrument also contains other important rules, such as a general obligation to cooperate in the process of the utilization of an international watercourse, including procedural obligations regarding information exchange, notification and consultations concerning planned measures, which may have a significant adverse effect on other watercourse states; provisions concerning the protection and preservation of the ecosystems of the watercourse; the peaceful settlement of international disputes and so forth.

Although the 1997 Watercourses Convention has not yet entered into force, its basic provisions, above all the principle of equitable and reasonable utilization, are legally binding even for states that are not Parties to the Convention, insofar as they reflect universally recognized norms of international customary law. This was acknowledged albeit as *obiter dictum*, in the decision of the International Court of Justice in connection with the dispute between Hungary and Slovakia over the Gabčíkovo-Nagymaros project on the Danube River.¹⁶ However, given the framework nature of this instrument, its provisions are general and are intended mainly to serve as a model for states in elaborating more specific and detailed agreements on individual watercourses, taking into account the special circumstances and needs of individual basins and regions.

The UNECE Water Convention

This is also the case with the UNECE Water Convention, which was signed on 17 March 1992, and entered into force on 6 October 1996. It is the first instrument aimed at establishing a legal basis for cooperation in the protection and rational use of transboundary waters in

the entire geopolitical region.¹⁷ The UNECE covers the countries of Europe, North America and Central Asia as well as Israel. Currently 34 states and the European Community are Parties to the Convention.¹⁸

The principal objectives of the Water Convention include:

- protection of transboundary waters (including surface waters and groundwaters) through prevention, control and reduction of pollution
- ecologically sound management of transboundary waters
- reasonable and equitable use of transboundary waters
- conservation and restoration of water-related ecosystems.

It is envisaged that these objectives will be achieved through the implementation of individual and joint measures by the Parties to prevent, control and reduce transboundary impact, insofar as this is feasible, at the source of pollution. This applies to both point and diffuse sources.

The Convention sets up two categories of obligations. The first group includes obligations of a more general nature and applies to all its Parties. The second category of obligations applies to the so-called 'riparian Parties' – Parties that belong to the same transboundary watercourse. The key obligation of riparian Parties is to conclude bilateral and multilateral arrangements concerning their shared waters.

The legal framework established by the Water Convention is subject to the ongoing development through the adoption of auxiliary instruments complementing the Convention. These include legally binding protocols as well as various non-binding guidelines and recommendations.

The Protocol on Water and Health was concluded in 1999 (London)¹⁹ with a view to prevent, control and reduce the incidence of diseases related to water. Its main objective is to promote the protection of human health and wellbeing through improved water management activities, including the protection of water ecosystems.²⁰

17 See B Bosnjakovic 'UNECE Strategies in the Field of Environment Protection Related to International Watercourses: Helsinki Convention and Espoo Convention' in *International Watercourses: Enhancing Cooperation and Managing Conflict* (n 8). See also K Bärhund 'Cooperation on Transboundary Waters: A Challenge for Europe and Other Regions in the World' in *Sustainable Management of Transboundary Waters in Europe* Proceedings of the Second International Conference, Poland, Medzyzdroje 21–24 April 2002 (UNECE 2003) 25.

18 The parties to the UNECE Water Convention are: Albania, Austria, Azerbaijan, Belarus, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Kazakhstan, Liechtenstein, Lithuania, Luxembourg, Moldova, Netherlands, Norway, Poland, Portugal, Romania, Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, Uzbekistan and the European Community. The United Kingdom signed, but has not yet ratified the Convention.

19 Protocol on Water and Health to the 1992 Convention on the Protection and Use of Transboundary Watercourses and Lakes (17 June 1999, London). In force 4 August 2005. <http://www.unece.org/env/documents/2000/wat/mp.wat.2000.1.e.pdf>.

20 The following states have ratified or acceded to the Protocol: Albania, Azerbaijan, Belgium, Croatia, Czech Republic, Estonia, Finland, France, Germany, Hungary, Latvia, Lithuania, Luxembourg, Moldova, Norway, Portugal, Romania, Russian Federation, Slovakia, Switzerland, Ukraine.

16 International Court of Justice, Judgment 25 September 1997. General List No 92.

The Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters,²¹ concluded in 2003 in Kiev, establishes for the first time in international practice a regime of compensation for ecological damage resulting from accidental pollution of transboundary waters. The Protocol's uniqueness lies in the fact that it was elaborated and adopted simultaneously under the aegis of the two UNECE 'environmental' conventions – the 1992 Water Convention and the 1992 Convention on the Transboundary Effects of Industrial Accidents (Helsinki).²² The latter instrument deals with the prevention of industrial accidents through preparedness for and response to their transboundary effects. Its purpose is to promote international cooperation in the protection of human beings and the environment by preventing such accidents insofar as it is feasible, reducing their number and severity, and mitigating their effects.

The Espoo and Aarhus Conventions

In addition to the above-mentioned international legal instruments, two more documents were elaborated and adopted within the framework of the UNECE, each of which is of great importance for the protection and preservation of transboundary waters. These are the Convention on Environmental Impact Assessment in a Transboundary Context (hereinafter Espoo Convention)²³ and the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (hereinafter Aarhus Convention).²⁴

The Espoo Convention sets out the obligations of Parties to assess the environmental impact of certain activities at an early stage of planning. It also lays down the general obligation of states to notify and consult each other on all major projects under consideration that are likely to have a significant adverse environmental impact beyond the borders of the state planning such activities.

The Convention provides a comprehensive list of activities for which environmental impact assessments should be carried out including the following.

- Trading ports and also inland waterways and ports for inland-waterway traffic which permit the passage of vessels of over 1,350 metric tons.
- Large dams and reservoirs.
- Groundwater abstraction activities or artificial groundwater recharge schemes where the annual volume of water to be abstracted or recharged amounts to 10 million cubic metres or more.

21 Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters (21 May 2003, Kiev) <http://www.unece.org/env/civil-liability/protocol.html>. The Protocol has been ratified so far only by Hungary.

22 Convention on the Transboundary Effects of Industrial Accidents (17 March 1992, Helsinki) 31 ILM (1992) 1333; <http://www.unece.org/env/teia/text.htm>.

23 Convention on Environmental Impact Assessment in a Transboundary Context (25 February 1991, Espoo) 30 ILM (1991) 1461. In force 10 September 1997.

24 Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (25 June 1998, Aarhus) 38 ILM (1999) 517. In force 30 October 2001.

- Works for the transfer of water resources between river basins where this transfer aims at preventing possible shortages of water and where the amount of water transferred exceeds 100 million cubic metres/year; and in all other cases, works for the transfer of water resources between river basins where the multi-annual average flow of the basin of abstraction exceeds 2000 million cubic metres/year and where the amount of water transferred exceeds 5 per cent of this flow. In both cases transfers of piped drinking water are excluded.
- Wastewater treatment plants with a capacity exceeding 150,000 population equivalent.²⁵

In 2003, the Espoo Convention was supplemented by the Protocol on Strategic Environmental Assessment (SEA).²⁶ The SEA Protocol, once in force, will require its Parties to evaluate the environmental consequences of their official draft plans and programmes. The Protocol also applies to policy and legislation. Strategic environmental assessment should be undertaken much earlier in the process of decision-making than environmental impact assessment, and it is therefore seen as a key tool for sustainable development.

The Aarhus Convention was the first international agreement to ensure the right of access to information, public participation in decision-making and access to justice in environmental matters, and obliging its Parties to provide legal and institutional guarantees for practical implementation of such rights. To further enhance the legal framework established by the Aarhus Convention an additional Protocol to the Convention on Pollutant Release and Transfer Registers (PRTRs)²⁷ was adopted in 2003. PRTRs are inventories of pollution from industrial sites and other sources. The PRTR Protocol aims to extend public access to information by establishing coherent, integrated, nationwide registers that will promote public participation in decision-making and contribute to the prevention and reduction of environmental pollution.

European Union instruments – Water Framework Directive

In addition to the environmental conventions adopted under the aegis of the UNECE, some instruments of the European Union, in particular its environmental directives, are playing an increasingly important role in the protection and rational use of transboundary waters. Although EU directives are legally binding only for the EU Members, their practical impact is felt far beyond the borders of the Community. The EU Directive establishing a framework for action in the field of water policy (hereinafter Water Framework Directive)²⁸

25 Espoo Convention, Appendix I.

26 Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in a Transboundary Context (21 May 2003, Kiev) http://www.unece.org/env/eia/documents/protocol_english.pdf. Not in force.

27 Protocol on Pollutant Release and Transfer Registers (21 May 2003, Kiev), not in force. Parties to the Protocol include: Estonia, European Community, Germany, Luxembourg, and Switzerland. See: www.unece.org/env/pp/prtr/docs/PRTR_Protocol_e.pdf.

28 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, OJ L327, 22/12/2000, 0001-0073.

is the most influential water-related instrument ever developed by the European Union.

