The journal of
WATER LAW
VOLUME 24 ISSUES 3/4 ISSN 1478-5277

SPECIAL ISSUE

INTRODUCTION: ACHIEVING SUSTAINABLE AND ADAPTIVE FRESH WATER MANAGEMENT: Selective studies of international, European, Dutch and Chinese water law

Guest Editors
Professor Marleen van Rijswick and Professor Patricia Wouters

The journal of
WATER LAW

EDITORIAL BOARD

The journal of
WATER LAW
ISSN 1478-5277

Volume 24
6 issues plus index

Subscription
£569

www.lawtext.com

CONTRIBUTIONS
The editors and publisher welcome submissions for publication. Articles, letters and other material should be submitted to:

The Publishing Editor
Water Law
Lawtext Publishing Limited
Office G18 – Spinners Court
55 West End
Witney
Oxon OX28 1NH
Tel: +44 (0) 1993 706183
Fax: +44 (0) 1993 709410
e-mail: waterlaw@lawtext.com

The review is a refereed journal and may be cited as 24 WL 00

The Journal of Water Law formerly WATER LAW is published by Lawtext Publishing Limited

Publisher
Nicholas Gingell

Publishing Editor
Rachel Caldin

Design and production by The Studio Publishing Services Ltd
e-mail: studio@publishingservicesuk.co.uk
www.publishingservicesuk.co.uk

ACHIEVING SUSTAINABLE AND ADAPTIVE FRESH WATER MANAGEMENT: Selective studies of international, European, Dutch and Chinese water law

China International Water Law (CIWL), Xiamen University Law School
and
Utrecht Centre for Water, Oceans and Sustainability Law (UCWOSL) Utrecht University

Joint Workshop held at Xiamen University, Fujian, China 22 May 2014

'*A legal perspective on sustainable water management in times of climate change: comparing international, European, Chinese and Dutch Water Law*'

The articles included in two special collections of *The Journal of Water Law* build on the papers presented at the Joint Workshop '*A legal perspective on sustainable water management in times of climate change: comparing international, European, Chinese and Dutch Water Law*'. The first Chinese papers have been published in the 'Chinese Water Papers'[1] and this special issue puts most emphasis on international and European perspectives. The next special issue will focus on Chinese and European approaches to the management of current water issues.

The Utrecht Centre for Water, Oceans and Sustainability Law (UCWOSL), Utrecht University and the China International Water Law (CIWL) of Xiamen University Law School both focus on the sustainable and equitable management of water courses and oceans from a legal perspective. At the same time they are both very much involved in inter/multidisciplinary research, convinced of the fact that the achievement of sustainable water management needs in the end an integrated approach and the involvement of all stakeholders. But most of all both centres have a strong belief in cooperation. Cooperation is the way towards further sustainable development, not only between the several levels involved – states, regions, sectors and stakeholders – but also between scientists from all disciplines and scholars from countries all over the world.

The workshop at Xiamen University and the resulting articles have been made possible by the Dutch Royal Academy of Sciences, Utrecht University, the Dutch Knowledge for Climate Research Programme, the EU FP-7 STARFLOOD-project (STAR-FLOOD receives funding from the EU 7th Framework programme (FP7/2007–2013) under grant agreement 308364) and the NWO Verdus Context project: see http://context.verdus.nl/.

Marleen van Rijswick
Patricia Wouters
Editors

1 Published in *Water International* http://www.tandfonline.com/toc/rwin20/current#.VQB1to7dlDg.

Achieving sustainable and adaptive fresh water management: selective studies of international, European, Dutch and Chinese water law

Guest Editors:
Professor Dr Patricia Wouters and Professor Dr Marleen van Rijswick

Professor Marleen van Rijswick (1962, the Netherlands) is Professor and Chair of European and Dutch Water Law at the Utrecht University School of Law and Head of the Utrecht Centre for Water, Oceans and Sustainability Law (see http://ucwosl.rebo.uu.nl/). Graduating cum laude in 1989 at Utrecht University in 2001 she defended her PhD thesis at Utrecht University ('The Quality of Water – European and Dutch legal instruments to protect water quality' monograph Kluwer 2001). She is Visiting Professor of European Environmental Law at Université de Paris II-Assas Pantheon (2008–current), at the Law School of Wuhan University, China (2015) and the Utrecht research leader of the Ius Commune Research School (Transboundary Environmental Law programme). She is also chair of the multidisciplinary team of six professors who work on water governance (civil engineering, law, public administration and economics). Marleen is invited to speak at many national and international conferences and publishes in books and journals. Her research focus is on legal mono-disciplinary as well as multidisciplinary research in the fields of water and environmental law, adaptation to climate change law, trans-jurisdictional environmental law and more specifically on European, national and transboundary water law.

Professor Patricia Wouters, Xiamen University Law School (Fujian, China); founding Director of China International Water Law (CIWL), Xiamen International Water Law Research Group; founding Director of the Centre for Water Law, Policy and Science, under the auspices of UNESCO, University of Dundee, Scotland; Visiting Professor in the Institute for Resources, Environment and Sustainability (IRES), University of British Columbia, Canada.

Pat Wouter's research focuses on international water law topics (ie transboundary water security, with a link to the higher-level objectives of the UN Charter – promoting regional peace and security and the fundamental freedoms for all through the peaceful management of the world's transboundary waters). Pat serves (and has served) on a number of advisory boards (GWP-TEC, UNU-INWEH, World Economic Forum Global Agenda Council on Water Security, SUEZ FAC) and scientific committees; she has also published extensively and presented her work around the world. She has recently been appointed to the IWA Editorial Group http://www.iwawaterwiki.org/xwiki/bin/view/Articles/WaterWikiEditorialBoard.

INTRODUCTION

PROFESSOR DR MARLEEN VAN RIJSWICK
Director, Utrecht Centre for Water, Oceans and Sustainability Law, Utrecht University

PROFESSOR DR PATRICIA WOUTERS
Founding Director, China International Water Law, Xiamen International Water Law Research Group, Xiamen University

China and Europe face serious water challenges. Europe has developed a comprehensive and adaptive legal framework for addressing water-related management issues. China continues to go forward with its water management schemes. While China and Europe may seem unlikely comparative settings, this special issue, a result of the cooperation between China International Water Law Programme (CIWL) of Xiamen University Law School and the Utrecht University Centre of Water, Oceans and Sustainability Law (UCWOSL), explores possible synergies and lessons learned.

DEVISING AN ANALYTICAL LEGAL APPROACH TO THE COMPARISON OF EUROPEAN, CHINESE AND DUTCH WATER LAW

Legal approaches to water resources management across Europe and China have shared issues to address. In the first instance, at the international level, transboundary water resources must be managed in accordance with the rules of international law that govern this field. Secondly, domestic legislation needs to address main challenges regarding water quality, water scarcity and flood risks in what is frequently a multi-actor, multi-level and multi-sector setting.[1] For those countries that are Members of the European Union their national legislation should not only be in conformity with their duties following from international law, but also has to comply with the complex legislative framework developed by the European Union. At the moment the European Union is taking a new perspective on its regulatory work, leading to fewer rules, more flexibility and more policy freedom for its Member States. This brings the need not only to look at European legislation but to have a closer look at national or domestic legislation as well. This has always been the case for a proper understanding of the way Member States design their governmental institutions, the organization of jurisdiction and access to justice but is now also important (again) for substantive water and environmental law. At the national level water law also has to be in conformity with national constitutional requirements, often (but not in all States) with the rule of law and finally it should be legitimate and effective in the way it addresses and regulates the main water challenges.

A fundamental preliminary question

As water management and governance are fundamental to life so other fundamental questions play an important role when framing research and legislation. The main challenges for water currently are an increased risk of flooding, water pollution, water scarcity and an unsustainable and inequitable use of water resources. Are these important challenges exceptional and should we return to a former state of play or do we have to find a new equilibrium that will provide new governance arrangements, dealing with the institutional and organizational design, the role of public and private actors and cooperation at the international, regional, national as well as local level? Which policy instruments are most appropriate for effective and legitimate water management in the near future and can we learn from innovative regulatory approaches around the world?

A changing role for governments

Because water management is frequently closely related to adjacent sectors such as urban development, agriculture, infrastructure, environmental and climate policies many governmental bodies will be involved. Modern water management can be characterized by its multi-level, multi-actor and multi-sector design and this will become even more important in the future. Of course, it depends on the national context whether water management is a task of a general public authority such as municipalities, provinces or the central government or whether a specific governmental body or authority has been created, for example, a central governmental institution or agency, or regional river basin authorities. Appropriate and legitimate elements of institutional design can be derived from multiple disciplines, all aiming at sustainable water resource management.[2] However, whatever institutional design will apply, in all cases close cooperation is necessary with competent authorities in other policy fields or neighbouring areas or sub river basins, be it within the national territory or abroad. This cooperation might be horizontal or vertical. Institutional design, cooperation between governmental bodies and non-governmental

1 OECD *Water Governance in OECD Countries: a Multi-level Approach* (OECD Publishing Paris 2011).

2 H F M W van Rijswick, I M Tappeiner 'Developing an institutional legal framework for sustainable regional water management in times of climate change' in M Kidd et al (eds) *Water and the Law, Towards Sustainability* (The IUCN Academy of Environmental Law Series, Edward Elgar Publishing Cheltenham,UK, Northampton, MA, USA 2014) pp 274–304.

stakeholders are therefore important topics and will be discussed in this special issue.

An increasing role for civil society

It is generally recognized that civil society also has an important role to play when it comes to legitimate water governance and again, it depends on the national context how the role of civil society in water management is performed. This may range from democratic representation (in a one- or multi-party state) to information-sharing, to active participation in all kind of ways and to the way the responsibilities for water management are divided between public and private parties.[3] It is clear that there is no one size fits all arrangement and therefore good practices may be inspiring for other countries that face the same challenges.

Why sustainable and adaptive water management and law?

The topics examined here relate to the sustainable and adaptive water management regimes aimed at protecting water resources in such a way that mankind and ecosystems have sufficient clean water now and in the future and are protected against floods. It has been recognized that the global water crisis not only needs technical solutions but is also a governance crisis which demands innovative solutions.[4] An integrated approach is necessary to solve the water problems of our time and to make a shift towards sustainable water management in the future on the basis of mutual responsibilities and the pursuit of an equitable distribution of associated risks and natural resources. What role can law play in achieving these goals? Are there legal approaches that can contribute to achieving these policy aims in countries as diverse as those across Europe and for China? Diverse legal issues arise in each context.

SETTING THE SCENE: CONTEMPORARY WATER MANAGEMENT CHALLENGES AT THE INTERNATIONAL, EUROPEAN AND CHINESE LEVEL

Contemporary water management challenges are complex, interconnected and constantly changing. Water scarcity, water pollution, the risk of floods and increased and uncertain risks caused by climate change coupled with financial instability and other externalities all complicate regulatory and policy approaches to water resources management. Recent news, literature and research all lead to the same conclusion: water-related risks affect economic, social, environmental security and well-being. Tackling this 'wicked' problem requires new approaches. New theoretical and practical solutions must be pursued to address regional, national and international legal and policy issues.

3 H F M W van Rijswick 'The Status of Consumers in European Water Regulation' in Ch Verdure (ed) 'Environmental Law and Consumer Protection' (Larcier Brussels 2011) pp 115–48.

4 OECD world water forum M van Rijswick, J Edelenbos, P Hellegers, M Kok and S Kuks 'Ten building blocks for sustainable water governance: an integrated method to assess the governance of water' *Water International* (2014) DOI: 10.1080/02508060.2014.951828.

The level of the European Union

In recent decades the European Union has faced a need for new regulatory approaches due to a changing climate,[5] changing and new kinds of pollution that had to be addressed[6] and a new role of the EU itself.[7] The classical form of regulation of setting goals and standards and describing in a detailed way which policy instruments the Member States had to apply came to be seen as not suitable for managing water in the 21st century. Many Member States now put more emphasis on subsidiarity, leading to increasing policy discretion for Member States over *how* they want to tackle water problems and to enable them to take regional differences into account.[8] This new direction also increases the role of economic instruments.[9] Besides, the design of the legislation has been changed: the use of framework directives has been increased. This new legislation focuses on a planning and programmatic approach thus not only giving Member States more flexibility[10] but also enabling them to insert policy instruments from different policy fields into a programme of measures. This may make water law more effective because, depending on the causes of specific water problems, the most effective policy instrument can be chosen, even if it stems from sectors other than water legislation. So – in theory – a truly integrated approach can be realized.

The approach is based on an adaptive six-year policy cycle starting with 1) an analysis of human and natural impacts on current river basins, followed by 2) setting goals and standards at the EU and the national level and proceeding with 3) the plans and programmes that consist of the policy instruments that will be used to meet the goals and which are accompanied by 4) an obligation to develop a sophisticated monitoring network, finally leading to 5) revised plans and programmes for the next planning period. This approach should be able to improve Europe's river basins and aquatic ecosystems in the period between the year 2000 and 2027. Theoretically, by explicitly focusing on sustainable and equitable water use the European approach and especially the Water Framework Directive should be capable of achieving sustainable and adaptive fresh water management – the central theme of this issue. However, things are never as easy as they look at first sight.

5 A M Keessen, H F M W van Rijswick 'Adaptation to climate change in European Water Law and Policy' *Utrecht Law Review* (November 2012) pp 38–50.

6 A M Keessen, A A Freriks, H F M W van Rijswick 'The clash of the titans: the relation between the European water and medicines legislation' *CML Rev* (5) (2010) pp 1429–454.

7 H F M W van Rijswick,, H K Gilissen and J J H van Kempen 'The need for international and regional transboundary cooperation in European river basin management as a result of new governance approaches in EC water law' ERA Forum, vol 11 no 1 (2010) pp 129–57.

8 A M Keessen, H A C Runhaar, O F Schoumans, H F M W van Rijswick, P P J Driessen, O Oenema and K B Zwart 'The need for flexibility and differentiation in the protection of vulnerable areas in EU environmental law: the implementation of the Nitrates Directive in the Netherlands' *JEEPL* 8.2 (2011) pp 162–85.

9 P E Lindhout 'Cost recovery as a policy instrument to achieve sustainable and equitable water use in Europe and the Netherlands' diss Utrecht University (March 2015).

10 S van Holten, H F M W van Rijswick 'The consequences of a governance approach in European environmental directives for flexibility, effectiveness and legitimacy' in M Peeters, R Uylenburg (eds) *EU environmental legislation: legal perspectives on regulatory strategies* (Edward Elgar Publishing 2014) pp 13–47.

The WFD is considered a milestone in EU water resources management. It is a crucial step that aims to ensure an effective structure for the application of the existing directives that address water management in Europe. It is also interpreted as a coherent legislative framework for the protection and improvement of the aquatic environment within the context of achieving sustainable development in the EU.[11] After more than one decade since the WFD was introduced, water status in Europe has been improved, but unfortunately not as much as was expected.[12]

There are serious pitfalls in the new approach. Member States struggle with the meaning of many concepts of the Water Framework Directive leading to slow and insufficient implementation.[13] Member States also take different approaches when implementing European legislative requirements. The first WFD cycle operates from 2009–2015, and during this cycle it is expected that the number of surface water bodies in 'good' status will increase from 43 per cent to 53 per cent. That is not an impressive result at all. The effectiveness of the first generations of water legislation is clearly recognized but was mainly suitable for addressing classical water problems such as point source pollution. As water problems are changing and new challenges have to be dealt with, the EU chose a new regulatory approach in the hope that this so-called governance approach would better address new environmental problems (floods, diffuse pollution, adaptation to climate change, ecological restoration of river basins, water scarcity, salinization, risk from new or thus far unknown substances and related risks and so on). The new approach is also an answer to demands from the Member States for more subsidiarity and flexibility. However, there is a widely recognized tension between on the one hand flexibility and policy discretion in environmental legislation and, on the other hand, the ability to enforce this new way of legislation.[14] Also the role of the public is shifting from the demand for enforcement by the government and even the demand for justice by the courts towards a stronger role in participation at the beginning of the policy process. In particular, the fact that EU water law is not really adequate to deal with new challenges is making its approach less effective than was hoped for. Issues of water scarcity and the allocation of fresh water to different water users are not sufficiently addressed. The wide policy discretion contained in the directives that are aimed at combatting floods and improving coastal zone management also hampers effective protection. Finally, the current legal framework cannot be seen to be sufficiently comprehensive so as to ensure the right to water throughout the European Union. There are doubts as to whether the EU is taking a leading role in this respect.[15]

An important result of the EU's new regulatory approach to environmental and water issues is that, for a thorough understanding of water resource management in the EU, it is necessary to take a close look at how individual Member States are dealing with new challenges in management given that the EU is no longer prescribing detailed requirements. Thus in this special issue the Netherlands is taken as an example.

China

For China, challenges abound at both the national and international levels. Many of the problems China is facing today are similar to the problems the EU faced at an earlier stage: the water resource management approaches are fragmented and agriculture becomes a major contributor to water pollution. In 2002 China revised its national water law to include a strategy similar to that of the EU of integrated river basin management, making the European pattern even more relevant. From a Chinese point of view this integrated approach is regarded as the strength of the EU. 'In general terms, we all face the same challenges regarding water resources management. Obviously on a different scale and magnitude, with different backgrounds, reference conditions, and culture, that could lead us to different solutions to a similar problem.'[16]

In the domestic arena, national Chinese water policy aims to tackle pollution and has declared environmental protection one of its priorities (11th and 12th year plans).[17] Speeches delivered by President Xi Jinping earlier in 2014 have stressed that China should no longer evaluate the performance of local governments by GDP growth. Instead, it should look at welfare improvement, social development and environmental protection.[18] Premier Li Keqiang has declared 'war on pollution' with measures being implemented and monitored across China.[19] Numerous environmental laws and regulations have been revised and new approaches have been promoted to adapt to the new situation.[20,21] These are healthy signs that China is switching its focus from 'GDP worship' to a more sustainable development mode.[22] Nonetheless serious problems of overuse, pollution and fragmented national water management administrative and legal regimes persist.

11 http://ageconsearch.umn.edu/bitstream/14463/1/wp02-13.pdf.

12 http://ec.europa.eu/environment/water/water-framework/impl_reports.htm.

13 G T Raadgever, C Dieperink, P P J Driessen, A A H Smit, H F M W van Rijswick 'Uncertainty management strategies: lessons from the regional implementation of the Water Framework Directive in the Netherlands' *Environmental Science & Policy* vol 14 (January 2011) pp 64–75; A Keessen, J van Kempen, H F M W van Rijswick, J Robbe and C Backes 'European river basin districts: are they swimming in the same implementation pool?' *JEL* vol 22, 2 (2010) pp 197–222.

14 O Green, A Garmestani, H F M W van Rijswick and A Keessen ' EU water governance: striking the right balance between regulatory flexibility and enforcement?' *Ecology and Society* (2013) 18(2) 10.

15 H F M W van Rijswick 'Searching for the right to water in the legislation and case law of the European Union' in H Smets (ed) *The right to safe drinking water and sanitation in Europe/ Le droit à l' eau potable et à assainissement, sa mise en oeuvre en Europe* (Académie de l'eau, Editions Johanet Paris 2012) pp 87–113.

16 http://cewp.org/wp-content/uploads/2014/03/RBMP-Completion-Report-MR-018_EN.pdf

17 http://www.kpmg.com/cn/en/issuesandinsights/articlespublications/publicationseries/5-years-plan/pages/default.aspx.

18 K Rapoza 'China's Pres Xi: GDP no longer the measure of success' (2013 July 1) retrieved 11 5 2014 from Forbes: http://www.forbes.com/sites/kenrapoza/2013/07/01/chinas-pres-xi-gdpno-longer-the-measure-of-success/.

19 http://www.reuters.com/article/2014/03/05/us-china-parliament-pollution-idUSBREA2405W20140305.

20 L Dai 'Recovering the costs of water services in the People's Republic of China: lessons from Article 9 of the European Union Water Framework Directive' *Utrecht Law Review* (2012) 8(3) pp 102–118.

21 L Dai 'Exploring China's approach to implementing "eco-compensation" schemes: the Lake Tai watershed as case study considered through a legal lens' *Water International* (2014) 39(5) pp 755–73.

22 L Dai 'A new perspective on water governance in China: Captain of the River' *Water International* (2015) 40:1, 87–99 DOI: 10.1080/02508060.2014.986702.

At the international level, one of the key legal issues for China relates to the scope of coverage. Many of the transboundary waters China shares with its 18 riparian neighbours (states and special administrative regions) are not covered by legal frameworks.[23] The majority of China's transboundary water agreements are with northern neighbours – Russia, Mongolia, Korea and Kazakhstan.[24] The southern reaches have a handful of data-sharing agreements. Thus, basins such as the Yarlung Tsangbo/Brahmaputra, Ganges and Mekong, all originating in China, have no comprehensive legal regimes.[25,26] China's approach to international law, based on the Five Principles of Peaceful Coexistence, means that attempts to resolve any transboundary issues will involve negotiations and consultations.[27] None of China's treaty practices in this field includes third-party dispute settlement mechanisms. We can conclude that China has enormous scope for improved water-related legal regimes at the national and international levels.

However, there is still a long way to go before China implements its national principles of the socialist rule of law: 'There must be laws to follow, the existing laws must be observed and strictly enforced, and the law-breakers must be prosecuted', and the international five principles of 'mutual respect for each other's territorial integrity and sovereignty, mutual non-aggression, mutual non-interference in each other's internal affairs, equality and cooperation for mutual benefit, and peaceful co-existence' must be followed.

OVERVIEW OF THE RESEARCH CONTRIBUTIONS

The theoretical perspective

In the opening contribution to this special issue Bald de Vries is addressing a fundamental question in his paper '*Sustainable uncertainty: normalising the ecological state of exception*'. His statement is that modern economic rationality is an instrumental rationality geared towards the idea of 'progress'– the continuous need for wealth production (in quantitative terms) – and that this rationality underscores our political and legal order (amongst others). Law and politics can be said to serve the interests of 'progress'. But, as de Vries argues, we have become increasingly aware of the side effects this rationality brings about. These side effects can be conceptualized in terms of 'modern risks' and in this view they are manufactured uncertainties. De Vries applies his reasoning to global warming as a modern risk stating that it becomes more and more plausible that modern economic rationality and ways of wealth production are contributing factors to global warming and hence, climate change, with an impact on water issues in the broadest sense.

Climate change poses a threat to the natural environment and carries the potential of catastrophic social consequences. To deal with it implies the management of its ecological and social side effects. The question according to de Vries is how these side effects of economic rationality are countered by another rationality, which one could characterise as 'security' or 'safety' rationality. His argument is that 'with this approach we are considered to be in a 'state of exception' – a situation out of the ordinary that demands attention with an aim to return to, or re-establish, the ordinary'. The state of exception, as a theoretical concept, suggests an increase of power structures in times of crisis. What is new is that global warming and climate change can be considered as 'an *ecological* state of exception leading to a *new* normality that demands different ways as to how we want to live together in our social and natural environment'. In his article he seeks to explore the idea of an ecological state of exception as the 'normal' state of affairs, demanding a new rationality and, consequently, asks to what extent a reconsideration of self-evident assumptions that underscore modern contemporary life – economic, political and social – is necessary and desired.

The institutional perspective

A second important issue concerns the institutional design of water management. Who is involved, who should be involved, how can we increase the legitimacy of policy- and decision-making? Which institutional arrangements may inspire us when designing institutional arrangements for transboundary and national water management? In this part we present articles dealing with institutional issues at the international and national levels.

In their contribution '*Implementing transboundary water cooperation through effective institutional mechanisms – dimensions of selected African joint water institutions*' Earle and Wouters examine regional state practice at the international level to determine if there are typologies of best practice. Selecting representative case studies from across Africa, the authors devise and deploy a three-pronged analytical framework comprised of: (i) *Legal and institutional foundations*; (ii) *regional context* and (iii) *organisational sustainability* in order to examine issues contributing to the robust design of river basin organization. The authors suggest that programmes designed to address these fundamental issues in a holistic manner go a long way to devising effective institutional mechanisms capable of tackling transboundary water governance challenges.

The next article by Otto Spijkers, also concerned with international water law, lays emphasis on public participation as an institutional element of utmost importance for sustainable water management. He also discusses the need for international law to contribute to promoting sustainable development and an ecosystem approach. His article analyzes how the Sustainable Development Goals (SDGs) process might give a boost to the evolution of international water law towards a more sustainable development-friendly legal framework. He introduces and discusses three recommendations, derived from the SDG process: to call upon states '1) unambiguously to

23 P Wouters, H Chen 'China's "Soft-Path" to transboundary water cooperation examined in the light of two UN global water conventions – exploring the "Chinese Way" ' (2013) 22 *Journal of Water Law* 6 pp 229–47.
24 S Vinogradov, P Wouters 'Sino-Russian transboundary waters: a legal perspective on cooperation' Institute for Security and Development Policy (2013) see further: http://chinawaterrisk.org/resources/analysis-reviews/keeping-peace-chinas-upstream-dilema/#sthash.rcIFGyht.dpuf.
25 Yu Su 'Contemporary legal analysis of China's transboundary water regimes: international law in practice' *Water International* (2014) 39:5 pp 705–24 DOI: 10.1080/02508060.2014.950856.
26 Yang Liu 'Transboundary water cooperation on the Yarlung Zangbo/Brahmaputra River – a legal approach to contemporary issues' *Water International* (2015) 40.2 pp 354–74.
27 Wouters, Chen (n 23).

approach international water law as a legal framework to promote the sustainable development of water resources, and to interpret the bedrock principles of international water law in that context; 2) to encourage the further development of the ecosystems approach to international water law; and 3) to use the legal framework of international water law to facilitate public participation at all levels of water governance'.

David Devlaeminck's article continues the discourse on international water law. In '*Transboundary water cooperation and the responsibility to protect*' he examines the possible reach of the international legal norm 'Responsibility to Protect' in the water resources domain. Under the so-called R2P, the international community may be justified in intervening in national affairs where governments fail to meet their duty to protect their own citizens. Could such a norm be invoked to justify interventions related to grave breaches of the human right to water? Outlining the key provisions of R2P, with an overview of possible connectivity with the international human right to water obligations, the author concludes that 'extreme violations of the human right to water can act as a triggering mechanism for humanitarian intervention within R2P'.

