International water law in Central Asia: commitments, compliance and beyond

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Published in:
Journal of Water Law

Publication date:
2009

INTERNATIONAL WATER LAW IN CENTRAL ASIA: COMMITMENTS, COMPLIANCE AND BEYOND

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INTRODUCTION

Ensuring the fair and effective management of transboundary water resources is one of the most pressing contemporary challenges. As a recent UN Millennium Development Goals Report indicates, more than 1.2 billion people in the world live under conditions of physical water scarcity, and another 1.6 billion people live in areas of economic/political water scarcity, where human, institutional and financial issues limit access to water.[2] Since the world's 263 international river basins are home to almost half the global population, most states rely heavily on transboundary watercourses for at least some of their water, and the rest import goods 'virtual water' from shared river basins. The impact of climate change on transboundary waters is increasing the level of uncertainty and risk, so the need for effective management is becoming more urgent.[3] The 2009 UNECE Guidance states: '… in addition to the uncertainty over climate change impacts, countries are faced with uncertainty about their neighbours' reactions'.[4] Critical freshwater ecosystems are also under increasing stress.[5] Despite these common problems, transboundary water management is context-specific. Differences in the characteristics and uses of the watercourse, geopolitical factors, socio-economic conditions and so on mean that each transboundary river basin has its own issues and peculiarities.

Taking Central Asia as its focus, this article discusses context-specific contemporary transboundary water issues and analyses the role of international law in addressing such issues. Five post-Soviet countries of Central Asia – Kazakhstan, the Kyrgyz Republic, Tajikistan, Turkmenistan and Uzbekistan – reappeared on the international scene in the early 1990s. These countries needed to find an effective and peaceful way to regulate the freshwater resources that cross their borders. The region's water-related problems include water allocation controversies, competition between irrigation and hydropower, water quality deterioration, environmental degradation, loss of species and biodiversity and climate change.[6] Over the past two decades, the Central Asian Republics (CARs) have entered into a variety of sub-regional, regional and global water-related agreements and reaffirmed their adherence to the principles of international water law.

Despite these legal developments, the countries appear to disregard some of their commitments, with an adverse effect on regional relations and the environment. As Zaelke, Stilwell and Young rightly point out: '[w]ithout compliance, the rule of law has no meaning' and 'social stability and legal certainty' are at risk.[7] Compliance with treaty commitments is therefore crucial when assessing the role played by international water law in ensuring regional security and sustainable development in Central Asia. The scholarly literature is growing and there are numerous practical guidelines on the issue of compliance with international legal commitments, especially in the environmental field and under the umbrella of the United Nations Economic Commission for Europe (UNECE).[8] This article examines whether the current compliance discourse can assist with the peaceful management of transboundary waters in Central Asia and also questions its limits and sufficiency.

A brief overview of transboundary water problems in the Aral Sea basin of Central Asia is followed by identification of treaty law applicable to the basin's

1 The author would like to thank Patricia Wouters, Alistair Rieu-Clarke, and the editors of this journal for their valuable comments and suggestions on drafts of this article. Contact email: z.dinara@mail.ru.

2 United Nations (UN) Department of Economic and Social Affairs (DESA) *The Millennium Development Goals Report 2008* (UN DESA New York 2008) at 40.

3 B C Bates and others (eds) *Climate Change and Water. Technical Paper of the Intergovernmental Panel on Climate Change* (IPCC Secretariat Geneva 2008).

4 UN Economic Commission for Europe (UNECE) 'Guidance on Water and Adaptation to Climate Change to Convention on the Protection and Use of Transboundary Watercourses and International Lakes' UN Doc ECE/MPWAT/30 2009 (UNECE Geneva 2009) www.unece.org/env/documents/2009/Wat/mp_wat/ECE_MP.WAT_30_E.pdf (5 March 2010).

5 See Millennium Ecosystem Assessment *Ecosystems and Human Well-Being: Wetlands and Water* (World Resources Institute Washington DC 2005). See also H Tremblay 'An Analytical Framework for Legal Regimes Applicable to Freshwater Ecosystems' pp 152–64.

6 I Severskiy and others *Global International Waters Assessment Aral Sea, GIWA Regional Assessment 24* (University of Kalmar on behalf of UNEP Kalmar 2005).

7 D Zaelke, M Stilwell and O R Young 'What Reason Demands: Making Law Work for Sustainable Development' in D Zaelke, D Kaniaru and E Kružíková (eds) *Making Law Work: Environmental Compliance and Sustainable Development* (Cameron May London 2005).

8 See eg A Chayes and A H Chayes *The New Sovereignty: Compliance with International Regulatory Agreements* (Harvard University Press Cambridge 1995); E B Weiss and H Jacobson (eds) *Engaging Countries: Strengthening Compliance with International Environmental Accords* (MIT Press Cambridge 1998); D Victor, K Raustiala and E Skolnikoff (eds) *The Implementation and Effectiveness of International Environmental Commitments* (MIT Press Cambridge 1998); U Beyerlin, P-T Stoll and R Wolfrum (eds) *Ensuring Compliance with Multilateral Environmental Agreements: A Dialogue between Practitioners and Academia* (Martinus Nijhoff Publishers Leiden/Boston 2006). See also 'Guidelines on Compliance with and Enforcement of Multilateral Environmental Agreements' Doc UNEP(DEPI)/MEAs/WG1/3 Annex II; 'Guidelines for Strengthening Compliance with and Implementation of Multilateral Environmental Agreements in the ECE Region' Doc ECE/CEP/107.

shared waters. Using the UNECE Geneva Strategy,[9] a framework is set out to analyse whether existing water-related treaties at the sub-regional, regional and global levels contain the essential elements for a successful compliance arrangement, such as baseline provisions, compliance review procedure and an institutional mechanism. This framework is then examined to ascertain the main substantive and procedural rules of the relevant treaties and their compliance provisions. Finally, critical studies on compliance are reviewed in an attempt to understand more fully the role of international water law in Central Asia.

TRANSBOUNDARY WATER ISSUES IN CENTRAL ASIA

The Aral Sea and its two main tributaries, the Amudarya and the Syrdarya, are the core of the Central Asian water network. The Amudarya is the biggest Central Asian river in terms of annual water runoff (79.4 km^3/year). It originates in Tajikistan (where 74 per cent of flow is formed), the Kyrgyz Republic (2 per cent), Afghanistan and Iran (13.9 per cent),[10] then forms the border between Afghanistan and Uzbekistan (8.5 per cent), crosses the territory of Turkmenistan (1.7 per cent) and returns to Uzbekistan where it discharges into the Aral Sea. It is 2540 km long from the headwaters of the Pyandzh, its main tributary, to the Aral Sea and has a catchment area of 309,000 km^2. About 75.2 per cent of the Syrdarya run-off originates in the Kyrgyz Republic. The Syrdarya then flows across Uzbekistan and Tajikistan and discharges into the Aral Sea in Kazakhstan. About 15.2 per cent of the flow of the Syrdarya is formed in Uzbekistan, about 6.9 per cent in Kazakhstan, and about 2.7 per cent in Tajikistan. The Syrdarya is up to 3019 km long from its main tributary, the Naryn headwaters, to the Aral Sea and has a catchment area of 219,000 km^2.[11]

The social and economic development of the CARs depends on the waters of these two rivers and there are many competing claims over the use of their waters for irrigation, hydropower, and the environment.[12] The uneven distribution of energy resources in the region,[13] resulting from the close connection between the water and energy networks, is an added complication.

When these countries were part of the Soviet Union, water and energy resources were managed regionally via a system of reservoirs and hydropower stations established along both rivers. Landscape and climatic conditions meant that reservoirs for water storage were built in the upstream countries (the Kyrgyz Republic and Tajikistan) and used for irrigation in the downstream countries (Kazakhstan, Uzbekistan, and Turkmenistan). The system was operated primarily for irrigation. Power generation was secondary and fossil fuel was used to compensate for electricity deficits in the upstream countries.[14]

When the Soviet Union was dissolved, it soon became apparent that the emerging new geopolitics and market-oriented economies of the CARs undermined the economic basis upon which the former Soviet management scheme was designed.[15] Competing interests between upstream and downstream users and the insecurity of the water-energy trade-off resulted in the individual republics focusing on achieving national self-sufficiency in both energy and food.[16] The upstream countries declared their interests in hydroelectricity and changed the use of reservoirs from irrigation to hydropower production, although the downstream countries still relied heavily on irrigated agriculture. This shift was especially noticeable in the Syrdarya river basin where switching the operation of the Toktogul reservoir from irrigation to electricity production resulted in a substantial change in flow patterns, with the peak of water releases in winter rather in summer.[17]

To expand their capacity for electricity generation, the Kyrgyz Republic and Tajikistan are planning to build a number of large new hydropower projects on the region's transboundary rivers.[18] In addition to meeting domestic demand, these plans could turn both countries into large-scale exporters of electricity to China, Iran, Pakistan, Afghanistan, and possibly other countries.[19] Such a level of hydropower development might

9 UNECE Geneva Strategy and Framework for Monitoring Compliance with Agreements on Transboundary Waters (UNECE Geneva Strategy). UNECE and UNEP Network of Expert on Public Participation and Compliance 'Water Management: Guidance on Public Participation and Compliance with Agreements' UN Doc MPWAT/2000/5 (17 December 1999) (UNECE Geneva 2000) www.unece.org/env/water/publications/documents/guidance.pdf (10 March 2010).