The adoption of the Water Framework Directive was both an important measure to improve the quality of water resources in the EU Member States and a long-overdue step towards streamlining the application of the numerous and often overlapping EU normative instruments in this area. The Directive's main goal is to establish a framework for the protection of all waters, including surface waters, groundwaters and transitional and coastal waters, through:

- prevention of further deterioration and protection and enhancement of the status of all aquatic ecosystems
- development of sustainable water management based on long-term protection of water resources
- adoption of special measures for progressive reduction of emissions, discharges and losses of hazardous substances
- progressive reduction of groundwater pollution
- mitigation of the consequences of floods and droughts.

The EU Water Framework Directive adopts the river basin approach for the protection and management of water resources through the establishment of river basin districts governed by a designated competent authority and through the adoption and implementation of a river basin management plan. As far as transboundary waters are concerned, the Directive provides for the establishment of an international basin district, encouraging the use of already existing structures created by international agreements in force. When a river basin extends beyond the limits of the EU territory, the Member States concerned should, in accordance with this Directive, seek to ensure appropriate coordination with a country that is not a EU Member in order to achieve the objectives of the Directive for the entire basin of a transboundary watercourse.

The Water Framework Directive contains a number of provisions and approaches which can be successfully used in developing international agreements, national legislation and water policy, including also those countries that are not EU Members. The most important aspects of this instrument include the river basin principle of the protection and management of water resources; the use of a 'combined' approach to control of water pollution from point and non-point sources; criteria and indicators of water quality in different types of water bodies; the use of economic policies (eg water pricing mechanisms, including the 'polluter-pays' principle); and the involvement of the general public in water resources management.

The goals and objectives of all of the above-mentioned international legal instruments cannot be successfully achieved without effective national implementation. International agreements are implemented through policies, activities and measures mainly at the level of individual governments. National implementation includes legal measures (adoption of appropriate national legislation), administrative and institutional measures (establishment of new national bodies or granting of relevant powers to existing national bodies), economic measures (investment and use of economic tools) and

social measures (information, education and promotion of public participation). Such national activities should be reinforced at the international level by the control and monitoring of compliance with international agreements and obligations.

Integrated management of water resources

Amid this diversity of existing international practices, legal frameworks and instruments, a new approach to water resources management is gaining ground – the concept of integrated management of water resources (IWRM). The 2002 World Summit on Sustainable Development in Johannesburg urged participating governments to develop plans for IWRM and water conservation by 2005.²⁹ This applies to both national and transboundary water resources. The Plan of Implementation adopted at the Summit recommends that states 'develop and implement national/regional strategies, plans and programmes with regard to integrated river basin, watershed and groundwater management'.³⁰ One of the main water-related goals articulated in Johannesburg was to 'improve the efficient use of water resources and promote their allocation among competing uses in a way that gives priority to the satisfaction of basic human needs and balances the requirement of preserving or restoring ecosystems and their functions, in particular in fragile environments, with human domestic, industrial and agriculture needs, including safeguarding drinking water quality'.³¹

IWRM, which is still a controversial and complex concept, appears to be based on an assessment of all available water sources and resources (surface, ground and return waters) within the hydrographic boundaries of a watercourse. It is intended to harmonize the interests of different sectors and levels of the hierarchy of water management; involve all stakeholders in decision-making; and, thus, to contribute to an efficient and sustainable use of water in the interests of society's well-being and environmental safety.³² The main objective of IWRM is to ensure sustainable, equitable and efficient water supply in order to meet the needs of water users and nature.

According to the definition of the Global Water Partnership (GWP), the key elements of an enabling environment for the application of the IWRM principles include:

- water policies (setting goals for water use, protection and conservation)
- legal framework (water policy translated into law)
- financing and incentives structure (financial resources to meet water needs).³³

29 Report of the World Summit on Sustainable Development (Johannesburg, 26 August – 4 September 2002), A/Conf.199/20 (New York: United Nations, 2002) p 26.

30 *ibid.*

31 *ibid.*

32 See eg V Sokolov, 'Integrated Water Resources Management: The Experience of Central Asia and the Caucasus' in *IWRM Principles' Implementation in the Countries of Central Asia and the Caucasus* (Global Water Partnership, 2004).

33 Tools: Individual Policies and Guidelines on IWRM, <http://www.gwptoolbox.org/>.

Clearly, law plays an integral role in ensuring the implementation of the IWRM principles. Political decisions could not be transformed into practice without an appropriate legal framework, including, *inter alia*, a clear definition of the reciprocal rights and obligations of participants in water management and utilization activities, both national and international, and reinforced, if necessary, by legal sanctions.

The introduction of IWRM into water-management practice is a long-term process focused on the adoption of decisions at all levels – local, basin or sub-basin, national and international (regional or transboundary) – with a view to ensuring the efficient integration of all relevant factors related to the use of water and land resources into the processes of economic and social development. The complexity of the practical application of IWRM in a single country is evident. Its implementation at the international level, which involves interaction of different national jurisdictions over parts of an integrated natural system – a river or drainage basin – seems to be an even more formidable task. However, the integrated approach to the management of water resources should over time become an essential element of any legal regime governing transboundary watercourses.

LEGAL FRAMEWORKS FOR TRANSBOUNDARY WATER RESOURCES IN THE EECCA REGION: EVOLUTION AND CURRENT STATUS

With the break-up of the Soviet Union and the emergence in its place of a number of independent countries, many internal aspects of the management, use and protection of water resources assumed a transboundary character. The new situation called for new approaches to the regulation of water relations between now sovereign states, including the establishment of adequate international legal frameworks for cooperation on transboundary waters or individual international watercourses. Over the past 15 years much has been achieved at various levels of interstate cooperation, both in the regional context (under the aegis of the Commonwealth of Independent States (CIS)) and at the bilateral and individual transboundary river basin levels.³⁴

Many states of the EECCA region have become parties to one or more UNECE environmental conventions. For example:

- Azerbaijan, Belarus, Kazakhstan, Moldova, Russian Federation, Ukraine and Uzbekistan are Parties to the 1992 Water Convention;
- Azerbaijan, Moldova, Russian Federation and Ukraine are Parties to the 1999 Protocol on Water and Health;
- Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Moldova and Ukraine are Parties to the 1991 Espoo Convention;
- Armenia, Azerbaijan, Belarus, Kazakhstan, Moldova and the Russian Federation are Parties to the 1992

Convention on the Transboundary Effects of Industrial Accidents;

- Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Tajikistan, Turkmenistan and Ukraine are Parties to the 1998 Aarhus Convention.

A number of the EECCA countries have signed but not yet ratified the Protocols on Civil Liability, Strategic Environmental Assessment and on Pollutant Release and Transfer Registers.

Most countries of the EECCA region also participate in global international treaties related to the protection and use of natural resources such as, for example, the 1971 Ramsar Convention on Wetlands of International Importance.³⁵ On the other hand, the 1997 UN International Watercourses Convention until very recently did not enjoy much support among the EECCA states, notwithstanding the fact that many of them voted for the adoption of the Convention in the UN General Assembly.³⁶ Their reluctance to ratify or accede to the Convention remains something of a mystery. Of all the EECCA states only Uzbekistan has acceded to it (on 4 September 2007).³⁷ Nevertheless, the most relevant legal principles and rules, set forth in the 1997 Convention, have found their way into various bilateral and basin-specific treaties or draft agreements, concluded or elaborated by the countries of the EECCA region.

In this connection, it is worth mentioning the 1998 Agreement on the General Principles of the Rational Use and Protection of Transboundary Waters adopted under the auspices of the Commonwealth of Independent States.³⁸ So far only three EECCA countries – Belarus, the Russian Federation and Tajikistan – have become Parties. The Agreement, which although in general follows the provisions of the 1992 UNECE Water Convention, goes somewhat further in addressing a number of issues not covered by the Convention. The Parties to this Agreement undertake, in particular, to define common principles for the use and sharing of the water resources in question. They are also under an obligation not to implement water management measures, including their transboundary water bodies, which could harm the environment, and to calculate damage to water bodies using a common methodology.

However, due to the fact that only three countries of the EECCA region participate in the Agreement and only two of them (Russia and Belarus) have a common boundary and share some water resources, the real significance of this instrument is minimal and its future will depend upon the further development of

35 Convention on Wetlands of International Importance Especially as Waterfowl Habitat (2 February 1971) Treaties Concerning the Non-Navigational Uses of International Watercourses – Europe, FAO Legislative Study 50 (Rome 1993) p 3.

36 Armenia, Belarus, Georgia, Kazakhstan, Russian Federation, Ukraine voted in favour of the Convention, while Azerbaijan and Uzbekistan abstained. See Press Release, including UNGA vote on the Convention (21 May 1997 GA/9248).

37 The Convention will enter into force for Uzbekistan on 3 December 2007.

38 Agreement on the General Principles of Interaction in the Rational Use and Protection of Transboundary Water Bodies of the State Members of the Commonwealth of Independent States (11 September 1998 Moscow), in force 6 June 2002. <http://faolex.fao.org/docs/texts/mul-67001.doc>.

34 A detailed although slightly dated overview of the existing legal instruments for transboundary cooperation in the EECCA region is contained in the UNECE paper 'Transboundary Water Cooperation in the Newly Independent States' (Moscow and Geneva, UNECE, 2003).

cooperation in the framework of the CIS countries. The existence of this Agreement did not prevent Russia and Belarus from signing a separate bilateral instrument on transboundary waters, which further undermined the practical value of the 1998 Agreement.