Turning to the national water law arena, Remco Nehmelman's '*Institutional and governance aspects of water management: subsidiarity and decentralization – the secret of the Dutch approach to water management*' analyzes the institutional design of water governance in the Netherlands. In a recent OECD report 'Water Governance in the Netherlands: Fit for the Future',[28] Dutch water governance was referred to as an exemplar, and while improvements are always possible, the Dutch process is cited as a potential inspiration for other national governments. The particular institutional design, combined with a river basin/catchment approach and a strong focus on decentralization and public participation together with a sustainable financing system are the elements that make water governance in the Netherlands so effective.

The instrumental/regulatory perspective

The third issue in water law management concerns the implementation of policy-making and goal-setting (monitoring compliance targets). Four important challenges in the field of water management are being addressed: 1) water scarcity, 2) water pollution and especially diffuse pollution from the agricultural sector, 3) adaptation to climate change and the protection against floods and finally 4) the impact of urban developments on water and ecosystems.

All contributions focus on regulatory approaches ranging from 1) allocation mechanisms, 2) instruments to tackle pollution, 3) measures to promote and develop adaptation to climate change with a focus on flood risk management and the public-private divide of responsibilities at EU and national (Dutch) level; finally 4) the design of legislation that may hamper or benefit sustainable development in urban areas.

The following questions are addressed: What kind of regulations do we need to address the issue of equitable water use? How can the important nexus between water management and agriculture and food safety be addressed? How can flood risk management be lined up with adaptation to climate change and disaster risk reduction? How can we design the legislation that deals with urban development, with its important impact on water management?

In her article '*Mechanisms for water allocation and water rights in Europe and the Netherlands – lessons from a general public law perspective*' Marleen van Rijswick adopts a new approach to look at the allocation mechanisms for use of water resources and abstraction rights. Although the general discussion about the allocation of water use rights focuses on the scarcity of water itself, there is also a debate regarding 'limited public authorizations' in public law generally and the mechanisms that are used to create a transparent allocation regime based on equality.[29] Her article pin points lessons that can be learnt from discussions in public law to improve the allocation and regulation of water use rights to achieve sustainable, balanced and equitable water use. There is an analysis of international, European and national allocation systems because they frequently occur together at the same transboundary river basin, with the Netherlands taken as a national example. It is argued that European and Dutch allocation procedures need to be further developed respecting both the special status of water for living creatures and ecosystems, and in light of the procedures and principles used in other allocation mechanisms, in order to guarantee a sustainable, balanced and equitable water use.

Liping Dai describes both the Chinese and the European approach to the problem of pollution from agricultural sources in her contribution '*Regulating water pollution in China and the European Union with a focus on agricultural pollution*'. Regulatory instruments are commonly used in both China and the EU to establish their water quality objectives and design implementation strategies, and the author finds that the interaction (or not) of regulatory measures regarding agricultural water pollution control presents a mixed picture. The article discusses the similarities and differences between the allocation mechanisms in China and the EU and observes how the European experience can benefit China.

Herman Gilissen illustrates in his contribution '*The integration of the adaptation approach into EU and Dutch legislation on flood risk management*' the new regulatory EU approach in the field of adaptation to climate change. Instead of describing in a specific 'adaptation directive' what Member States should do to tackle the effects of climate change a choice was made for a combination of policy documents and mainstreaming adaptation in the existing legislative framework. The focus is on flood risk management. Gilissen assesses whether the adaptation approach has been appropriately integrated within the legal systems of flood risk management at the EU and

28 OECD Paris (2014).

29 P Adriaanse, F van Ommeren and W den Ouden (eds) *Allocating Limited Public Authorizations and Claims, General legal rules and principles for the allocation of limited public rights in the EU and its Member States* (Intersentia Mortsel 2015).

Dutch national levels.[30] His conclusion is that this cannot be understood correctly without insight into developments concerning this approach in a broader context. To this extent, the coming-of-age of the adaptation approach within the international climate debate as an ever more definitive policy to combat the adverse effects of climate change is addressed as well as the major policy developments giving further substance to the adaptation approach within the EU and the Netherlands.

Anoeska Buijze in her article on '*Promoting sustainable water management in area development: a regulatory approach*' discusses the important role of land use for sustainable water management. She finds that sustainable urban and rural development is a necessity in a world where actors compete over scarce resources, potentially to the detriment of natural resources and the world's capacity to meet the needs of future generations as well as our own. Water management is an integral part of this. Buijze's contribution examines the interplay between water law and governance in three cases in the Netherlands to determine what sort of written law can provide normative guidance during governance processes, while at the same time leaving ample room for innovation and allowing local actors to determine and implement the solution best suited to local circumstances. She concludes that generic, abstract rules do not function well under all circumstances, whereas instrumental rules are not necessarily problematic and sometimes essential. She adds to this conclusion that in particular, rules are needed to allocate (financial) responsibility and that the legal system should develop more refined ways to deal with uncertainty.

SUMMARY OBSERVATIONS AND CONCLUDING REMARKS

The articles presented here offer a wide range of insights on how legal and governance regimes might contribute to achieving sustainable and adaptive fresh water management across Europe and China. While 'no one size fits all', lessons can be learned from the research included in this collection. The following is a summary of some of the key observations from the research.

At the national level

a. Depending on the state of development of the current legal framework for water resource management in a state or country we see both different and appropriate approaches to deal with the main challenges that societies face today. This is illustrated by the kind of problems that have to be addressed and the national context in which the legislation has to work. Problems of a 'classical' nature can be addressed by classical forms of regulation. Water pollution from point sources can best be addressed by clear standards, a licensing system with emission limit values and of course accompanied by monitoring and enforcement mechanisms. However, more complicated problems have been the reason for the development of new regulatory strategies and instruments.
b. In cases where there are multiple sources of pollution or diffuse pollution more integrated policies with other policy domains become necessary. A striking example is pollution caused by agriculture. Developing legislation that recognizes and addresses this correlation between policy fields becomes necessary to effectively address the problem at source. Coordination of policies and policy instruments is required as are mechanisms that stimulate or even demand cooperation between authorities and the stakeholders involved.
c. Climate change poses new challenges for states and societies and exacerbates problems such as water scarcity, availability of water for all and flood risk. New legal mechanisms have to be developed and should aim at equitable and sustainable water use for current and future generations. The allocation of water use rights has hardly been addressed in European law and even at the Dutch national level this has not really been developed. There are as yet no mechanisms that take changing circumstances such as climate change or new technical and/or more sustainable solutions into account. The strong emphasis on protecting existing rights may impede a sustainable solution for the problem of water scarcity.
d. New 'wicked problems' in the field of water management as a result of climate change that are characterized by uncertainties also require new and different ways of designing legislation so as to enable adaptive approaches and create learning capacities. However, the flexibility that goes with adaptive management may jeopardize important issues such as legal certainty and the enforceability of legislation.
e. New institutional arrangements based on multi-level governance and cooperation of the governmental authorities involved are necessary, but may lead to ill-defined responsibilities and in the end ineffective water governance and management.
f. Finally the design of the legislation and the norms may stimulate sustainable development, or on the other hand too wide a range of choices may hamper sustainability through the lack of clearly defined responsibilities. Urban development is one of the main issues of our time since most of the world's population lives in urban areas which will only increase in number and size. Sustainable development of urban regions is therefore an excellent way forward to put legislative design to the test.

At the international level

g. European transboundary waters are regulated through a series of international agreements at the multilateral, regional and basins levels. These legal regimes have to be combined with national water policies and domestic legislation. China, in comparison, has a nascent transboundary water legal regime, comprised of only a handful of treaties. Most of these agreements are with northern/western riparian neighbours, with the most evolved cooperation being with Russia and Kazakhstan. China is a party to many multilateral environmental agreements, which might contribute to enhancing transboundary water management.
h. Regional context and approaches to international law influence state practice in the field of transboundary

30 C Termeer, A Dewulf, H F M W van Rijswick, A van Buuren, D Huitema, S Meijerink, T Rayner and M Wiering 'The regional governance of climate adaptation: a framework for developing legitimate, effective and resilient governance arrangements *Climate Law* 1 (2011) 1–21, DOI 10.3233/CL-2011-032, IOS Press.

waters. With distinctive historical, social and cultural underpinnings in water resources management, Europe and China implement different legal regimes.

i. Rules of customary and treaty law can have a part to play in the achievement of sustainable and adaptive fresh water management. The two universal water-related instruments concluded under the auspices of the United Nations – the 1997 UN Watercourses Convention (UNWC)[31] and the 1992 UNECE Transboundary Waters Convention (UNECE TWC)[32] – are framework instruments available for use as models of best practice by all riparian nations in devising their particular transboundary water agreements. Both UN Water Conventions offer examples of how to draft provisions that deal with the key legal issues – definitions of scope, substantive rules, procedural rules, institutional mechanisms and dispute settlement. Other rules of international law – human rights, responsibility to protect, environmental law, investment and trade – also contribute to transboundary water legal regimes and enhance the potential for cooperation.

31 UN Convention on the Law of the Non-navigational Uses of International Watercourses 1997 (entered into force 17 August 2014) http://untreaty.un.org/ilc/texts/instruments/english/conventions/8_3_1997.pdf.

32 UN Economic Commission for Europe (UNECE) Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Helsinki (Helsinki, 17 March 1992) 31 I.L.M. 1312 (entered into force 6 October 1996) http://www.unece.org/env/water/pdf/watercon.pdf.

SUSTAINABLE UNCERTAINTY: NORMALISING THE ECOLOGICAL STATE OF EXCEPTION

DR BALD DE VRIES
*Utrecht Centre for Water, Oceans and Sustainability Law, Utrecht University**

> [W]hat characterised their counterrevolutionary political philosophy was the recognition that their times needed a decision.[1]

Modern economic rationality is an instrumental rationality geared towards the idea of 'progress': the continuous need for wealth production (in quantitative terms). This rationality underscores our political and legal order (amongst others). Law and politics can be said to serve the interests of progress. However, we have become increasingly aware of the side effects this rationality brings about. These side effects can be conceptualised, following the German social theorist Ulrich Beck, in terms of 'modern risks'; they are manufactured uncertainties.

Global warming can be considered a modern risk. It is becoming more and more plausible that modern economic rationality and ways of wealth production are contributing factors to global warming and, hence, climate change. It has an impact on water issues in the broadest sense. Climate change poses a threat to the natural environment and carries the potential of catastrophic social consequences. To deal with it implies managing its ecological and social side effects. The question is how. The side effects of economic rationality are countered by another rationality, which one could characterise as 'security' or 'safety' rationality. With this approach we are considered to be in a 'state of exception' – a situation out of the ordinary that demands attention with an aim to return to, or re-establish, the ordinary. The state of exception, as a theoretical concept, suggests an increase of power structures in times of crisis. What is new is that global warming and climate change can be considered as an *ecological* state of exception leading to a *new* normality that demands different ways as to how we want to live together in our social and natural environment.

In this article I seek to explore the idea of an ecological state of exception as the 'normal' state of affairs, demanding a new rationality and, consequently, ask to what extent a reconsideration of self-evident assumptions that underscore modern contemporary life, economic, political and social is necessary and desired.

INTRODUCTION

Modern economic rationality is an instrumental rationality. It is geared towards the idea of progress, understood as the continuous need for wealth production (in quantitative terms). This rationality underscores amongst others our political and legal order. Indeed, law and politics can be said to serve the interests of 'progress'.

However, we become increasingly aware of the side effects this rationality brings about. The German social theorist Ulrich Beck has conceptualised these side effects in terms of 'modern risks'.[2] These risks can be defined as uncertain future events with catastrophic potentiality; they are systematically produced and self-inflicted and have a global reach. Risks are 'manufactured uncertainties' and constitute one of the fundamental problems of contemporary global society, depicted by Beck as a world risk society. Increasingly, these risks do materialise in catastrophes with huge ecological, physical and social consequences.[3]

Global warming can be considered a modern risk. It is now agreed upon that modern economic rationality and ways of wealth production are contributing factors to global warming and, hence, climate change. The fifth report of the IPCC is conclusive, at least in this regard:

> Human influence has been detected in warming of the atmosphere and the ocean, in changes in the global water cycle, in reductions in snow and ice, in global mean sea level rise, and in changes in some climate extremes. This evidence for human influence has grown since AR4 [Assessment Report 4, 2007]. It is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century.
>
> . . .
>
> Continued emissions of greenhouse gases will cause further warming and changes in all components of the climate system. Limiting climate change will require substantial and sustained reductions of greenhouse gas emissions.[4]

The current economic rationality and ways of wealth production pose a threat to the natural environment and carries the potential of catastrophic *social* consequences. Global warming and (subsequent) climate change is perhaps the all-embracing manifestation of this threat. It impacts, considering the context of this special issue, on water management in the broadest sense, expanding to securing fresh water resources, dealing with rising sea levels and floods on the one hand and the exploitation of

* Assistant Professor, Institute of Constitutional, Administrative Law and Legal Theory, School of Law, Utrecht University.

1 C Schmitt *Political Theology* (The University of Chicago Press Chicago 2005).

2 U Beck *Risk Society: Towards a New Modernity* (M Ritter (trans) Sage London 1992).

3 One could also speak of constructed uncertainties, as De Jong did. In this sense, 'risks are constructions in which we express the level of certainty we have about the likelihood that our current behavior will have negative effects in the future'; see De Jong 'Regulating uncertain risks in an innovative society' in E Hilgendorf, J P Günther (eds) *Robotik und Recht Band 1* (Nomos Verlag Baden Baden 2013) 163,183.

4 IPCC *Climate Change 2013: The Physical Science Basis* (IPCC 2013) 15, 17.

oceans and oceans beds, rivers and lakes, transportation and the disclosure of the Arctic and Antarctic on the other. To deal with this threat implies to manage these ecological and social side effects. The question is how we can formulate, distribute and enforce responsibilities to deal with climate change and its side effects?

The side effects of economic rationality are currently countered by another rationality, or so it seems. This rationality one could characterise as a 'security' or 'safety' rationality. The application of the precautionary principle or the demand of 'sustainable' development (when engaging in economic activity) suggests such a rationality. However, this approach falls far short: the focus seems solely upon the management of risks and their consequences rather than addressing the causes of these risks: the manner in which we seek wealth.

In this article I attempt to argue why the approach falls short. The current approach suggests that we are in an 'ecological state of exception' – a situation out of the ordinary that demands attention with an aim to return to, re-establish or, even better, to preserve the ordinary, dominated by economic rationality aimed at 'progress'. The argument, however, is that this ecological state of exception must be considered to be the 'normal' state of affairs. This realisation subsequently forces us to consider a new rationality and a subsequent reconsideration of self-evident assumptions that underscore modern contemporary life. Such rationality must break through the paralysing effects manufactured uncertainties create on the one hand (akin to the Hobbesian state of nature) and complete sustainability (or security) on the other (akin to the Hobbesian state of absolute rule) in order to deal with risk *and* its causes. It suggests a reconsideration of the *Unterbau* of modernity: the institutions and structures that shape modern contemporary life, including the state, democracy, the rule of law, property relations, notions of responsibility, obligations and liabilities etc.

Following this introduction, the next part of the article sketches the contours of the world risk society, as developed by Ulrich Beck, drawing upon previous work. It considers the relationship between wealth and risks, the conceptual characteristics of these risks and how climate change can be perceived as a modern risk. The third part of the article problematises the dominant rationality aimed at 'progress', seeking to explore why it prevents structural solutions to the problem of the risk society and, hence, climate change. In doing so, it draws on the theoretical notions of the 'the state of exception', 'hegemony', 'supremacy' and 'sovereignty', as developed by Carl Schmitt, Giorgio Agamben and Antonio Gramsci, amongst others. In the ecological state of exception, obligations of sustainability and approaches such as the precautionary approach must be considered as no more than band aids to minimise or at least manage the side effects of the dominant, hegemonic, economic rationality. These band aids are of a temporary nature, as a state of exception would suggest them to be, allowing the continuing enforcement of the ecological state of exception.

This state of exception fails, however, to address the (legal) *Unterbau* of contemporary modern society, as this would mean a crisis in and of the economic and political system. It is exactly this crisis, as will be explained in final part of this article, that is needed. One way to force such a crisis (at least intellectually) is to adopt a new methodology of thought based on the notion of reflexivity with an aim to come to a new instrumental rationality. In the end, this contribution strives to sketch the beginnings of a normative theoretical framework (to be worked out in much more detail later) within which issues on the broad theme of water management can be addressed in subsequent research projects.

RISK SOCIETY

In his modern classic *World Risk Society*,[5] Beck depicts contemporary society as transforming from a state-based industrial society towards a world risk society. In the risk society, we are confronted with the side effects of the successes of industrial society. Beck has conceptualised these side effects in terms of 'modern risks'. For the sake of theoretical clarity, he makes a distinction in the process of modernisation between two phases: first and second modernity. Each phase is marked by a fundamental problem.[6]

The social theory of first and second modernity: two fundamental problems

The state-based industrial society in first modernity can be characterised by the processes of industrialisation and democratisation. These processes dealt with the problem of scarcity, wealth and its distribution, power and tradition. Indeed, Beck argues[7] that industrial society had to deal with the question 'how socially produced wealth could be distributed in a socially and also legitimate way'. Technology and economy (capitalist) created answers to the problem of scarcity and wealth production. Political developments (along liberal lines) created solutions to the fair distribution of wealth and the control of power vis-à-vis the individual citizen, shaped by parliamentary democracy and the rule of law, at least in what is called the West. These developments did not take place in a 'territorial void'.[8] First modernity is firmly embedded in the framework of the sovereign nation state. Rawls's *A Theory of Justice*[9] might be the perfect legal philosophical description of this scheme.

In second modernity the processes that shaped first modernity have radicalised into processes of 'forced' individualisation, illustrating the disembeddedness of the individual in an uncertain and insecure world and multi-dimensional globalisation (of economy and technology in particular) eroding the concept of the political.[10] The latter refers to the observation that societal developments are now global in nature and to the consequent erosion of the idea of sovereign nation states. The world order is trans-

5 Beck (n 2).

6 It is not the aim to reduce society's identity to that of risks alone. Rather, it is illustrative of one of the problems that become visible in Beck's wider theoretical framework of 'reflexive modernization'(which will be addressed later); see also L Francot, B de Vries 'No way out: contracting about modern risks' (2009) 95(2) *Archiv fur Rechts- und Sozoalphilosophie* 199–215 at 201.

7 Beck (n 2) 19.

8 L Francot, U de Vries 'Normativity in the second modernity' (2008) 39(4) *Rechtstheorie* 477–94 at 485.

9 J Rawls *A Theory of Justice* (Oxford University Press Oxford 1972).

10 U Beck, E Grande *Cosmopolitan Europe* (C Cronin (trans) Polity Press Cambridge 2004) 28.

forming into a non-exclusive network of interdependent entities: states, IGOs, NGOs, movements, corporates etc.

More to the point, however, second modernity makes us aware of the side effects produced in the slipstream of first modernity; it causes Beck to speak of a 'world risk society'.[11] The world risk society, then, exists in the awareness of and confrontation with the side effects of these first modernity processes and their successes: wealth, freedom, democracy etc. In the world risk society we live with 'manufactured uncertainty',[12] through organised non-responsibility in the production of risks. The world risk society confronts us with an added distribution problem:

> How can the risks and hazards systematically produced as part of modernization be prevented, minimized, dramatized, or channelled? When they do finally see the light of day in the shape of 'latent side effects', how can they be limited and distributed away so that they neither hamper the modernization process nor exceed the limits of that which is 'tolerable' – ecologically, medically, psychologically and socially?[13]

Risks are the new distribution problem

Risks, in general, can be defined as uncertain future events with a catastrophic or at least unwanted potentiality if and when they materialise. Modern risks, in Beck's analysis, are the same but they differ from, say, traditional risks: they are *manufactured* uncertainties; the production of wealth implies the production of risks. At least five characteristics can be attributed to them.[14]

Since modern risks are to be understood as integral side effects of first modernity, in which the process of industrialisation played a key role, the first aspect is that they are self-produced in a structural way and, consequently, self-inflicted.[15] The second aspect is the global character of modern risks.[16] Although modern risks are produced locally (worldwide), their consequences are both local *and* global. Illustrative, here, is global warming and rising sea levels. The third aspect, one that follows from the global reach of modern risks, refers to the existence of social risk positions.[17] People are exposed to risks in many different ways. Some are able to limit the possible manifestation of risks or to limit the consequences of such manifestation. A large group, however, is at the mercy of the manifestation and consequences of modern risks.[18] These social risk positions – contrary to class positions – are not limited to the borders of the nation state but exist in, between *and* across states.[19] The fourth aspect is the 'invisibility' of risks. What is meant here is that risks cannot be perceived as sensory. Modern risks are constructions of scientific knowledge and exist in mathematical or chemical formulas. It also means that individuals or groups of individuals in scientific and political key positions can determine when something is a risk.

The ability to formulate risks does not mean that one is able to predict beforehand and precisely when and how risks manifest themselves in the shape of disasters and catastrophes. Such knowledge exists in probability and educated guesses – in other words, such knowledge exists in terms of uncertainty. Risks bind the future and the present, as they force us to look forward, making us conscious of a future, which may be unfavourable (or not) but without us being able to determine cause and effect in a direct way, linking side effects to actions and actors. What we do know is that if we do not act, catastrophic events will happen. We also know, more or less, which actions are required.

The last aspect Beck ascribes to modern risks follows from this and concerns the problem of responsibility and causality. A central notion of responsibility (not liability, which is a retrospective attribution of responsibility) is the possibility to attribute an effect (or consequence) to an actor, whose actions caused the effect. In other words, the attribution of responsibility is conditioned by this notion of (linear) causality.[20]

As it becomes increasingly difficult to detect causal connections in the production of risks (and in their consequences), it also becomes more difficult to determine who is, can or should be held responsible and for what, and *how*, ie by which enforcement mechanism should responsibilities be enforced. Given the global nature of the problem on the one hand, and the fact that legal enforcement is nation state-based on the other hand, this is a major issue.

Beck concludes:

> Corresponding to the highly differentiated division of labor, there is a general complicity, and the complicity is matched by a general lack of responsibility. Everyone is cause *and* effect, and thus *non*-cause. . . . This reveals in exemplary fashion the ethical significance of the system concept: *one can do something and continue doing it without having to take personal responsibility for it.*[21]

In the end, modern risks, which are by their nature systematically man-made and self-inflicted, are global in their reach and sensorily invisible, leading to unequal social risk positions and result both in and from organised irresponsibility owing to a weak causality. One final characteristic of risks is the magnitude of their manifestations in the shape of disasters, catastrophes and calamities.

Global warming and risk: ecological and social consequences

Global warming and climate change can be considered a modern risk. To be more precise, global warming and subsequent climate change constitute the manifestation of

11 U Beck *Cosmopolitan Vision* (C Cronin (trans) Polity Press Cambridge 2006) 22, 34. See also Beck (n 2) 2.

12 Beck (n 2) 5.

13 ibid 19.

14 Derived from L Francot, U de Vries 'Justice unbound: responsibility in the second modernity' in U de Vries, L Francot *Law's Environment: Critical Legal Perspectives* (The Eleven International Publishing The Hague 2011) 201–220 at 206–208.

15 Beck (n 2) 21.

16 ibid 21–22.

17 ibid 35–36.

18 ibid. The phrase 'consequences of risks' is not, in the view of the author, elegantly put but serves a purpose: Beck does not distinguish between risks and the manifestation of risks in the shape of disasters. These disasters (and *their* consequences) are what is referred to here.

19 ibid. Beck considers risks to have an equalising effect, whereas it may be argued that, at least for the time being, risks have a discriminatory effect; see also Francot and de Vries (n 14) 209–10.

20 Much of the civil liability regimes in the world are based on this notion of causality.

21 Beck (n 2) 33 (emphasis in original).

the side effects of the process of industrialisation and wealth production based on a particular economic rationality. Scientific evidence seems to be overwhelmingly pointing to this fact. As the latest report of the IPCC states, to repeat:

> It is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century.
> . . .
> Continued emissions of greenhouse gases will cause further warming and changes in all components of the climate system. Limiting climate change will require substantial and sustained reductions of greenhouse gas emissions.[22]

Global warming and climate change – as actual processes – present an uncertain future of massive ecological risks and in their wake huge social consequences. Within the context of this special issue, they impact on water management in the broadest sense pertaining to, amongst others, rising sea levels, floods, fresh water resources, fisheries, pollution, exploitation and transportation. Fukushima is a vivid illustration of the ecological and social consequences. It might have well been the case that building a nuclear plant near the shore was safe at the time it was built; however, climate has changed to the extent that the natural phenomenon that caused the disaster has changed in intensity.

Climate change constitutes self-manufactured (directly or indirectly) uncertainty in a structural and self-inflicting way, globally and locally produced. Climate change as such is (as yet) sensorily invisible, calculated and shaped within mathematical and chemical formulas. It leads to disparate socials risk positions and result both in and from organised irresponsibility owing to the unwillingness to accept the link between cause and effect. Resulting catastrophes will lead to massive social and ecological damage.

Indeed, as Beck puts it, referring to Giddens, 'there are no excuses left'.[23] Giddens succinctly debunks criticism against the human causes of climate change[24] and pleads too for a call to action, breaking through to what he calls the 'Giddens paradox':

> Since the dangers posed by global warming aren't tangible, immediate or visible in the course of day-to-day life, however awesome they appear, many will sit on their hands and do nothing of a concrete nature about them. Yet waiting until they become visible and acute before being stirred to serious action will, by definition, be too late.[25]

In the following paragraphs I seek to tease out an argument with an aim to break through the current frame of thought about how to deal with the ecological and social consequences of climate change, from a political-legal perspective. In doing so, I integrate, methodologically, social and political theory. My aim is not to analyse these theories as such, but to use them for a particular purpose: to think differently – reflexively – about the (legal) *Unterbau* of modernity.