10 Estimates on Afghanistan's contribution to the Amudarya flow vary. See V Dukhovny and V Sokolov *Assessment of Water Resources in Northern Afghanistan, its Use and Impact to Region of the Amudarya River Basin* (SIC ICWC Tashkent 2002). This article does not address the relationships of the CARs with Afghanistan.

11 For more information visit http://cawater-info.net/aral/water_e.htm (21 January 2010).

12 UNDP Regional Bureau for Europe and the Commonwealth of Independent States *Central Asian Human Development Report Bringing Down Barriers: Regional Cooperation for Human Development and Human Security* (UNDP Bratislava 2005).

13 Kazakhstan, Turkmenistan, and Uzbekistan are rich in hydrocarbon, whereas the Kyrgyz Republic and Tajikistan possess a massive and largely underdeveloped hydropower potential.

14 V Dukhovny and V Sokolov *Lessons on Cooperation Building to Manage Water Conflicts in the Aral Sea Basin* (UNESCO-IHP Paris 2003).

15 ibid.

16 See eg J Granit and others *Regional Water Intelligence Report Central Asia* (Stockholm International Water Institute Stockholm 2010).

17 V Dukhovny 'Case Study of the Syrdarya River 2002–2008' 21 IWRA Update Newsletter of the International Water Resources Association; World Bank *Water Energy Nexus, Improving Regional Cooperation in the Syr-Darya Basin* (World Bank Washington DC 2004).

18 Including a number of large power projects started during the Soviet era and suspended for lack of funds after considerable costs had been incurred. Examples of hydropower projects include Sangtuda-1 and Sangtuda-2, Rogun and Dashtidjumn. Sangtuda HEP-1 (670 MW, 2700 GWh) is the first step of the Sangtuda Water Power Development Vakhsh cascade http://minenergo.tj/davomash_en/sangtuda1_en.html; Sangtuda-2 HEP (220 MW 990 GWh) is the second step of the Sangtuda Water Power Development located between Baypaza and Golovnaya HPP of Vakhsh cascade http://minenergo.tj/davomash_en/sangtuda2_en.html; Rogun HEP (3600 MW 13,000 GWh) is the largest on the Vakhsh River http://minenergo.tj/davomash_en/rogun_en.html; Dashtidjumn HEP (4000 MW 15,600 kWh) is a hydro site straddling the Tajik Afghan border on the Pyandzh river http://minenergo.tj/davomash_en/dashtijumges_en.html (21 January 2010).

19 World Bank *Central Asia Regional Electricity Exports Potential Study. Europe and Central Asia Region* (Washington DC 2004); Energy Charter Secretariat 'Regional Electricity Cooperation in Central and Southern Asia: Opportunities for Increased Regional Trade and the Role of the Energy Charter Treaty' Occasional Papers No 3 (Brussels

also provide significant benefits to the region as a whole in terms of meeting regional electricity demand[20] and mitigating the consequences of extreme water-related events as a result of climate change.[21]

However, these developments are problematic for the downstream countries. Uzbekistan argues that the uncoordinated and unilateral actions of building dams upstream might aggravate the impact of climate change, as well as adversely effecting the regional environment and the downstream population dependent upon water for food production and 'vital human needs'.[22] The debate on building new dams is a hot topic for the Amudarya river basin where Tajikistan has mobilised the whole population to build the Rogun hydropower plant,[23] although Uzbekistan questions the legality and ecological safety of the project.[24]

Apart from issues related to food and energy security, environmental concerns are vitally important when taking the region's legacy and new economic developments into consideration.[25] During the Soviet era, regulation of natural resources was largely based on economics so that extensive cotton production could be fully exploited, and little attention was paid to environmental protection. One of the most telling examples of this is the devastating degradation of the Aral Sea, its ecosystem, and surrounding areas as a result of massive water diversions for irrigated agriculture started in the 1960s. The Aral Sea, once the world's fourth-largest lake, today consists only of a series of separate bodies of water surrounded by a vast saline desert.[26] Since the CARs became independent, many positive initiatives have been implemented and regional attitudes towards protecting the environment have gradually been changing.[27] However, new environmental concerns seem to arise, including the expansion of the Aidar-Arnasai Lake in Uzbekistan[28] and the construction of the 'Golden Lake' – a large artificial lake in the Kara-Kum desert – in Turkmenistan.[29]

This overview of water-related problems in Central Asia is not intended to be comprehensive but to give the reader a sense of the complexity of the issues currently faced by the region's decision-makers. These issues must be considered within the wider context of the political, economic and social changes that have taken place over the past decades, as well as the impacts of climate change, population growth, globalisation and geopolitical factors.[30]

The CARs have recognised the need to address these problems in a coordinated way at the top political level,[31] and the heads of states have established the programme of concrete actions to make environmental and socio-economic improvements to the Aral Sea basin and attract much-needed investment (Aral Sea Basin Programme – ASBP).[32] Over the past two decades, the countries have adopted a number of sub-regional agreements, established new regional institutions, and joined regional and global water-related treaties. A brief overview of these treaties follows.

2007); S Peyrouse 'The Hydroelectric Sector in Central Asia and the Growing Role of China' (2007) 5 China and Eurasia Forum Quarterly 131–48.

20 ibid.

21 M Fay and others *Adapting to Climate Change in Europe and Central Asia* (World Bank Washington DC 2009) p 80 www.worldbank.org/eca/climate/ECA_CCA_Full_Report.pdf (21 January 2010).

22 See Address by H E Mr Vladimir Norov, Minister of Foreign Affairs of the Republic of Uzbekistan, at the general debate of the 64th session of the UN General Assembly (New York 28 September 2009) www.un.org/ga/64/generaldebate/pdf/UZ_en.pdf (21 January 2010); 'Uzbekistan Calls for International Control over Construction of New Hydropower Plants' Moscow Interfax (2 December 2009); N Koroleva 'Kyrgyz Kambarata HEPs induce "irreversible negative environmental effects" to Uzbekistan' Centrasia in Russian (16 September 2009) www.centrasia.ru/news.php?st=1253080740 (21 January 2010).

23 Construction is being financed from the Tajik budget and through the sale of Rogun plant shares to the population. See eg 'Tajikistan Amnesties Money Spent On Hyrdoplant Shares' Moscow ITAR-TASS in English (24 February 2010); 'German Envoy Warns of Social Impact of Tajik Power Plant Fund-Raising Campaign' Dushanbe Avesta in Russian (30 March 2010).

24 Address by President Islam Karimov at the meeting of heads of the IFAS founding states. Permanent Mission of the Republic of Uzbekistan to the United Nations (28 April 2009) www.un.int/wcm/content/site/uzbekistan/pid/9548 (10 February 2010). Kazakhstan has recently supported Uzbekistan's position; J Lillis 'Uzbekistan: Nazarbayev Makes Diplomatic Trade-Off With Karimov' Eurasia Insight (18 March 2010) www.eurasianet.org/departments/insightb/articles/eav031810_pr.shtml (19 March 2010).

25 L de Martino and others 'Environment and Security: Transforming Risks into Cooperation – Central Asia' (UNEP, UNDP, OSCE and NATO Arendal 2005).

26 V Dukhovny and J de Schutter 'History of the Aral Sea: Degradation of The Aral Sea and South Prearalie' CAWATERInfo http://www.cawater-info.net/aral/aral3_e.htm (10 March 2010).

27 de Martino 'Environment and Security' (n 25).