Past experience and present practices: Selected transboundary cases

Thus, the prevailing tendency in the EECCA region is to rely on bilateral or basin-specific arrangements and institutional mechanisms. This has become a well-established practice that goes back to the early 1960s. In particular Russia, as the largest state in the world, has been actively engaged in regime building for transboundary waters with its 14 neighbour states. A significant part of the Russian land frontier, which is about 22,000 km long, is either formed by rivers (7,141 km) or traverses boundary lakes (475 km).³⁹ The Russian frontier crosses the drainage basins of more than 70 large and medium-size transboundary rivers. One important factor, which plays an essential role in this country's policy with respect to transboundary water resources, is that three times more water (200 km³) flows into Russian territory from its neighbours than leaves it.⁴⁰ This is especially typical for the Kola Peninsula and the Central-Asian region. While Russia receives from Kazakhstan through their three major transboundary rivers about 36 km³ of water per year, only 8.3 km³ of water go in the opposite direction. Thus, the effective and preferably trouble-free management and utilization of transboundary water resources has become, if not a priority, at least an important aspect of Russia's relations vis-à-vis its neighbours, both old and new.

To a certain extent, this task has been made easy by already considerable practical experience as well as legal and institutional know-how in transboundary water management accumulated during the Soviet era. Some of the existing normative and institutional frameworks were inherited by Russia from the USSR (for instance, with Finland and Norway). However, in large part new legal approaches had to be developed with the majority of Russia's neighbours (for example, with Estonia, Belarus, Ukraine, Kazakhstan, Mongolia). Compared to Russia, most of the newly emerged states do not possess sufficient legal and technical expertise, which partly explains obvious shortcomings of the 'first generation' of transboundary water agreements concluded between some of the EECCA region countries in the early 1990s.

Russia and Finland

A very successful example of bilateral cooperation on transboundary waters is the half-century old collaboration between the Russian Federation (and formerly the

Soviet Union) and Finland⁴¹ under the framework of the Joint Finnish-Russian Commission, established on the basis of the 1964 Agreement on the Frontier Water Systems.⁴² This is a comprehensive document, which applies to all possible uses of water resources in 20 transboundary river systems.⁴³ These uses include their protection; power generation by hydroelectric plants; regulation of the flow and water levels; timber floating; protection and conservation of fisheries and land improvement.⁴⁴

The Commission, which began its work in 1966, has played a proactive role in the resolution of a number of controversies, such as the issue of compensation for losses suffered by a Finnish hydroelectric power plant resulting from the construction of a dam and hydroelectric power plant upstream on the Soviet territory. After a thorough expert study of this project and its examination by the Commission, an agreement was reached in 1972 to resolve this issue.⁴⁵ In 1989, a bilateral treaty was concluded on the basis of a study of the regulation of the stream flow of the Vuoksa River from Lake Saimaa, carried out under the framework of the Commission.⁴⁶ The regulation of the Vuoksa River was based on the draft prepared by the Commission. The solution reached is exceptional in terms of the multipurpose use of water resources. It aims to reduce possible damage and prevent negative effects of floods and droughts on various water uses in the entire river basin.

The legal regime for transboundary waters established on the basis of the Russian-Finnish agreements can be seen as one of the most effective bilateral regimes not only in Europe but worldwide. Although its founding treaty was signed in 1964, long before the adoption of the 1992 UNECE Water Convention, it is entirely consistent with the provisions of the latter. The Russian-Finnish legal and institutional arrangements

41 The first treaty between USSR and Finland was concluded as early as 1922 (Convention concerning the maintenance of river channels and the regulation of fishing on watercourses forming part of the frontier). This was followed by a bilateral agreement on the regulation of Lake Inari in 1947 and additional protocols to this agreement of 1954 and 1956.

42 Agreement between the Republic of Finland and the Union of Soviet Socialist Republics Concerning Frontier Watercourses (with exchange of letters) (24 April 1964, Helsinki) Treaties Concerning the Non-Navigational Uses of International Watercourses – Europe, FAO Legislative Study 50 (Rome 1993) p 226.

43 These frontier water systems include more than 800 rivers, streams and lakes.

44 A detailed overview of the Russian-Finnish transboundary water cooperation is presented in a special report prepared by the Joint Commission to commemorate the 30th anniversary of the 1964 Agreement: Сотрудничеству на пограничных водоемах – 30 лет. Совместная финляндско-российская комиссия пограничным водным системам (Хельсинки, 2004).

45 Agreement between the Government of the Republic of Finland and the Government of the Union of Soviet Socialist Republics Concerning the Production of Electric Power in the Part of the Vuoksa River Bounded by the Imatra and Svetogorck Hydroelectric Stations (12 July 1972) Treaties Concerning the Non-Navigational Uses of International Watercourses – Europe, FAO Legislative Study 50 (Rome 1993) p 232.

46 Agreement between the Government of the Union of Soviet Socialist Republics and the Government of the Republic of Finland on the Rules Regulating Lake Saimaa and the Vuoksa River (26 October 1989, Helsinki) (on file with the author).

39 Е Зыбин 'Участие Российской Федерации в международном сотрудничестве по охране и использованию трансграничных водных объектов' Природные ресурсы России: управление, экономика, финансы N 3 (2003) с 80 [E Zybin 'The Participation of the Russian Federation in International Cooperation on Protection and Utilization of Transboundary Waters' Natural Resources of Russia: Management, Economics, Finance N 3 (2003)].

40 *ibid.*

served as a model for the creation of the Finnish-Swedish and Finnish-Norwegian commissions, while in the Russian Federation the experience gained in the course of the implementation of the Agreement has been applied in relations with Estonia, Belarus, Ukraine, Kazakhstan, Mongolia, and other neighbouring states. The same can also be said about its impact on the evolution of legal and institutional frameworks for transboundary watercourses between other EECCA states.

Russia and Estonia

Given the somewhat strained political relations between Russia and Estonia, their transboundary water cooperation has developed relatively successfully. Notwithstanding the fact that the two countries have been unable to resolve and formalise the status of their common frontier, they concluded in 1997 an inter-governmental agreement⁴⁷ on transboundary waters, which deals essentially with the basin of the River Narva, including Lake Pskovsko-Chudskoye (Peipsi). This event followed the adoption three years earlier of a fisheries agreement between the two states. In accordance with an established practice in bilateral water regimes, the 1997 Agreement created an institutional mechanism – a Joint Transboundary Water Commission responsible for the implementation of the treaty. Since 1997 a considerable programme of work has been carried out under the auspices of the Commission. The Parties have prepared an inventory of transboundary water resources and sources of pollution, developed a monitoring programme for Lake Pskovsko-Chudskoye, undertaken the analysis of the status of water utilization in the Narva River water reservoir and evaluated water pollution by the Estonian thermo-electric plants. In 2000, the Commission adopted a new three-year programme of actions, which together with research and monitoring activities also envisages concrete measures intended to improve substantially the ecological status of the Narva River basin.

The Estonian-Russian Commission will play the leading role in ensuring the implementation of a comprehensive environmental program 'Development and Implementation of the Lake Peipsi/Chudskoe Basin Management Program'. The program, completed with the support from the Global Environment Facility (GEF) and the UN Development Program (UNDP), entails practical recommendations for the reduction and prevention of the nutrient load in Lake Peipsi, for the sustainable preservation of habitats and ecosystems in the transboundary region during the period 2006–2015. The program has been developed in cooperation with the Estonian Ministry of the Environment and the Ministry of Natural Resources of the Russian Federation, while the entity responsible for the project management is an international NGO – Peipsi Center for Transboundary Cooperation.

The legal regime established under the Russian-Estonian Agreement is distinctive in a number of ways.

First, the Agreement on transboundary waters and a serious work programme on its implementation have preceded any formal boundary delimitation treaty. Secondly, the overall strained political relations between the two states have not prevented them from being actively engaged in the cooperation on transboundary water management. Thirdly, most of the activities of the Commission have been undertaken with substantial support from various external donors – some Baltic Sea states (Sweden, Finland) or international financial institutions. And finally, this is the only bilateral regime in the EECCA region where along with the Joint Commission a non-governmental organization acts as a catalyst of transboundary cooperation. This new facet – an unusual but effective symbiosis of intergovernmental and non-governmental mechanisms – has already influenced regulatory developments involving other countries of the EECCA region.

Thus, the specialized agreements on transboundary waters – for example, between the Russian Federation and Ukraine (1992), between Kazakhstan and the Russian Federation (1992), between Moldova and Ukraine (1994), between Belarus and Ukraine (2001) and between Belarus and the Russian Federation (2002) – play a particularly important role in the development of international water cooperation in the EECCA region. These are supported by more general bilateral legal frameworks on environmental cooperation, which by definition also apply to water resources. The Russian Federation concluded a number of such agreements with its numerous neighbours. Similar environmental protection treaties were concluded also between Azerbaijan and Georgia (1997), between Armenia and Georgia (1997), and between Ukraine and Moldova (1993).