STATE, SOVEREIGNTY AND EXCEPTION

Our world view is determined by the political concept of the state. We like to consider the world order as organised in terms of nation states on the national-international axis. The sociology of legal concepts considers (the liberal, constitutional, democratic but at least the sovereign) state as 'self-evident in the conscious of our age similar to the monarchy of the seventeenth Century'.[26] It is the image of the world having the same structure that is immediately understood as appropriate as a form of its political organisation. Sovereignty is the key word with which the state is identified in this structure. The essence of the state, thus, lies in the idea of sovereignty and for Schmitt sovereignty exists in the power to decide. Indeed, Schmitt famously defined the sovereign as 'he who decides on the exception'.[27]

State of exception and the role of the state

Sovereignty then, implies the power to deal with internal and external threats through law or, in deciding upon a state of exception, through decision, suspending law. These threats, in Schmitt's theory, pertain to the friend–enemy distinction, which shapes the political landscape and lies outside the scope of the current thesis. It is not my aim to formulate a critique on Schmitt's thesis. Rather, the point is that in the context of climate change it appears that the exception has become the rule. In Schmitt's analysis the state of exception is called upon when the preservation of the state (in terms of power) demands this. It implies the suspension of law for the sake of survival and, implicitly, law itself. In this sense, the state of exception is presented as exceptional, provisional and temporary. Its aim, although paradoxical, lies in restoration: restoring or returning to the normal state of affairs (in which law operates as the instructive point of reference guiding our actions). It is paradoxical, because it cannot be made subject to law:

> The exception, which is not codified in the existing legal order, can at best be characterised as a case of extreme peril, a danger to the existence of the state, or the like. But it cannot be circumscribed factually and made to conform to a preformed law.[28]

The state assumes both responsibility and control in Schmitt's view, and does so in an authoritative and authoritarian way. It befits the *raison d'être* of the state, which can be traced in providing certainty and security for its citizens. The sovereign (however it is constituted) can decide upon a state of exception (a state out of the ordinary) with an aim to restore the ordinary and secure certainty. Hence, we call upon the state for solutions when our lives and property, our way of living, is threatened. Indeed, as Beck explains from a sociological perspective, we are limited to 'methodological nationalism': looking at problems only from within the paradigm of the state.[29]

This notion of the state is outdated and has been overtaken by events. On the one hand, the state has evolved, at least

22 IPCC (n 4) 15, 17.
23 U Beck 'Climate for change, or how to create a green modernity' (2010) 27(2–3) *Theory, Culture & Society* 254–66 at 255.
24 A Giddens *The Politics of Climate Change* (Polity Press Cambridge 2009) 17 ff.
25 ibid 2.
26 C Schmitt *Political Theology* (The University of Chicago Press Chicago 2005) 44.
27 ibid 5.
28 ibid 6.
29 Beck (n 11) 24.

in the Western world, into a *liberal* state, with its emphasis on the rule of law (*Rechtsstaat*), democracy and individual autonomy, steering, in a way, the processes of industrialisation, democratisation and individualisation. This has brought wealth and freedom. In Schmitt's view, the political-theoretical implication of this evolution is the demise of the sovereign.[30] Indeed, he rejects the liberal state as it makes 'the state a compromise and its institutions a ventilating system. The state and its institutions are confined, in their function, to no more than 'securing the conditions for liberty and eliminating infringements of freedom'. The main driving force is competitive economy (market capitalism).

Schmitt concludes, with a degree of cynicism, that: 'in an economic age, a state which does not claim to understand and direct economic relations must declare itself neutral with respect to political questions and decisions and thereby renounce its claim to rule'.[31]

The economic age, it can be argued, has been radicalised through the ongoing process of globalisation and individualisation, as Beck explained (as outlined above). It has led to a further erosion of the state and its *raison d'être* – the state is no longer in control and is subjected to these processes as much as we are as individuals. It is no longer the exclusive actor on the world stage. It has become, at least in terms of the risk society and its fundamental question (how to distribute risks) part of the problem. The world has become one of mutual interdependencies – a non-exclusive network of interdependent entities: states, IGOs, NGOs, movements, corporates etc.[32] It is driven by an instrumental economic rationality. It is instrumental to the idea of linear and quantitative progress based on a particular economic model, best described as neo-liberal capitalism.

Supremacy and a continuous state of exception

The neo-liberal capitalist model is the perceived behemoth of this rational force. It may be suggested that this rationality and the economic system underscoring it, is hegemonic. I have chosen the concept deliberately. It is a concept in cultural and political theory, expanded upon by Antonio Gramsci in his *Prison Notebooks*.[33] In his work, he refers to the idea of subordination by means of implied power, where an elite group controls the system of values in state society (and in other state societies), rather than through the use of express force and domination. In the context of this contribution, it may subsequently refer to the implied power of the contemporary capitalist market-based economic system that controls the system of values in contemporary world society. The point about hegemony, as Gramsci used it, is that hegemonic control is indeed implied in civil society through, for example, private organisations such as the church, schools, labour unions etc.[34]

The reality seems more ominous and, in the scholarly debate about hegemony in the global economy, the preference is to speak of supremacy instead of hegemony. As Morton explains, referring to Gill,[35] it rests on what is called new constitutionalism, which refers to the erosion of the social fabric of civil society subjected to neo-liberalism discipline, in terms of efficiency, competitiveness, etc, and to market civilisation. The latter refers to contradictory practices of, on the one hand, cultural and ideological forms of capitalist progress and, on the other hand, 'patterns of social disintegration and exclusionary and hierarchical patterns of social relations'.[36] Morton concludes:

> New constitutionalism results in an attempt to make neo-liberalism the sole model of development by disseminating the notion of market civilisation based on an ideology of capitalist progress and exclusionary or hierarchical patterns of social relations.[37]

It would suggest that with the demise of the sovereign state there is no possibility of a state of exception; no possibility to decide upon an exception, to turn the tide. It is Giorgio Agamben who develops this argument but in a contrary and oppositional way. Agamben explored the concept in the wake of 9-11 and the state of emergency the Bush administration framed upon society and, indeed, the world. Agamben departs from the notion of it being a *provisional* matter to deal pragmatically with an emergency situation: a terrorist attack; a flood etc. Rather, the state of exception has become a 'the dominant paradigm of government . . . one of the essential practices of contemporary states, including so-called democratic ones'.[38]

It allows for the unusual extension of power beyond law with the potential to transform democracies into totalitarian states. It is visible in the shift in focus that takes place in many states from freedom to security, prevention and surveillance, for example in the so-called war on terrorism unleashed after 9-11, creating non-legal spaces such as Guantanamo Bay and procedures including extraordinary rendition.[39] But it is not only visible in the terrorist/criminal context. It is also visible in how economic interests are served and economic power relations continue to be protected. If we consider, referring back to Beck's wealth–risk continuum, the permanent state of exception, it may be concluded that the state of exception exists also for the benefit of the problem of wealth, its production, accumulation and distribution, ignoring the

30 ibid. It is this, as well as his Nazi-affiliation, that makes Schmitt controversial but nevertheless (or because of it) instructive for contemporary thought.

31 C Schmitt *The Concept of the Political* (G Schwab (trans) The University of Chicago Press Chicago 2007) 88.

32 The social evolution of the status and function of the state is subject to much debate. See also for example M Castells *The Rise of the Network Society Vol 1* (2nd edn 2010) http://onlinelibrary.wiley.com/book/10.1002/9781444319514 and Z Bauman *Postmodern Ethics* (Blackwell Publishing Oxford 1993).

33 Selected in A Gramsci *Selections From the Prison Notebooks* (Lawrence and Wishart London 1971).

34 A D Morton *Unravelling Gramsci: Hegemony and Passive Revolution in the Global Economy* (Pluto Press London 2007) 89. In this sense it is akin to the concept of bio-politics and governmentality; see for example Lemke, drawing upon Foucauldian thought: T Lemke 'The birth of bio-politics: Michel Foucault's lecture at the Collège de France on neo-liberal governmentality' (2001) *Economy and Society* vol 30 Issue 2 pp 190–207.

35 Morton (n 34) 126–27.

36 S Gill 'Globalisation, market civilisation, and disciplinary neo-liberalism' (1995) 24 *Millennium Journal of International Studies* 399 http://mil.sagepub.com/.

37 Morton (n 34) 126–27.

38 G Agamben *State of Exception* (Kevin Attell (trans) The University of Chicago Press Chicago 2005) 2.

39 Margaret L Satterthwaite 'Rendered meaningless: extraordinary rendition and the rule of law (Center for Human Rights and Global Justice Working Paper Number 11 2006); see: http://www.chrgj.org/publications/docs/wp/WPS_NYU_CHRGJ_Satterthwaite_Rendition_Final.pdf.

correlated problem of risk production, accumulation and distribution. How is it possible to break through this?

An ecological state of exception as the 'normal' state of affairs

As noted above, Schmitt saw in the sovereign the entity that can decide on the state of exception. The concept of the state of exception itself has been analysed by Agamben to conclude that we live in a permanent state of exception – as a means of contemporary governance. I 'borrow' the idea of the state of exception, but with a different aim and for a different purpose. Contemporary society is increasingly aware of its confrontation with the side effects (risks) of the modern project and its processes. These have become objects of law and policy with an aim to manage them. However, this 'management' falls short because it merely addresses the side effects without addressing its causes: the production of wealth must continue but its side effect must be addressed. This is, the argument goes, untenable in the long run.

It might also be suggested, indeed, as I do too, that we currently live in a state of exception. This state of exception is, however, an *ecological* state of exception. Usually, those in power decide upon a state of exception: the sovereign, like a state. However, the ecological state of exception is the result of the aforementioned 'manufactured uncertainty'.[40] We, or modernity as such, have brought about the state of exception. (With some artistic licence, it can also be said that the natural environment (our 'ecology') has decided and imposed upon the social environment (our 'sociology') a state of exception.)

We misinterpret this state of exception as we are blinded by particular interests. The aim, when in a state of exception, is to take measures to control the situation and restore the 'normal' state. However, in line with Agamben, what we see is that the ecological state of exception has become the working paradigm. Ideally, or considering the notion of exception, the idea is to take measures to restore the normal state of affairs. This 'normal' state of affairs is a state in which economic rationality aimed at progress remains the organising principle of society. Emergency measures that are taken are merely directed towards limiting or managing the side effects of this economic rationality. The precautionary principle is a good example, which directs that in case of doubt about possible side effects a given action should not be permitted.

Precaution: a brief excursus[41]

The precautionary approach is a modern interpretation of the notion of *prudentia*, which in essence means that when acting or making decisions caution is a wise counsel. It expresses in more general terms our qualified approach towards uncertainty. The essential feature lies in the scientific uncertainty about risks – the presence of a deficit of scientific certainty.[42] A more general description of the precautionary approach, emphasising this point, is found in the academic literature.[43] Fisher provides a concise description, stating it as a principle: '. . . that in cases where there are threats to human health or the environment the fact that there is scientific uncertainty over those threats should not be used as the reason for not taking action to prevent harm'.[44]

Indeed, the literature highlights scientific uncertainty as an important feature, if not *the* distinguishing feature of the approach. Freestone, cited in Birnie, Boyle and Redgwell,[45] for example, also stresses that taking regulatory measures should not be obstructed by the absence of scientific evidence about the effects of such activities if there is a threat of environmental damage. The absence of a general consensus about what the approach exactly demands stands in the way of adopting it as a hard-and-fast legally binding rule. It is far from certain what the meaning is of the approach or its application and consequences in order to consider it as a rule of international law. Indeed, Birnie and others suggest that it is 'far from evident that the precautionary approach [. . .] has or could have the normative character of the rule of law'.[46]

The approach does not prescribe what to do in a situation of scientific uncertainty; rather, it allows policy-makers, legislators, executives and judges to frame a given situation or to construct a set of events in terms of uncertainty to justify a preferred course of action (to protect the environment or public health or to allow experimentation with novel techniques etc) where it is unclear by what interests they are guided.[47]

In doing so, the precautionary approach is used as a means to hold on to the legal fiction that law is based on past events (existing information) to prescribe a future course of action. But this is exactly what the approach cannot do because, in the end, it exists by virtue of an informational void about risks and their consequences. Indeed, it may be suggested that the principle operates in a legal void and is operationalised through decision-making (rather than law).

It echoes how actors use, strategically or otherwise, global principles. The principle of sustainable development can also be understood in this way. As an expression of an aspiration, then, these approaches or principles cannot but be ones with which one ought to agree. In this context, the precautionary approach 'does have a legally important core on which there is international consensus',[48] although, to add to it, it is not circumscribed by law. To this end, the precautionary approach can, in fact, be understood as a mode of interpretation, as its meaning is quite undetermined. This is not to say it cannot be helpful. Indeed, principles do not give the content of responsibility themselves. Rather, they provide us with normative

40 Beck (n 2) 5.

41 Derived from L Francot, B de Vries 'Eyes wide shut: on risk, rule of law and precaution' (2013) 26(2) *Ratio Iuris* 282–301. In this article we have explored the precautionary principle in detail, problematising it in terms of its legality.

42 Scientific certainty would be certainty that allows for the methods of verification and falsification to be applied and pertains to, let us say, conditional certainty. Compare K Popper *The Logic of Scientific Discovery* (Routledge London 2007).

43 For a more extensive overview see O Renn *Risk Governance: Coping with Uncertainty in a Complex World* (Earthscan London 2008) 78 ff.

44 E Fischer 'Is the precautionary principle justiciable?' (2001) 13(3) *Journal of Environmental Law* 315–34 at 316.

45 P Birnie, A Boyle and C Redgwell *International Law and the Environment* (Oxford University Press Oxford 2009) 155.

46 See Birnie, Boyle and Redgwell (n 45) 160–61.

47 The European approach towards genetic modified crops is perhaps an illustration of this. See for example L Frewer 'Societal aspects of genetically modified foods' (2004) 42(7) *Food and Chemcical Toxicology* 1181–93.

48 See Birnie, Boyle and Redgwell (n 45) 163.

anchors when formulating and distributing responsibilities, as Dworkin has explained.[49] In that respect, a well understood precautionary principle can be helpful. The problem with the precautionary principle might be that, as it is an imperative for action without a clear rule-like structure, it is perhaps an imperative for *any* type of action as its scope is not qualified or limited.

REFLEXIVITY: THROUGH THE LOOKING GLASS AND WHAT WE FIND THERE

The ecological state of exception can be understood as the new normality. This does not mean that we have to continue living in this new normality. What it makes us realise is that we cannot go 'back', returning or sticking to the patterns of social, political and economic relations, presented as self-evident and exclusive. We have to move forward. 'Alternatives are possible', to quote Slavoj Žižek.[50]

Normal is the ecological state of exception

The problem in the ecological state of exception is threefold. The first is that existing instruments (the precautionary principle, obligations of sustainability etc) are merely band aids. They serve, secondly, to mitigate the excesses of the dominant economic rationality. Hence, the latter remains the driving force of development globally. This must be broken through. The ecological state of exception cannot be addressed through band-aids. Thus, the realisation must be there that this state is the new state of reality; the *new* normality. It forces, consequently, a reconsideration of the dominant economic rationality, as we do not wish to live in a state of exception. This reconsideration leads to the (first) conclusion that this rationality can no longer be dominant or supreme – it can no longer be sustained.

The task is to reconsider a new rationality to meander between two paralysing positions – that of complete economic freedom and complete environmental security. This new economic rationality is instrumental, not towards the idea of linear and quantitative progress but is instrumental towards the idea of sustainable, equitable and qualitative growth, taking into account both wealth and risks. This in its turn will involve the reconsideration of basic concepts of the 'old' normal state of affairs to synchronise these concepts with this new rationality: what must property mean in this new rationality? How is it claimed? What is the role of the state or the role of power and control in general in this new normality? How to perceive (legal) responsibility and causality? And so on. To agree with Beck: 'Climate politics, then, is not about changing the climate but about transforming the basic concepts and institutions of first, industrial, nation-state modernity'.[51]

Reflexive modernisation

The ecological state of exception implies a move forward, at least intellectually, to think about how to live together and reconsider those notions that we consider self-evident, such as our notion of economic rationality, our notion of a state-centred vision of our world order etc. This is what lies at the core of Beck's theory of reflexive modernisation, of which the theorem of the risk society provides the societal–theoretical description.

We like to capture societal processes as well as society itself, using those words that sum up the essence of society when we observe it. 'Modern' itself is such a word: modern, modernising, modernity, modernisation. The ordinary meaning of the word suggests the promise of positive change. Indeed, perhaps it is the hallmark distinguishing element of Western society's social evolution. In any event, the modern era, however it is historically framed, is believed to be understood as one of success, progress, growth and innovation, spiritually, morally, politically, economically, technologically etc. To this end, 'modern' is an abstract notion, encapsulating a wide range of ideas and concepts about society and how we organise living together and how we organise living in our social and natural environment. Research into it has a long and rich tradition.

Theoretical descriptions are necessary simplifications of observation, as it would not be possible to observe everything and at the same time. We make selections to make sense of the society we live in, to understand social developments and how these are linked (or not). The promise of positive change, of progress is, to repeat, seen as the essence of the modern project of Western society. Its social evolution is perceived as one of success and growth, and man-made. Another such simplification is that we limit our range of observation from within the unit of the nation state. This limitation is informative – forcibly, one could say – in what we observe and how we observe it.

This 'national [or modern] outlook' is at odds with social developments that now transcend the nation state and are inherently global. They do so in real terms as these developments cross the physical boundaries of the state as well as across the conceptual boundaries that have structured the modern nation state (at least in Europe), such as democracy, legality, markets etc. If modernity is to come to terms with this, it has to go through a process of reinventing its foundations and goals. It is this self-confrontation and reinvention that lies at the heart of the theory of reflexive modernisation.

In *Reflexive Modernisation*, Beck, Giddens and Lash[52] exchange ideas about their previously developed views on modernity and its evolution. Reflexivity, as a point of departure, suggests that nothing is self-evident and can be taken for granted. That what speaks for itself no longer holds value. Uncertainty reigns and is encapsulated by concrete side effects (such as risks). Reflexivity then, is a means to counter these side effects that are of our own doing. Indeed, Beck, Giddens and Lash hold that: ' "reflexive modernisation" means the possibility of a

49 R Dworkin *Law's Empire* (Harvard University Press Cambridge Mass 1988).

50 S Žižek speaking at Occupy Wall Street (10 October 2011) http://www.versobooks.com/blogs/736-slavoj-zizek-at-occupy-wall-street-we-are-not-dreamers-we-are-the-awakening-from-a-dream-which-is-turning-into-a-nightmare.

51 Beck (n 23) 256.

52 U Beck, A Giddens and S Lash *Reflexive Modernisation* (Polity Press Cambridge 1994).

creative (self-)destruction for an entire epoch: that of industrial society and it entails first the disembedding and second the re-embedding of industrial social forms by another modernity'.[53]

This other modernity is not postmodernity but 'a *radicalisation* of modernity, which breaks up the premises and contours of industrial society and opens the path to another modernity'.[54] In a way, Beck suggests that reflexive modernisation is a task (as well as a process); a task to modernise modernity; a task to deal with the radicalisation of the processes of modernity. To fulfil this task properly the ramifications of this radicalisation must be known and problematised in order to reformulate the direction of progress. This has become clear when describing (see above) the transformation of the industrial society into a risk society.

Reflexivity is to Beck a means of self-confrontation – reflection (thinking) *and* corresponding action – to lay bare and deal with the uncertainties produced by the successes of modernity through a reconfiguration of its foundations.

This contribution 'borrows' the notions of reflexivity, as set out above in a mere cursory way, to make the point of what is at stake: how to deal with the side effects of, in this case, climate change. Hence, I take reflexivity to mean a task to understand structural social processes and attendant incidents in order to find out what they mean for the structure of society and its foundations, particularly in politics and law, and to take corresponding action.

Reflexivity, then, is at first a means to process information into knowledge (in the realisation that this knowledge will be incomplete and uncertain). Knowledge, here, is not mere scientific knowledge but also, or perhaps predominantly, knowledge about expectations and interests. It does not refer only to expressing these expectations but also to reflect upon what these expectations and interests mean for the other; their impact both positive and negative. Secondly, the purpose of it is to lay bare, as far as is possible, the 'blind spots' or loopholes of modern thought (opening up the side effects). (Blind spots refer to existing circumstances or self-evident assumptions that direct observation, preventing alternative ways of observing.) It helps, thirdly, in re-evaluating modern (self-evident) foundations (in law and politics) in order to re-align the modern project, establishing a new (normative?) field for choices and decisions, and corresponding action.

Hence, uncertainty is threatening but it also creates possibilities insofar as one has the courage to embrace uncertainty through communication at the individual level, the institutional and organisational levels, and the systemic level. It suggests the development of a procedural critique – a critique on how and on what premises and assumptions we come to make decisions.

CONCLUSION

The argument as I tried to set out above can be summarised on the basis of seven steps:

1. We live in an ecological state of exception that exists in terms of self-manufactured uncertainty.
2. This uncertainty is the result of the side effects of an economic rationality based on progress, and are conceptualised in terms of risks, eroding the system from within.
3. This economic rationality is supreme, imposing and coercing a set of self-evident (unquestioned) values, practices and relational patterns.
4. The means with which side effects (or risks) are addressed are mere band aids that ignore the cause of these risks (as this would imply a crisis of the supremacy of the economic system).
5. To address the cause is to reconceptualise the ecological state of exception as the *normal* state and 'force', so to speak, this crisis, of which the real existing crises are perhaps a foreboding.
6. This allows us to address and transform the existing economic rationality based on progress towards a rationality based on sustainability (for want of a better word).
7. To act accordingly involves, consequently, the reconsideration of our methodology of thought, shifting towards a reflexive attitude: enabling us to modernise modernisation. It entails the reconsideration, from the lawyer's perspective, of those legal concepts that shape the *Unterbau* of the modern project. This is our academic task.

I have sought theoretically to embed the line of reasoning in such a way as to provide the reader at least with the necessary background information in respect of the thoughts and theories used. The next step is twofold: the first is to work out the theoretical context in much greater detail; and the second is to illustrate, from a legal perspective, why and how the so-called band aids do not successfully address the side effects, in particular in respect of climate change. One way to go forward with the latter is to work on, for example, the notion of resilience and adaptation in times of climate change,[55] underscored by the fundamental question: 'in what kind of society do we want to live?'

53 ibid 2.

54 ibid 3 (emphasis in original).

55 Resilience here refers to the social-ecological ability to adapt to change and how this could be done: privately, publicly? Does the legal system promote resilience? How adaptive are the measures taken and proposed?

IMPLEMENTING TRANSBOUNDARY WATER COOPERATION THROUGH EFFECTIVE INSTITUTIONAL MECHANISMS

EXPLORING THE LEGAL AND INSTITUTIONAL DESIGN DIMENSIONS OF SELECTED AFRICAN JOINT WATER INSTITUTIONS: CREATIVE LESSONS FOR GLOBAL PROBLEMS?

ANTON EARLE
Director, African Regional Centre, Stockholm International Water Institute (SIWI)

PROFESSOR DR PATRICIA WOUTERS
China International Water Law, Xiamen International Water Law Research Group, Xiamen University

The overarching rule of international law – *the duty to cooperate* – provides the context for exploring how transboundary water cooperation is achieved in practice. Sovereign riparian nations determine in large part how transboundary water cooperation over the world's freshwater resources is implemented across national borders. It has been claimed that the global water crisis is a crisis of *governance.* As front-line operational agents for transboundary water cooperation, River Basin Organisations (RBOs) play important roles in managing the day-to-day issues related to transboundary water regimes around the world. This article analyses selected river basin practice through a legal and institutional comparative approach with a view to highlighting possible lessons to be learned in the field of transboundary water cooperation. Through case studies examining selected African river basin organisations, the authors devise and deploy a three-pronged analytical framework comprised of (i) *legal and institutional foundations*, (ii) *regional context* and (iii) *organisational sustainability.* This aims to reveal issues contributing to robust RBO design and effective institutional mechanisms capable of tackling problems associated with transboundary water governance.

SETTING THE CONTEXT

The globe's 264 international transboundary river and lake basins are home to a majority of the earth's population and produce more than 60 per cent of staple foods consumed globally. The protection, management and sustainable development of these watercourses form a vital part of the drive to eradicate poverty by 2030.[1] Changes in water quantity, water quality or timing of flows owing to activities upstream will be felt downstream, whilst the development of water resources downstream limits or precludes future options of states upstream to make use of the watercourse. Over the past 40 years there has been a concerted recognition by the international community of the importance of promoting cooperative approaches to the use and management of international transboundary watercourses.[2] Momentum and support for transboundary water management has increased at all levels, from the local, across the regional and up to the international, resulting in significant milestones such as the declaration by the United Nations of 2013 as the Year of Water Cooperation and the entry into force in August 2014 of the UN Watercourse Convention.

What emerged in the run-up to 2013 was a shift from a quantitative approach to assessing cooperation towards a qualitative approach, which provides important insights in this field. Whereas a decade ago researchers and practitioners would point towards the large number of international agreements and other joint mechanisms between states as evidence of the development of a cooperative institutional approach to transboundary water management,[3] today there is recognition that some of these institutional approaches function better than others.[4] Not all cooperation is equal – some cooperative mechanisms and measures are more effective at delivering benefits than others and recent practice has reiterated the central importance of transboundary water institutions and the integral role of international law in the peaceful management of the world's shared freshwaters.[5]

According to the UN Roundtable on Water, Peace and Security held in 2012 there is a need to learn from institutional approaches implemented in one basin or one region and, where possible, apply the knowledge in the formation or improvement of institutions in other basins or regions.[6] A key question to ask is what factors have helped or hindered the establishment and operation of joint institutions at the international level?

1 Overseas Development Institute (ODI) 'The geography of poverty, disasters and climate extremes in 2030' (ODI London 2013).

2 UN Water 'Transboundary waters: sharing benefits, sharing responsibilities' (UN Water Zaragoza 2008).

3 See A T Wolf, S B Yoffe and M Giordano 'International waters: identifying basins at risk' (2003) 5(1) *Water Policy* 29–60 and M Zeitoun, N Mirumachi 'Transboundary water interaction I: reconsidering conflict and cooperation' (2008) 8(4) *International Environmental Agreements* 297–316.