28 G Glysin 'From Aral to Arnasai' in Ecological Almanac 'Simply Writing on Environment' (in Russian 2005) http://kungrad.com/aral/book/arnasai/ (21 January 2010): 'Due to low carrying capacity of the Syrdarya river Kazakhstan and Uzbekistan were faced with threat of their lowlands inundation and were forced to divert wastefully water into Arnasai depression. As one of the impacts, an artificial Arnasai lake was expanded and surrounding hydrophilous vegetation area was inundated that led inter alia to decreasing self-purification capacity of the lake, disrupting food supply of herbivorous fish, and reducing wildlife population.'

29 'Turkmen "Golden Lake" May Prove Green Disaster' *Times of Central Asia* (24 August 2009) www.cawater-info.net/news/08-2009/24_e.htm (15 February 2010); also 'Turkmen President Explains Regional Importance of Artificial Lake in Karakum Desert' Turkmenistan.Ru (19 March 2010) http://turkmenistan.ru/?page_id=3&lang_id=en&elem_id=16577&type=event&sort=date_desc (23 March 2010).

30 K M Campbell and others *The Age of Consequences: The Foreign Policy and National Security Implications of Global Climate Change* (Center for Strategic and International Studies and Center for a New American Security Washington DC 2007) http://csis.org/files/media/csis/pubs/071105_ageofconsequences.pdf (20 April 2010) p 67: 'countries in Central Asia and the Caucasus will become more strategically important because they can offer energy supplies and routing alternatives to the Middle East and Russia'.

31 Nukus Declaration (20 September 1995); Almaty Declaration (28 February 1997); Ashgabat Declaration (9 April 1999); Dushanbe Declaration (6 October 2002); Almaty Joint Statement by the Heads of Founder-States of the International Fund for Saving the Aral Sea (28 April 2009) http://cawater-info.net/library/declar_e.htm (21 January 2010).

32 In 1994 the heads of CARs decided to adopt the Programme of concrete actions for environmental improvement in the Aral Sea basin over the next 3–5 years (ASBP-1) and to approve the main provisions of the strategy for addressing problems of Aral, Priaralie and the Aral Sea basin in light of regional socio-economic development. In 2002 they approved the Programme of concrete actions on environmental and socio-economic improvement in the Aral Sea basin for 2003–2010 (ASBP-2). In 2009 they mandated relevant agencies to develop ASBP-3 (Almaty Joint Statement n 31).

TREATIES APPLICABLE TO TRANSBOUNDARY WATERS OF THE ARAL SEA BASIN

Sub-regional treaties

The legal architecture of sub-regional transboundary water cooperation in Central Asia is based upon basin-wide, watercourse-specific and bilateral treaties. An Agreement on Cooperation in the Field of Joint Management of the Use and Conservation of Water Resources of Interstate Sources[33] (1992 Almaty Agreement) was one of the first treaties concluded by the CARs after they declared independence, demonstrating the high priority given to water issues in the region and illustrating the deployment of international law as a tool to deal with the new situation. The 1992 Almaty Agreement recognises regional water resources as 'common and integral'[34] and serves as a foundation instrument agreed by all CARs to manage shared waters at a basin level. It reaffirms the Soviet management status quo over shared international waters across Central Asia, primarily the two main rivers of the Aral Sea basin – the Amudarya and the Syrdarya.[35]

In 1993, the CARs entered into an Agreement on Joint Actions for Addressing the Aral Sea Crisis (1993 Kzyl-Orda Agreement),[36] which defined a range of 'common objectives' to be pursued to mitigate the crisis.[37] In 1996, Uzbekistan and Turkmenistan came to a bilateral agreement on water management issues, including water allocation in the Amudarya's lower reaches.[38] There is still no watercourse-specific agreement on the Amudarya river basin which covers the whole basin and involves all riparian countries, including Afghanistan. In the same year, Kazakhstan, the Kyrgyz Republic and Uzbekistan agreed to foster economic cooperation between countries on the use of fuel and water resources, construction and operation of gas pipelines, mostly touching the Syrdarya river basin.[39] As one of the measures, the 1996 agreement asserts the need for a cooperative programme that links 'economically reasonable supplies' of fuel resources and electricity to 'the most effective use of hydro-resources of the Syrdarya river basin for irrigation.'[40]

In 1998, three countries concluded a watercourse-specific agreement on the use of the water and energy resources of the Syrdarya river basin with the aim of producing a cooperative framework.[41] Tajikistan joined the agreement in 1999. The document stipulates a general scheme for water and energy trade-off[42] and makes reservoir operation modes, electricity and fuel interchange subject to annual intergovernmental agreements.[43] In the context of the link between water and energy, the 1999 agreement on parallel operation of the energy systems of Central Asian states is of special interest.[44] This agreement appears to foster more effective operation of the energy system with the aim of establishing an 'integral market for electricity' in the region.[45] However, Turkmenistan in 2003 and Uzbekistan more recently have both left this energy network, affecting all the countries in the region to a varying degree.[46]

Finally, a review of sub-regional water-related instruments would be incomplete without the 1998 agreement between Kazakhstan, the Kyrgyz Republic and Uzbekistan that regulates wider environmental issues by stipulating the areas of cooperation in the use and protection of natural resources.[47]

33 Agreement between the Republic of Kazakhstan, the Kyrgyz Republic, the Republic of Tajikistan, Turkmenistan, and the Republic of Uzbekistan on Cooperation in the Field of Joint Management of the Use and Conservation of Water Resources of Interstate Sources (Almaty 18 February 1992) (1992 Almaty Agreement) an unofficial English translation can be found at http://cawater-info.net/library/eng/l/ca_cooperation.pdf (5 February 2010).

34 ibid Preamble.

35 The 1992 Almaty Agreement (n 33) reaffirmed that the 'pattern and principles of water allocation' in the Amudarya and Syrdarya rivers shall be based on criteria and volumes established in the Soviet era in 'The Schemes of Complex Water Resources Use and Protection'. See Resolution of the Expert Sub-Commission to the Gosplan (State Planning Committee) State Expert Commission of the USSR (12 March 1982); Protocol of the Scientific and Technical Council of the Ministry of Water Resources Management of the USSR on Approval of the Principles of Inter-Republican Water Allocation of the Syrdarya River Basin Resources No 413 (29 February 1984); Protocol of the Scientific and Technical Council of the Ministry of Water Resources Management of the USSR on Approval of the Principles of Inter-Republican Water Allocation of the Amudarya River Basin Resources No 556 (10 September 1987); Decision of the Gosplan State Expert Commission of the USSR No 11 (5 March 1982).

36 Agreement between the Republic of Kazakhstan, the Kyrgyz Republic, the Republic of Tajikistan, Turkmenistan, and the Republic of Uzbekistan on Joint Actions for Addressing the Problems of the Aral Sea and its Coastal Area, Improving the Environment, and Ensuring the Social and Economic Development of the Aral Sea Region (Kzyl-Orda 26 March 1993) (1993 Kzyl-Orda Agreement) an unofficial English translation can be found at www.cawater-info.net/library/eng/l/kzyl-orda_agreement.pdf (7 February 2010).

37 ibid art 1.

38 Agreement between Turkmenistan and the Republic of Uzbekistan on Cooperation over Water Management Issues (Chardjev 16 January 1996) (1996 Chardjev Agreement) an unofficial English translation can be found at http://www.cawater-info.net/library/rus/uzb_tur_1.pdf (7 February 2010).

39 Agreement between the Government of the Republic of Kazakhstan, the Government of the Kyrgyz Republic and the Government of the Republic of Uzbekistan on the Use of Fuel and Water Resources, Construction and Operation of Gas Pipelines in Central Asian Region (Tashkent 5 April 1996).

40 ibid art 1.

41 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 Syrdarya Basin (Bishkek 17 March 1998) (Republic of Tajikistan joined in 1999) (1998 Syrdarya Agreement) an unofficial English translation can be found at cawater-info.net/library/eng/l/syrdarya_water_energy.pdf (3 February 2010).

42 ibid art 4.

43 ibid art 8.

44 Agreement between the Government of the Republic of Kazakhstan, the Government of the Kyrgyz Republic, the Government of the Republic of Tajikistan and the Government of the Republic of Uzbekistan on the Parallel Operation of the Energy Systems of Central Asian States (Bishkek 17 June 1999) an unofficial English translation can be found at http://www.cawater-info.net/library/eng/l/parallel-agreement.pdf (7 February 2010).

45 ibid art 1.

46 E Marat 'Uzbekistan Announces its Withdrawal from Central Asian Power Grid' 6 (222) *Eurasia Daily Monitor* (3 December 2009).