Russia and Ukraine

The water-related collaboration between the Russian Federation, on the one hand, and Ukraine and Kazakhstan, on the other, is based on two analogous bilateral agreements concluded in 1992. These arrangements, which are very similar in many respects, provide for cooperative efforts between the competent national authorities within the framework of appropriate institutional mechanisms. The Russian-Ukrainian Agreement⁴⁸ applies primarily to the basins of the River Dnieper and the Seversky Donets, the tributary of the Don River. Although the institutional mechanism – meetings of the Plenipotentiaries – established by this Agreement is perhaps the least successful form of a joint body, it has proved to be sufficiently effective in practical terms. The meetings of the Plenipotentiaries are generally held once a year, and those of their deputies at least twice a year. The meetings of the mixed working groups established under the Agreement are held as frequently as four times a year. As a rule, the meetings of the Plenipotentiaries address a wide range of issues relating to bilateral water

47 Agreement between the Government of the Russian Federation and the Government of the Republic of Estonia Concerning Cooperation in the Protection and Rational Use of Transboundary Waters (20 August 1997, Moscow) <http://faolex.fao.org/docs/texts/bi32669.doc>.

48 Agreement between the Government of Ukraine and the Government of the Russian Federation Concerning the Joint Utilization and Protection of Transboundary Water Bodies (19 October 1992 Moscow, entered into force on the date of signature) <http://faolex.fao.org/docs/texts/bi-65504.doc>.

cooperation, depending of course on the situation in a particular river basin. They include, *inter alia*:

- joint water quality control and monitoring of pollution, especially industrial and municipal (Seversky Donets) and radioactive (post-Chernobyl in the Dnieper) in the boundary sections;
- preparedness for spring floods (Dnieper) and to emergency situations (both basins);
- regulation of the water flow and utilization regime (a system of reservoirs and canals on the Seversky Donets River);
- joint monitoring, exchange of information and notification;
- recovery of small transboundary rivers of the Sea of Azov basin.

Russia, Belarus and Ukraine – the Dnieper River basin

The Dnieper River is the third largest European watercourse, with a basin shared by Russia, Belarus and Ukraine. All three countries have concluded bilateral agreements on transboundary waters,⁴⁹ which allow them relatively successfully to cooperate on a bilateral basis and to resolve transboundary issues. However, to deal effectively with water management problems of concern for the entire basin of the Dnieper River, a draft tri-partite agreement espousing a river-basin approach has been prepared under the auspices of the UNDP/GEF project 'Dnipro Basin Environment Programme' (DBEP).⁵⁰ The long-term objectives of DBEP are to remedy the environmental effects of pollution and habitat degradation in the Dnieper River Basin, to ensure sustainable use of its resources and to protect biodiversity in the region. During its first phase (2000–05) the project identified pollution sources, causes and impacts and proposed means of better regional coordination for pollution abatement and biodiversity conservation. The project helped in the formulation of a Transboundary Diagnostic Analysis, a regional Strategic Action Programme (SAP) for the Dnieper Basin and individual National Action Plans (NAP). The more specific activities to implement the SAP and NAPs will follow in a second phase (2006–08) of the project.⁵¹ Importantly, the implementation of the second phase and its financial support from GEF are entirely dependent on the adoption by all three Dnieper riparian states of a basin-wide agreement and approval of the SAP as its integral part.

Ukraine, Belarus and Russia have signalled their support for a Dnieper Basin Convention. The three

basin countries initially proposed this agreement as a way of formalizing their joint approval of the Dnipro SAP and thereby satisfying a major outcome requirement of Phase 1 of the GEF project. In their enthusiasm the countries also proposed provisions, which would create a new institutional mechanism in the form of a Dnipro Commission. These intentions were enshrined in the SAP and were confirmed by all three countries in the Kiev Declaration on Cooperation in the Dnipro Basin signed during the 5th Pan-European meeting of European Environment Ministers in May 2003.⁵² The Declaration indicated their 'readiness' to prepare an international agreement to serve as the main legal and organisational mechanism for ensuring 'stable international cooperation' among the Dnieper Basin countries, and to define 'general principles, goals, objectives and commitments of the signatories in the sphere of Dnipro basin environmental rehabilitation'.

Approximately eighteen months ago the countries realized that such a comprehensive document would not move quickly through all the necessary bureaucracies of their respective states and that the early approval of the SAP was at risk. Around this time it also became clear that Russia was non-committal with respect to its further participation in the project and for all intents and purposes ceased to have any further involvement. The reasons for this are many and varied but this did not significantly affect the development of cooperation between Belarus and Ukraine.

A tripartite agreement was still deemed to be the best possible option. Similarly, the SAP will ideally have to be approved by all Basin states. However, only two countries – Belarus and Ukraine – took part in November 2006 in the first meeting of the International Working Group, which was set up to elaborate the institutional basis for cooperation in the Dnieper Basin and to adjust and amend the text of the draft Dnieper Convention. The International Working Group, comprised of the representatives of the two states, has modified the draft Convention in such a way as to accommodate some of the Russian criticisms. It appears, however, that Russia at present is quite content with its bilateral arrangements with other Dnieper riparian states and not ready yet to conclude a basin-wide agreement.

On 17 July 2007, Ukraine and Belarus adopted a Ministerial Declaration on the Dnieper environmental cooperation, which approved the SAP and again called for the conclusion of the Convention by the three Basin states.⁵³ The Declaration stresses the need for coordinated basin-wide strategy aimed at ensuring sustainable use of natural resources, protection of the environment and conservation of biodiversity. It is quite symptomatic that the Declaration restates certain legal principles and water resource management approaches that have been widely accepted as the key elements of any mature legal regime governing transboundary watercourses. It refers *inter alia* to the

49 Agreement between the Cabinet of Ministers of Ukraine and the Government of Belarus on Joint Management and Protection of Transboundary Water Bodies (16 October 2001, Kiev), entered into force on 28 February 2002. <http://faolex.fao.org/docs/texts/bi-65834.doc>; Agreement between the Government of the Russian Federation and the Government of Belarus on Cooperation in the Sphere of Protection and Rational Use of Transboundary Water Bodies (24 May 2002, Minsk), entered into force on 25 October 2002. <http://faolex.fao.org/docs/texts/bi-64962.doc>.

50 Preparation of a Strategic Action Programme (SAP) for the Dnipro River Basin and Development of SAP Implementation Mechanisms also called Dnipro Basin Environment Programme (DBEP). <http://www.undp.org/gef/05/portfolio/writeups/iw/dnipro.html>.

51 UNDP GEF Dnipro Basin Environment Programme <http://www.dnipro-gef.net/>.

52 *ibid.*

53 Declaration of the Ministers of the Environment Concerning Further Development of Cooperation in the Sphere of Protection of the Dnieper River Basin, 17 July 2007 (on file with the author).

principles of prevention and precaution, polluter pays principle, public participation and stakeholder involvement, integrated planning and management of natural resources, systemic approach to the river basin management and so forth. It is noteworthy that the existing draft of the Dnieper Convention is much less sophisticated and elaborate in terms of its substance and form, similar to a treaty prepared in the early 1990s. However, even a general framework basin-wide agreement remains elusive at present, and this may threaten the realization of the Strategic Action Programme for the entire Dnieper (Dnipro) basin.⁵⁴

The July 2007 Declaration formalized internationally what the two governments had already approved nationally within their respective countries. This step permitted the two governments to apply to GEF to request financing for a second phase of the project focusing on SAP implementation. This is the stage things are at the moment and an application has been submitted to the GEF Council in October 2007.

However, the matter of the basin-wide agreement has not been abandoned. The draft document was revised slightly and is currently being considered by the relevant ministries that normally have an interest in such international agreements and the delays, to date, are less for substantive reasons than for reasons of policy priorities. The draft still makes reference to Russia as an original signatory, although this will be removed if Belarus and Ukraine are to sign. Initially, it was expected that such an agreement would be ready for signature at the 6th Pan-European Conference of Environment Ministers taking place in Belgrade in October 2007. That too proved premature and overly optimistic, particularly in light of the political uncertainties this past year in Belarus and Ukraine, and especially the latter. As a result, this modified form of agreement will now be an expected outcome in phase II of the GEF project. While the document may lack the sophistication and attention to financial commitments as are found in a full-blown convention it nonetheless represents another incremental and important step in moving in that direction. Russia has also signalled its continuing interest in this process and accordingly Belarus and Ukraine will probably continue to keep them engaged, although outside the ambit of phase II of the GEF project.⁵⁵

Russia and Kazakhstan

Russia's cooperation with Kazakhstan on their shared water resources is governed by the 1992 Agreement on Transboundary Waters,⁵⁶ and is implemented in large part within the framework of the bilateral Commission established by this Agreement. The Agreement itself

applies to all surface waters and groundwaters which form or cross the frontier between the two states, including transboundary waters in the catchment areas of the Rivers Ishim, Irtysh, Ural, Tobol and Volga (eastern part of the delta). Given that the Russian-Kazakh frontier is extremely long (about 7,600 km) and is traversed by at least 90 watercourses, including five major rivers, 5 large water conduits and 2 significant irrigation systems, the ambit of the Commission is very broad in terms of both its territorial coverage and substantive responsibilities. The Commission began its work in 1993, having created five working groups based on a river-basin principle.⁵⁷

One of the principal problems that the two states have to deal with is a serious shortage of water resources along their common border. This is particularly true in the case of the Tobol and Ural River basins, as well as the Large and Small Uzen rivers. Under such circumstances water-sharing has become a particularly important function of the joint body. The principles and quotas of water allocation established in the Soviet times have been inherited and generally adhered to by Russia and Kazakhstan. However, the new situation raises new issues and requires new approaches, including, where necessary, introduction of reimbursement of operational costs associated with water transfer through canals and conduits.