4 S Schmeier *Governing International Watercourses: River Basin Organizations and the Sustainable Governance of Internationally Shared Rivers and Lakes* (Earthscan London 2012).

5 P Wouters, D Ziganshina 'Tackling the global water crisis: unlocking international law as fundamental to the peaceful management of the world's shared transboundary waters: introducing the H_2O paradigm' in R Q Grafton, K Hussey (eds) *Water Resources Planning and Management: Challenges and Solutions* (Cambridge University Press Cambridge 2011) 175–229.

6 UN Water High-Level Roundtable Discussion on 'Water, peace and security' hosted by the US, EU and UN Water (2012) http://www.unwater.org/downloads/UNGA_High-level_Panel_25-Sept-2012_Final_report.pdf.

These joint institutions (referred to in this article as RBOs) form an integral, if not a prerequisite element of the effective implementation of the 'duty to cooperate', the bedrock rule of international law that governs transboundary water resources. As operational agents, RBOs provide a range of functions, responsible in large part for ensuring that treaty regimes are duly implemented.[7]

Differences in hydrology, climate, political-economy, culture, environmental status and development objectives mean that RBOs differ substantially in their institutional architecture, mandate and degree of autonomy, functions and size. This heterogeneous nature of basin institutions has made it difficult to identify common factors that have contributed to success, or indeed hampered it.[8] This article devises a legal and institutional framework for analysing RBOs, selecting six African RBOs as a regional case study and analysing them systematically. Possible lessons learned from this exercise could be important in various ways, not least for the 64 rivers and lakes across Africa shared across national borders.

Our research suggests that RBOs can be analysed under three broad headings: (1) *legal and institutional foundations*, (2) *regional context* and (3) *organisational sustainability*. These elements cover the core issues related to RBO design and are generally spelled out in a legal agreement: objectives, territorial jurisdiction, composition, authority and powers, decision-making procedures, financial provisions and procedures for the prevention and settlement of disputes.

STATE SOVEREIGNTY AND INTERNATIONAL WATER LAW

Any joint international institution derives its authority from national governments, who under international law are the sovereign entities who can devolve aspects of national sovereignty. In the field of international water law, there are two global water conventions, namely the 1997 UN Convention on the Law of Non-navigational Uses of International Watercourses (UNWC)[9] and the 1992 UN Economic Commission for Europe Convention on the Protection and Use of Transboundary Watercourses and International Lakes (UNECE TWC).[10] Both of these international agreements, which codify and progressively develop rules of international water law, are framework instruments that can be, and are in fact, supplemented by regional and bilateral watercourse agreements. One example relevant to this case study is the 2000 SADC Revised Protocol on Shared Watercourses (SADC Protocol).[11] Whilst each of these legal instruments provides for the establishment of RBOs, the approach in each case is quite different. In the final analysis, it is for sovereign nations to determine whether or not to create joint river basin institutions, and to agree the legal remit of these organs.

In her study analysing some 216 international water agreements over the last century,[12] Leb concluded that: 'there remains no doubt that the duty to cooperate is one of the universally recognized cornerstone principles of international water law. This recognition is the legal response to hydrologic interdependence'.[13] International water law fuses the inherent tension between state sovereignty and the 'duty to cooperate', under the theory of limited territorial sovereignty.[14] This is demonstrated through the numerous international agreements between sovereign nations, which, in the case of transboundary waters, often includes RBOs. Established by international agreements, RBOs are the result of states 'choosing to realize their sovereignty by expressing it through cooperative supranational institutions'.[15] Despite the significant number of water-related treaties and RBOs around the world, issues remain around '. . . ambiguous water rights'.[16]

Treaty regimes and institutional mechanisms are no guarantee of effective transboundary water cooperation as witnessed in a number of recent disputes, including that yet to be finally resolved in the *Gabčíkovo-Nagymaros* case (*Hungary v Slovakia*) and the current disagreement over a comprehensive legal framework on the Nile River.[17,18] Limiting state sovereignty is not a facile exercise. A recent study by Subramanian and others highlights

7 S C McCaffrey 'Sixth report on the law of the non-navigational uses of international watercourses' (1990) 11(1) *Yearbook of the International Law Commission* (UN Doc A/CN.4/427 and Add.1).

8 Schmeier (n 4).

9 Convention on the Law of the Non-navigational Uses of International Watercourses, adopted by the General Assembly of the United Nations (New York 21 May 1997) Official Records of the General Assembly 51/49 http://untreaty.un.org/ilc/texts/instruments/english/conventions/8_3_1997.pdf (entered into force 17 August 2014).

10 1992 UN Economic Commission for Europe (UNECE) Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Helsinki 17 March 1992) 31 ILM 1312 (entered into force 6 October 1996 and from February 2013 open for universal accession; see more details on the global opening of the UNECE TWC at http://www.zaragoza.es/ciudad/medioambiente/onu/en/detallePer_Onu?id=862) Convention text http://www.unece.org/env/water/pdf/watercon.pdf. The UNECE TWC has celebrated its 20th anniversary and with the latest endorsement of Turkmenistan now includes 40 parties, including the European Union. For more details on the most recent Meeting of the Parties see http://www.unece.org/env/water/mop6.html.

11 SADC Revised Protocol on Shared Watercourses in the Southern African Development Community (Windhoek 7 August 2000) 40 ILM 317 (2001) http://www.sadc.int/documents-publications/show/1975 and http://www.sadc.int/documentspublications/show/Revised_Protocol_Shared_Watercourses.pdf. The 2000 Revised Protocol was signed by Angola, Botswana, Congo, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. For a list of RBOs in the SADC region see http://www.icp-confluence-sadc.org/rbosummary.

12 C Leb *Cooperation in the Law of Transboundary Water Resources* (Cambridge University Press Cambridge 2013).

13 ibid.

14 P Wouters 'Sovereignty revisited: examining the rules of international law that govern transboundary water resources with a focus on upstream/downstream state practice – possible lessons learned for the Euphrates-Tigris' in A Kibaroglu, A J Kirschner, S Mehring and R Wolfrum (eds) *Water Law and Cooperation in the Euphrates – Tigris Region: a Comparative and Inter-disciplinary Study of International and National Water Law* (Brill 2013) and see F R Loures, A Rieu-Clarke *The UN Watercourses Convention in Force* (Routledge Abingdon 2013).

15 Joseph W Dellapenna, Joyeeta Gupta 'The evolution of water law through 4,000 Years' (Spring 2013) http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2265029. Forthcoming book *Sovereignty and the Development of International Water Law* (Villanova Law/Public Policy Research Paper No 2013–3041).

16 UNESCAP Report of the Economic and Social Commission for Asia and the Pacific, Sixth Session, UN Doc E/ESCAP/MCED (6)/5 para 27 at 9 http://www.unescap.org/esd/mced6/documents/Documents/MCED6_14E.pdf.

17 *Case Concerning the Gabčíkovo-Nagymaros Project (Hungary v Slovakia)* General List no 92 (1997) 37 ILM 162 http://www.icj-cij.org/docket/files/92/7375.pdf.

18 Attila Tanzi, Enrico Milano 'Article 33 of the UN Watercourses Convention: a step forward for dispute settlement?' (2013) 38(2) *Water International* 166–79.

the risk, contending that: 'a decision-maker sensing the danger of intrusion into the country's authority to make sovereign decisions. It refers to both of the following: the desire to have control over national development goals and related development of resources and infrastructure; and the right to make decisions independently'.[19] Despite this, sovereign nations continue to conclude international water agreements, perhaps explained by the range of attendant benefits that accrue from such arrangements.[20]

The general limits on state sovereignty accepted under international agreements in this field are mitigated somewhat through the formation of joint institutional mechanisms, which carry forward national interests, albeit within the legal parameters of the treaty regime. In this light RBOs are tangible agents of operational interdependence between basin states. These joint institutional mechanisms have the potential to reduce risks and improve benefits for the states concerned, thus providing them with concrete returns for relinquishing some of their sovereignty. The establishment of RBOs is identified as one of five key indicators of transboundary water cooperation (the indicators are rules of procedure; the regular information and data exchange; notification of planned measures and emergencies; consultation; and the implementation of joint studies and programmes).[21]

The need for transboundary water cooperation through operational institutional mechanisms found a clear articulation at the 1977 UN Water Mar del Plata conference, the first large-scale international meeting on water management. The UN resolution emanating from the conference recommended:

> . . . to explore the possibility of organizing meetings between representatives of existing international river commissions involved that have competence in the management and development of international waters, with a view to developing a dialogue between the different river-basin organizations on potential ways of promoting the exchange of their experiences. Representatives from individual countries which share water resources but yet have no established basin-wide institutional framework should be invited to participate.[22]

This led to the UN Interregional Meeting of International River Organizations in Dakar, Senegal in 1981.[23] The meeting was attended by representatives of 17 river basin commissions and 36 states (along with representatives of UN organisations) and sought to share practice and experience in the formation and operation of various types of joint institutions. Substantive discussions focused on three topics: institutional and legal arrangements, progress in cooperative arrangements; and economic and other considerations.[24] A broad range of issues, challenges and opportunities was considered, many of which would still find resonance in today's discussions around institutional effectiveness. Issues such as political mandate and sovereignty; human and financial resources; the lack of integration of surface and groundwater; and data-sharing, are just some of the main challenges identified.[25] These recurring issues demonstrate their complex nature and invite closer study.

One of the key outputs from the Dakar meeting, which has permeated much of the institutional development on transboundary waters since then, is a list of factors to be considered (at a minimum) in the drafting of international agreements for the formation of joint institutions. These are: objectives; territorial jurisdiction; composition; authority and powers; decision-making procedures; financial provisions and procedures for the prevention and settlement of disputes. All are core elements that form the analytical approach for this study.

In the UN's work on the rules of law that govern international fresh waters, Special Rapporteur McCaffrey highlighted the important role played by joint institutional mechanisms in the promotion of cooperation over transboundary watercourses. In his study on the topic (1990) he referred to the 1911 Institute of International Law which recommended that: '. . . the interested States appoint permanent joint commissions, which shall render decisions, or at least shall give their opinion, when, from the building of new establishments or the making of alterations in existing establishments, serious consequences might result in that part of the stream situated in the territory of [another] State'.[26] McCaffrey considered that the increasing demand for water from a variety of sectors translated into a much greater need for joint institutional mechanisms to support the implementation of agreements.[27]

Following his review of state practice on this topic, McCaffrey concludes that the sheer number of joint institutions which have been formed, cited as 90 at his time of writing, is a logical consequence of the 'heavy reliance on shared water resources, and of the interdependence that is its inevitable by-product'.[28] He further notes that there is no obligation under general international law to form joint institutions for basin management (and nor is there under the UNWC) but calls it a 'form of co-operation between watercourse States that is almost indispensable if anything approaching optimum utilization and protection of the system of waters is to be attained'.[29] Whilst clearly advocating the need for joint institutions he recognises the great diversity in their mandate, function and form, ranging from the mere nomination of officials responsible for communication and data exchange through to the

19 A Subramanian, B Brown and A T Wolf *Reaching Across the Waters* (World Bank Washington DC 2012).

20 P Wouters 'Addressing water security challenges: the international law "duty to cooperate" as a limit on absolute state sovereignty' in Terje Tvedt, Owen McIntyre and Tadesse Kassa Woldetsadik (eds) *History of Water Series III: Sovereignty and the Development of International Water Law* (IB Tauris & Co London 2014).

21 Leb (n 12). That study assessed the frequency of the incorporation of the duty to cooperate in international water agreements during three time periods: 1900–1966, 1967–1994 and 1995–2010, respectively corresponding to stages in the evolution of international water law. Significantly, the formation of joint mechanisms, as an element of the duty to cooperate, led to the greatest increase in frequency across the period studies (from 1900 to 2010). In the period 1900–1966 around 59 per cent of the agreements formed a joint mechanism; by 1967–1994 this increased to 78 per cent; and reached 88 per cent for the 1995–2010 period.

22 McCaffrey (n 7) 41–82.

23 R D Hayton 'Meeting report' (1981) 23 *Natural Resources Journal* 441–9.

24 ibid.

25 ibid.

26 McCaffrey (n 7) 41–82.

27 ibid.

28 ibid.

29 ibid.

formation of a supranational organisation with a legal personality and executive mandate.[30]

The UNWC, which recently entered into force (17 August 2014) following Vietnam's ratification, is founded on the 'duty to cooperate' and provides guidance on how this might be achieved.[31] The UNWC under Article 8 (the general obligation to cooperate) runs as follows:

> In determining the manner of such cooperation, watercourse States may consider the establishment of joint mechanisms or commissions, as deemed necessary by them, to facilitate cooperation on relevant measures and procedures in the light of experience gained through cooperation in existing joint mechanisms and commissions in various regions.

Driven by differences in basin hydrology, topology, politics and economic development every international watercourse is unique, perhaps justifying the need for distinctive institutional frameworks to serve the particular needs of the basin states.[32] Whilst, clearly, there is no 'one-size-fits-all' for RBOs, and political will plays a significant role in their design (possibly taking precedence over what is technically optimal in some cases),[33] our study reveals some categorical lessons.

AFRICAN STATE PRACTICE IN JOINT BASIN MANAGEMENT: DISTILLING THE ESSENCE

Despite considerable treaty practice in this field, there has never been an evaluation of the legal and institutional elements fundamental to effective RBOs. Schmeier compared RBOs on the Senegal, Mekong and Danube, offering some interesting insights from an organisational effectiveness perspective.[34] We have selected six African RBOs (one is a proto-RBO – the NBI process) to analyse through a legal and institutional analytical framework. A focus on Africa's transboundary water resources is particularly relevant for a number of reasons: (i) African countries share the greatest number of transboundary (surface) watercourses with each other – at least 64[35] (estimates of the total number range from 63 to around 80);[36] (ii) past legacies of colonial-era border demarcation loom large for Africa's future in this field;[37] and (iii) Africa's future water challenges are significant.[38]

The current population of around a billion is set to double over the coming three decades. Much of the economic development on the continent is fuelled by domestic demand – an emergent middle-class now numbers around 300 million individuals.[39] Agriculture is poised to increase sharply with the continent hosting 60 per cent of uncultivated arable land. Coupled with rapid urbanisation (currently at a level of 40 per cent and predicted to reach 50 per cent by 2030 and over 60 per cent by 2050[40]) this has led to an increase in demand for water and electricity across the continent; in turn driving a renewed emphasis on large infrastructure projects.[41]

The RBOs selected for this study represent a range of factors relevant to the establishment and operation of joint institutions. The basins covered are diverse in terms of size, geography, climate and hydrology. Further, we have selected RBOs in regions with differing levels of socio-economic development across the basin states, political climate and the existence of other multilateral groupings such as regional economic communities. The focus is on freshwater and primarily on rivers, and thus shared aquifers are not covered here. The selected RBOs are mostly basin-wide (or the one including the greatest number of basin states), recognising the existence of sub-basin organisations in the basins.

The RBOs selected for closer study are summarised in Table 1 on the next page, with more detailed analysis immediately following.

30 See A D Tarlock 'Water security, fear mitigation and international law' (2008) 31(3) *Hamline Law Review* 707, 724.Tarlock points out that: '. . . to generate the trust necessary to alleviate fears, a fair allocation must be augmented by adaptive, integrated management institutions', adding that: 'More permanent, functioning basin management institutions are needed with the capacity to build sufficient trust among the parties to permit adaptation to new conditions and demands for water use'.

31 P Wouters ' "Dynamic cooperation" in international law and the shadow of state sovereignty in the context of transboundary waters' (2013) 21(3) *Environmental Liability: Law, Policy and Practice* 88–97. See also Owen McIntyre 'Utilization of shared international freshwater resources: the meaning and role of "equity" in international water law' (2013) 38(2) *Water International* 112–29.

32 McCaffrey (n 7) 41–82.

33 A Earle, A Jägerskog and J Öjendal *Transboundary Water Management: Principles and Practice* (Earthscan London 2010).

34 Schmeier (n 4).

35 UN Water 'Water cooperation in facts and figures' (2013) http://www.unwater.org/water-cooperation-2013/water-cooperation/facts-and-figures/en/.

36 UNEP *Africa Water Atlas* (UNEP Nairobi 2010). This represents 64 per cent of the continent's surface area, with every country located on the continent's landmass having territory in at least one transboundary basin. Transboundary waters account for 93 per cent of the continent's surface water resources and they are home to 77 per cent of its population.

37 If the Africa of today has the greatest number of countries on one continent sharing watercourses, it is the Africa of the past that poses some of the greatest challenges to the collaborative management of these transboundary watercourses in contemporary times. The legacy of colonialism casts a long shadow that has adversely affected communities across Africa. Despite somewhat arbitrary national borders, some people have more affinity with (and have more cultural and trade ties with) communities across the border than they do with their own compatriots in other parts of the country. The result is that in many transboundary basins in Africa there is a fundamental disconnect between the political decision-makers located in the country's capital city and the local populations expected to adhere to agreements entered into at the national level. This fact can potentially have a positive impact on relations amongst stakeholders within a basin from different countries; however this is only likely if there is an institutional framework present, allowing cultural, linguistic and trade affinities to be built on. See A Earle, D Malzbender 'Water and the peaceful, sustainable development of the SADC region' Paper produced for the Safer Africa Project entitled 'Towards a continental common position on the governance of natural resources in Africa' (SaferAfrica Pretoria 2007).

38 FT 'Africa offers growth potential on a vast scale' (2013) http://www.ft.com/intl/cms/s/0/fa46d61c-574e-11e3-9624-00144feabdc0.html#axzz2sGO9KS1h. With strong economic growth accompanied by rapid population increase, as well as high rates of urbanisation changing the political-economy of the continent, Africa faces a myriad of development challenges. African GDP-growth is predicted to reach six per cent for 2014 (compared with a global rate of just over three per cent) and to remain strong the remainder of the decade; see AfDB 'African economic outlook' (AfDB Tunis 2013).

39 McKinsey & Company 'What's driving Africa's growth?' (2010) http://www.mckinsey.com/insights/economic_studies/whats_driving_africas_growth.

40 UN DESA '2009 revision of world urbanization prospects' (UN DESA New York 2009).

41 A Earle 'The role of cities as drivers of international transboundary water management processes' in B A Lankford, K Bakker, M Zeitoun and D Conway (eds) *Water Security: Principles, Perspectives and Practices* (Earthscan London 2013).

Table 1: Institutional frameworks investigated in this study – overview

RBO name	*Type*	*Mandate*	*State parties*	*Other basin states*
Senegal River Basin Development Authority (French acronym OMVS)[42]	Supranational organisation with legal personality with executive regulatory coordination powers	Promote and intensify economic development through the joint management and development of the Senegal transboundary water resources	Guinea, Mali, Mauritania and Senegal	None
Niger Basin Authority[43]	Inter-governmental organisation with legal personality acting in consultative role	Promote cooperation to ensure integrated development of the Niger River Basin in all fields, by developing its water resources	Benin, Burkina Faso, Cameroon, Chad, Côte d'Ivoire, Guinea, Mali, Niger and Nigeria	Algeria
Permanent Okavango River Basin Water Commission (OKACOM)[44]	Inter-governmental organisation acting in consultative role with secretariat having legal personality	Serves as technical advisor to the Parties on matters relating to the conservation, development and utilisation of water resources of common interest	Angola, Botswana and Namibia	Zimbabwe
Orange-Senqu River Commission (ORASECOM)[45]	Inter-governmental organisation acting in consultative role with secretariat having legal personality	Promotes the equitable and sustainable development of the resources of the river through providing technical advice to the parties	Botswana, Lesotho, Namibia and South Africa	None
International Commission of the Congo-Oubangui-Sangha basins (French acronym CICOS)[46]	Inter-governmental organisation with legal personality acting in consultative role	Promote navigation and IWRM (since 2007) in the Congo, Oubangui and Sangha river basins	Cameroon, Central African Republic, Republic of Congo and Democratic Republic of Congo	Angola, Tanzania and Zambia
Nile Basin Initiative (NBI)[47] (Nile River Commission under CFA)	Inter-governmental partnership of a temporary nature	Seeks to develop the River Nile in a cooperative manner, share substantial socio-economic benefits and promote regional peace and security	Burundi, DR Congo, Egypt, Ethiopia, Kenya, Rwanda, South Sudan, Sudan, Tanzania and Uganda	Eritrea (observer)

IDENTIFYING RBO DESIGN FACTORS: AN ANALYSIS OF THE SELECTED RBOS

The legal and institutional analytical tool comprises three broad categories of factors that affect RBO design and operation: (i) legal and institutional foundations; (ii) regional context; and (iii) organisational sustainability. An indicative list of issues to consider is presented as part of the categories of factors (see Figure 1).

The three categories of factors were devised, in part, for their ability to illustrate the temporal as well as spatial scale factors influencing RBO formation and operation; temporal in the sense that certain issues need to be decided on at the outset (foundation factors), whilst others can be dealt with once an RBO is operational (sustainability factors). Spatial factors refer to the interplay across scales and between national, local (sub-national or basin)

42 Convention Concerning the Status of the Senegal River (Convention Relative au Statut du Fleuve Sénégal) (Senegal River Convention), signed in Nouakchott, Mauritania on 11 March 1972; Convention Establishing the Organization for the Development of the Senegal River (Convention portant Création de l'Organisation pour la Mise en Valeur du Fleuve Sénégal) (OMVS Convention), signed in Nouakchott, Mauritania on 11 March 1972. For a list of agreements relevant to OMVS see http://iwlearn.net/publications/legal-frameworks/senegal-river-basin.

43 Revised Convention on Establishment of the Niger Basin Authority, signed at N'Djamena on 29 October 1987 (information on its entry into force is not available) http://www.abn.ne/index.php?option=com_content&view=category&layout=blog&id=53&Itemid=46&lang=en; also FAO 'Treaties Concerning the Non-navigational Uses of international watercourses: Africa' Legislative Study 61 (Rome 1997) 62–70 and FAOLEX database http://faolex.fao.org/faolex/index.htm; see also Convention Establishing the Niger River Basin Authority (Faranah Guinea 21 November 1980) and Protocol on the Development Fund of the Niger Basin (Niamey Niger 21 November 1980); Niger Basin Authority (Niamey Niger).

44 See http://www.okacom.org/okacom-resources/key-documents/okacom-key-documents-1/search for list of relevant documents including formation and subsequent RBO-related agreements.

45 This covers the key elements to be addressed in RBO design: objectives; territorial jurisdiction; composition; authority and powers; decision-making procedures; financial provisions; and procedures for dispute avoidance and resolution.

46 Agreement on the Establishment of the Commission Internationale du Bassin Congo-Oubangui-Sangha (CICOS) between Republic of Cameroon, Central African Republic, Democratic Republic of Congo and Republic of the Congo (1999) http://www.icp-confluence-sadc.org/documents/agreement-establishment-commission-internationale-du-bassin-congo-oubangui-sangha-1999.

47 The Nile Basin Initiative (NBI) is a regional intergovernmental partnership that seeks to develop the River Nile in a cooperative manner, share substantial socio-economic benefits and promote regional peace and security. It was launched on 22 February 1999 by ministers in charge of water affairs in the riparian countries namely Burundi, DR Congo, Egypt, Ethiopia, Kenya, Rwanda, South Sudan, Sudan, Tanzania and Uganda. Eritrea participates as an observer. NBI was conceived as a transitional institution until the Cooperative Framework Agreement (CFA) negotiations were finalised and a permanent institution created. The highest decision and policy-making body of NBI is the Nile Council of Ministers (Nile-COM), comprised of ministers in charge of water affairs in each NBI member state. The Nile-COM is supported by the Nile Technical Advisory Committee (Nile-TAC), comprised of 20 senior government officials, two from each of the member states. See more details at http://nilebasin.org/index.php/about-us/nile-basin-initiative.

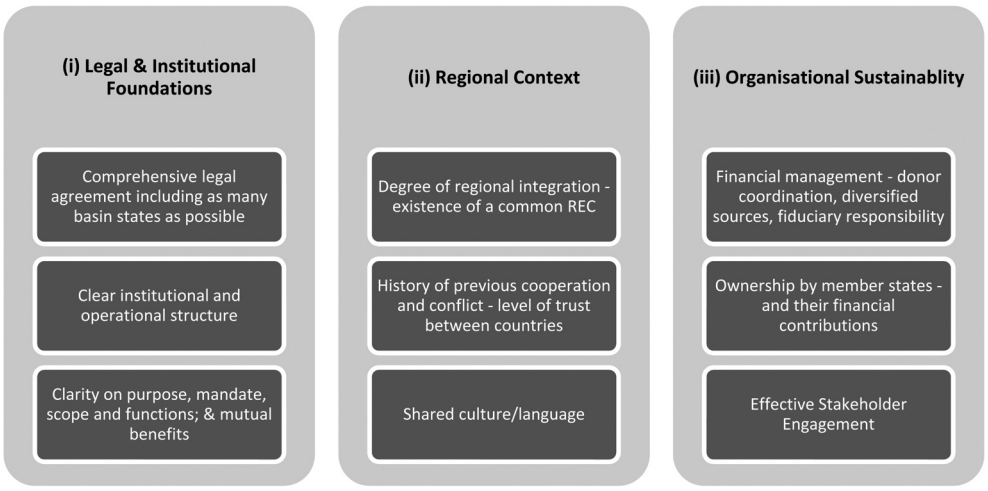

Figure 1: Legal and institutional analytical framework

and regional (groupings of countries) political issues. This multi-disciplinary approach supplements a purely legal analysis, incorporating a holistic dynamic institutional analytical approach, which we believe represents more fully state practice in this field. The next part details the constituent elements of our legal and institutional analytical framework and applies these to the selected RBOs for the selected case studies – the Senegal; Okavango; Orange-Senqu; Niger; Congo-Oubangui-Sangha basins; and the Nile.