47 Agreement between the Government of the Republic of Kazakhstan, the Government of the Kyrgyz Republic and the Government of the Republic of Uzbekistan on Cooperation in the Area of Environment and Rational Nature Use, (Bishkek 17 March 1998) (1998 Environmental Cooperation Agreement) an unofficial English translation can be found at http://www.cawater-info.net/library/eng/l/nature_use.pdf (7 February 2010).

Regional and global treaties

In addition to the sub-regional treaties, the CARs have joined a broad range of regional and global water-related instruments.

At a regional level, under the auspices of the Commonwealth of Independent States (CIS), Belarus, the Russian Federation, Kazakhstan and Tajikistan have signed an agreement on the main principles of interactions in the field of rational use and protection of the transboundary watercourses of the CIS (1998 Moscow Agreement).[48] This agreement refers to the 1966 Helsinki Rules[49] and the UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes (UNECE Water Convention)[50] and is substantially grounded on the latter's provisions. Among the CARs only Tajikistan is a party to the 1998 Moscow Agreement. Kazakhstan has signed the treaty, although it has not ratified it yet, with a reservation that interactions in the field of rational use and protection of transboundary watercourses shall be a subject of separate agreements between parties concerned.[51] Nevertheless, Kazakhstan became a party to the UNECE Water Convention in 2001. In 2007, Uzbekistan also joined this regional treaty. Since the 1998 Moscow Agreement is largely based on the provisions of the UNECE Water Convention, at least three countries appear to share similar commitments at a regional as well as sub-regional level. It could be argued that, since many provisions of the UNECE Water Convention are the customary norms of international water law,[52] the convention provides a strong cooperative framework for all Central Asian countries to manage their shared waters equitably and reasonably. This sentiment is further supported by Libert who states that 'the relevance and authority of the Convention is recognised by all Central Asian countries and also those which have not ratified the Convention are actively participating in the activities in its programme of work'.[53]

Other UNECE conventions are also relevant to transboundary water resources management issues. Kazakhstan and the Kyrgyz Republic acceded to the Convention on Environmental Impact Assessment in a Transboundary Context,[54] which obliges parties to notify and consult each other on all major projects likely to have a significant adverse environmental impact across borders. The Convention on the Transboundary Effects of Industrial Accidents,[55] to which Kazakhstan is a party, is designed to protect people and the environment against industrial accidents. Finally, Kazakhstan, the Kyrgyz Republic, Tajikistan, and Turkmenistan are all parties to the Aarhus Convention.[56]

At a global level, in 2007 Uzbekistan became a party to the UN Convention on the Law of the Non-Navigational Uses of International Watercourses (UN Watercourses Convention).[57] This global instrument – although not yet in force – has already had a positive impact on the international legal environment through the process of codification and crystallisation of the customary rules of international water law.[58]

All five states are also parties to other global treaties which are important in the transboundary water context, including the Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention)[59] which provides a cooperative framework for the conservation of wetland habitats; the Convention on Biological Diversity (Convention on Biodiversity)[60] which pursues the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources; the UN Convention to Combat Desertification in Countries

48 Agreement between the Government of the Republic of Belarus, the Government of the Russian Federation, the Government of the Republic of Kazakhstan and the Government of the Republic of Tajikistan on the Main Principles of Interactions in the Field of Rational Use and Protection of the Transboundary Watercourses of the CIS (Moscow 11 September 1998) (entered into force for Belarus, Russian Federation and Tajikistan 6 June 2002) (1998 Moscow Agreement) www.cawater-info.net/library/rus/moscow4.pdf (10 February 2010).

49 Helsinki Rules on the Uses of the Waters of International Rivers adopted by the ILA at the 52nd Conference (Helsinki August 1966) in S Bogdanović *International Law of Water Resources – Contribution of the International Law Association (1954–2000)* (Kluwer Law International The Hague 2001 p 89).

50 UNECE Convention on the Protection and Use of Transboundary Watercourses (Helsinki 17 March 1992) 31 ILM (1992) 1312 (entered into force 6 October 1996) (UNECE Water Convention). For status of ratification see http://treaties.un.org (3 February 2010).

51 Article 18 of the Convention on the Law of Treaties (Vienna 23 May 1969) 1155 UNTS 331 provides that 'a State is obliged to refrain from acts which would defeat the object and purpose of a treaty when … it has signed the treaty'.

52 A Tanzi *Report of the UNECE Task Force on Legal and Administrative Aspects: The Relationship between the 1992 UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes and the 1997 UN Convention on the Law of the Non Navigational Uses of International Watercourses* (UNECE Geneva 2000) http://www.unece.org/env/water/publications/documents/conventiontotal.pdf (10 March 2010); P Wouters and S Vinogradov 'Analysing the ECE Water Convention: What Lessons for the Regional Management of Transboundary Water Resources?' in O S Stokke and Ø B Thommessen (eds) *Yearbook of International Co-Operation on Environment and Development* (Earthscan London 2003) pp 55–63; P Wouters 'What Lessons from Europe? A Comparative Analysis of the Legal Frameworks That Govern Europe's Transboundary Waters' (2006) 36(4) Environmental Law Reporter 10290–309.

53 B Libert 'Water Management in Central Asia and the Activities of UNECE' in M M Rahaman and O Varis (eds) *Central Asian Waters: Social, Economic, Environmental And Governance Puzzle* (Water and Development Publications Helsinki University of Technology Espoo 2008) p 37.

54 UNECE Convention on Environmental Impact Assessment in a Transboundary Context (Espoo 25 February 1991) 30 ILM 800 (1991) (entered into force 10 September 1997) (Espoo Convention).

55 UNECE Convention on the Transboundary Effects of Industrial Accidents (Helsinki 17 March 1992) 31 ILM 1330 (1992) (entered into force 19 April 2000).

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

57 UN Convention on the Law of the Non-Navigational Uses of International Watercourses (21 May 1997) 36 ILM 700 (1997) (not yet in force) (UN Watercourses Convention). For status of ratification see http://treaties.un.org (3 February 2010).

58 S C McCaffrey *The Law of International Watercourses* (2nd edn Oxford University Press Oxford 2007).

59 Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar 2 February 1971) 996 UNTS 245 (entered into force 21 December 1975) (Ramsar Convention).

60 UN Convention on Biological Diversity (Rio de Janeiro 5 June 1992) 31 ILM 818 (entered into force 29 December 1993) (Convention on Biodiversity).

Experiencing Serious Drought and/or Desertification, Particularly in Africa (Convention on Desertification)[61] which aims to combat desertification and mitigate the effects of drought through effective actions at all levels; and the UN Framework Convention on Climate Change (Convention on Climate Change)[62] that sets an overall framework for intergovernmental efforts to tackle climate change.

So there is a range of treaties applicable to the transboundary waters of the Aral Sea basin in Central Asia. Nevertheless, significant improvements are not evident. While many political, economic, and social factors may be responsible for this lack of an effective response, the legal response could be strengthened by encouraging compliance with existing commitments.

TREATY COMPLIANCE: A FRAMEWORK FOR ANALYSIS

Compliance 'refers to a State's behaviour in terms of its conformity with treaty commitments'.[63] There are two distinct approaches to ensuring compliance with international commitments, the traditional and the innovative. A traditional legal response to securing compliance calls for recourse to the law of state responsibility and dispute settlement systems such as courts and arbitration.[64] An innovative approach considers that punishing non-compliance and invoking responsibility are often counter-productive. Instead, collective management or rather prevention of non-compliance has gained wider support, especially in the international environmental field.[65] As with environmental damage, one country's non-compliance with transboundary water commitments usually harms all riparian countries and their environment, while reciprocal measures by the other countries can only make the situation worse. Besides, as Chayes and Chayes argue, '[o]nly infrequently does a treaty violation fall into the category of a wilful flouting legal obligation';[66] compliance is more often a function of the state's capacity and commitment.[67] A more cooperative approach to securing compliance, including exchange of information, financial and technological assistance and capacity building, is crucial, and the facilitation and management of compliance with the provision of transboundary water agreements deserves closer attention.