In addition to the main Agreement, the two states have adopted within the framework of their Joint Commission a number of auxiliary protocols on the use and protection of transboundary waters and on coordination of water management activities in the Ural, Tobol, Irtysh and Ishim river basins. For example, the Ishim Basin Protocol⁵⁸ addresses both qualitative and quantitative aspects of protection of water resources, as well as water supply and irrigation, flood control, regulation of the flow in the River Ishim, and Sergeevskiy and Petropavlovskiy water-engineering systems. It also established a Joint Working Group on the Ishim River Basin. This approach to regime building based upon a simplified procedure of adopting protocols at the level of a bilateral Commission has proved to be remarkably effective. It does not require the involvement of the respective governments in the decision-making process even with regard to the highly contentious, albeit technical issues, as is normally the case with intergovernmental agreements. Although one may question the legal authority of such protocols, they have nevertheless demonstrated their undeniable practicality and effectiveness.

Among all transboundary watercourses shared by Russia and Kazakhstan the state of affairs in the Irtysh River basin is a cause of particular concern from the point of view of water availability as well as water quality. The Irtysh waters are extensively used for irrigation and domestic and industrial purposes and the river itself is heavily regulated in the territory of Kazakhstan: there are two large reservoirs with a total

54 Dnipro Basin Strategic Action Programme and Implementation Mechanisms Kyiv, Ukraine 2004. http://www.iwlearn.net/iw-projects/Fsp_112799467396/dnipro_sap_2004.pdf.

55 The update information on the status of the Dnieper River project and draft Convention was provided by Mr Lubomyr Markevych, Project Manager, UNDP-GEF Dnipro Basin Environment Programme.

56 Agreement between the Government of the Russian Federation and the Government of the Republic of Kazakhstan Concerning the Joint Utilization and Protection of Transboundary Water Bodies (27 August 1992, Orenburg, entered into force the same date). <http://faolex.fao.org/docs/texts/bi-66979.doc>.

57 Note 39.

58 Protocol on the Joint Utilization and Protection of Transboundary Water Resources, Coordination of Water Management in the Ishim River Basin (26 June 1997, Pavlodar) (on file with the author).

volume of 56 km³ and an important canal, the Irtysh-Karaganda. Unfortunately, the two countries alone cannot resolve this increasingly serious situation. China, which controls the upper reaches of the Irtysh River (Black Irtysh), has undertaken some major water projects entailing the construction of dams, extensive irrigation systems and significant water transfers through a 300-kilometre canal to towns in its Xinjiang Province.⁵⁹ It is expected that the impact of the developments upstream will be felt not only in Kazakhstan but in Russia as well. Some Russian environmentalists claim that the abstraction of water for irrigation from the Black Irtysh River is already being felt in certain Russian regions.⁶⁰ In addition to the growing water deficit in the basin, pollution by heavy metals, phenols and oil products poses another serious challenge, particularly downstream. The complexity of the hydrological situation is exacerbated by the inadequate regulatory framework governing the utilization and control of the basin water resources. In fact, the normative regime of the Irtysh River is composed of two unrelated sets of bilateral arrangements between Russia and Kazakhstan on the one hand, and between China and Kazakhstan on the other.

Kazakhstan and China

The Sino-Kazakh cooperation is based on an agreement reached between the two states in 2001⁶¹ after several rounds of difficult bilateral negotiations.⁶² It is a framework treaty on the use of all their shared rivers, which also establishes a Joint Commission, an institutional mechanism with a very vague mandate – ‘issues relevant to the implementation of the Agreement’. The agreement does not mention any particular rivers or hydroelectric installations, or specify the amount of water each country may use for irrigation and other purposes. In fact, the experts involved in negotiations were unable to reach a consensus on whether the annual flow of the Irtysh River is 9 billion cubic metres as Kazakhstan estimates, or 12 billion according to the Chinese calculations.⁶³ According to some observers, Kazakhstan had to make a number of serious concessions in order to reach even that framework agreement including dropping its earlier insistence that Russia should also be a partner to the talks as some of the rivers in question flow from China via Kazakhstan into the Russian Federation.⁶⁴

59 Although the precise magnitude of the Chinese plans is not clear, according to some experts China began in 1997 diverting 10 per cent of the river's water and also plans to double the offtake by 2020, see V Radyuhin ‘Concern in Russia over Chinese toxic spill’ *The Hindu* 30 December 2005. <http://www.thehindu.com/2005/12/30/stories/2005123003171100.htm>.

60 RFE/RL Newline Transcaucasia and Central Asia (20 July 2006). <http://www.rferl.org/newsline/2006/07/200706.asp>.

61 Agreement between the Government of the Republic of Kazakhstan and the Government of the People's Republic of China on Cooperation in the Use and Protection of Transboundary Rivers (12 September, 2001, Astana) (on file with the author).

62 For a detailed analysis of the Kazakh-Chinese negotiations and relevant legal issues see E Sievers ‘Transboundary Jurisdiction and Watercourse Law: China, Kazakhstan, and the Irtysh’ in 37 *Texas International Law Journal* (2002) p 2.

63 Kazakhstan, ‘China Makes Progress in Transborder River Talks’, RFE/RL Newline Transcaucasia and Central Asia (12 June 2001) <http://www.rferl.org/newsline/2001/06/2-tca/tca-120601.asp>.

64 *ibid.*

The Kazakh-Chinese Agreement is a peculiar instrument. Although it provides that ‘in the use and protection of transboundary rivers, the Parties shall adhere to the principles of equity and rationality, as well as closely cooperate in a sincere, neighbourly, and friendly manner’ (Article 2), the Agreement offers no guidance on how these principles of ‘equity and rationality’ should be applied. In fact, the key provision of the Agreement, which is contained in its Article 4, unequivocally states that ‘no Party shall limit the other Party in the rational use and protection of the water resources of transboundary rivers’. Thus, in practical terms the Agreement imposes very few constraints on the right of a basin state to develop resources of transboundary watercourses within its territory, which definitely favours the upstream user. The only reference to another customary rule of ‘no significant harm’ can be found in Article 3, which requires the Parties to undertake appropriate measures and make efforts ‘to prevent or mitigate serious harm’ to another state but only as a result of ‘flooding disasters and man-made accidents’. Such a restrictive reading of the ‘no harm’ rule practically means that the Agreement provides few remedies against transboundary harm downstream caused by normal (if excessive) activities and projects involving transboundary waters.

Returning to the Irtysh River, the extant legal construction in the basin that has evolved as a composition of bilateral instruments with Kazakhstan serving as a link, is unable to deal adequately with the range of serious problems concerning both allocation and pollution of increasingly limited water resources. The existing model contradicts the very idea of IWRM – the holistic management of water as a finite and vulnerable resource. Ideally, the water utilization and sharing problems should be addressed within the framework of a basin-wide agreement concluded by all three states concerned – China, Kazakhstan and Russia. This will create not only a more solid legal basis for transboundary cooperation but also help to achieve one of the commitments of the Plan of Implementation of the 2002 World Summit on Sustainable Development – ‘develop and implement national/regional strategies, plans and programmes with regard to integrated river basin, watershed and groundwater management’.⁶⁵ No combination of bilateral arrangements on a multinational watercourse can substitute a comprehensive basin-wide legal framework, in the absence of which there is little hope of introducing and implementing the IWRM principles in the Irtysh River basin.

Russia and China

However, for Russia and China even a more limited bilateral agreement on their transboundary waters has been difficult to reach. A significant part of the Russian-Chinese border lies along the Amur River and one of its two main tributaries, the Argun River, extending altogether over 2854 km. Issues of water utilization are important for both states and include primarily questions of water supply for domestic and industrial needs, power generation, fisheries and river

65 Report of the World Summit on Sustainable Development (Johannesburg 26 August–4 September 2002) UN Doc A/CONF.199/20 para 26 (a).

navigation. Increasingly, flood control and especially water pollution are emerging as the key problems facing these two countries. In 1986, the then Soviet Union and China concluded an agreement establishing a bilateral Commission with a mandate to develop the Scheme of integrated water resource utilization of the boundary sections of the Amur and Argun rivers. The Commission adopted a programme of joint study and research and defined the principal objectives of the future Scheme. The programme, which lasted 11 years, included a range of activities in such areas as the assessment of water resources and water-related ecosystems, development of project proposals for hydro-power generation and protection from floods, enhancement of navigation, protection of fisheries from adverse effects of other water uses, and improvement of the quality of water used for domestic purposes.