Legal and institutional foundations

The legal and institutional foundation for an RBO covers the jurisdictional reach and mandate of the joint body. The extent to which the RBO can take 'independent' decisions and actions depends in large part on the degree to which the basin states are willing to limit their own sovereignty in return for strengthened multi-lateral arrangements.

The legal foundation for the RBO is usually established in a treaty, which may or may not also deal with the substantive and procedural rules governing the particular transboundary watercourse. The formation agreement generally covers legal issues related to the organisational structure and remit of the RBO. This includes the legal mandate of the institutional mechanism and its jurisdictional reach, as defined by agreement between the riparian parties. RBOs can play an integral role in dispute avoidance and resolution, although the mandate to do so is often carefully prescribed in the foundation agreement.[48]

The foundation agreement should provide a clear organisational structure for the RBO, outlining responsibilities, lines of reporting and functional relationships. The organisational structure need not be complex – a simple organisational structure can be suitable so long as the roles and responsibilities of associated entities are clearly laid out in a legal agreement; ambiguity and vagueness could lead to problems.[49] For instance, in ORASECOM the existing sub-basin organisations (the Lesotho Highlands Water Commission and the Permanent Water Authority) are deemed to be independent organs, but with a duty to liaise with ORASECOM, as defined in the formation agreement of 2000.[50] However the nature of this liaison is not well defined in that agreement, leading to disagreements between the parties on the degree to which the sub-basin organisations can operate independently. This issue has been identified by the Commission as one which needs to be clarified.[51] As demonstrated below, organisational structure can be modified or clarified in agreements concluded subsequent to the formation agreement.

The riparian nations sharing the Senegal River (Mali, Mauritania and Senegal) concluded the 1972 Convention on the Status of the Senegal River[52] aimed at promoting the coordinated development of the international watercourse (including its tributaries).[53] The treaty guarantees free navigability of the Senegal waterway river and ensures equity for riparian countries in accessing the river's water resources. The Convention also states that any intervention that could significantly affect the hydrological regime of the river, its navigability, agro-industrial use or its ecological characteristics requires the approval of other riparian states.[54] These core objectives set the foundation for the institutional remit of the RBO under this comprehensive treaty.

48 P Wouters 'Universal and regional approaches to resolving international disputes: what lessons learned from state practice?' in International Bureau of the Permanent Court of Arbitration (ed) *Resolution of International Water Disputes* (Kluwer Law International The Hague 2003).

49 Schmeier (n 4).

50 Agreement on the Establishment of the Orange-Senqu River Commission (2000). See art 1, item 1.4 https://docs.google.com/viewer?url=http%3A%2F%2Fwww.orangesenqurak.com%2FUserFiles%2FFile%2FORASECOM%2FORASECOM%2520Agreement%25202000.pdf.

51 ORASECOM 'Institutional analysis for ORASECOM: Report No ORASECOM 006/2009 of the European Development Fund Project African Transboundary River Basin Support Programme (SADC Gaborone 2009).

52 Convention portant Creation de l'Organisation pour la Mise en Valeur de Fleuve Senegal (Convention Creating the Organization for the Development of the River Senegal-OMVS) 11 March 1972, signed at Nouakchott modifié par la Convention portant amendement du 17 novembre 1975 Sen.-Mali-Mauritania LEXFAOC016003 http://faolex.fao.org/docs/texts/mu116003.doc.

53 M J Vicks 'The Senegal River Basin: a retrospective and prospective look at the legal regime' (2006) 46 *Natural Resources Journal* 211–43.

54 M Niasse 'Integrated management of the Senegal River' (Share toolkit: case studies) in C Sadoff, T Greiber, M Smith and G Bergkamp (eds) *Share: managing waters across boundaries* (IUCN Cambridge 2008).

The foundation agreement establishing the Senegal Management and Development Organisation (OMVS), provides that it has legal personality and lays out clear rights, roles and responsibilities for each of the states as well as the OMVS. It is presided over by the respective heads of state of the countries.[55] This high level of support has allowed that organisation to pursue an ambitious water development and management agenda, with a robust legal foundation that has also allowed the foundation to secure international funding and to move forward with substantive issues related to water allocation, sharing benefits and costs between the riparian parties.[56] The legal foundation is not necessarily static – in the case of the Senegal, the formation agreement of 1972 has been superseded by the Senegal River Water Charter, which redefined the mandate of the OMVS as to 'promote a policy of optimal, responsible and sustainable use of the river resources within a policy of water conservation, integrated management, and equitable use for the benefit of present and future generations'.[57]

This incremental legal-nesting approach provides for the evolution of the joint mechanisms operating across the basin. Experts in the field commented, 'What is needed is an administrative process, a basin authority which can supervise and make ongoing policy decisions toward efficient resource management. Perhaps uniquely, the OMVS is endowed with this highly desirable planning and management authority'.[58] McCaffrey, in his report to the International Law Commission, asserted that 'The fundamental principles and institutional framework established by the Statute-OMVS Convention regime thus represent an advanced, highly developed planning approach to the management of international water resources'.[59]

By way of contrast, the Okavango River Commission (OKACOM) has a relatively less substantive formative agreement – quite imprecise, with limited delegated authority to the newly-created RBO.[60] The OKACOM formation agreement of 1994 does not create substantive rights and obligations for the parties with respect to the management of the basin, but instead focuses on the mandate for OKACOM. In the formation agreement no secretariat was formed and no provision was made for employing dedicated staff to run the RBO. The result was that for its first decade of existence progress was rather slow and piecemeal, with little effective coordination of activities.[61] Basic services such as drafting and circulating the agenda and minutes for Commission meetings were not performed; much less so any technical activities.[62]

In effect, any development partners wishing to cooperate with OKACOM (whether donors, research or scientific institutions) did not have one organisation to work with – they had to approach all three member states individually. Without a clear institutional and operational structure it was difficult for OKACOM to engage meaningfully in development projects in the basin – leading to several uncoordinated programmes being established by other actors, such as three approaches to basin-modelling being initiated between 2002 and 2004. Subsequently, two new agreements were entered into – one in 2007 to establish a secretariat (and various other organs) and another in 2010 on data-sharing.[63] Since the formation of the secretariat in 2007 the RBO's effectiveness has been enhanced[64] and, since 2010, it has the legal foundation to request hydrological and other data from member states.[65] This step-by-step operational development of OKACOM demonstrates how legal and institutional foundations can evolve over time.

When an RBO is formed it is usually in response to development, environmental or political needs articulated by people living in the basin states.[66] Expectations for what these organisations can achieve are typically high, often resulting in disappointment when these expectations are not met after a few years. It is important to have clarity on the purpose, scope and functions and mutual benefits of an RBO – as much to establish what it will do, as well as what it will *not* do. The Niger Basin Authority (NBA) in its first decade of operation (1980–1990) suffered from a lack of clearly defined objectives and adequate regional strategies for the development of the basin, owing to a lack of a shared vision or master plan accepted among riparian countries.[67] This limited what the organisation was able to do, whilst commensurately raising stakeholder expectations.

Most tellingly, by the late 1980s member states had started withholding their annual payments to the NBA, with donors following suit shortly afterwards. This lack of

55 Convention Creating the Organization for the Development of the River Senegal-OMVS (n 42).

56 Schmeier (n 4).

57 Charter of Senegal River Waters, signed on 28 May 2002 (Charte des Eaux du Fleuve Sénégal).

58 Theodore Parnall, Albert E Utton 'The Senegal Valley Authority: a unique experiment in international river basin planning' (1976) 51 *Indiana Law Journal* 253-54.

59 Third Report on the Law of the Non-navigational Uses of International Watercourses 285–336 & add.1-2, UN Doc A/CN.4/406, reprinted in (1987) 11(2) *YB Int'l L Comm'n* 21 (Stephen C McCaffrey, Special Rapporteur) para 28.

60 Agreement on the Establishment of a Permanent Okavango River Basin Water Commission (1994) downloaded on 2014-09-09 http://www.icp-confluence-sadc.org/documents/agreement-establishment-permanent-okavango-river-basin-water-commission-1994.

61 UNDP 'GEF project document for the environmental protection and sustainable management of the Okavango River Basin' (2003).

62 A R Turton, P Ashton and T E Cloete (eds) 'Transboundary rivers, sovereignty and development: hydropolitical drivers in the Okavango River Basin' (AWIRU & GCI Pretoria and Geneva 2003).

63 In early 2007, OKACOM reviewed its organisational structure to bring it in line with the Revised SADC Protocol on Shared Watercourses, and gave the Okavango Basin Steering Committee (OBSC) formal status, recognising it as a permanent and formal internal body of OKACOM with defined functions, roles, responsibilities as well as operational procedures; for more details see http://www.okacom.org/okacom-commission.

64 As just one example, the scope of the OKACOM was expanded by the later agreement: 'OKACOM shall have basin-wide operations exclusively on matters of trans-boundary water resources of common interest within the basin' (art 1) and the Organizational Structure for the Permanent Okavango River Basin Water Commission (OKACOM) Agreement (7 December 2006) http://www.okacom.org/okacom-resources/key-documents/okacom-key-documents-1/search.

65 OKACOM 'Cubango-Okavango River Basin transboundary diagnostic analysis' (OKACOM Maun 2011).

66 Earle 'The role of cities' (n 41).

67 I Olomoda 'Integrated water resources management: Niger Authority's experience' in Proceedings of the International Conference 'From conflict to cooperation in international water resources management: challenges and opportunities' (UNESCO IHP Paris 2002); see also B A Godana 'Africa's shared water resources: legal and institutional aspects of the Nile, Niger, and Senegal river systems' (Graduate Institute of International Studies Geneva 1985).

clarity on the scope of the NBA led the member states to conclude a revised convention in 1987, which articulated five clear major objectives for the organisation.[68] This was later fully endorsed at a summit of heads of (basin) states – where the national leaders voiced expectations of the organisation. A key step was the development in 2002 of *A Shared Vision* for development of the basin, agreed on by the respective heads of the basin states.[69] Once this was in place it became possible to rally governmental, donor and stakeholder support around projects aimed at achieving these objectives.

By setting achievable and verifiable objectives the NBA was able to deliver on perceived benefits to various stakeholders arising out of the multilateral process. The *Shared Vision for the Niger River* included 'soft' elements – such as capacity building and the harmonisation of legislation as well as the construction of physical infrastructure. Three dams have been identified to be constructed and various other dams will be renovated, with development partners committing funds to these initiatives. This has allowed the NBA constituents (the states) to deliver on socio-economic development commitments made to their citizens. A joint institutional framework needs to be seen to offer benefits to member states (and stakeholders within them) in order to offset perceived risks and costs associated with adopting a multilateral approach.[70] Not only should mutual benefits exist, they must also be perceived to exist by the key stakeholders, otherwise trust in the process will not be established.

The Nile Basin Initiative (NBI) offers an example of how RBOs might evolve through regional initiatives. Conceived as a transitional institution until the Cooperative Framework Agreement (CFA)[71] enters into force, the NBI's highest decision and policy-making body at present is the Nile Council of Ministers (Nile-COM), comprised of Ministers in charge of Water Affairs in each NBI Member State. The Nile-COM is supported by the Nile Technical Advisory Committee (Nile-TAC), comprised of 20 senior government officials, two from each of the Member States.[72] Only Ethiopia has ratified the CFA, which means that instrument might take some time to enter into force.[73] Under the CFA, the Nile Commission will be established upon ratification by at least six riparian countries. It provides an institutional framework responsible to implement the principles of the CFA.[74] Unfortunately, the CFA seems to be at an impasse, with Egypt and Sudan and possibly the Congo not prepared to sign up, owing in part to a perception that mutual benefits (in the current wording of the CFA) do not exist and to a divergence of opinion on the provision related to 'water security'.[75] Despite the continued efforts of the NBI, the Nile basin still remains the only basin in this study lacking an inclusive, permanent legal and institutional framework for its utilisation and management.

A key component to the effective operation of an RBO, whether of the advisory type or of the executive type, is a legal obligation and operational commitment to data-gathering and sharing by the member states and other stakeholders.[76] Without data it is not possible to assess progress towards development or conservation objectives. Whilst data gathering and sharing may seem a self-evident activity for an RBO, this has proved difficult for the organisations studied here. In part this is due to the different traditions towards data access amongst different member states; some having more transparent systems than others, such as access to data being constitutionally guaranteed.[77]

In cases of disparities in data access between member states the RBO can play an important role in helping riparian states to harmonise their access to data, provided this is made explicit in an agreement. From a legal perspective, this can be accomplished through an addendum to the original formation agreement – such as the protocol entered into between the OKACOM states in 2010 to promote hydrological data gathering and exchange.[78] In this protocol the states commit themselves to the gathering and exchange of hydrological data, with clear outlines for the types of data to be collected, the frequency of collection, what parameters should be included in water quality tests, how often different types of data should be exchanged and in what electronic file format they should be.[79]

In other examples a lack of data occurs as a result of physical impediments associated with accessing data. For instance, in the Congo River basin the Congo Commission (CICOS) found that large parts of the basin were ungauged, making it difficult to advise member states on activities to promote optimal navigation on the river.[80]

68 C Brachet, R Dessouassi *A Shared Vision for the River Niger Basin* (NBA Bamako 2008).

69 Inger Andersen and others *The Niger River Basin: A Vision for Sustainable Management* (World Bank Washington 2005).

70 Subramanian, Brown and Wolf (n 19).

71 Agreement on the Nile River Basin Cooperative Framework (CFA) http://internationalwaterlaw.org/documents/regionaldocs/Nile_River_Basin_Cooperative_Framework_2010.pdf.

72 See http://nilebasin.org/index.php/about-us/nile-basin-initiative.

73 Ethiopia is the first country to ratify the agreement. Uganda, Kenya, Burundi, Tanzania and Rwanda are also signatories to the Framework Agreement but have yet to ratify it. See http://nepadwatercoe.org/ethiopia-parliament-ratifies-the-nile-basin-cooperative-framework-agreement/. Ethiopia, Kenya, Uganda, Rwanda, Burundi and Tanzania signed the agreement; Ethiopia ratified it in 2013. The DR Congo is also expected to sign, whilst Egypt and Sudan are not expected to do so.

74 M A Abseno 'The influence of the UN Watercourses Convention on the development of a treaty regime in the Nile river basin' (2013) 38(2) *Water International* 192–203. See also Salman M A Salman 'The Nile Basin Cooperative Framework Agreement: a peacefully unfolding African spring?' (2013) 38(1) *Water International* 17–29; T Tafesse 'The Nile question: hydropolitics, legal wrangling, modus vivendi and perspectives' (Transaction Publisher London 2001); Abadir M Ibrahim 'The Nile Basin Cooperative Framework Agreement: the beginning of the End of Egyptian hydro-political hegemony' (2011) 18(2) *Missouri Environmental Law and Policy Review* 284–313; Dereje Zeleke Mekonnen 'The Nile Basin Cooperative Framework Agreement negotiations and the adoption of a "water security" paradigm: flight into obscurity or a logical cul-de-sac? (2010) 21 *EJIL* 421–440.

75 See Mekonnen (n 74) at 428, who summarises the evolution of the CFA and the divided views over art 14 'water security'.

76 Schmeier (n 4).

77 Such as South Africa being part of ORASECOM and having in place the Promotion of Access to Information Act 2 of 2000 http://www.dfa.gov.za/department/accessinfo_act.pdf.

78 OKACOM Protocol on Hydrological Data Sharing for the Okavango River Basin (2010) http://www.okacom.org/site-documents/key-documents/2010-okacom-protocol-on-hydrological-data-sharing-for-the-okavango-river-basin/view.

79 See art III (Installation of equipment), art IV (Operation and maintenance), art V (Types of data), art VII (Water discharge) and art VIII (Water quality).

80 WHYCOS 'Proposal in preparation: Congo-HYCOS' (2009) http://www.whycos.org/cms/content/congo-hycos.

Some of the basin had previously had gauging stations, but these had become dysfunctional during the conflicts in some of the basin states. In other parts of the basin there had never been gauging stations to start with. With the addition of IWRM responsibilities to its mandate in 2007 one of the first activities under the basin action plan was the development of a hydrological gauging network – based on the WMO Hycos system.[81] This is currently being implemented and will be the first time that CICOS can make informed recommendations to the member states based on observed hydrological conditions.[82]

Another important function defined in the mandate is the extent to which the RBO is engaged in dispute prevention and dispute settlement. In most cases, national governments retain the final say in resolving disputes, but RBOs can play an important role in dispute avoidance. Some RBOs have a mandate to facilitate dispute resolution whilst others play a role in supporting the states as they take a dispute to a regional or international body for settlement – see Table 2 below.

The following table provides an overview of the legal and institutional foundations for the RBOs selected for this case study.

Regional context

The overall context in which the RBO is formed and then operates is the least mutable of the categories of factors, meaning that it cannot easily be changed, but has to be responded to. Issues such as culture, language, history and broader-based conflicts go beyond the remit of an RBO and thus require a more adaptive set of responses. However, as has been evidenced in the downstream Nile River basin countries since 2011 the broader political situation can change rapidly, with little warning (a revolution in Egypt and the Sudan splitting into two; all within a year of each other). These types of exogenous changes present threats as well as opportunities for an RBO – requiring effective management responses. In many cases an effective RBO can overcome exogenous complexity and offer the possibility of allowing riparians to develop solutions to collective action problems,[83] thus the regional context can be conceived as a set of possible constraints and potential opportunities. In legal terms this refers to the overall legal framework or regional regime. One good example is under the primarily regional context under which the UNECE Water Convention has developed over the past decades, where the Convention has proceeded in pace with broader regional integration.[84]

Table 2: Overview of legal and institutional foundations

RBO name	*Institutions*	*Legal mandate*	*Dispute settlement*
Senegal River Basin Development Authority (French acronym OMVS)[85]	• Conference of Heads of State and Government • Council • Office of the High Commissioner • Permanent Water Commission • Advisory Committee; Regional Planning Committee	The Conference of Heads of State and Government ('Conference') is the chief decision-making body[86] responsible for implementing the Senegal River Convention; promoting and coordinating development studies and works on the Senegal River Basin within the Member States; and carrying out all technical and economic functions conferred to it by the Member States	Any dispute between the Member States regarding the interpretation or application of the relevant Conventions is to be resolved by mediation. If the Member States cannot reach an agreement, the dispute is to be submitted to the Commission of Mediation, Conciliation, and Arbitration of the Organization of African Unity ('Commission'). The Commission's decisions can be appealed to the International Court of Justice
Niger Basin Authority[87]	• The Summit of Heads of States and Government[88] • The Council of Ministers • The Technical Committee of Experts • The Executive Secretariat	Article 4 The functions of the NBA are summarized as follows: • Harmonizing and coordinating the national policies of the member states • Preparing and implementing an integrated development plan for the basin • Promoting and participating in works and projects of common interest • Assuring the control and regulation of all forms of navigation on the Niger River, its tributaries, and sub-tributaries • Mobilizing financial resources for studies, works, and projects	Article 20 Any dispute that may arise among the Member States over the interpretation and/or implementation of this Convention shall be amicably settled through direct negotiation. In the event of failure to settle such disputes, the matter shall be referred to the Summit by a party to such disputes and the decision on the same shall be final

(continued)

81 ibid.

82 The World Hydrological Cycle Observing System (WHYCOS) is a framework programme of the World Meteorological Organization dedicated to improving basic observation activities, strengthening international cooperation and promoting the free exchange of data in the field of hydrology.

83 Schmeier (n 4).

84 P Wouters, C Leb 'The duty to cooperate in international law: examining the contribution of the UN water conventions to facilitating transboundary water cooperation' *forthcoming*.

85 http://iwlearn.net/publications/legal-frameworks/senegal-river-basin.

86 For more information see http://iwlearn.net/publications/legal-frameworks/senegal-river-basin.

87 Revised Convention on Establishment of the Niger Basin Authority http://www.abn.ne/index.php?option=com_content&view=category&layout=blog&id=53&Itemid=46&lang=en. The NBA website elaborates on the legal framework that applies to the NBA; see http://www.abn.ne/index.php?option=com_content&view=frontpage&Itemid=1&lang=en.

88 The Summit of Heads of State and Government of the Authority is the supreme body of guidance and decisions. It is composed of heads of state

Table 2: Overview of legal and institutional foundations (continued)

RBO name	*Institutions*	*Legal mandate*	*Dispute settlement*
Permanent Okavango River Basin Water Commission (OKACOM)[89]	Article 1.1 (OKACOM agreement) 'the Permanent Okavango River Basin Water Commission (OKACOM), also referred to as the 'Commission' Article 5 (Organizational Structure Agreement) 'The Commission shall be the principal organ of OKACOM responsible for defining and guiding the development policy and the general supervision of the activities of OKACOM'[90]	Article 1.2 Objective is 'to act as technical advisor to the Contracting Parties (the Governments of the three states) on matters relating to the conservation, development and utilisation of the resources of common interest to the Contracting Parties (basin member states) and shall perform such other functions pertaining to the development and utilisation of such resources as the Contracting Parties may from time to time agree to assign to the 'Commission'[91]	Article 7 Any dispute on the formation agreement to be settled by Contracting Parties
Orange-Senqu River Commission (ORASECOM)[92]	Article 1 'establish and undertake to maintain the Orange-Senqu River Commission' Article 2.1 'The highest body of the Commission shall be the Council'	Article 4 'The Council shall serve as technical advisor to the Parties on matters relating to the development, utilisation and conservation of the water resources in the River System and shall perform such other functions pertaining to the development and utilisation of water resources as the Parties may agree to assign to the Commission'[93] Article 5 Functions of the Council – 'The Council shall take the decisions necessary to implement this Agreement'[94]	Article 8 Any dispute between the Parties arising out of the interpretation or implementation of this Agreement shall be settled amicably through consultation and/or negotiation between them. If the Parties to the dispute have not arrived at a settlement through the means provided for in sub Article 8.1, the dispute may, unless the Parties agree otherwise, be brought before the Tribunal established in terms of Article 16(1) of the Treaty of the Southern African Development Community of 1992, in accordance with the rules and procedures applicable with regard to the function of such Tribunal. The Parties shall accept the decision of the Tribunal as final and binding[95]
International Commission of the Congo-Oubangui-Sangha basins (French acronym CICOS)[96]	Article 2 create International Commission (CICOS)[97] Article 18 Principal organs: • Committee of Ministers • Committee of Direction • Secretary General	Article 17 – role of the Commission[98] Included navigational uses in formation agreement, supplemented in Addendum by water use, pollution and environmental issues[99]	Article 23 (Addendum) – all disputes to be settled amicably

(continued)

and government or their duly authorised representatives. The Council of Ministers of the Authority is the supervisory body of the authority. It is composed of ministers or their duly authorised representatives on a one vote per member state .The Technical Committee of Experts is composed of representatives of member states. It is mandated to prepare the sessions of the Council of Ministers and the reports and recommendations to the Council of Ministers. The Executive Secretariat is the statutory body of the NBA.

89 Agreement between the Governments of the Republic of Angola, the Republic of Botswana and the Republic of Namibia on the Establishment of a Permanent Okavango River Basin Water Commission (OKACOM) Windhoek (15 September 1994) http://www.icp-confluence-sadc.org/rbo summary.

90 The remit of the RBO has been successively defined and strengthened by a series of subsequent agreements that have supplemented the formation agreement; see http://www.okacom.org/okacom-resources/key-documents/okacom-key-documents-1/search; see especially 2006 Organisational Structure Agreement.

91 Under art 1 of 2006 Organisational Structure Agreement: 'OKACOM is the technical advisor to the contracting parties, on matters relating to the conservation, development and use of trans-boundary water resources of common interest within the Okavango River Basin'.

92 Agreement Between the Governments of the Republic of Botswana, the Kingdom of Lesotho, the Republic of Namibia and the Republic of South Africa on the Establishment of the Orange-Senqu River Commission, concluded 3 November 2000 (on file with authors).

93 Orange-Senqu Agreement art 4.

94 ibid art 5 sets out more detailed functions, which are largely advisory.

95 SADC Tribunal no longer exists leaving uncertainty as to the application of this provision.

96 Agreement on the Establishment of the Commission Internationale du Bassin Congo-Oubangui-Sangha (CICOS) between Republic of Cameroon, Central African Republic, Democratic Republic of Congo and Republic of the Congo (1999) http://www.icp-confluence-sadc.org/documents/agreement-establishment-commission-internationale-du-bassin-congo-oubangui-sangha-1999. See also Addendum to Agreement on the Establishment of the Commission Internationale du Bassin Congo-Oubangui-Sangha (CICOS) between the Republic of Cameroon, the Central African Republic, the Democratic Republic of Congo and the Republic of the Congo (2007) http://www.icp-confluence-sadc.org/documents/addendum-agreement-establishment-commission-internationale-du-bassin-congo-oubangui-sangha (both original documents in French).

97 ibid.

98 See also Addendum Agreement art 2.

99 ibid arts 1–16.

Table 2: Overview of legal and institutional foundations (continued)

RBO name	*Institutions*	*Legal mandate*	*Dispute settlement*
Nile Basin Initiative (NBI)[100] – Nile Commission to be established under Agreement On the Nile River Basin Cooperative Framework (CFA)[101]	(art 15, CFA) The Nile River Basin Commission (art. 17, CFA) The Commission is comprised of: (a) Conference of Heads of State and Government[102] (b) Council of Ministers[103] (c) Technical Advisory Committee[104] (d) Sectoral Advisory Committees[105] (e) Secretariat[106]	(art 16) The purpose and objective of the Commission is: (a) To promote and facilitate the implementation of the principles, rights and obligations provided for in the present Framework (b) To serve as an institutional framework for cooperation among Nile Basin States in the use, development, protection, conservation and management of the Nile River Basin and its waters (c) To facilitate closer cooperation among the States and peoples of the Nile River Basin in the social, economic and cultural fields	(art 33) In the event of a dispute between two or more Nile Basin States concerning the interpretation or application of the present Framework, the States concerned shall, in the absence of an applicable agreement between them, seek a settlement of the dispute by peaceful means in accordance with the following provisions (*see details in the footnote*)[107]

A high degree of regional integration – frequently in the form of an economic community – can greatly ease and improve the formation and operation of an RBO. Co-operation in various sectors (outside of water) can spill over into multilateral negotiations on water management, building on trust and economic ties already existing. In Southern Africa both ORASECOM and OKACOM benefit from the legal framework on water management provided by the Southern African Development Community (SADC).[108] The Revised Protocol on Shared Watercourses (2000)[109] provides a legally binding and enforceable mechanism for the basin states to promote collaborative management of transboundary waters.[110] In some respects this has meant that the international RBOs formed in that region could be of a lightweight design – with limited powers and responsibilities.[111]

The fact that the member states of the RBOs are already legally bound to a set of collaborative management provisions – such as not causing substantial harm to other water users,[112] recognising the principle of equity in the allocation of water[113] and the stipulation to provide notification of intended development actions,[114] means that the RBO is formed to advise on and support the basin states in line with the provisions of the SADC Protocol. One can see this in the structure of these RBOs – for instance, ORASECOM, after more than a decade of operation, still has no formal joint vision for the Orange-Senqu basin. Although this has been cited by representatives from the member states as something to attend to there is not much of a sense of urgency as the RBO fits into the existing SADC framework (through the Protocol as well as other mechanisms) – which does have a strongly articulated vision for regional development and integration. In effect, the RBO is content with pursuing objectives that contribute to the broader SADC vision, including under the SADC Water Protocol.