In 2000, the UNECE/UNEP group of experts on public participation and compliance[68] prepared the UNECE Geneva Strategy which sets out the main principles and guidelines for establishing compliance review procedures for any legal water-related instrument at international, regional, transboundary and catchment area levels. The UNECE Geneva Strategy defines a compliance system as 'the set of treaty rules and procedures aimed at assessing, regulating, and ensuring compliance'[69] and identifies three key elements for a successful compliance arrangement including (1) baseline provisions ('clear obligations capable of being verified'); (2) a compliance review procedure (ie exchange of information, monitoring of standards or objectives); and (3) an institutional mechanism (ideally, with a mandate to monitor compliance).[70] A treaty can itself contribute to enhancing compliance if it establishes clear rules (determinate and precise) and provides for a well-established process, including an institution, to deal with indeterminacy and ambiguities within the rules.[71] However, it should be noted that, while necessary, the complexity of water problems means that it is not easy to reach precision in transboundary water agreements.[72]

The remainder of this article takes the main elements of the UNECE Geneva Strategy – baseline provisions, compliance review and an institutional mechanism – as a framework for analysis. More specifically, the next section identifies some substantive and procedural rules which are embedded in existing treaties. This review does not intend to be comprehensive but to establish through examples whether the treaties' main provisions are clear and capable of being verified.[73] The section on compliance regimes examines whether the treaties under consideration provide for a compliance review procedure and assign institutions devoted to monitoring compliance.

BASELINE PROVISIONS: KEY SUBSTANTIVE AND PROCEDURAL RULES

Key rules of the sub-regional treaties and their clarity

Under the 1992 Almaty Agreement, which validates the Soviet water management scheme, the Parties shall 'respect [...] the existing pattern and principles of

61 UN Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, particularly in Africa (Paris 14 October 1994) 33 ILM 1328 (entered into force 26 December 1996) (Convention on Desertification).

62 UN Framework Convention on Climate Change (New York 9 May 1992) 31 ILM 849 (entered into force 21 March 1994) (Convention on Climate Change).

63 UNECE Geneva Strategy (n 9) p 39.

64 Charter of the United Nations (26 June 1945) Can TS 1945 No 7 (entered into force 24 October 1945) art 2(3). See also United Nations General Assembly Draft Articles on the Responsibility of States for Internationally Wrongful Acts in 'Report of the International Law Commission on the Work of its Fifty-third Session' UN GAOR, Supp (No 10) UN Doc A/56/10 (2001).

65 Note 8.

66 Chayes and Chayes (n 8) p 10.

67 ibid.

68 UNECE Geneva Strategy (n 9) was prepared by a group of invited experts under the overall guidance of Prof W Kakebeeke (Netherlands) with the assistance of Prof P Wouters (United Kingdom) and N Bouman (Netherlands).

69 UNECE Geneva Strategy (n 9) p 39.

70 ibid pp 42–3.

71 See eg Beyerlin *Ensuring Compliance* (n 8).

72 T Franck *The Power of Legitimacy Among Nations* (Oxford University Press Oxford 1990) (discussing determinacy and the sophist rule-idiot rule paradox).

73 For a broader analysis see S Vinogradov 'Transboundary Water Resources in the Former Soviet Union: Between Conflict and Cooperation' (1996) 36 Nat Resources J 393–416; S Vinogradov and V Langford 'Managing Transboundary Water Resources in the Aral Sea Basin: in Search of a Solution' (2001) 1 Int J Global Env'l Issues 345–62; S Vinogradov 'Background Paper on the Legal Basis for Transboundary Water Cooperation' (2004) CWC project workshop on Legal Basis for Transboundary Water Cooperation (in Russian); B Mukhamadiev *Evolution of a Treaty-based Law in the Aral Sea Basin: Relevance, Application and Impact of International Water Law* (unpublished LLM thesis University of Dundee 2006).

water allocation, and be governed by current regulations for water allocation from interstate sources'.[74] Accordingly one of the principal substantive provisions of the agreement is a reference rule; further regulations are to be found in the relevant Soviet directives[75] and not in the treaty itself. Another substantive obligation embedded in Article 3 of the Almaty Agreement requires the parties 'to refrain from actions on their respective territories that might affect interests of other contracting parties and cause harm to them, lead to deviations from the agreed volumes of water flow and pollution of water sources'. However, the agreement provides little guidance to establishing the threshold of harm incumbent upon states.

The 1993 Kzyl-Orda Agreement, which has a general focus on protecting the environment, determines that it is the CARs' 'common objective' to ensure that water flows in to the Aral Sea in order to preserve it as an 'object of nature'.[76] Despite positive intentions, the provisions of this agreement can be described as mainly declaratory due to their focus on 'common objectives' without specifying precise obligations to put these objectives in practice.

With respect to the Amudarya river basin, Article 6 of the 1996 Chardjev Agreement stipulates that 'the Amudarya flow allocation (measured at the Kerki gauging station) shall go in equal shares (50–50)' between Turkmenistan and Uzbekistan, as the parties to the agreement. The parties also agreed 'to direct to the Aral Sea water flows proportionally to their shares, carry out joint activities on land improvement, reconstruction and operation of interstate collectors, addressing technical issues of irrigation systems operation, construction of water intake structures and drainage systems'.[77] Although the language of this agreement is relatively precise, there seem to be technical difficulties in taking necessary measurements of water flow.[78]

The 1998 Syrdarya Agreement, which is the result of a difficult compromise between the contracting parties, contains a number of ambitious and imprecise substantive and procedural obligations. For instance, while the language of Article 15 clearly endorses that such matters as the construction of new water facilities, shift from barter to financial arrangements, price setting methodologies, dam safety, water conservation issues and wastewater disposal are subject to the joint consideration of the countries, the extent of such consideration remains to be defined. Although introductory provisions call for the long-term regulation of river flow and ecological security, the main text of the treaty does not contain any clear obligations.[79]

According to the 1998 Environmental Cooperation Agreement, the parties clearly committed to cooperate and coordinate their actions in building new facilities in frontier areas or in any areas that might have adverse transboundary impact; transboundary resources conservation, rational use and pollution prevention; undertaking joint environmental examination of projects that have or might have transboundary impact.[80]

Rules of the regional and global treaties and their clarity

Under the 1998 Moscow Agreement, the parties agreed in precise terms to avoid water management activities that can adversely affect the environment, including watercourses; to establish the principles of cooperation regarding information exchange; to take appropriate measures in order to prevent surface and ground water pollution and depletion; to take measures in order to reduce and eliminate the consequences of natural and anthropogenic disasters; to define the common principles of water resources use and allocation; to estimate damages caused by water use according to a unified methodology.[81]

The UNECE Water Convention establishes sound rules for the parties' cooperation on environmental and water resources, including obligations to prevent, control and reduce transboundary impacts; to ensure that transboundary waters are managed in a way that is ecologically sound and rational and used in a reasonable and equitable way; and to ensure conservation and, where necessary, restoration of ecosystems.[82] It should be noted, however, that most provisions of the convention are the obligations of 'due-diligence' rather than absolute obligations.[83] In other words, the parties shall 'take all appropriate measures' to prevent, control and reduce transboundary impact rather than bear the strict obligations not to pollute that, by definition, make compliance verification more difficult.

Finally, the UN Watercourses Convention stipulates the substantive rules of customary international water law such as the equitable and reasonable use[84] and no significant harm rule,[85] coupled with procedural obligations to cooperate,[86] exchange information,[87] and notify.[88] The UN Watercourses Convention, as a reflection of customary international water law, can also support implementation in Central Asia of sub-regional water agreements, which do not comprehensively define the rights and obligations of the parties, by providing a framework for their interpretation.[89]

74 1992 Almaty Agreement (n 33) Preamble.
75 Note 35.
76 1993 Kzyl-Orda Agreement (n 36) art 1.
77 1996 Chardjev Agreement (n 38) art 6.
78 V Dukhovny A Sorokin and A Nikulin 'Amudarya River Basin: Ways of Probable Conflicts Prevention' http://afeid.montpellier.cemagref.fr/Mpl2003/Conf/Dukhovny.pdf (20 April 2010).
79 See Findings of the CARs reports on the effectiveness of existing basin agreements from the standpoint of national interests prepared under the ADB Regional Technical Assistance 6163 'Improvement of Shared Water Resources Management in Central Asia' (2005) http://cawater-info.net/reta/documents/index_e.htm (7 February 2010).
80 1998 Environmental Cooperation Agreement (n 47) art 2.
81 1998 Moscow Agreement (n 48) art 2.
82 UNECE Water Convention (n 50) art 2.
83 UNECE *Draft Guide to Implementing the Convention* Meeting of the Parties to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (5th Sess 10–12 November 2009 Geneva) ECE/MP.WAT/2009/L.2.
84 UN Watercourses Convention (n 57) arts 5–6.
85 ibid art 7.
86 ibid art 8.
87 ibid art 9.
88 ibid arts 12–16.
89 A Rieu-Clarke and F R Loures 'Still Not in Force: Should States Support the 1997 UN Watercourses Convention?' (2009) 18(2) RECIEL 185–97; S Vinogradov, P Wouters and P Jones *Transforming Potential Conflict into Cooperation Potential: The Role of International Water Law* (UNESCO Paris 2003).