It was hoped that all this would be followed soon by the creation of a more formal legal framework for cooperation between the two countries. In fact, since 1997 Russia has been trying to initiate a dialogue leading to the conclusion of a bilateral accord to this effect. It prepared a draft agreement on transboundary waters aimed at ensuring in the first place the coordination of water utilization plans and activities, prevention and reduction of transboundary impacts, and compensation for transboundary harm. It appears, however, that China has been inclined to accept a much more general and loose framework analogous to the one between this country and Kazakhstan.

The negative side of the existing legal and institutional vacuum with regard to water resources shared between the two states has become particularly apparent after a recent string of industrial accidents in China involving pollution of transboundary waters. The most serious was the accidental contamination by benzene of the Songhua (Sungary) River, a tributary to the Amur River, which occurred in November 2005. The spill resulted from the explosion on a Jilin petrochemical corporation plant (a subsidiary of China's national petroleum company).⁶⁶ Over 100 tonnes of chemicals spilled into the Songhua (Sungary) River, and, moving at a speed of 100 km a day, reached Russian territory in early December.⁶⁷ Although the spill happened on 13 November, the Russian Ministry of Emergency Situations was first informed about the accident on 22 November.⁶⁸ The Chinese authorities formally apologized for the possible harm to the Russian population and promised to provide assistance, should it be required from the Russian side. China also expressed its conviction that the two sides would enhance cooperation and work jointly to overcome the impacts incurred by the disaster, in the spirit of the strategic partnership of cooperation.⁶⁹

66 S Bladov 'China water down problems', Asia Times <http://www.annnews.ru/modules.php?name=News&file=article&sid=42296>.

67 *Yad popavshiy v Sungary 1 Dekabrya dostignet Khabarovska*, Informatsionnoe agentstvo Regnum, <http://www.regnum.ru/news/548995.html>.

68 'China has informed Russia of Songhua River pollution' People's Daily Online 24 November 2005. http://english.peopledaily.com.cn/200511/24/eng20051124_223647.html.

69 'FM informs Russian ambassador of Songhua River pollution' People's Daily Online 27 November 2005. http://english.peopledaily.com.cn/200511/27/eng20051127_224073.html.

The November 2005 spill was not the first one. According to the World Wide Fund for Nature similar accidents have taken place in China regularly since the mid-1990s when China entered a phase of intensive economic and industrial development.⁷⁰ It is claimed that about 90 per cent of pollutants come to the Amur River from Chinese territory, especially the Shonghua (Sungari) River.⁷¹

Obviously, it is impossible to deal effectively with transboundary pollution in the Amur Basin without an adequate legal framework and institutional mechanism providing for pollution prevention measures, joint monitoring, information exchange, early warning in cases of emergency situations, and compensation for environmental damage. It is noteworthy that some of these issues have been addressed in general terms in two Sino-Russian bilateral agreements concluded in 1994 – on environmental cooperation⁷² and on aquatic biodiversity.⁷³ While the first provides a broad legal foundation for transboundary cooperation in a number of environmental areas, including 'integrated management of water resources and water protection, including transboundary watercourses'; the second is designed to govern specific activities such as the utilization and conservation of living resources – in particular transboundary rivers, the Amur and Ussuri. The governments have agreed to cooperate in the management of living aquatic resources, including protection and stock enhancement of anadromous stocks beyond the limits of transboundary water bodies. All aquatic resource-related activities in the respective rivers are to be carried out in conformity with the Regulations, which constitute an integral part of the agreement. Importantly, the parties have committed themselves to control the ecological status of transboundary water bodies, maintain it at certain level, and to undertake necessary measures for the prevention of pollution and destruction of natural habitats.

However, these general provisions of the two earlier agreements have been unable to tackle the growing pollution problem in their shared transboundary watercourses, and, especially, to prevent or provide adequate remedies in the case of pollution accidents. A new comprehensive and effective legal and institutional mechanism is required to fill the apparent gap in the existing transboundary water regime. There are signs that the ongoing negotiations between the two countries may soon result in the conclusion of this long-awaited agreement.

70 A Tumanov *Kitayskie Zavody Ubivayut Rossiyan*, KMnews. 17 04 2006. http://www.km.ru/magazin/view_print.asp.

71 *Reka Sungari (KNR) – ob'ekt povishennoy ekologicheskoy opasnosti*. 13 04 2006 Khabarovsk PrimaMedia <http://primamedia.ru/news/show/?id=10321>.

72 Agreement between the Government of the Russian Federation and the Government of People's Republic of China on cooperation in the sphere of environmental protection (27 May 1994 in force the same date). <http://faolex.fao.org/docs/texts/bi-64478.doc>.

73 Agreement between the Government of the Russian Federation and the Government of People's Republic of China regarding cooperation in the sphere of protection, regulation and stock enhancement of live aquatic biodiversity in the boundary waters of the rivers of Amur and Ussuri (27 May 1994 in force the same date). <http://faolex.fao.org/docs/texts/bi-47950.doc>.

Russia and Azerbaijan

Similarly, still unresolved is the situation involving transboundary waters shared by Russia and Azerbaijan in the Caucasus. The frontier Samur River, which receives 97 per cent of its waters from the Russian republic of Dagestan, is used predominantly by Azerbaijan on the basis of a protocol adopted 40 years ago, in 1967, by the Soviet Ministry of Water Economy.⁷⁴ According to the latter document Azerbaijan was allocated 51 per cent of the annual water flow, Dagestan 17 per cent, and the remaining 32 per cent of water is left for the environmental needs of the watercourse and its relict forest in the delta area. The Samur-Apsheron canal in Azerbaijan, whose infrastructure and related irrigation systems have been recently improved with significant financial support from the World Bank,⁷⁵ provides water for municipal uses by the Azeri capital of Baku and for irrigated agriculture in the adjacent regions. At the same time, the population of the southern part of Dagestan (470,000 people) and its economy (35 per cent of the total economic potential of the republic) are experiencing increasing shortages of water.

Two important legal issues arise in this respect. The first is whether the World Bank, having approved the credit, has complied with its own policy documents,⁷⁶ which pertain to projects on 'international waterways'. The Bank regulations require, among other things, the beneficiary state to notify the other riparians of the proposed project and its details. There are certain exceptions to the notification requirement, which, however, apply only to minor additions or alterations to the ongoing scheme. In case of doubt regarding the extent to which a project meets the criteria of this exception, the riparians concerned still have to be informed and given at least two months to reply. With regard to the Samur-Apsheron canal it is not known whether this requirement had been fulfilled prior to the approval of the project by the World Bank.

The second issue concerns the existing 40-year old water allocation scheme set up by the Soviet Ministry. One may reasonably question the conformity of this arrangement with the principle of equitable and reasonable use as the fundamental underpinning of any valid transboundary water regime. Given the entirely new geopolitical, economic and environmental situation in the basin, the fairness of the 51/17 per cent water sharing arrangement between Azerbaijan and Russia is problematic at best. Russia has suggested consistently reconsidering and modifying the existing water utilization regime of the Samur River to ensure more equitable allocation of its limited water resources between the two states. However, no agreement has been reached so far with Azerbaijan blocking any attempt to this effect.

74 Note 39.

75 The World Bank has provided a \$42 million credit to Azerbaijan. 'World Bank Supports Rehabilitation and Completion of Irrigation and Drainage Project in Azerbaijan' <http://web.worldbank.org/external/projects/main?Projectid=P008284&theSitePK=40941&pagePK=64283627&menuPK=228424&piPK=73230>.

76 See eg The World Bank Operational Manual. Operational Policies 'Projects on International Waterways' OP 7.50 June 2001.

The Aral Sea Basin

Finally, the evolution of a legal basis for water cooperation in the Aral Sea Basin deserves a few words in the context of this paper. Generally, the regime-building process for transboundary waters in Central Asia (CA), which began in 1992, is moving ahead, although not without problems. In fact, the CA countries concluded the very first multilateral agreement on transboundary waters in the EECCA region.⁷⁷ Among other issues, the countries of the Aral Sea Basin agreed to create joint regional institutional mechanisms, including the International Fund for the Aral Sea (IFAS), the Interstate Coordinating Water Management Commission (ICWC) and the Interstate Commission on Sustainable Development (ICSD).⁷⁸

The 1992 Agreement formalized the principles and practices of allocation of the water resources of the Amu Darya and Syr Darya Rivers pursuant to the criteria and volumes provided for in the schemes of integrated use and protection of water resources, which were adopted in Soviet times. The ICWC has been given the task of determining the water management policy in the region, taking into account the interests of all sectors of the national economies, integrated and rational use of water resources, the long-term programme of water supply of the region and implementation measures. The Basin Water Management Organizations (BVO) 'Amu Darya' and 'Syr Darya', established before the break-up of the Soviet Union, which oversee the use of the water resources of the region's two major rivers, act as operational bodies of the Commission.