However, in some cases the existence of a strong regional framework may militate against the formation or development of the RBO. In the SADC case it can be argued that the RBOs are too lightweight and that there is not the political will to raise their status as this may detract from the role which member states and possibly donors

100 The existing Nile Basin Initiative (NBI) is to be superseded by the Commission created under the new Nile Basin CFA once that instrument enters into force. Agreement on the Nile River Basin Cooperative Framework (CFA) art 30 provides: 'Upon the entry into force of this Framework the Commission shall succeed to all rights, obligations and assets of the Nile Basin Initiative (NBI)'.

101 Agreement on the Nile River Basin Cooperative Framework (CFA).

102 CFA art 21: 'The Conference shall be the supreme policy-making organ of the Commission'.

103 ibid art 24: 'The Council is the governing body of the Commission. It may refer matters to the Conference of Heads of State for decision'.

104 ibid art 26: 'The TAC shall prepare for the consideration of the Council cooperative programs for the integrated and sustainable management and development of the Nile River Basin'.

105 ibid art 28: 'SACs shall discharge the tasks assigned to them by the Council'.

106 ibid art 30(1): 'The Executive Secretary shall represent the Commission as to matters specified in the rules and procedures governing its operations and in particular in its relations with international and bilateral assistance institutions and with any Nile sub-basin institutions or arrangements. (2) The Secretariat shall serve as the secretariat for meetings of all organs of the Commission'.

107 'a. If the States concerned cannot reach agreement by negotiation requested by one of them, they may jointly seek good offices, or request mediation or conciliation by, the Nile River Basin Commission or other third party, or agree to submit the dispute to arbitration, in accordance with procedures to be adopted by the Council, or to the International Court of Justice. b. If after six months from the time of the request for negotiations referred to in paragraph 2, the States concerned have not been able to settle their dispute through negotiation or any other means referred to in paragraph 2, the dispute shall be submitted, at the request of any of the parties to the dispute, to impartial fact-finding in accordance with the Annex on the fact finding Commission, unless the States concerned otherwise agree'.

108 The SADC countries comprise Angola, Botswana, Congo, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. For more details see Salman M A Salman 'Legal regime for use and protection of international watercourses in the Southern African region: evolution and context' (2001) 41 *Natural Resources Journal* 981.

109 Revised Protocol on Shared Watercourses in the Southern African Development Community (SADC), signed on 7 August 2000 http://www.sadc.int/documents-publications/show/Revised_Protocol_on_Shared_Watercourses_-_2000_-_English.pdf.

110 Refer to Revised SADC Protocol (2000) art 3 (General principles) items 1, 2, 3 and 5 and art 4 (Specific provisions) item 3 (Management of shared watercourses) items a and b(i).

111 D B Malzbender, A Earle 'The impact and implications of the adoption of the 1997 UN Watercourse Convention for countries in Southern Africa' (WWF Washington DC 2007).

112 SADC Protocol (2000) art 3 (General provisions) item 10a.

113 ibid art 2 (Objective) item b.

114 ibid art 4 (Specific provisions) 1 (Planned measures) item b.

have ascribed to the SADC.[115] A possible rivalry between the nascent RBO and the existing Regional Economic Community (REC) may develop, although judging by the six cases included in this analysis this is not usually the case.

Most frequently the lack of a common REC is cited as a factor hindering the formation of a basin-wide institution, such as in the Nile. In that basin the 10 riparian states do not belong to a common REC. Remarkably, the five countries around Lake Victoria (Burundi, Kenya, Rwanda, Tanzania and Uganda) are members of the East Africa Community (EAC) and cooperate extensively on water-related (and other) issues through the Lake Victoria Basin Commission (LVBC). Stakeholders in the Nile process have voiced the opinion that the convening power of a common REC, with cooperative mechanisms beyond water, is needed to resolve the current impasse on the formation of a basin-wide commission.[116]

The process of cooperation has a certain inherent inertia – making it difficult to start cooperation but also making future cooperation in a range of other areas possible once initiated. If countries have a history of previous cooperation (in any number of fields or sectors) it builds trust between them, facilitating cooperation in other areas.[117] Linking with the facilitating role that an enabling regional framework can play, the existence of trust between countries means that the resultant institutions formed to pursue common interests can be minimalist. In the absence of a formal REC there may be a history of cooperation between states in fields such as trade, finance, migration and others which contribute to better relations between states around water issues generally.

In five of the six cases analysed there is an absence of intractable conflicts on water (and usually on other issues) between the riparian countries. This is not to say that there are not tensions or disputes about water or other issues, just that they have generally been of the sort which could be resolved in less than a decade of discussions. The exception is the NBI process, where discussions around the formation of a basin-wide commission have been ongoing since the mid-1990s and have yet to be resolved to the satisfaction of all basin states. In this case the key point of difference is the definition in the Cooperative Framework Agreement (CFA)[118] of the term 'water security'.[119]

Egypt and Sudan have sought a wording protecting existing water allocations (codified in a 1959 agreement between those two countries)[120] and the other basin states seeking wording recognising their right to an 'equitable share' of the river flow.[121] These two positions result in a zero-sum game where the gain of one camp equates to the direct and proportional loss by the other; an intractable conflict. In the presence of such an impasse it becomes difficult to reach an agreement which suits all the basin states, in the case of the Nile hindering the formation of a basin-wide RBO in the near or medium-term future. Despite this the NBI continues as an informal institutional mechanism that has facilitated growing cooperation.[122]

The existence of a shared culture and language can also contribute to the ease with which countries are able to enter into cooperative management arrangements. If the governing and political classes of the basin states share a common religion, work culture and language it is easier for them to reach agreement as well as to operate a joint institution. This situation is evident in ORASECOM – where each of the countries was under British dominion at some stage in their history, making English the common language. In addition there are several bilaterally shared languages, such as Sesotho, Setswana and Afrikaans; and religious differences are not pronounced.[123] Members of the Commission make use of one of these languages in informal settings – whilst English is used for formal meetings.

There is also a similar approach to negotiations, problem-solving and aspirations for regional development amongst the countries. This is in contrast with OKACOM which, although involving two of the same countries as ORASECOM (Botswana and Namibia), adds Angola to the mix. As a Portuguese-speaking country it has a different approach to issues such as decision-making and management – preferring a more centralised style compared to the consensus-based approaches common in the other two countries.[124] In most joint meetings of OKACOM interpreters are used – adding complexity to proceedings and making it more difficult to build trust and confidence. At times frustration has been expressed by Angolan representatives at the slow pace of deliberations, finding the Botswana need for internal consensus an impediment to reaching decisions in the Commission.[125]

It has been argued by some commentators that political relations in the Nile River basin are shaped by the existing cultural, linguistic and trade links – hence a 'natural' grouping of Egypt and Sudan downstream and the East Africa group upstream.[126] Whilst this may be the case it is argued here that it is not an insurmountable obstacle to

115 GIZ 'Transboundary water management in the SADC region' (GIZ Gaborone 2010).

116 NBI 'Component 4 Report: regional collaboration and synergy' (Nile Basin Initiative Entebbe 2011).

117 M Zeitoun, A Jagerskog 'Addressing power asymmetry: how transboundary water management may serve to reduce poverty' (Stockholm International Water Institute Stockholm 2011).

118 Agreement on the Nile River Basin Cooperative Framework http://www.internationalwaterlaw.org/documents/regionaldocs/Nile_River_Basin_Cooperative_Framework_2010.pdf. The CFA was signed in May 2010, in Uganda, by six of the Nile Basin countries. Egypt, Sudan and the Democratic Republic of Congo (DRC) refused to sign. The agreement has now entered into force.

119 Article 14(b) of the CFA reads: 'not to significantly affect the water security of any other Nile Basin state', which is accepted by all countries except Egypt and Sudan. The article is annexed to the CFA with the resolution that the Nile River Basin Commission resolve the issue within six months of its establishment.

120 United Arab Republic and Sudan Agreement (with annexes) for the Full Utilization of the Nile Waters (1958) article 1 item 1 and article 2 item 4.

121 Abseno (n 74).

122 Reference the website of the NBI (www.nilebasin.org) which is up to date with a range of activities being pursued across the basin, including technical studies, the development of the hydromet network, stakeholder consultations and planning for the forthcoming Nile Basin Development Forum meeting in Nairobi (6–10 October 2014).

123 Orange-Senqu River Awareness Kit 'History and water related culture' (2011) http://www.orangesenqurak.com/people/people+of+the+basin/basin+states.aspx.

124 Turton, Ashton and Cloete (n 62).

125 Personal communication with Angolan OKACOM Commissioner Mr Isidro Pinheiro dated 2006.

126 J Kalpakian *Identity, Conflict and Cooperation in International River Systems* (Ashgate Farnham 2004) and J Waterbury *Hydropolitics of the Nile Valley* (Syracuse University Press New York 1979).

basin-wide cooperation – and something which a basin-wide commission can contribute to attenuating. Considerable progress has been made and management and logistical instruments set in place to overcome the existing differences in culture, language or trade ties. This would need to be a core part of the working methodology of the future Nile River Basin Commission.

Organisational sustainability

For all the effort, time and energy expended in reaching agreement on forming an RBO it should be remembered that the real long-term challenge is keeping that organisation going. The sustainability of an RBO is contingent on a range of factors, all of which culminate in the need for sufficient resources. Without funding and adequate capacity it is not possible to run an organisation. Owing to the internationalised nature of transboundary rivers and their place in the collective global community, considered by many as public goods,[127] there is a high degree of involvement of non-basin actors in their management. Foremost would be bilateral and multilateral development institutions, some of which may have played a role supporting or facilitating the establishment of the legal and institutional foundations for the RBO. Building on these foundations and capitalising on increased levels of trust and reduced levels of political risk in the basin are investors eager to explore infrastructure development opportunities. A well functioning RBO can serve to balance the respective interests of these actors, who may have divergent interests.

Agreement on organisational sustainability falls in the realm of policy and strategy development and can be developed by the RBO once it is established. In other words, these are decisions that can be left until after agreement is reached on the formation of the RBO. Once an RBO is established, issues of its sustainability require attention. In contrast to the exogenous variables of the regional context discussed above, issues related to sustainability involve marrying the politically-negotiated development aspirations of the state parties (as expressed in the formation agreement) with the regional context in which the RBO operates.

Transboundary waters, especially in a development context, are often subject to a range of overlapping and uncoordinated activities, sometimes resulting in wasted resources (as a result of duplication) and possible gaps.[128] An effective system of financial management is needed,[129] so as to align initiatives with objectives for basin or regional development. In a study mapping financial flows for transboundary water management performed by the EU Water Initiative Africa Working Group in 2013 it emerges that of the 64 major transboundary basins in Africa only 21 are supported by international development partners.[130] However, just five basins account for over half of all the funding provided by development partners (Nile, Chad, Niger, Orange and Senegal), indicating a degree of crowding in just a few basins.[131] Another study shows that larger basins attract more donor-funded projects.[132] Thus, RBOs must develop diversified income streams, as a hedge against shifts in donor interests and funding.

Once ORASECOM was formed in 2000 it rapidly started attracting a range of donors and some substantial funding. As a result several basin-wide projects of various sizes and with differing objectives were implemented by a range of organisations. The predictable overlaps and gaps meant that the funds were not resulting in optimal results, a situation not conducive to the efficient and effective allocation of resources. This led to ORASECOM developing and adopting a set of terms of engagement for donors wishing to operate in the basin.[133] They did not wish to control the projects – certainly ORASECOM in those days lacked the capacity to do that effectively, but they called on donors formally to notify the Commission of intended projects. In addition, a database of all known projects in the basin was developed and prospective donors were asked to consult this prior to developing a new project. In the long run this has evolved into a donor coordination mechanism for the SADC water sector – with GIZ performing this role and aiming to promote more effective donor support to water projects in the region.[134]

Possibly a more predictable form of financial support, even if not always as substantial, are financial contributions from the member states themselves. The degree to which member states wish to support an RBO financially is indicative of the value of the services provided by that RBO to the member states.[135] Several RBOs included in this study receive substantial financial contributions (either in cash or in kind) from the basin states, including OMVS and ORASECOM.[136] Generally, these contributions cover the core costs of the RBO (ie running the secretariat and covering essential functions), whilst projects and activities are usually covered by development partners.[137]

As mentioned above, the situation on transboundary watercourses is made complex by their international public good nature. Some of the ecosystem services and landscapes of a watercourse may be considered vital to protect by the international community through other legal instruments such as multilateral agreements, whilst the basin states may be more concerned with direct economic development. Thus, the substantive remit of the RBO may run counter to the economic development objectives of the riparian states, compromising potential

127 A Jägerskog, J Granit, A Risberg and W Yu 'Transboundary water management as a regional public good. Financing development: an example from the Nile Basin' Report No 20 (SIWI Stockholm 2007).

128 EU Water Initiative Africa Working Group 'Mapping of financial support to transboundary water management in Africa' (SIWI Stockholm 2013).

129 SADC 'Guidelines for strengthening river basin organisations: funding and financing' (SADC Infrastructure and Services Directorate Gaborone 2010).

130 EU Water Initiative Africa Working Group (n 128).

131 ibid.

132 GIZ 'Donor activities in transboundary water cooperation in Africa: results of a G8-initiated survey 2004–2007 (GIZ Frankfurt 2007).

133 ORASECOM 'Roadmap towards stakeholder participation' (ORASECOM Centurion 2007).

134 SADC Water Sector – international cooperation partner collaboration portal http://www.icp-confluence-sadc.org/about-sadc-water-sector-icp-collaboration-portal.

135 NBI 'Component 2 Report: financial sustainability' (Nile Basin Initiative Entebbe 2011).

136 NBI 'Component 3 Report: river basins organizations survey' (Nile Basin Initiative Entebbe 2011).

137 EU Water Initiative Africa Working Group (n 128) and Schmeier (n 4).

financial support from them. Another danger is the incompatibility of local versus external support for RBOs, with possible failure fully to engage the member states and respond effectively to their objectives.[138] It is important for an RBO to find a balance between the international aspirations for the watercourse and the socio-economic development objectives of the basin states.

Another issue to consider is the formula for contributions from member states. In most international basins there exist large disparities in levels of economic development between states. Wealthier states have a greater capacity to pay contributions to supporting the RBO and may exploit this position to gain influence and leverage over the organisation. In ORASECOM there is a large difference in annual income between the states – ranging from US$2100/person in Lesotho to US$15,700/person in Botswana (using PPP method at 2012 levels[139]). Despite this disparity the states have elected to make equal contributions to the running of the secretariat and other activities of the Commission – setting the contribution at the level the least wealthy state could afford. The positive result is that all four member states operate from an equal footing in the Commission. The negative impact is that it places a low limit on what member states can contribute – with a great deal more being possible if a differentiated mechanism was used and limiting options for the sustainable growth of the organisation.[140]

Any organisation, RBOs included, needs to be clear about who they serve – in the case of international RBOs the member states represented by their respective governments, in turn representing their citizens. If basin-state governments perceive that the RBO is imposed from the outside or beholden to vested interests it is unlikely to gain the necessary political support for its activities. Management measures to balance the need for conservation of the environment with the realities of promoting socio-economic development are bound to precipitate conflicts of interests amongst parties – within and beyond the basin. An international watercourse is an asset to the entirety of all the basin states (tempered by their internal governance structure, that is, the degree to which sub-national provinces or states enjoy autonomy over water resources) and it is expected that it will be managed and developed to bring about as much national benefit as possible.[141]

It is important that the aims and objectives of the RBO are closely aligned to the overall national development objectives of the basin states. For example, in the period 2003 to 2006 the Okavango River basin stakeholders (national governments via OKACOM but also including local communities, private sector and researchers) engaged in a series of 'visioning' activities for the basin.[142] This was meant to culminate in a basin-wide vision for the management, development and conservation of the basin. This process benefited from input from a well articulated national development vision of one of the basin states – Botswana's Vision 2016. Set in place in 1996 Vision 2016 was based on broad stakeholder input and set out clearly articulated objectives for socio-economic development under seven key pillars – several of which are linked to water management (eg agriculture, environment, tourism and education). In some ways the Botswana national vision thus permeated into the overall basin vision developed for the Okavango – providing a strong sense of ownership for the process in a country highly vulnerable to changes in the flow of the river.[143]

An RBO is created to serve the interest of the populations of the member states, a sentiment summed up concisely by an OKACOM Commissioner as: 'OKACOM is the manifestation of the ecological will of the basin peoples'.[144] In order to facilitate its work and promote the principle of subsidiarity an RBO is dependent on effective engagement with stakeholders in the basin. The most effective RBOs are ones which have managed to capitalise on and leverage the interest of basin communities and other stakeholders, facilitating their involvement in the management and development of the water resources of the basin.[145] Local communities become a part of the monitoring and information networks in the basin, providing management data and information to the RBO. In the absence of well capacitated groups in the basin, or the possible disparity of capacity between various parts of the basin, it is incumbent on the RBO to support stakeholder capacity building. This may reduce the possibility of stakeholder groups becoming beholden to any one set of interests – and promote a plurality of views and inputs vital to ensuring informed decision-making.

In most of the cases analysed in this article (the NBI being a notable exception) it would appear that the RBO has not actively engaged in promoting greater stakeholder participation in its activities. Instead, programmes have been undertaken in a reactionary way, frequently linked with infrastructure projects. For example, although the OMVS is seen as a successful RBO in several areas it has not, up until recently, done much about stakeholder participation. Only in 1999 was a programme established to mitigate the environmental and social impacts associated with the construction of the Manantali Dam, long after the construction process started in 1982.[146] Under this project local community organisations were formed – over time becoming increasingly involved in the activities of the RBO.

Where an effective basin-wide stakeholder process has been implemented early there have been direct advantages for the RBO. In the case of the Okavango River, for example, the 'Every River has Its People' Project was established in 1999 by NGOs in the three countries and developed a basin-wide forum, long before the construction of large-scale water infrastructure in the basin. This

138 O Cogels 'Negotiating over shared water resources in the Mekong River Basin and role of the international donor community' Case study presented as part of the EC Policy Dialogue Training (Brussels 2013).

139 CIA 'The world factbook 2013–2014' (Central Intelligence Agency Washington DC 2013).

140 ORASECOM 'Institutional analysis for ORASECOM' (n 51).

141 Earle, Jägerskog and Öjendal (n 33).

142 T Scudder 'The Okavango River Basin' in O Varis, C Tortajada and A K Biswas (eds) *Management of Transboundary Rivers and Lakes* (Springer-Verlag Berlin 2008).

143 ibid.

144 Statement made by Namibian OKACOM Commissioner Dr Stefan de Wet during a stakeholder workshop held at Gobabeb Desert Research Station, Namibia in March 2003.

145 N Kranz, E Mostert 'Governance in transboundary basins – the roles of stakeholders: concepts and approaches in international basins' in Earle, Jägerskog and Öjendal (n 33).

146 Niasse (n 54).

forum has representatives from communities across the basin and catalysed dialogue in different parts of the basin – although with very little input from or contact with OKACOM.[147] However, by 2004 the forum had gained official OKACOM recognition and was given an observer seat at all OKACOM meetings. The result is that communities along the river are now better informed of the activities of OKACOM as well as of the respective national governments – another advantage, given the remoteness of most of the communities from their respective national capital cities.[148]

FINAL OBSERVATIONS

More than two-thirds of the world's shared transboundary water resources are not covered by treaty regimes.[149] With the increasing global and local demands for adequate qualities and quantities of freshwater, and given the strong pull of national sovereignty, as states focus on meeting domestic agendas, the need for effective operational transboundary water cooperation has never been greater. Joint institutional mechanisms are an essential vehicle for addressing this complex challenge. This article has explored some of the important issues related to RBO design and operational remit, and it is hoped that the findings will be of use to riparians in other basins seeking to establish RBOs or other institutional cooperation mechanisms.

The article has identified a legal and institutional analytical approach for analysing the formation and functioning of RBOs, based upon an analysis of six RBOs from selected African case studies. The three elements considered in this study: legal and institutional foundations; regional context; and organisational sustainability – cover the core issues relevant to RBO design and function (objectives; territorial jurisdiction; composition; authority and powers; decision-making procedures; financial provisions; and procedures for the prevention and settlement of disputes).

This legal and institutional lens provides a coherent framework for identifying and evaluating the potential effectiveness of RBOs in their role as front-line agents for promoting effective transboundary water cooperation. As has been demonstrated in this study, RBOs, created in diverse settings and in distinctive ways, appear to be effective when the three elements identified here are addressed as comprehensively, and as regionally appropriate, as possible. Certainly RBOs are not all alike – their context dictates an individual set of formation and operation factors. However, this article shows it is possible to distil systematically derived lessons which can be applied globally.

147 A R Turton, A Earle 'Public participation in the development of a management plan for an international river basin: the Okavango case' Invited paper presented at the International Symposium 'Public participation and governance in water resources management' (8 October 2003) United Nations House, Tokyo, Japan.

148 Scudder 'The Okavango River Basin' (n 142).

149 Transboundary waters: sharing benefits, sharing responsibilities, UN Water Thematic Paper (2008) http://www.unwater.org/downloads/UNW_TRANSBOUNDARY.pdf. The report sets the context: 'Approximately 40 per cent of the world's population lives in river and lake basins that comprise two or more countries, and perhaps even more significantly, over 90 per cent lives in countries that share basins. The existing 263 transboundary lake and river basins cover nearly one half of the Earth's land surface and account for an estimated 60 per cent of global freshwater flow. A total of 145 states include territory within such basins, and 30 countries lie entirely within them. In addition, about 2 billion people worldwide depend on groundwater, which includes approximately 300 transboundary aquifer systems'.

THE SUSTAINABLE DEVELOPMENT GOALS AS CATALYST FOR THE SUSTAINABLE MANAGEMENT OF WATER RESOURCES

DR OTTO SPIJKERS
*Utrecht Centre for Water, Oceans and Sustainability Law, Utrecht University**

This article analyses how the sustainable development goals (SDGs) process might give a boost to the evolution of international water law towards a more sustainable development-friendly legal framework. Three recommendations, derived from the SDG process, are made to call upon states: (1) unambiguously to approach international water law as a legal framework to promote the sustainable development of water resources, and to interpret the bedrock principles of international water law in that context; (2) to encourage the further development of the ecosystems approach to international water law; and (3) to use the legal framework of international water law to facilitate public participation at all levels of water governance.

1 INTRODUCTION

On 18 September 2000, all the members of the United Nations resolved, 'at the dawn of a new millennium', to set a limited number of goals collectively to tackle the most pressing global issues in the field of development. These goals became known as the Millennium development goals (MDGs). The MDGs had to be achieved by the year 2015.[1] Regardless of whether this is actually done – in fact, it is almost certain that not all MDGs will be realised by the end of 2015 – it is generally believed that setting quantifiable, ambitious, but realistic goals for development has proved to be a helpful strategy to keep the world moving in the right direction.[2] The goals are like the proverbial carrot, dangling before the donkey's nose, urging it to move forward without ever reaching the carrot. The United Nations (UN) wants to repeat the process in the period 2015–2030, but it wants to replace the old carrot with a new one, *i.e.* to come up with a new set of goals. This time, the focus is on sustainability, and thus the goals-to-be are referred to as the *sustainable* development goals (SDGs).

One of the more formidable global challenges when it comes to sustainable development is the need for the sustainable management of freshwater resources. In many recent speeches and reports, one reads that urgent action is necessary to prevent a nightmarish world with polluted lakes and rivers, deadly droughts and floods, water scarcity and the resulting water wars.[3]

States thus need to be made aware of the importance of managing their freshwater resources in a sustainable way, and a strong sustainable development goal on water can do that.[4] The SDG on water can be called 'strong' if it is clear and specific, because, as Laura Horn pointed out, 'the adoption of watered-down language in the drafting of the sustainable development goals would provide little incentive for states to take action on these goals'.[5] Furthermore, the SDGs must be backed by binding norms of international law, in order to provide a compelling incentive for change in state behaviour.

Fortunately, an appropriate international legal framework already exists, so we do not need to start from scratch: the management of transboundary freshwater resources is regulated by international water law. It is important that the existing regime of international water law is sufficiently equipped to guide states in implementing an ambitious SDG on water, and more generally, to guide them towards sustainable management of their freshwater resources. And if international water law is not (yet) equipped for this task, then it needs to evolve, through a renewed interpretation of the most important principles, or even through modification of these principles. The SDG process might give this evolution a push in the right direction.