To sum up, the language of the sub-regional water agreements can be generally characterised as ambitious, declaratory and imprecise and so may hamper both effective implementation of the parties' commitments and verification of compliance. On the other hand, obligations under the regional and global water-related agreements are articulated more carefully and comprehensively. However, some substantive obligations embedded in these treaties – such as equitable and reasonable use – are complex and undetermined in nature, whereas others are not specified in great detail due to the framework nature of the instruments. Moreover, the due diligence nature of certain obligations – along with the corresponding concept of 'appropriateness' of the measures – implies that a significant degree of flexibility and relativity must be applied to both contents and time frame of the conduct of the parties.[90] Accordingly, textually indeterminate standards such as equity, reasonableness, appropriateness generally make it more difficult to verify certain obligations and their fulfilment.

COMPLIANCE REGIME: COMPLIANCE REVIEW PROCEDURES AND INSTITUTIONAL MECHANISMS

Compliance mechanisms under the sub-regional treaties

Compliance review procedure

The sub-regional agreements do not provide for a compliance review procedure. Article 2 of the 1992 Almaty Agreement prescribes that the parties shall ensure that the agreed regime will be 'strictly observed' but it remains unclear how non-compliance will be detected and monitored. Some disjointed attempts to monitor and facilitate compliance have been undertaken under the 1998 Syrdarya Agreement. Article 5 stipulates that parties shall take appropriate measures to ensure compliance with the provisions of the agreement through various forms of guarantees such as credit lines, security deposits and others. Article 7 of the 2001 Protocol adopted to implement the 1998 Syrdarya Agreement[91] states that, when necessary, the parties shall ensure that access of observers from other contracting parties to water management facilities in the Syrdarya Water Basin operation area will be secured during the growing period.

Institutional bodies

The 1992 Almaty Agreement established the Interstate Commission for Water Coordination (ICWC) in Central Asia as a body responsible for water management policy in the region[92] and created two water basin organisations at Amudarya and Syrdarya subordinate to the ICWC.[93] The 1993 Kzyl-Orda treaty placed the ICWC under the newly-established Interstate Council on the Aral Sea (ICAS).[94] In 1997, the ICAS was transformed into the International Fund for Saving the Aral Sea (IFAS)[95] and its status was stipulated in a separate agreement.[96] In 2008 the IFAS was granted observer status in the United Nations General Assembly.[97]

Although a compliance control system is yet to be established in the region, the activities of the ICWC and its executive bodies appear to provide a basis on which such a system can be built. The ICWC does not have a mandate to monitor compliance but its practice helps to establish a collective and transparent forum for preventing and addressing controversies. A recent development of regional and national information systems on water and environmental issues under the aegis of the ICWC is one of the examples discussed below.

Article 5 of the 1992 Almaty Agreement provides that 'the Parties shall facilitate a wide information exchange on scientific and technical progress in the field of water management, complex use and protection of water resources'. The heads of the CARs identified the development of a regional information exchange system as a priority area in the ASBPs.[98] The Central Asia Regional Water Information Base (CAREWIB) project was developed in response to this, with the aims of ensuring transparency and public awareness and supporting decision making in the water sector.[99] The project is funded by the Swiss Agency for Development Cooperation and implemented by the Scientific Information Centre of the ICWC with the assistance of UNECE and the UNEP/GRID-Arendal Office in Geneva, in close cooperation with five national water management organisations. The CAREWIB Information System and the CAWater-Info portal (www.cawater-info.net) are acknowledged as 'an official system for keeping records, collection, use and analysis of data, and modelling of water and land resources in the Aral Sea basin'.[100]

90 UNECE *Draft Guide to Implementing the Convention* (n 83).

91 Protocol between the Government of the Republic of Kazakhstan, Government of the Kyrgyz Republic and Government of the Republic of Uzbekistan on the Use of Water and Energy Resources of the Naryn-Syrdarya Cascade of Reservoirs in 2001 (Bishkek 20 May 2001) http://cawater-info.net/library/rus/gov2.pdf (10 March 2010).

92 1992 Almaty Agreement (n 33) art 7.

93 ibid art 9.

94 1993 Kzyl-Orda Agreement (n 36) art 2.

95 The International Fund for saving the Aral Sea (IFAS) is an interstate organisation founded to develop and finance environmental and scientific-practical projects and programmes aimed at environmental improvement in areas affected by the Aral disaster as well as at solving common socio-economic problems in the region. The IFAS has two intergovernmental bodies: Interstate Commission for Water Coordination (ICWC) and Interstate Commission for Sustainable Development (ICSD).

96 Agreement between the Republic of Kazakhstan, the Kyrgyz Republic, the Republic of Tajikistan, Turkmenistan, and the Republic of Uzbekistan on the Status of IFAS and its Organisations (Ashgabad 9 April 1999) an unofficial English translation can be found at http://www.cawater-info.net/library/eng/ifas_e_1.pdf (7 February 2010).

97 United Nations General Assembly 'Resolution on Observer Status for the International Fund for Saving the Aral Sea in the General Assembly' UN GAOR 63d Sess, Agenda item 156, UN Doc A/C 6/63/L13 (14 November 2008).

98 'Database and Management Information System for Water and Environment' project was listed as a priority project in the ASBP-1. The ASBP-2 included as one of the activities 'Strengthening Material/Technical and Legal Basis for Interstate Organisations, Development of Regional Information System Designed to Manage Water Resources of the Aral Sea Basin'.

99 For more information see http://www.cawater-info.net/about_e.htm (10 March 2010).

100 CAREWIB *2008 Progress Report* (CAREWIB Tashkent/Arendal/Geneva 2009) http://cawater-info.net/library/eng/carewib/report_2008_en.pdf (10 March 2010).

The CAREWIB Information System helps to facilitate compliance through building trust and transparency between countries. ICWC members can request all available data and information, including analytical reports on water situations and forecasts, at any time. Members enjoy full access to the information system and are able to compare data from different riparian countries. Water management organisations are systematically provided with analytical reports linking hydro-meteorological data to water-related information and analysis of river channel and basin balances.[101]

The system also promotes public awareness, since access to most of the information, including analytical reports (since the 1990s) and on-line information about the BWO Amudarya and the BWO Syrdarya (over the last decade) is available to the general public. However, the public's potential role in facilitating and monitoring compliance with obligations under the sub-regional water agreements is undefined.

Clearly, the ICWC and its information system are not a substitute for a compliance control system. The CAREWIB project enables the CARs to exchange information as part of their primary procedural obligations and this information should be distinguished from the requirements for compliance review and monitoring. However, these activities are a step in the right direction.

Compliance mechanisms under the regional and global treaties

Compliance review procedure

The regional and global water-related conventions contain some provisions to monitor and facilitate compliance.

The UNECE Water Convention does not include explicit regional provisions regarding compliance review; its framework nature generally implies that detailed compliance control provisions are subject to basin-specific agreements.[102] Nonetheless, a number of the articles can be used as a foundation for building a cooperative framework to facilitate compliance, including Article 10 on consultations, Article 11 on joint monitoring and assessment, Article 12 on common research and development, Article 13 on exchange of information, Article 15 on mutual assistance, and Article 16 on public information. Under the Espoo Convention, implementation is reviewed through periodic national reports submitted by parties completing a questionnaire.[103] The Aarhus Convention also requires regular reporting on the implementation of the convention.[104]

At a global level, the UN Watercourses Convention, the only global framework water instrument, does not require compliance monitoring but does establish various provisions to facilitate it. These include Article 8 on the general obligation to cooperate, Article 9 on regular exchange of data and information, Articles 11–19 on planned measures, and Article 24 on management.

Four of the global environmental conventions mentioned above – the Ramsar Convention, the Convention on Biodiversity, the Convention on Desertification and the Convention on Climate Change – enjoy a more developed compliance review system. These conventions provide for some form of general reporting and monitoring to which all parties are subject (performance review information), and non-compliance response information, designed for those parties found to be in non-compliance.