The 1998 Agreement on the Use of Water and Energy Resources of the Syr Darya River Basin (between Kazakhstan, Kyrgyzstan and Uzbekistan, later joined by Tajikistan)⁷⁹ was concluded to regulate water and energy exchange between the countries of the upper reaches (Kyrgyzstan and Tajikistan) and the lower reaches (Kazakhstan and Uzbekistan). The regime established by the latter can be considered as representing an innovative approach to the utilization of shared water resources by combining requirements concerning water releases, production and transit of electricity, regulation of the operation, maintenance and reconstruction of water and energy facilities, and compensation for energy losses, on an equitable (and equivalent) basis. The parties have undertaken to adhere to the agreed-upon water use regimes and energy deliveries. However, the practical implementation of the Agreement has been marred by problems

77 Agreement between the Republic of Kazakhstan, the Republic of Kyrgyzstan, the Republic of Uzbekistan, the Republic of Tajikistan and Turkmenistan on Cooperation in Joint Management, Use and Protection of Interstate Sources of Water Resources (18 February 1992 Alma-Ata in force the same date). <http://faolex.fao.org/docs/texts/mul-54529.doc>.

78 For a more detailed analysis of the developments in the CA region see S Vinogradov and V Langford 'Managing Transboundary Water Resources in the Aral Sea Basin: In Search of a Solution' Int J of Global Environmental Issues, vol 1, n 3/4, 2001 pp 345-363.

79 Agreement between the Governments of the Republic of Kazakhstan, the Kyrgyz Republic, and the Republic of Uzbekistan on the Use of Water and Energy Resources of the Syr Darya basin (17 March 1998 Bishkek). <http://faolex.fao.org/docs/texts/mul-54530.doc>.

and unfulfilled commitments.⁸⁰ Although the states concerned have been able to maintain a certain level of cooperative engagement through the conclusion of annual protocols on water releases from the reservoirs upstream, the initial expectations aroused by the 1998 Agreement have not been met. To improve the situation, the 'Cooperation Strategy to Promote the Rational and Efficient Use of Water and Energy Resources of Central Asia'⁸¹ was adopted in 2003 under the auspices of the UN Special Programme for the Economies of Central Asia (SPECAs).

At the Summit of the Heads of States of Central Asia held in October 2002, in Dushanbe (Tajikistan), a new initiative was proposed for tackling the problems of the Aral Sea Basin. The Dushanbe Declaration and the Programme of Concrete Actions on Improvement of Environmental and Socio-economic Situation in the Aral Sea Basin for the Period of 2003–10 (PASB-2)⁸², which was adopted in 2003, focus the efforts of the CA states on further harmonization of the mechanisms for water resources management; rehabilitation of waterworks, facilities and infrastructure; improved use of water and land resources; on combatting desertification and controlling natural disasters; implementation of environmental measures and on the strengthening of the legal basis for regional cooperation. One priority area of the Programme of Concrete Actions is the development of harmonized mechanisms of IWRM for the Aral Sea Basin, which envisages the adoption of a set of legally binding instruments designed to regulate joint utilization and protection of the water resources of the region. It was planned that in 2004–05 a whole range of multilateral agreements would be prepared in the region dealing with such issues as:

- improvement of the organizational structure of ICWC;
- creation of regional, national and river-basin information systems and information exchange;
- water quality management and sustainability of transboundary water facilities;
- arbitration on the issues of joint management, use and protection of the Aral Sea Basin water resources;
- main principles of joint management and further improvement of the 1998 Agreement on the use of water and energy resources of the Syr Darya River basin;
- criteria and norms of ecological releases of the Syr Darya River, including the northern part of the Aral Sea Basin and the Aral Sea;
- basic principles of joint management, use and protection of the water resources of the Amu Darya River;
- criteria and norms of ecological releases of the Amu Darya River, including the southern part of the Aral Sea Basin and the Aral Sea;
- regulation of the management of the water resources of the Syr Darya Basin;

- regulation of the management of the water resources of the Amu Darya Basin.

Regretably, however, to date none of the above-mentioned instruments has been adopted. These plans and intentions proved to be over-ambitious and the real pace of legal and regulatory developments in the region has been much slower. On the whole, the status of the international legal basis for cooperation in Central Asia does not correspond to the nature of the transboundary water problems. The existing agreements are either far from adequate in terms of their substantive content and legal form or are not properly implemented. The adoption of new agreements has been delayed for various reasons. The successful implementation of this grand programme will require both political will on the part of the leadership of the Central Asian states and serious efforts by all departments and officials responsible for transboundary water cooperation.

It can be concluded that state practice in the EECCA region has accumulated a wealth of experience in the management and protection of transboundary waters on the basis of multilateral and bilateral agreements and proactive use of different institutional mechanisms, whose role should not be underestimated. In addition to more general treaties on transboundary waters, agreements have been concluded regarding individual river basins or their sub-basins. Legal instruments of this type include the 1996 Agreement between Turkmenistan and Uzbekistan on the sharing of the flow of the Amu Darya River, which provides for a 50/50 allocation of its waters between the two parties; the 2000 Agreement between Kazakhstan and Kyrgyzstan on the use of waterworks of interstate importance on the Rivers Chu and Talas, and the Memorandum of Understanding between Azerbaijan and Georgia on cooperation in the development and implementation of a joint pilot project on monitoring and assessment in the basin of the Mtkvari/Kura River. The draft basin-wide agreements for the Zapadnaya Dvina (Daugava) River between Belarus, Latvia and the Russian Federation, and for the Neman River between Belarus, Lithuania and the Russian Federation have been prepared with the support of the Swedish Environmental Protection Agency (SEPA). The process of drafting a new agreement between Moldova and Ukraine on cooperation in the basin of the Dniester River is soon to be completed under the auspices of the UNECE and the Organization for Security and Cooperation in Europe. The agreement, one of the most comprehensive and detailed of its kind, will incorporate and implement new principles and approaches to the management of transboundary water resources in line with the EU Water Framework Directive.

These developments demonstrate the importance which the EECCA countries assign to establishing appropriate international legal regimes, both multilateral and bilateral, aimed at enhancing and further promoting transboundary water cooperation. At the same time, there exist political, economic and legal problems that impede and delay the process of developing and improving the international legal framework for cooperation.

80 See eg E W Sievers 'Water, Conflict, and Regional Security in Central Asia', 10 NY U *Env'tl L J* 356 (2002).

81 www.unece.org/speca/energy/effuse_en1.pdf.

82 www.ec-ifas.org/English_version/Aral_crisis_eng/ASBP_2_eng.pdf.

CONCLUDING OBSERVATIONS: FROM 'FRAMEWORK' AGREEMENTS TO LEGAL REGIMES

In analysing the legal aspects of water cooperation in the EECCA region, it seems appropriate to focus on law-making and implementation without discussing the more general political and socio-economic issues that usually affect the dynamics and nature of such cooperation. With respect to transboundary water resources, it is certain that the EECCA region has progressed from an almost complete 'legal vacuum' in the early 1990s to a network of legal and institutional frameworks covering a great number of transboundary water bodies shared by two or more EECCA states or their neighbours. International law in general has become a familiar and widely used tool in managing shared water resources. It provides both the legal foundation that makes possible to determine respective legal rights and obligations of the actors involved, and the mechanisms for ensuring compliance and preventing and resolving controversies between them.

States of the EECCA region have increasingly found it beneficial to base their relations concerning utilization of shared water resources on international treaties, which as a rule ensure greater stability and predictability of behaviour. While bilateral and multilateral agreements continue to provide the essential foundation for reliable cooperation, these instruments have undergone remarkable changes. Whereas the first wave of water treaties adopted in the early 1990s were neither comprehensive nor detailed, the new generation of transboundary water instruments are considerably more sophisticated and elaborate. However, international agreements are insufficient alone to govern the increasingly intricate interactions in the field of water resource management. Although important as such, these treaties often serve as a springboard for cooperation by providing the initial impetus and added formal structure and direction for enhanced collaborative efforts of the actors involved. With time these relatively simple legal frameworks, together with the institutions created by them, usually evolve into significantly more comprehensive and complex normative systems, which are typically called 'regimes'.

An international regime is often described as a set of 'implicit or explicit principles, norms, rules and decision-making procedures around which actors' expectations converge in a given area of international relations'.⁸³ A water regime has been defined as being in place when the states concerned 'observe a set of rules designed to reduce conflict caused by use, pollution or division of a water resource... and the observance over time of these rules'.⁸⁴ Clearly this definition applies to most of the legal regimes governing transboundary waters in the EECCA region that have developed over the last 15 years.

The existing water regimes in the EECCA region are quite different in many respects. They vary with regard to their scope (territorial and substantive) from governing all transboundary waters to individual river basins and even broader regions (such as the Aral Sea Basin and its sub-basins). The principles of IWRM and river-basin management approach, traditionally applied in the FSU and now promoted by the EU, are finding their way into new international agreements currently being prepared for specific transboundary watercourses – such as the Zapadnaya Dvina, Neman, Dnieper, Dniester, Amu Darya and Syr Darya, to name a few. The EECCA water regimes are diverse with respect to the number of actors involved – from bilateral arrangements to multilateral (basin-wide) and even regional (Central Asia and the CIS as a whole) frameworks. Ideally, legal regimes regulating transboundary watercourses should involve all watercourse (or drainage basin) countries, thus ensuring that the interests of all potentially affected states are properly taken into consideration. The existing water regimes also vary in terms of their normative complexity (from a single instrument to a system of binding and 'soft law' norms and rules under the 'umbrella' treaty); and the diversity of institutional mechanisms – from the meetings of plenipotentiaries (in some earlier agreements) to joint commissions and further to permanent regional bodies (IFAS in Central Asia) with operational basin organisations (ICWC and BVOs in the Aral Sea Basin).