In other words, an assumption underlying this article is that the SDG process has the potential actually to facilitate the evolution in the interpretation and application of international water law and, more particularly, the provisions in the UNECE Convention and the Watercourses Convention. This assumption can be challenged. It can be argued that the SDG process ought not to be analysed as a legally relevant process at all. After all, the final result of the SDG process will be – if all goes as planned – a legally non-binding resolution of the United Nations General Assembly (UNGA). But reality, as always, is much more complicated than that. In a way, the character of the SDG process depends not so much on the legally non-binding character of its end-product – an UNGA resolution – but on who is contributing to this process. It is not too difficult to see legally relevant processes at work. If the states party to the UNECE Convention and/or the Watercourses Convention use the SDG process to call for a 'sustainable development' friendly interpretation of these Conventions, then this can be regarded as a subsequent soft-law agree-

* Assistant Professor of Public International Law Utrecht University. Contact o.spijkers@uu.nl

1 *United Nations Millennium Declaration* GA Res 55/2 (adopted 18 September 2000) para 19.

2 Many development organisations, both governmental and non-governmental, have used them in their policies. See 'The future we want', outcome document of the United Nations Conference on Sustainable Development 2012, annexed to GA Res 66/288 (adopted 27 July 2012) para 245.

3 See eg Mikhail Gorbachev *Water crisis: clear and present danger* (Green Cross 20th anniversary: 2020 Statement) Geneva (2 Sept 2013).

4 See the same statement by Gorbachev. The Netherlands is also a particularly strong supporter of a strong SDG on water. See eg Minister van Infrastructuur en Milieu *Water in Beeld* (*Voortgangsrapportage Nationaal Waterplan en Bestuursakkoord Water over het jaar 2013*) 84.

5 Laura Horn 'Rio+20 United Nations Conference on Sustainable Development: is this the future we want?' (2013) 9(1) *Macquarie Journal of International and Comparative Environmental Law* 41.

ment between the parties regarding the desired interpretation of the Conventions, or as relevant subsequent practice in the application of these Conventions.[6]

The SDG process can also be used to affirm existing customary norms, and this is important considering the small number of ratifications of especially the Watercourses Convention. One may see nascent norms of customary law crystallising through the SDG process. A custom, which is slowly developing in the actual practice of states, might get a sudden boost when the Assembly formulates the practice in a clear and specific norm, and urges all states in the world to act in this way. Even when the Assembly's recommendations do not reflect already existing practices, they might *become* reflections of customary norms, if states pick up the recommendations and begin to act accordingly, for example by including the recommended principles in their bilateral or regional sustainable water management agreements, negotiated in the framework provided by the UNECE Convention and Watercourses Convention. The importance of seeing any political agreement on the sustainable management of water resources translated into binding international law cannot be overstated. International law adds some predictability and formality to any cooperation scheme between states sharing a particular watercourse, and to the system regulating the management of waters as a whole.[7]

After these general remarks on the cross-fertilisation between international water law and the SDG process, it is time to focus on the particular research question this article seeks to address, namely 'In what way can the sustainable development goals process be used to encourage the further evolution of international water law so that it effectively promotes the sustainable management of freshwater resources?' Here, the question is not how international water law can help achieve the SDG on water, but rather how the SDG on water can serve as a catalyst to make the interpretation and application of international water law more sustainable.[8]

To answer this question, an overview of the SDG process is provided, first, with a focus on discussions relating to sustainable water management (section 2). It is important to note that, at the time this article was finalised, the SDGs had not yet been adopted by the UN General Assembly, and thus the focus in this article is on analysing the SDG process, not the final outcome of that process. The aim of this section is to identify certain ideas that are fertile ground for more specific recommendations.[9] These recommendations on how the SDG process might trigger a renewed interpretation of certain provisions of international water law are provided next (section 3), followed by a conclusion (section 4). Besides the SDG process, the recommendations are also inspired by the scholarship on the actual and potential cross-fertilisation between the concept of sustainable development and international water law,[10] or the protection of the environment and international water law.[11]

This article is normative and not descriptive, in the sense that it will not give a description of what the law is, but rather provide recommendations on how it might adapt. In this sense, the principal proposal of this article is to permit the SDGs on water to have a 'transformational effect' on existing international water law.[12] At the same time, in order for any SDGs to be effective and realistic, it has rightly been suggested that it must be 'consistent with international law and build upon commitments already made'.[13] What is ultimately crucial, of course, is that states adapt their actual practice to the evolution of international water law. It is only through actual state practice that the practical consequences of adopting a 'green' or sustainable development-friendly international water law become clear.[14]

At the same time as the SDGs are being formulated, important developments are taking place in international water law. In one and the same year (2014), the most important regional framework convention on transboundary waters will 'go global'. This is the Convention on the Protection and Use of Transboundary Watercourses and International Lakes of the United Nations Economic Commission for Europe (UNECE), adopted in Helsinki in 1992 (UNECE Convention). Also, the only truly global convention on international watercourses will finally enter into force. This is the Convention on the Law of the Non-navigational Uses of International Watercourses, adopted in New York in 1997 (Watercourses Convention).[15] Thus,

6 See Vienna Convention on the Law of Treaties art 31.

7 See also Christina Leb *Cooperation in the Law of Transboundary Water Resources* (Cambridge University Press 2013) 252.

8 The former approach was used for example in Nicole Kranz, Lesha Witmer and Uschi Eid 'International development and environmental goals' in Flavia Rocha Loures and Alistair Rieu-Clarke (eds) *The UN Watercourses Convention in Force: Strengthening International Law for Transboundary Water Management* (Earthscan 2013).

9 As Malgosia Fitzmaurice recently pointed out, the big challenge for the future is how to apply the theory of sustainable development to the *practical* context of international water law. M Fitzmaurice 'Protection of international watercourses' in N A Martínez Gutiérrez *Serving the rule of international maritime law* (ed) (Routledge London 2012) 40–41. See also Stephen C McCaffrey 'International watercourses, environmental protection' in *Max Planck Encyclopedia of Public International Law* (April 2011).

10 See eg Patricia Wouters and Alistair Rieu-Clarke 'The role of international water law in promoting sustainable development' in 'Review and analysis of aquatic environmental law and economic regulation in the UK and EU' (2001) 12(5) *Journal of Water Law* 281–83; Antoinette Hildering *International Law, Sustainable Development and Water Management* (Eburon 2004); Alistair Rieu-Clarke *International Law and Sustainable Development: Lessons From the Law of International Watercourses* (IWA 2005); James A R Nafziger 'Basic functions and principles of international environmental law in the context of managing water resources' (2011) 39(3) *Denver Journal of International Law and Policy* 381–95; Tuomas Kuokkanen 'Integrating environmental protection and exploitation of natural resources: reflections on the evolution of the doctrine of sustainable development' (2004) 22(3) *Journal of Energy and Natural Resources Law* 345–48; Malgosia Fitzmaurice 'Protection of international watercourses' in Norman A Martínez Gutiérrez (ed) *Serving the Rule of International Maritime Law: Essays in Honour of Professor David Joseph Attard* (Routledge Abingdon 2010).

11 Owen McIntyre *Environmental Protection of International Watercourses under International Law* (Ashgate 2007).

12 See also Francesco Sindico 'Water governance in the aftermath of Rio+20' (2014) 16(2) *International Community Law Review* 251.

13 See Amy Cutter, Umberto Sconfienza and Farooq Ullah *Tests of Success for the SDGs: A Tool for Designing and Assessing Sustainable Development Goals and Targets* (Stakeholder Forum 2014) 10 (transformational) and 8 (consistent).

14 See also Malgosia Fitzmaurice 'The relationship between the law of international watercourses and sustainable development' in Malgosia Fitzmaurice (ed) *Research Handbook on International Environmental Law* (Edward Elgar Cheltenham 2010) 626.

15 See GA Res 51/229 (adopted 21 May 1997). For a general introduction or commentary see Alistair Rieu-Clarke, Ruby Moynihan and Bjorn-Oliver Magsig *UN Watercourses Convention: User's Guide* (2012) http://www.gwp.org/Global/Our%20Approach/Strategic%20Allies/User's%20Guide%20to%20the%20UN%20Watercourses%20Convention%20(2012).pdf; and Flavia Loures, Alistair Rieu-Clarke and Marie-Laure Vercambre 'Everything you need to know about the UN Watercourses Convention' WWF (2009) http://www.unwater.org/downloads/wwf_un_watercourses_brochure_for_web_1.pdf.

one cannot imagine a better moment to promote, through the adoption of the SDGs, the universal participation in these Conventions and their 'sustainable development-friendly' interpretation and application.

2 SUSTAINABLE MANAGEMENT OF WATER RESOURCES IN THE SDG PROCESS

Before making recommendations on ways in which the SDG process might promote a sustainable development-friendly interpretation of international water law (see section 3), the SDG process is described, and the role of the commitment to manage one's water resources sustainably in it.

The drafting process of the SDGs takes place through two work streams, which will be brought together in 2015, when the UN General Assembly has to adopt the list of SDGs in the form of a resolution. From then onwards, the SDG process will be all about implementation, dissemination, monitoring compliance and creating awareness of the SDGs.

Turning first to the preparation and drafting stages, two work streams can be identified, both of which are crucial in the drafting of the SDGs. The first is a work stream led by the UN Secretary-General, with many reports and consultations feeding into this work stream. The second work stream is led by the Open Working Group on the Sustainable Development Goals.

From the beginning, water has been identified as an important issue. 'The future we want', the outcome document of the Rio+20 Conference held in 2012, which set the SDG process in motion, placed water at the heart of sustainable development.[16] It further called on 'the development of integrated water resource management and water efficiency plans, ensuring sustainable water use'.[17] Since then, those participating in the work streams have struggled to find water law's proper place in the SDG process. The recommendations in this article build on this struggle, and provide some helpful guidance that might be used at the implementation stages of the SDGs.

2.1 Work stream led by the Secretary-General of the United Nations

The first work stream is the one led by the Secretary-General of the United Nations (UNSG) Ban Ki-moon, who will be assisted by his Special Advisor on Post-2015 Development Planning, Amina Mohammed of Nigeria and by the Secretary-General's Advisory Board on Water and Sanitation. This panel has produced three so-called Hashimoto Action Plans. The third and last of these plans contains a concrete suggestion for a SDG on water.[18] The suggestion made in the plan is that an SDG on water must include, inter alia, a call upon all involved to improve wastewater management, pollution prevention and integrated water resources management.[19]

There are also various participatory processes that provide valuable information, which the Secretary-General used when writing up his recommendations to the UN General Assembly. The most important are the Sustainable Development Solutions Network, the UN Global Compact and the High-level Panel of Eminent Persons on the Post-2015 Development Agenda. Each of these will be examined briefly.

The Sustainable Development Solutions Network is a network of scientists. The network presented its final report in October 2013.[20] In the report, the scientists noted that 'many countries face growing water stress and virtually all must improve the integrated and sustainable management of their water resources'. The report emphasised the need for long-term strategies involving not only states, but also local communities and businesses. The aim was 'to balance sustainable supply and use, reduce water loss, improve water retention, and lower pollution'. The scientists did not propose to include a separate water goal, but one of their proposed SDGs (SDG 9) included a clear reference to sustainable water management.[21]

The proposal was that 'water resources are managed sustainably and transparently to support inclusive economic and human development'. Of the concrete targets accompanying SDG 9, Target 9A is interesting, as it included the suggestion that all states adopt legislation requiring 'individuals, businesses and governments to pay the social cost of pollution and use of environmental services'. This target was applicable to water as well. This is a strategy worth exploring further. After all, most of the time, it is businesses and not the government itself, which are directly responsible for polluting and depleting water resources.[22] Target 9C is also worth referring to. It read as follows: 'all governments and businesses commit to the sustainable, integrated, and transparent management of water resources to support inclusive economic development and the achievement of all SDGs'. In order to make this rather vague target more concrete and measurable, the suggestion was made to include an obligation that the ratio of freshwater withdrawals to renewable freshwater supply should be lower than one.[23]

16 'The future we want' (n 2) para 119. See also Kranz and others (n 8) 249.

17 'The future we want' (n 2) para 120.

18 Secretary-General's Advisory Board on Water and Sanitation *Water and Sanitation for All: Securing our Future, Preserving our Planet* (UNSGAB's call for a Post-2015 Global Goal on Water) (2013) http://www.unsgab.org/.

19 United Nations Secretary-General's Advisory Board on Water and Sanitation *Hashimoto Action Plan III: Strategy and Objectives through 2015* at 4 http://www.unsgab.org/content/documents/hap3.pdf.

20 See *An Action Agenda for Sustainable Development* Report for the UN Secretary-General (23 October 2013), prepared by the Leadership Council of the Sustainable Development Solutions Network at x, 19–20 http://unsdsn.org/files/2013/11/An-Action-Agenda-for-Sustainable-Development.pdf.

21 In Annex 3 (under Question 25) of *An Action Agenda for Sustainable Development*, the scientists explain that water resources management does not need a separate goal, because it is 'a cross-cutting requirement for all goals'.

22 The UNECE Convention does refer to the polluter pays principle at art 2(5)(b). The Convention on the Protection and Use of Transboundary Watercourses and International Lakes (UNECE Water Convention) was adopted in Helsinki in 1992 and entered into force in 1996. Almost all countries sharing transboundary waters in the region of the United Nations Economic Commission for Europe (UNECE) are parties to the Convention. See also McIntyre (n 11) 284–86, who emphasises that the polluter who must pay does not need to be a state; it can also be a company or individual.

23 This can be found in Annex 3 to *An Action Agenda for Sustainable Development*, under question 25.

The UN Global Compact is a network of business representatives. They were – and felt – excluded from the drafting of the MDGs, and thus it is a good thing that they are now playing a prominent part in the process from the very beginning.[24] The Global Compact prepared its own list of SDGs.[25] The report does not contain many original or fresh ideas relating to water management. The business representatives admitted that industries were responsible for the use of most of the world's freshwater, but they did not accept the kind of legal responsibilities suggested by the scientists. A proposal of the business representatives was to look critically at over-consumption, especially in the agricultural sector.

The High-level Panel of Eminent Persons on the Post-2015 Development Agenda is a group of experts, assembled by the Secretary-General. They were asked to draft a report, entitled 'A new global partnership: eradicate poverty and transform economies through sustainable development'.[26] They proposed to include a separate SDG on water: their SDG 6 called for universal access to water and sanitation. Their SDG on water was phrased in human rights language, and thus the focus was on access to safe drinking water and sanitation of the present generation. At the same, there was a reference to sustainable water management. One of the proposed targets was very similar to the one proposed by the scientists, ie to 'bring freshwater withdrawals in line with supply', and to increase water efficiency in agriculture, industry and urban areas by a set percentage. SDG 9, on the sustainable management of natural resources, did not refer explicitly to water management. However, it did contain some interesting ideas that could be applied to all natural resources, including freshwater. One of these ideas was to attach an economic value to natural resources:

> Today, natural resources are often used as if they have no economic value, as if they do not need to be managed for the benefit of future generations as well as our own. But natural resources are scarce, and damage to them can be irreversible. Once they are gone, they are gone for good.

The target to 'safeguard ecosystems' is relevant to water governance, as it applied to freshwater ecosystems.[27]

There exist various global consultations, mostly provided online, through which the general public can express its view. One of these global consultations is an online survey: the *MyWorld* survey.[28] This survey invited the entire world to list 16 priorities in order of importance. More than seven million votes were cast by March 2015, and access to clean water ranked seventh; the protection of rivers, oceans and forests ranked fourteenth. These are the priorities that come closest to a possible goal on sustainable management of international water resources.

Some thematic consultations were also organised, and there was one such Post-2015 Thematic Consultation on water.[29] These thematic consultations allowed stakeholders and experts on a particular theme to express their views, and they can do so online or at various meetings. This then led to a report, in which an attempt was made to achieve the impossible task of summarising all this input. The report noted that water management was 'largely ignored in the MDGs', and that the SDG drafting process should do better in this respect.[30] The way to do so was to consider it as a cross-cutting issue. The report called for 'a transparent, equitable and sustainable balance of water use that satisfies human needs – economic and social – as well as ecosystem requirements'.[31]

Throughout the report, references were made to the protection of freshwater ecosystems. The report argued that one way to do this was to invest in better water governance, or good water governance. This proposal reflects the good governance principle related to sustainable development by the New Delhi Declaration;[32] it is worth exploring this strategy further. The report even contained explicit references to the legal framework of international water law. It was noted that the Watercourses Convention and the UNECE Convention provided the 'frameworks for cooperation'.[33] Such cooperation was imperative to avoid water wars. This insight was the basis of the recommendation to 'establish strong and long-term transboundary cooperation, relying on sound legal and institutional arrangements, such as provided by multilateral and bilateral agreements and joint basin governing institutions'.[34]

Various states also held national consultations. The results of 22 national consultations have been put together in a report.[35] From a synthesis of various national consultations it followed that one of the priorities should be the development of 'transboundary agreements on the sustainable use and equitable share of transboundary watercourses'.[36] Many of the national consultations also showed a focus on the protection of ecosystems. See, for example, the national consultations held in Ghana, Nicaragua, Indonesia, Tanzania, Antigua and Barbuda, Bangladesh and Mozambique.[37]

The UN Secretary General's Synthesis Report identified 'planet' as one of the six essential elements. This element required the protection of our ecosystems for all societies and our children. The relevant part of the report included

24 Global Compact and the World Business Council for Sustainable Development *Joint Report to the High-level Panel of the Post-2015 UN Development Agenda* (March 2013) 2 http://www.unglobalcompact.org/docs/issues_doc/development/Joint_Report_HLP.pdf.

25 United Nations Global Compact *Corporate Sustainability and the United Nations Post-2015 Development Agenda: Perspectives from UN Global Compact Participants on Global Priorities and How to Engage Business towards Sustainable Development Goals* Report to the United Nations Secretary-General (17 June 2013) http://www.unglobalcompact.org/docs/news_events/9.1_news_archives/2013_06_18/UNGC_Post2015_Report.pdf.

26 *A New Global Partnership* Report of the High-level Panel of Eminent Persons on the Post-2015 Development Agenda at 17 http://www.post2015hlp.org/wp-content/uploads/2013/05/UN-Report.pdf.

27 Target 9c *A New Global Partnership* at 31.

28 *MyWorld2015*, a global online survey for citizens organized by the United Nations http://www.myworld2015.org/.

29 *Post 2015 Water Thematic Consultation* Final report of *The World We Want 2015 Water Thematic Consultation*, facilitated by UN-Water (2013) http://www.worldwewant2015.org/water.

30 ibid at 4.

31 ibid at 16.

32 See *New Delhi Declaration of Principles of International Law Relating to Sustainable Development* (adopted by the International Law Association at its 70th Conference, held in New Delhi, India, 2–6 April 2002). The Declaration was published, with an introduction by Nico Schrijver, in the *Netherlands International Law Review* (2002) at 299–305.

33 *Post 2015 Water Thematic Consultation* (n 29) 17.

34 ibid 18.

35 Global Water Partnership *National Stakeholder Consultations on Water: Supporting the Post-2015 Development Agenda* (2013) http://sustainabledevelopment.un.org/content/documents/1815nationalstakeholder.pdf.

36 ibid 16.

37 Global Water Partnership *National Stakeholder Consultations on Water* esp at 14, 28.

a reference to the sustainable management of water resources. (UNSG 'The Road to Dignity by 2030' UNDoc A/69/700 4 December 2014 para 75.)

2.2 The Open Working Group on the SDGs

The other work stream consists of the work of the Open Working Group (OWG) on the SDGs. This is the more traditional process of the two. This OWG has 30 UN members, but in practice these seats circulate. In total, more than 70 UN members participate in the work of the group, sharing seats. The Netherlands, for example, shares a seat with Australia and the UK. This way, many states are involved in the work of the OWG. The OWG then writes a report which is submitted to the full membership of the UN General Assembly, and that report constitutes the basis of a UN General Assembly resolution that will contain the new SDGs.

NGOs with ECOSOC consultative status participate in the official meetings of the OWG. Representatives of the so-called 'major groups' are also invited. These major groups were identified in Rio de Janeiro in 1992 at the Rio Conference on the Environment and Development.[38] This is a very diverse group. It includes women, children and young people, indigenous people, non-governmental organisations, local authorities, workers and their trade unions, business and industry, the scientific and technological community, and farmers.[39] Representatives of these major groups have a special priority access to the meetings of the OWG. This includes their participation in the so-called morning sessions, which take place before the official sessions. There, various types of civil society representatives are invited to express their views.

Before each session of the OWG, the UN System Technical Support Team publishes a Technical Support Team Issues Brief.[40] This brief gives an overview of the debate so far. The brief for the third session, which was on water issues, shows that there was general agreement on the importance of water for any global sustainable development policy. One open question was whether there should be a separate goal on a sustainable approach to water issues, or whether this should be regarded as cross-cutting issue. The brief is not clear about what should be the exact formulation of the goal, or the envisaged role of international water law in it.

So what did the OWG think about management of shared water resources? At the third session, it was noted that sustainable water management was not included in the MDGs, and thus the group could not build on the MDGs, as it could do for many other SDGs. The importance of 'integrated sustainable management of water resources' was acknowledged by a majority of the state delegates.

In general, the views of the state delegates were more cautious, more 'traditional', than those put forward in the reports prepared by the scientists, or the experts referred to above. Most importantly, various state delegates emphasised respect for national sovereignty when it comes to the management of water resources. In addition, there was significant resistance to the proposal that water was best protected when treated as an economic good, which could be bought and sold.

In June 2014, the Open Working Group published its Zero Draft of the SDGs.[41] Since then, this has become the essential document for everyone involved in the SDG process to work with and comment on. Seventeen SDGs had been provisionally identified, of which SDG 6 is the most relevant for present purposes.[42] The goal is to ensure the availability and sustainable management of water and sanitation for all. The most relevant targets include:[43]

- provide universal access to safe and affordable drinking water
- improve water quality by significantly reducing pollution
- improve water-use efficiency
- implement integrated water resources management, including appropriate trans-boundary cooperation
- ensure sustainable extraction and supply of fresh water, and by 2020 protect and restore ecosystems and aquifers that provide water-related services.

Proposed goal 15, on the protection of ecosystems, was something of a missed opportunity, as it barely referred to freshwater ecosystems. At the same time, there is no reason to think SDG 15 would not be applicable to freshwater ecosystems.

At the 12th Session of the OWG, the major groups were provided with an opportunity to make comments. It is worth having a look at some of these first comments.

Business and industry proposed adding a commitment to 'strengthen equitable, participatory and accountable water governance in all countries including appropriate trans-boundary cooperation'.[44] The Women's Major Group proposed to replace the reference to 'integrated' water resources management by a reference to management that is 'people-centred democratic, participatory and accountable'.[45] The explanation was that water resources management should be approached from a human rights and public participation perspective.[46] It was also proposed to include a reference to the 'equitable and sustainable use of water resources'.[47] Finally, an entirely new target was suggested: to 'reduce inequality in access to water supplies through hierarchy of water use that prioritizes vulner-

38 *Agenda 21* (adopted at the United Nations Conference on Environment and Development, held at Rio de Janeiro, Brazil 3–14 June 1992) UN Doc A/CONF.151/26 (vols I–III).

39 ibid ss 24–32.

40 TST Issues Brief: Water and Sanitation http://sustainabledevelopment.un.org/content/documents/1801tstissueswater.pdf.

41 Open Working Group on Sustainable Development Goals *Introduction to the Proposal of the Open Working Group for Sustainable Development Goals* (version of 2 June 2014) http://sustainabledevelopment.un.org/.

42 ibid. Some of the other proposed SDGs also have links with the sustainable use of transboundary waters, such as SDG 3 on the attainment of a healthy life for all, which has the reduction of the number of deaths and illnesses from water pollution as one of its targets. However, the only goal specifically on sustainable water management is SDG 6.

43 References to the human rights-based approach have been omitted in this list, because human rights claims are made and effectuated in a regime that is separate from the legal regime discussed in this article.

44 Business and Industry *Proposed Revisions by Focus Area* (Working Document for 16–20 June Session of Open Working Group) http://sustainabledevelopment.un.org/content/documents/10489business.pdf.

45 Women's Major Group *Inputs for SDG6* http://sustainabledevelopment.un.org/content/documents/10464Karanunananthan.pdf.

46 See also Women's Major Group *Introduction and Proposed Goals and Targets on Sustainable Development for the Post-2015 Development Agenda* (Comments prepared by the Women's Major Group on the Zero Draft presented by the OWG co-chairs on 2 June 2014, Version 15 June) 13 http://sustainabledevelopment.un.org/content/documents/10419women.pdf.

47 Women's Major Group (n 45).

able populations and fragile ecosystems over large-scale commercial uses'.[48]

The farmers made a rather selfish proposal, that the goal 'should include reference to attaining adequate water and water quality for the agricultural sector and farmers in order to balance with the needs of other users'.[49] The Science and Technology Major Group proposed to add a target on the resilience of water systems to disasters: 'To ensure water systems have the capacity to cope with extreme events, in particular climate change impacts and rapid population growth in urban areas'.[50]

In July 2014, the OWG published its Proposal for Sustainable Development Goals.[51] Compared with the Zero Draft, it was changed in various ways. SDG 6 now read as follows (where relevant):

- achieve universal and equitable access to safe and affordable drinking water for all
- improve water quality by reducing pollution
- substantially increase water-use efficiency across all sectors and *ensure sustainable withdrawals and supply of freshwater to address water scarcity, and substantially reduce the number of people suffering from water scarcity*
- implement integrated water resources management *at all levels*, including through transboundary cooperation as appropriate
- protect and restore water-related ecosystems, *including mountains, forests, wetlands, rivers, aquifers and lakes*
- *expand international cooperation and capacity-building support to developing countries in water and sanitation related activities and programmes . . .*
- *support and strengthen the participation of local communities for improving water and sanitation management.*[52]

Furthermore, SDG 15 had an explicit reference to the 'conservation, restoration and sustainable use' of 'freshwater ecosystems'.