Performance review information is gathered through national self-reporting in the Ramsar Convention,[105] the Convention on Biodiversity,[106] the Convention on Desertification,[107] and the Convention on Climate Change.[108] The Ramsar Convention includes a template review format while the Conventions on Biodiversity, Desertification and Climate Change provide detailed guidelines.[109] Third party monitoring of the national reporting system and third party verification of national performance review can be respectively undertaken under the Ramsar Convention and the Convention on Climate Change.[110] The Ramsar Convention also provides for third party monitoring of degraded wetlands as a non-compliance response.[111]

In 2007, the UNEP analysed compliance mechanisms under selected multilateral environmental agreements (MEAs) and found promising opportunities for links between their compliance review requirements.[112] The

101 ibid.

102 The Protocol on Water and Health to the UNECE Water Convention (London 17 June 1999) ECOSOC Doc MP WAT/AC1/1999/1 (24 March 1999) (entered into force 4 August 2005) takes another step forward and includes several compliance review provisions. See UNECE and WHO Regional Office For Europe 'Report of the Meeting of the Parties to the Protocol on Water and Health' (Meeting of the Parties 1st Sess 17–19 January 2007 Geneva) ECE/MP WH/2/Add3 EUR/06/5069385/1/Add3. The protocol's compliance mechanism is not covered here in detail as none of the CARs is a party to it.

103 Decision II/10 on the review of the Espoo Convention (n 54).

104 Aarhus Convention (n 56) art 10(2).

105 Ramsar Convention (n 59) art 6 established a Conference of the Contracting Parties (COP) to review and promote its implementation. COP 2 (1984) recommended that all parties submit reports to the bureau six months before each ordinary COP. Ramsar Recommendations 2.1 and 4.3.

106 UN Convention on Biodiversity (n 60) art 26 calls upon parties to 'present to the Conference of the Parties, reports on measures which it has taken for the implementation of the provisions of this Convention and their effectiveness in meeting the objectives of this Convention'.

107 UN Convention on Desertification (n 61) art 26(1) states that 'each party shall communicate to the Conference of the Parties … reports on the measures which it has taken for the implementation of the Convention'. For more information see http://www.cbd.int/reports/ (10 March 2010).

108 There are different reporting obligations for Annex I and non-Annex I Parties. UN Convention on Climate Change (n 62) art 7 provides for regular self-reporting by Annex I Parties. See http://unfccc.int/national_reports/items/1408.php (10 March 2010).

109 For more information on the Convention on Biodiversity (n 60) guidelines see http://www.cbd.int/reports/guidelines/; on the Convention on Desertification (n 61) see http://www.unccd.int/cop/cric5/helpguides.php (10 March 2010); see also the Convention on Climate Change (n 62) Decisions 22/CP.7 and 22/CP.8 and http://unfccc.int/national_reports/items/1408.php (10 March 2010).

110 UN Convention on Climate Change (n 62) art 8 establishes a third-party process for independent review of self-reported information. The Convention on Climate Change Secretariat conducts on-site verifications, mainly to obtain performance information.

111 Ramsar Convention (n 59) Annex 1 to Recommendation 4.7.

112 UNEP 'Compliance Mechanisms under Selected Multilateral Environmental Agreements' (UNEP Nairobi 2007) p 13.

study also pointed out the importance of links between subject-related global, regional and bilateral MEAs but to date research efforts have not focused on the water-related cluster of international agreements.

Institutional bodies

The Meeting of the Parties to the UNECE Water Convention is the only institutional setting available to raise matters about implementation of the convention. However, in 2009 the fifth Meeting of the Parties decided to address concerns raised by a number of countries that 'Parties [...] do not have a clear and permanent forum to resort to for advice and support in the case of a specific potential or ongoing problem of a procedural, legal and/or technical nature'[113] and authorised the Legal Board of the Convention to explore options for the establishment of a mechanism to support implementation and compliance for possible adoption at the sixth session of the Meeting of the Parties in 2012.[114] Although the UNECE Water Convention does not contain a specific provision that would enable establishment of such a mechanism, the Meeting of the Parties used its general power under Article 17 as a legal ground for this decision.[115]

The Espoo Convention envisages two specific institutional mechanisms to facilitate implementation and compliance; the implementation committee, and an inquiry commission. Parties are invited to make submissions to the implementation committee if they have concerns about their own or another party's compliance with obligations under the convention.[116] An inquiry procedure allows the parties to make a submission to an inquiry commission to 'advise on the likelihood of significant adverse transboundary impact' if they cannot reach agreement between themselves.[117]

Finally, the compliance mechanism of the Aarhus Convention,[118] another UNECE instrument, is frequently referred to as unique. Kravchenko defines three significant features of this mechanism: '(1) the ability of nongovernmental organisations to nominate experts for possible election to the Compliance Committee; (2) the requirement that all Committee members be independent experts rather than representatives of state Parties to the Convention; and (3) the right of any member of the public and any NGO to file a "communication" with the Committee alleging a Party's noncompliance'.[119]

Globally, although the UN Watercourses Convention does not envisage any institutional body reviewing compliance, its provision on dispute settlement includes an innovative – although still confrontational – mechanism of an impartial fact-finding commission to resolve a dispute.[120] The Ramsar Convention's implementation is institutionally supported by 'a continuing partnership between the Contracting Parties, the Standing Committee, and the Convention Secretariat, with the advice of the subsidiary expert body, the Scientific and Technical Review Panel, and the support of the International Organisation Partners'.[121] The Committee for the Review of the Implementation of the Convention on Desertification assists the Conference to the Parties in regularly reviewing implementation of the convention.[122] Under the Convention of Biodiversity, the Ad Hoc Open-ended Working Group on Review of Implementation of the Convention is entitled to make recommendations to the Conference of the Parties based on its examination of the convention's implementation, including national biodiversity strategies and action plans.[123] The Convention on Climate Change established the Subsidiary Body for Implementation to assist the Conference of the Parties 'in the assessment and review of the effective implementation of the Convention'.[124]

To summarise, a review of the compliance provisions embedded in sub-regional, regional, and global water-related agreements shows that much remains to be done if a sound compliance regime for transboundary water resources management is to be developed. Useful lessons can be learned from MEAs, especially under the UNECE umbrella, but care should be taken to avoid 'blind' transplantation. As Beverlyn reminds us, 'every single MEA needs its own tailor-made compliance control mechanism [... and] choosing the "right" [one] depends on the type of obligations contained in each particular treaty'.[125]

MAIN FINDINGS, THE NEED FOR FURTHER RESEARCH ON COMPLIANCE AND THE BROADER EFFECT OF INTERNATIONAL WATER LAW IN CENTRAL ASIA

Effective management of Central Asian transboundary waters is essential to securing regional peace and achieving sustainable development. Beyond having the

113 UNECE 'Facilitating and Supporting Implementation and Compliance: A Needed Step in the Convention's Evolution' 'background' document Meeting of the Parties to Convention on the Protection and Use of Transboundary Watercourses and International Lakes (5th Sess 10–12 November 2009 Geneva) ECE/MPWAT/2009/3.

114 UNECE Highlights Meeting of the Parties to Convention on the Protection and Use of Transboundary Watercourses and International Lakes (5th Sess 10–12 November 2009 Geneva) http://www.unece.org/env/water/mop5.htm (20 April 2010).

115 UNECE Water Convention (n 50) art 17(2): 'At their meetings, the Parties shall keep under continuous review the implementation of this Convention, and, with this purpose in mind, shall: ... (f) Consider and undertake any additional action that may be required for the achievement of the purposes of this Convention'.

116 Espoo Convention (n 54) art 11(2) and Decision II/4 of the 2nd Meeting of the Parties revised as Decision III/2.

117 ibid art 3 and app IV.

118 Aarhus Convention (n 56) art 15 on review of compliance and Decision I/7 on review of compliance adopted at the First Meeting of the Parties to the Aarhus Convention (21–23 October 2002).

119 S Kravchenko 'The Aarhus Convention and Innovations in Compliance with Multilateral Environmental Agreements' (2007) 18(1) Colo J Int'l Envtl L & Pol'y p 1.

120 UN Watercourse Convention (n 57) art 33.

121 Ramsar Convention (n 59) official website http://www.ramsar.org/cda/en/ramsar-about-bodies/main/ramsar/1-36-71_4000_0 (20 April 2010).

122 Decision 1/COP.5 of the Conference of the Parties to the Convention of Desertification. Report of the Conference of the Parties on its Fifth Session (Geneva 1–12 October 2001) ICCD/COP(5)/11/Add1.

123 Conference of the Parties to the Convention on Biodiversity Decision VII/30 para 23 http://www.cbd.int/decision/cop/?id=7767 (20 April 2010).