Their effectiveness and robustness also differ dependent often upon both internal and external factors. The effectiveness of a regime is usually determined by the extent to which its members abide by its norms and rules.⁸⁵ In this respect, a bilateral water regime appears generally to be more successful than multilateral; and single-purpose regimes (eg prevention and control of pollution) are more effective than multi-purpose (eg utilization of water resources and sharing of water use benefits). The robustness of the water regime, which generally refers to its 'staying power' in the face of exogenous challenges,⁸⁶ is a particularly important prerequisite for its success given the constantly changing nature of the 'issue area' – water. Most of the regimes analysed in this paper are flexible enough to reflect the constantly changing status of water resources, as well as growing human impact and demands on them. Ideally, the regimes should contain built-in flexibility mechanisms that would make possible their adaptation to changing conditions (such as fluctuations in precipitation, droughts, floods and other emergency situations). With all of its shortcomings the Aral Sea Basin regime, nonetheless, demonstrates such flexibility through its practice of the adoption by ICWC of annual water allocation protocols taking into consideration seasonal water availability. Although states apply different approaches in achieving greater adaptability of treaty regimes, the most effective way is to entrust a joint institutional mechanism with a mandate to respond to natural and human-related changes in shared water resources.

83 S D Krasner 'Structural Causes and Regime Consequences: Regimes as Intervening Variables' in S D Krasner (ed) *International Regimes* (Ithaca, NY 1983) 1 at 2. See also E B Haas 'Regime Decay: Conflict Management and International Organizations, 1945–1981' (1983) *International Organization* 192.

84 H Haftendorn (2000) 'Water and International Conflict' *Third World Quarterly* 21, pp 51–68.

85 See eg A Hasenclever, P Mayer and V Rittberger *Theories of International Regimes* (Cambridge University Press, Cambridge 1977).

86 *ibid*.

In many respects these regimes reflect the convergence of values of their participants – an effective or, at least, conflict-free management of their shared water resources. Their principal purpose is to serve as a conflict-mitigating factor as they promote basin-wide interstate cooperation and as such increase water security. As has been correctly stated in this respect, ‘when a convergence of values has occurred within a regime and the cooperation has been institutionalised it is harder than one might think to reverse or end this co-operation’.⁸⁷

One common feature of the analysed regimes is that while they are based almost exclusively on a legally binding treaty, most of their ‘rules’ stem from ‘soft law’ and other quasi-binding instruments – various regulations, protocols and procedures, usually adopted by their institutional bodies. Nevertheless, the rules of international law relating to water resources penetrate the normative content of the water regimes in question. Most of the existing agreements explicitly or implicitly indicate their conformity with the governing principle of equitable and reasonable use. Both substantive obligations, such as equitable and reasonable utilization, protection of the aquatic environment, prevention of transboundary pollution, and the procedural requirements, such as exchange of information and consultations, have found support and endorsement in the EECCA state practice.

However, state lawmaking and especially law enforcement practice in a transboundary context is still evolving and experiences numerous problems and challenges. One concern is the slow pace of accession to the UNECE environmental conventions. As was already mentioned, the 1992 Water Convention and its ensuing legal requirements are directly applicable to the water-related activities of the EECCA states. However, the Convention establishes only a general legal basis for international cooperation and offers a kind of a ‘matrix’, recommended for use by the riparian countries to a particular watercourse, without imposing upon them any excessive obligations. In this connection, the non-participation in the Convention of a number of EECCA countries, including some Central Asian states, is difficult to explain. In many respects this also applies to other ‘framework’ UNECE environmental conventions and their additional protocols. The accession to these regional instruments will make it possible not only to consolidate the legal basis for water cooperation, but also to fully use the UNECE’s wealth of experience and its expert organisational and technical support.

The still unregulated utilization, including issues of water sharing and pollution prevention, of the transboundary water resources in some major river basins is another serious concern. The EECCA region has a few important watercourses for which no binding legal or institutional frameworks exist. Some international basins, such as the Kura River Basin (shared by Armenia, Azerbaijan, Georgia, Iran and Turkey) and

the Samur River Basin (Russia and Azerbaijan), do not have any agreements on the use and protection of shared water resources. Basin-wide cooperative frameworks are yet to be adopted for such multinational rivers as the Dnieper, Dniester, Zapadnaya Dvina and Neman,⁸⁸ although some issues regarding their protection and use have been settled through bilateral agreements between the countries concerned. Finally, serious transboundary water issues with countries situated outside the EECCA region are still to be formalized as well (eg between China and Russia or between Georgia and Turkey).

Some obvious flaws in the existing legal frameworks act to impede more effective regional cooperation. A number of the first generation agreements in force, which were concluded in the early 1990s, have substantial gaps and shortcomings in terms of both their legal content and form. Some of them lack the clear definition of the spatial scope of application and objectives; they do not incorporate such relatively recent principles and concepts as the polluter-pays principle, ecosystem approach, and integrated water resource management. Many of them do not include procedures for notification and consultations in the case of planned activities, which may cause transboundary impact; provisions on access to information concerning the state of water resources, and public participation in decision-making in respect of their use. These agreements do not provide for a mechanism of compensation for transboundary harm, while their institutional mechanisms and procedures for prevention and settlement of possible disputes are not adequately elaborated.

In this respect, it is highly desirable to modernise the existing normative frameworks in the EECCA region by reflecting *inter alia* new approaches and trends in transboundary water resources management (such as the basin management approach, IWRM principles, and efficient institutional mechanisms). This can be achieved either through the revision and modification of the existing agreements or by replacing them with new instruments that fully comply with modern standards and approaches to transboundary water resource management.

As is the case with many international regimes in other parts of the world, the implementation of multilateral and bilateral agreements on transboundary waters is the most challenging issue. Here the regime effectiveness tends to be crucial. Whereas on the whole states demonstrate their increasing willingness to abide by the agreed rules, some of the existing water agreements are still relatively ineffective. There are different reasons for this depending on the countries involved and the nature and complexity of the problems to be addressed by the agreement.

From the political point of view, transboundary water problems may not be an issue of priority in terms of the external or internal policy of the respective government; in other cases, the lack of normal

87 A Jägerskog ‘The Jordan River Basin: Explaining Interstate Water Cooperation Through Regime Theory’ Occasional Paper No 31 Water Issues Study Group (SOAS University of London June 2001) 6.

88 The draft agreements for these four river basins have been either prepared or are in the process of completion.

neighbourly relations between the states concerned is the principal impediment to the water-related co-operation. The unavailability or shortage of financial and material resources or of skilled personnel and expertise, necessary to fulfil the parties' obligations under an agreement often play a crucial role in terms of regime effectiveness. From the purely legal perspective, the success of the regime can be affected by vague or unclear obligations that a particular agreement imposes on its parties, or by excessive requirements or expectations. This can be aggravated by inefficient institutional mechanisms which lack decision-making and enforcement powers. Finally, the insufficient interest of the civil society of the states involved in the objectives and results of transboundary cooperation can also be an important factor.

Therefore measures to improve the effectiveness of the existing international water regimes in the EECCA region could be at the same time political, legal and socio-economic. There is, of course, also a need to fill some obvious gaps in the legal bases for transboundary water cooperation by concluding new agreements, replacing the outdated ones, and instituting agreements concerning transboundary watercourses not yet subject to regulation. Joint bodies are an essential precondition of any successful transboundary water regime. They have to be set up with respect to all significant shared watercourses, while the existing institutional mechanisms could be improved by the expansion of their mandate and the delegation of more authority and responsibilities.

One relatively easy way to enhance the effectiveness

of the existing regimes is by encouraging more active and sustained collaboration between the local authorities of the riparian parties, by using various forms of multi-stakeholder river basin forums and councils (such as the ones established for the Seversky Donets and Dnieper Rivers). These can be entrusted with the elaboration of the interregional basin programme, coordination of the implementation of international and national projects in the basin, informing the parties concerned about the problems encountered and so forth.

Finally, national implementation by the countries of the EECCA region of their international commitments through the adoption of relevant legislation and their compliance with the obligations arising from existing agreements on transboundary waters is one of the key factors determining the regime effectiveness. Another key factor is the establishment of more efficient intersectoral coordination of national departments and agencies responsible for the management and use of transboundary water resources and of relevant coordinating mechanisms.

To summarize, although international agreements as such do not provide a guarantee against potential water conflicts and controversies, the absence of agreed legal frameworks governing relations between the EECCA states over their shared waters significantly increases the possibility of water disputes. It is encouraging, however, that there is a noticeable trend towards wider and more conscious use of international legal instruments in resolving transboundary water problems in the region.