124 UN Convention on Climate Change (n 62) art 10.

125 U Beyerlin, P-T Stoll and R Wolfrum 'Conclusion drawn from the Conference on Ensuring Compliance with MEAs' in Beyerlin *Ensuring Compliance* (n 8).

requisite laws, ensuring compliance with treaty commitments can play a central role by promoting social stability and legal certainty. This process involves sound treaty-making to shape the contents of obligations as clearly and precisely as possible, and an effective institutional process to facilitate and monitor compliance, and respond to non-compliance, if needed.

As the preceding analysis has shown, a sound compliance system for transboundary water management in Central Asia remains a work in progress although improvement is gradually being made. At basin level, efforts to strengthen the institutional capacity and transparency of the ICWC through a broader information exchange can be viewed as a nascent but valuable step in building such a system. Promising developments towards establishing a facilitative body under the UNECE Water Convention might effectively fill the institutional gap at a regional level. Globally, the compliance systems of MEAs can be valuable tools to trace implementation of the water-related provisions of these treaties. Finally, establishing links between global, regional, and sub-regional water-related agreements is vital.

A better understanding of compliance mechanisms is the key to exploring options for formulating new basin agreements and strengthening the institutional framework of transboundary waters management in Central Asia, as stressed by the heads of CARs in 2009.[126] Developing enforceable treaty language and a robust compliance regime would be a substantial investment in enhancing compliance with these commitments in the future.

Compliance matters in the regional management of transboundary waters in Central Asia but well designed rules and compliance provisions will not provide an answer in themselves unless they are part of a broader analysis of the role and workings of international law. Several areas call for further research to help enable a truly operative legal framework for transboundary water cooperation in Central Asia.

First, as Downs, Rocke and Barsoom argue, cooperation as measured by the existence of treaties and compliance with international commitments may sometimes be more 'shallow' than it appears.[127] Bernauer and Siegfried have reached the same conclusion in their analysis of the Syrdarya river case. Researchers have found that implementation of the 1998 Syrdarya Agreement has been characterised by a high level of compliance but low performance, measured in terms of optimal performance ('the outcome that should ideally be reached') and counterfactual performance ('the outcome that would have occurred in the absence of this policy').[128] More careful legal analysis is needed to confirm or disprove these findings.

Secondly, focusing on compliance does not answer the question of whether the law has a role to play in the pre-commitment period. Brunnée points out that '[e]ven a regime that does not arrive at a binding standard may be effective if it develops a process of norm generation that is perceived as legitimate by all those involved'.[129] Regrettably, research on rule making processes and their role in normative development is still in its infancy. To take a Central Asian example, by and large, studies undertaken in the region offer a formalistic and positivist analysis of law, which fails to include the process of law-making, both within the basin and beyond. The CARs have been working on strengthening the legal and institutional framework of transboundary cooperation under two ASBPs since 1994, but to date there has not been any rigorous examination of the process of law-making in that context. Equally, the possible impact of legal developments at the global and regional levels, particularly the UN Watercourses Convention and the UNECE Water Convention, on the process of norm development in the region has not been fully analysed. Such research might be valuable in guiding the countries' efforts to elaborate and implement the Third ASBP for 2011–2015.[130]

Thirdly, compliance does not clarify how law strikes a balance between the status quo and the need for change. Koskenniemi warned from a normative perspective that 'focus on compliance silently assumes that the political question – what the objectives are – has already been resolved'.[131] In Central Asia, for example, the 1992 Almaty Agreement taken in isolation fixes the Soviet-time status quo and requires 'strict observance' of then-established rules. However, the need for change is justifiable when considered in a wider landscape of the principle of equitable and reasonable use, which adopts a flexible all-encompassing approach to reconciling a broad range of existing and new economic, social and environmental issues.[132]

Fourthly, a rigid concern with compliance alone appears to leave no room for appreciation of the communicative and constitutive role of international law. Thus, Hathaway argues that human rights treaties might fulfil both instrumental ('create binding law that is intended to have particular effects') and expressive ('express the position of those countries than join them') functions.[133] She also illuminates the constitutive effect of the treaties in the sense that they change 'perception of what constitutes acceptable behaviour'.[134] From an expressive perspective, each of the signed agreements in Central Asia can be considered as remarkable demonstrations of willingness to embrace the international community and actively deploy the rules and principles

126 2009 Almaty Joint Statement (n 31).

127 G Downs, D Rocke and P Barsoom 'Is the Good News About Compliance Good News About Cooperation? (1996) 50(3) Int'l Org 379–406.

128 T Bernauer and T Siegfried 'Compliance and Performance in International Water Agreements: The Case of the Naryn/Syr Darya Basin' (2008) 14 Global Gov 479–501.

129 J Brunnée 'Wrap-up Plenary: What's Next in Implementation, Compliance and Effectiveness?' (1997) 91 Am Soc'y Int'l L Proc p 506.

130 2009 Almaty Joint Statement (n 31).

131 M Koskenniemi *The Gentle Civilizer of Nations. The Rise and Fall of International Law* 1870–1960 (Cambridge University Press Cambridge 2001) p 485.

132 A Rieu-Clarke *A Fresh Approach to International Law in The Field of Sustainable Development: Lessons From The Law of International Watercourses* (IWA Publishing London 2005).

133 O A Hathaway 'Do Human Rights Treaties Make a Difference?' (2001–2002) 111 Yale L J 1935–2042.

134 ibid p 2021.

of international law to deal with the pressing water problems. Taking into account the relatively short history of the countries' international legal relations and the increasing relevance of a 'community' or *erga omnes* obligations,[135] there is hope that this appeal will be treated more seriously. In turn, the constitutive value of the agreements can be traced in terms of their contribution to 'shared conception of appropriate behaviour'[136] in building and maintaining transboundary water cooperation.

Finally, the recent work of Howse and Teitel points out that '[l]ooking at the aspirations of international law through the lens of rule-compliance … obfuscates the character of international legal normativity, tending to ignore the centrality of interpretation to the generation of legal meaning, as well as the horizontal relation between diverse norms and regimes ("fragmentation")'.[137] Central Asia is an ideal site to illustrate the importance of 'performance-interpretation'[138] in the transboundary water management context on two grounds. First, the unique nature of water and its complex relationships with energy, food and environmental security implies the existence of diverse norms in the region that might conflict with each other. Secondly, given that the rules of international water law are typically complex in content and employ 'textually indeterminate standards' such as equity and reasonableness, a 'credible, institutionalised, and legitimate interpreter of the rule's meaning in various instances'[139] is crucial for the region.

Taking these considerations into account and acknowledging the positive insights of the UNECE Geneva Strategy, this article raises the need for a new line of enquiry that will look more broadly at the role and workings of international water law to gain a fuller understanding of how international law can direct the conduct of Central Asian states in resolving transboundary water problems. International law must be considered in a more analytical manner, as a vehicle that defines means and mechanisms and enables and empowers actors to interact over shared waters,[140] with due regard to its instrumental constitutive and expressive roles.[141]

135 *Barcelona Traction Case* (Second Phase) ICJ Reports 1970 p 3 (paras 33–34). See generally, M Ragazzi *The Concept of International Obligations Erga Omnes* (Clarendon Press Oxford 1997); P Wouters, S Vinogradov and B-O Magsig 'Water Security, Hydrosolidarity and International Law: A River Runs through It …' (2008) 19 Yearbook of International Environmental Law 97–134 at 132.

136 For example M Finnemore and K Sikkink 'International Norm Dynamics and Political Change' (1998) 52 Int'l Org 887–917; J Brunnee and S J Toope 'The Changing Nile Basin Regime: Does Law Matter?' (2002) 43 Harv Int'l L J 105–59.

137 R Howse and R Teitel 'Beyond Compliance: Rethinking Why International Law Really Matters' (New York University School of Law Public Law and Legal Theory Research Paper Series Working Paper No 10–08 2010).

138 M M Reisman 'Necessary and Proper: Executive Competence to Interpret Treaties' (1990) 15 Yale J Int'l L at 318.

139 T Franck 'Legitimacy in the International System' (1988) 82 Am J Int'l L at 725.

140 P Wouters and others *Sharing Transboundary Waters – An Integrated Assessment of Equitable Entitlement: The Legal Assessment Model* (IHP-VI Technical Documents in Hydrology No 74 UNESCO Paris 2005).

141 For example Fuller's conception of law: 'law is not, like management, a matter of directing other persons how to accomplish tasks set by a superior, but is basically a matter of providing the citizenry with a sound and stable framework for their interactions with one another, the role of government being that of standing as guardian of the integrity of this system'. L L Fuller *The Morality of Law* (Yale University Press New Haven 1969) 210.