2.3 Intermediate conclusion

With the help of the above overview of water-related discussions and proposals within the context of the SDG process, the ideas and themes that are most relevant to international water law can be identified. There are at least three:

1. In the Rio+20 Declaration, 'sustainable water use' had already been identified as one of the most important aims for the future. SDG 6 in the outcome document of the Open Working Group, on ensuring the availability and *sustainable* management of water, reflects this and, from it, a recommendation for all states unambiguously to embrace a 'sustainable' interpretation of water law's fundamental principles can be derived.
2. The Post-2015 Water Thematic Consultation in particular made many references to the protection of freshwater 'ecosystems'. As shown above, this emphasis on ecosystems is supported by various national consultations. In the outcome document of the OWG, the term ecosystem is applied in a much broader sense, and with much more confidence, than in the earlier version. Since there is still much uncertainty about the meaning of the term 'ecosystem', the SDG process, with its emphasis on ecosystems, could serve as inspiration for a recommendation to encourage the further development of the ecosystems approach through international water law.
3. In response to the Zero Draft of the OWG, both the major groups of women and business and industry proposed calling for a more 'participatory' water governance system. In the outcome document the importance of public participation, especially of local communities in water governance is acknowledged. This serves as motivation to encourage states to consider exploiting the potential of international water law in facilitating public participation in the sustainable management of waters.

Some parts of the SDG on water appear to encourage all states to acknowledge a universal human right of access to water of sufficient quality and quantity.[53] International water law does not approach the management of transboundary waters from such a human rights perspective,[54] although it does emphasise the importance of vital human needs.[55] Therefore, in this article no recommendation will be proposed in this respect. What the SDG process could do is to bring the human rights discourse and international water law closer together.[56] However, that falls beyond the scope of this article.

48 ibid.

49 Farmer's Major Group *Introduction and Proposed Goals and Targets on Sustainable Development for the Post-2015 Development Agenda* (Draft Farmer Major Group Statement) http://sustainabledevelopment.un.org/content/documents/10484farmers.pdf.

50 Input from the Science and Technology Major Group provided by David Griggs on behalf of the International Council for Science (ICSU) http://sustainabledevelopment.un.org/content/documents/10409science.pdf.

51 *Proposal of The Open Working Group for Sustainable Development Goals* (19 July 2014) http://sustainabledevelopment.un.org/focussdgs.html. See also 'Report of the OWG of the General Assembly on Sustainable Development Goals' UNDoc A/68/970 distributed 12 August 2014.

52 What is in *italics* is new. See ibid 'Report' pp 14–15.

53 Some institutions applaud or accept uncritically such a human rights-based approach to water issues. See eg World Health Organization and UNICEF *Progress on Sanitation and Drinking-water: 2013 Update* 11; and WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation *Report of the Second Consultation on Post-2015 Monitoring of Drinking-water, Sanitation and Hygiene*, a consultation held in The Hague, Netherlands (3–5 December 2012). But it has been criticised elsewhere. See eg Sindico (n 12) 251.

54 See, however, art 17 of the Berlin Rules: a provision on the human right of access to water in a document containing mainly rules of international water law. In the Commentary to art 17, there are many references to this right in international and regional human rights law (but not in international water law). The Berlin Rules on Water Resources were approved by the International Law Association's Water Resources Law Committee in 2004. These rules set forth customary international law relating to fresh water resources. They replace the Helsinki Rules, incorporating concepts from international environmental and human rights law, in addition to making other changes. See International Law Association *Reports of Conferences* (2004) vol 71 pt II: Water Resources Law 334–421 http://internationalwaterlaw.org/documents/intldocs/ILA_Berlin_Rules-2004.pdf.

55 See Watercourses Convention art 10 http://www.unwatercourses convention.org/resources/. There is no equivalent in the UNECE Convention (n 22). The Berlin Rules (n 54) define waters used for 'vital human needs' as 'waters used for immediate human survival, including drinking, cooking, and sanitary needs, as well as water needed for the immediate sustenance of a household'. See Berlin Rules art 3(20) and art 14, which urges states to give preference to satisfying vital human needs. See also the Commentary to art 22 of International Union for Conservation of Nature and Natural Resources *Draft International Covenant on Environment and Development* (4th edn) 81.

56 On the need for such integration, see also Monika Ambrus 'Through the looking glass of global constitutionalism and global administrative law: different stories about the crisis in global water governance' (2013) 6(2) *Erasmus Law Review* 38.

3 RECOMMENDATIONS

International water law provides, potentially, a suitable legal framework through which the SDG's ambitions and targets listed above can be promoted. In this section, the following is examined: the potential role of international water law in promoting the sustainable management of freshwater resources (3.a); its potential role in promoting the ecosystems approach to freshwater resources (3.b); and the potential role of international water law in facilitating public participation in water governance at all levels (3.c). In short, this section contains three recommendations on how the SDG process could trigger the evolution of international water law, to make it more 'green', more sustainable, and on how the full potential of international water law could be used to realise the SDG on water by 2030.[57]

3.1 Unambiguously embrace a 'sustainable' interpretation of water law's fundamental principles

When states ratify the Watercourses Convention and the UNECE Convention, they can participate in the evolution of the regime of international water law towards a more sustainable legal framework of transboundary cooperation. The essence of sustainable development has been identified authoritatively in Principle 3 of the Rio Declaration of 1992, according to which the developmental and environmental needs of present and future generations must be met equitably.[58] The UNECE Convention has a clear reference to sustainable development. According to this Convention, when taking appropriate measures to prevent control and reduce any transboundary impact, states party to the Convention shall be guided, inter alia, by the principle that 'water resources shall be managed so that the needs of the present generation are met without compromising the ability of future generations to meet their own needs'.[59] Clearly, this is an explicit reference to the principle of sustainable development, but it is only applicable in a transboundary context.[60] In other words: it seeks to protect the interests of other states, not future generations per se. It is unclear how it is supposed to do this.[61]

The Watercourses Convention makes explicit reference to the principle of sustainable development in the preamble[62] and in Article 24.[63] Article 5 refers to the 'sustainable utilisation' of shared watercourses.[64] In general, it can be said that the UNECE Convention is much 'greener' than the Watercourses Convention.[65] This was a deliberate decision of the states at the time the Watercourses Convention was drafted. China, for example, stressed at the time of drafting, that the Convention was meant to be a treaty regulating the economic use of shared watercourses and not a treaty to protect the environment of these watercourses.[66] At the same time, there is enough in the Watercourses Convention to use as a legal basis for a sustainable development-friendly interpretation of the treaty.

One principle of international water law is the principle that any state must take all appropriate measures[67] to prevent that the use of an international watercourse within its territory causes significant harm *to another state*.[68] This is a water law variation of a general principle of international (environmental) law, which obliges any state to ensure that activities within its jurisdiction or control do not cause damage to (the environment of) another state.[69] The emphasis on the transboundary aspect makes it difficult to link this general principle directly to sustainable development, ie the protection of the developmental interests of future generations. It is more designed to protect the interests of neighbouring states. This is evidenced both in the Watercourses Convention[70] and in the UNECE Convention.[71] It has been suggested to remove the obligation not to cause significant harm from the transboundary context, in the sense that it does not matter whether the harm caused to the waters causes damage *to another state* or, for example, to a state's own future generations. The Berlin Rules include a provision obliging states to 'take all appropriate measures to prevent or minimize environmental harm', and this is *not* limited to the prevention of harm caused to another state.[72] Since

57 On the need for such an evolution see Frank Marty *Managing International Rivers: Problems, Politics and Institutions* (Peter Lang Bern 2001) 242.

58 *Rio Declaration on Environment and Development*, published in the *Report of the United Nations Conference on Environment and Development*, held in Rio de Janeiro between 3 and 14 June 1992 UN Doc A/CONF.151/26/Rev I (vol I). The Rio Declaration was accompanied by a Plan of Implementation, called Agenda 21. Despite its length, Agenda 21 contained very few specific targets or measures relating to sustainable management of shared water resources. See also Meredith Giordano, Aaron Wolf 'Sharing waters: post-Rio international water management' (2003) 27(2) *Natural Resources Forum* 167. See in general Fitzmaurice (n 14).

59 UNECE Convention (n 22) art 2(5)(c).

60 In addition to this, the preamble of the UNECE Convention (n 22) commends the efforts already undertaken by states to strengthen cooperation for 'sustainable water management, conservation of water resources and environmental protection'.

61 It is worth emphasising that the UNECE Convention was adopted in 1992, when the concept of sustainable development was still in its infancy. This explains why the text of the Convention does not elaborate extensively on the concept.

62 According to its preamble, the Watercourses Convention was inspired by a shared conviction among states that 'a framework convention will ensure the utilization, development, conservation, management and protection of international watercourses and the promotion of the optimal and sustainable utilization thereof for present and future generations'.

63 See below.

64 See below.

65 See Philippe Sands *Principles of International Environmental Law* (3rd edn Cambridge University Press 2012) 323; David Freestone, Salman M A Salman 'Ocean and freshwater resources' in Daniel Bodansky, Jutta Brunnée and Ellen Hey (eds) *The Oxford Handbook of International Environmental Law* (Oxford University Press Oxford 2007) 355–56.

66 See Marty (n 57) 239.

67 This should be read as establishing a 'due diligence' obligation. An earlier version of art 7 referred to 'due diligence' explicitly, but it was reworded slightly, without altering the essence of it. See also Stephen C McCaffrey 'An overview of the UN Convention on the Law of the Non-navigational Uses of International Watercourses' (2000) 20 *Journal of Land, Resources & Environmental Law* 62–63.

68 Berlin Rules (n 54) art 12. On prevention, control and reduction of transboundary impact, see also UNECE Convention (n 22) art 3.

69 See Rio Declaration Principle 2.

70 Article 7 of the Watercourses Convention obliges states to do their very best to prevent the 'causing of significant harm *to other watercourse States*' (emphasis added).

71 Article 2 of the UNECE Convention obliges states to do their very best to 'prevent, control and reduce any transboundary impact,' and the latter is defined in art 1(2) as 'any significant adverse effect on the environment [. . .] *within an area under the jurisdiction of another Party*' (emphasis added).

72 Berlin Rules (n 54) Commentary to art 8. Of course, the Berlin Rules also call upon states to prevent their territory from being used to cause harm to another state (art 16).

this was a particularly contentious point in the ILA Committee, it is worth pointing out here that the authors of the Berlin Rules purported to have included existing rules of customary international law, but not everybody was convinced of that claim. According to a group of dissenters within the ILA, the Berlin Rules did not reflect existing custom. In fact, they saw much of what was included in the Berlin Rules as 'a radical and unwarranted departure from existing customary law'.[73] Considering the authority and reputation of the authors of this dissenting opinion, it is important to keep this in mind.[74] Therefore, in this article, the Berlin Rules are referred to as source of inspiration for change, not as a reflection of existing law.[75]

The 'cornerstone' of international water law is the right to an equitable and reasonable use of transboundary waters.[76] This rule is codified in Article 5 of the Watercourses Convention, and it has much more potential when it comes to a 'sustainable development-friendly' interpretation than the do-not-cause-transboundary-harm rule. Article 5 of the Watercourses Convention obliges states to use and develop an international watercourse equitably and reasonably, and 'with a view to attaining optimal and *sustainable utilization* thereof and benefits therefrom, taking into account the interests of the watercourse states concerned, consistent with adequate protection of the watercourse' (emphasis added). In efforts to link the legal framework of international water law with sustainable development, this reference to 'sustainable utilization' is, of course, essential.[77]

But what to make of it? The Convention does not define the term 'sustainable use', and neither does the ILC Commentary.[78] In the Berlin Rules of 2004, the ILA came up with a definition, which defined 'sustainable use' as follows:

> 'Sustainable use' means the integrated management of resources to assure efficient use of and equitable access to waters for the benefit of current and future generations while preserving renewable resources and maintaining non-renewable resources to the maximum extent reasonably possible.[79]

The link between 'sustainable use' – whatever its precise definition – and 'equitable and reasonable use' is unclear.[80] Many scholars have suggested that sustainable use is part of the obligation to use the water resources equitably and reasonably. Owen McIntyre, for example, refers to a legal regime of 'equitable and sustainable utilization'.[81] Patricia Wouters has proposed that, 'given our present knowledge of the effects of economic development on the environment, it is extremely unlikely that a use, which endangers the long-term potential of renewable resources such as water, would [today] be considered reasonable'.[82]

Article 5 also allows a different reading, ie that 'sustainable use' is a separate obligation, which coexists independently with that of 'equitable and reasonable use'. Ximena Fuentes suggested such an interpretation.[83] If equity narrowly defined is about balancing the rights of different states sharing a watercourse, then sustainable development is about intergenerational equity: balancing the rights of the present and the future generation.[84] Even though it is sometimes suggested that the concept of equity by definition includes intergenerational equity,[85] there is little indication that Article 5 was meant to refer to the latter type of equity as well.[86] The equity rule has its origin in the idea of 'equitable apportionment' of the user rights to the river. Traditionally, future generations were not granted their share of these rights. Whether water was wasted or was used unsustainably by one party did have a negative impact for this party on the apportionment of watercourse rights and benefits amongst the present generation (intragenerational equity).[87]

Article 7 of the Berlin Rules proposed, as a separate obligation, that 'all States shall take all appropriate measures to manage waters sustainably'. According to the ILA Committee's commentary, the obligation of sustainable use was 'a separate and compelling obligation that, as

73 Berlin Rules (n 54) Dissent http://www.internationalwaterlaw.org/documents/intldocs/ila_berlin_rules_dissent.html.

74 The authors were Slavko Bogdanovic, Charles Bourne, Stefano Burchi and Patricia Wouters.

75 See also Alistair Rieu-Clarke 'International freshwater law' in Shawkat Alam (ed) *Routledge Handbook of International Environmental Law* (Routledge Abingdon 2013) 248; Sands (n 65) 309. Freestone and Salman, on the other hand, refer to the rules as reflection of custom. See Freestone and Salman (n 65) 355.

76 McCaffrey (n 67) 60.

77 Fuentes makes a big deal of the fact that the term 'sustainable development' is used in art 24, whilst the preamble and art 5 refer only to sustainable utilisation. But the difference is not clear. See Ximena Fuentes 'Sustainable development and the equitable utilisation of international watercourses' (1998) 69 *British Yearbook of International Law* 122.

78 ILC 'Draft Articles on the Law of the Non-navigational Uses of International Watercourses and Commentaries thereto' (1994) 2(II) *Yearbook of the International Law Commission*. There is a good reason for this: the reference to 'sustainable use' was added at the request of the Netherlands and Finland after the draft articles were finished in 1994. They constituted the basis of the text of the Watercourses Convention, which was itself adopted in 1997. See the Summary records of the 15th meeting of the Sixth Committee of the UN General Assembly, held on Tuesday 8 October 1996 UN Doc A/C.6/51/SR.15 at 2.

79 Berlin Rules (n 54) art 3(19). The Commentary explains that this definition was derived from declarations on sustainable development, such as the Rio Declaration of 1992.

80 The Watercourses Convention was prepared by the International Law Commission (ILC). However, the ILC's version of art 5 had no reference to sustainability. The records show that De Villeneuve, the representative of the Netherlands at the General Assembly's Sixth Legal Committee, proposed that art 5 should also refer to the principle of sustainable development, and this was done. See Summary records of the 15th meeting of the Sixth Committee of the UN General Assembly (n 78). See also Patricia Wouters 'The international law of watercourses: new dimensions' (26 June 2011) 3 *Collected Courses of the Xiamen Academy of International Law* (2010) 347–541 at 401 http://ssrn.com/abstract=2359899.

81 McIntyre (n 11) 315. See also Owen McIntyre 'The role of customary rules and principles of international environmental law in the protection of shared international freshwater resources' (2006) 46(1) *Journal of Natural Resources* 160.

82 See Wouters and Rieu-Clarke (n 10) 282. See also Patricia Wouters 'The relevance and role of water law in the sustainable development of freshwater' (2000) 25(2) *Water International* 205–06. For a similar approach see ILC Report on the work of its sixtieth session (5 May–6 June and 7 July–8 August 2008) Supplement No 10 (A/63/10) 4.

83 Fuentes (n 77) 129.

84 ibid 177–78.

85 See eg Division for Sustainable Development of the Commission on Sustainable Development *Report of the Expert Group Meeting on Identification of Principles of International Law for Sustainable Development* (1996) paras 41–47. This principle was held applicable also to freshwater resources.

86 See Fitzmaurice (n 14) 607 and Hildering (n 10). See especially principle 3.1 of Hildering's fascinating 'Draft declaration on guardianship over water', included in the book.

87 About 'equitable apportionment' as origin of 'equitable use' see Stephen C McCaffrey *The Law of International Watercourses* (2nd edn Oxford University Press Oxford 2007) 386–99.

indicated in the UN Convention, art. 5, conditions the rule of equitable and reasonable use without displacing it'.[88] Some of the Committee members did not agree with this approach. They believed that this emphasis on environmental duties distorted the delicate balance between economic use and ecological protection and preservation on which international water law was based.[89]

For a 'sustainable development-friendly' interpretation of Article 5, support can be found in other articles, notably Article 6, and the so-called 'environmental provisions' of Articles 20–24 of the Watercourses Convention.[90] In view of Owen McIntyre, the latter rules together constitute a 'comprehensive regime of environmental protection'.[91] Article 6 lists certain factors relevant to equitable and reasonable utilisation, and although Ximena Fuentes rightly pointed out that 'sustainable development' was not explicitly included,[92] one must admit that these factors include 'ecological factors' and the conservation and protection of the waters.[93]

Article 24 of the Watercourses Convention is perhaps the most interesting, as it is the only article which explicitly uses the term 'sustainable development'. The ILC explained that the obligation of 'planning the development of a watercourse so that it may be sustained for the benefit of present and future generations [was] emphasized in [Article 24] because of its fundamental importance'.[94] Fitzmaurice went so far as to conclude from this provision that cooperation in the protection of watercourses should generally rely on the principles of sustainable development.[95]

The existing legal framework thus provides enough room for a 'sustainable development friendly' interpretation, but it is important that states explicitly adopt this approach, and actively promote this 'greening' of international water law. This way, the practical consequences of such an approach can also be developed in more detail. The idea is that future generations are entitled to use the water resources as well, and this should be taken into account by the present generation. This does not necessarily mean that states must be punished when they do not use the water resources in a sustainable way, or that the more sustainable user of a shared water resource is entitled to a bigger share. This might be different in the event that one of the parties is 'intentionally or negligently wasteful' in using its share of the waters.[96]

Through the SDG process, states can explicitly and unequivocally embrace this 'sustainable' interpretation of the general principles of international water law. They can do so, first, by unambiguously accepting a 'green' interpretation of the bedrock principle of equitable and reasonable use (Article 5), and subsequently by integrating this new approach in the bilateral or regional agreements they make with states with whom they share a water resource. Both domestic and – especially – international dispute settlement mechanisms can play an important role in this process by supporting this 'green' interpretation of international water law. Reference can be made here to the *Gabčíkovo-Nagymaros* case, where the International Court of Justice both referred explicitly to the UN Watercourses Convention and endorsed sustainable development as a relevant and applicable principle of international law.[97]

3.2 Encourage the further development of the ecosystems approach

Article 20 of the Watercourses Convention proclaims that 'watercourse States shall, individually and, where appropriate, jointly, protect and preserve the ecosystems of international watercourses'. This obligation is a stand-alone obligation. It does not have an explicit link with the obligation not to cause transboundary harm (Article 7), and thus does not have to be interpreted in that transboundary context.[98] The UNECE Convention calls upon all states 'to prevent, control and reduce transboundary impact', inter alia by ensuring that 'sustainable water-resources management, including the application of the ecosystems approach, is promoted'.[99] Here, the link with the obligation not to cause transboundary harm or 'impact' is clear.

So what are freshwater ecosystems and what is the ecosystems approach? According to the ILC commentary to the Watercourses Convention, an ecosystem is an 'ecological unit consisting of living and non-living components that are interdependent and function as a community'.[100] The duty to protect such ecosystems 'requires that watercourse States shield the ecosystems of international watercourses from harm or damage'; and the duty to preserve 'requires that these ecosystems be protected in such a way as to maintain them as much as possible in their natural state'.[101]

88 Berlin Rules (n 54) Commentary to art 7. Later on, the Commentary adds that 'the right to an equitable utilization does not trump the obligations to assure the [. . .] sustainable use of the waters'. See Berlin Rules (n 54) Commentary to art 12 (which contains the rule on equitable and reasonable utilisation).

89 Berlin Rules (n 54) Dissenting Opinion http://www.internationalwaterlaw.org/. See also McIntyre (n 11) 248, where he states that, in his view, these articles 'flesh out' the general obligation of art 5, including the part on 'sustainable use'.

90 McCaffrey (n 67) 66.

91 McIntyre (n 11) 249.

92 Fuentes (n 77) 120.

93 According to the Berlin Rules (n 54), the references to sustainable development in art 6 were not explicit enough, and thus it was proposed to add the following factors: 'the sustainability of proposed or existing uses [and] the minimization of environmental harm'. Berlin Rules art 13.

94 ILC (n 78) 125.

95 Fitzmaurice (n 10) 38.

96 See Ximena Fuentes 'The criteria for the equitable utilisation of international rivers' (1997) 67 *British Yearbook of International Law* 381–822.

97 International Court of Justice, Gabčíkovo-Nagymaros Project (Hungary/Slovakia) Judgment of 25 September 1997 at paras 85 and 140.

98 See also McCaffrey (n 67) 66, and McCaffrey (n 87) 459. For a different view see Marty (n 57) 221–22.

99 UNECE Convention (n 22) art 3(1)(i). The Berlin Rules (n 54) have a provision on ecological integrity. Berlin Rules art 22. Ecological integrity is defined as 'the natural condition of waters and other resources sufficient to assure the biological, chemical, and physical integrity of the aquatic environment' and the aquatic environment is in turn defined as 'all surface waters and groundwater, the lands and subsurface geological formations connected to those waters, and the atmosphere related to those waters and lands'. See Berlin Rules art 3(1) and 3(6).

100 ILC (n 78) 118. See also ILC (n 82) 55, where the same definition is applied to aquifers. Different definitions have been proposed elsewhere. For example, ecosystems are defined as 'natural systems which support life on earth in all its diversity'. See art 23 (Ecosystem Services) of IUCNNR *Draft International Covenant on Environment and Development* 83. This is followed by an article on the 'ecosystems approach'. But, somewhat disappointingly, this term is not defined in the article itself or in the accompanying commentary. See Commentary on art 24 at 85–86.

101 ILC (n 78) 119.

One question is whether the ecosystem has to be protected for the sake of the international watercourse, or for its own sake. According to some, Article 20 obliges states to protect the ecosystem in such a way that harm to the watercourse, through alterations in the ecosystem of which it is a part, is prevented.[102] Others interpret the provision in a much broader sense, and believe the land areas of the ecosystem must also be protected, for example from degradation caused by deforestation, and so on.[103]

No explicit reference is made in Article 20 Watercourses Convention to any rights or interests of future generations, but the duty to preserve ecosystems does at least indirectly ensure that future generations can also benefit from them. Although Article 20 does not make this explicit, the drafters of this provision explain that its aim is 'to ensure their continued viability as life support systems, thus providing an essential basis for sustainable development'.[104]

Many things are unclear about the so-called 'ecosystems approach'. Article 20 is phrased as an absolute obligation, but the *travaux préparatoires* make it clear that it is more of a due diligence commitment.[105] As mentioned above, the UNECE Convention places the duty to protect ecosystems in a transboundary context, which suggests that the protection and preservation of the ecosystem is owed to the other state sharing the same transboundary waters that are the central part of that ecosystem. The Watercourses Convention does not link the obligation to protect and preserve the ecosystem to the do-not-cause-transboundary-harm rule.[106] This makes it possible that the protection and preservation of the ecosystem might be owed to the ecosystem itself, or to future generations.

How then does the ecosystems approach relate to 'equitable and reasonable use' (Article 5)?[107] Stephen McCaffrey proposed that 'causing significant harm to the ecosystems of an international watercourse should be considered to be *per se* inequitable and unreasonable', and that is one way to link Articles 5 and 20.[108] Weiss went so far as to suggest that, from Articles 5 and 20 of the Watercourses Convention, it can be concluded that 'unless you protect the ecosystem, you may not have the water you need'.[109]

The SDG process could serve as a catalyst for the much needed conceptual development and subsequent adoption and implementation of the ecosystems approach.[110] An explicit reference to an obligation to 'restore and maintain ecosystems to provide water-related services' in the targets of the SDG on water was proposed by UN-Water, with the desired outcome of 'ensuring ecosystem health and capacity to be able to supply water of a sufficient amount and quality for human uses'.[111] This is effectively what was delivered, although any attempt to read such obligations into existing international water law should be taken with caution, as Owen McIntyre convincingly warns of the 'truly far-reaching' consequences such an approach might have for international water law.[112] Article 20 may even become a treaty-within-a-treaty, setting up all by itself a legal regime on the protection of freshwater ecosystems, whilst the remaining articles of the Watercourses Convention deal only with watercourses themselves.

3.3 Encourage public participation in the sustainable management of waters

Public participation and access to information and justice are often seen as indispensable elements of meaningful sustainable development. See for example principles 5 and 6 of the New Delhi Declaration of Principles of International Law Relating to Sustainable Development, adopted by the International Law Association in 2002. More specifically, when it comes to public participation in the sustainable use of water resources, reference can be made to the ILA's Berlin Rules. The commentary to the Berlin Rules suggests that there is presently a 'well established human right for people who are to be affected by decisions to participate in those decisions'.[113] The Commentary itself admits that there is little support for this human right in existing international water law, but it is argued that, since it has been accepted in *general* international law, it must also have its proper place in international *water* law.[114] Thus it is proposed that:

> . . . states shall assure that persons subject to the state's jurisdiction and likely to be affected by water management decisions are able to participate, directly or indirectly, in processes by which those decisions are made and have a reasonable opportunity to express their views on programs, plans, projects, or activities relating to waters.[115]

No such obligation can be found in the Watercourses Convention.[116] This Convention only requires that states do not discriminate when granting affected persons access to judicial procedures, or when providing them a right to claim compensation (Article 32).[117] It does not oblige

102 See eg Marty (n 57) 224–25 and McCaffrey (n 67) 66.
103 See eg McCaffrey (n 87) 447, 455–58, 459. However, this seems inconsistent with what he has said elsewhere.
104 ILC (n 78) 119.
105 See McCaffrey (n 87) 460.
106 See also McIntyre (n 11) 301–304.
107 On the uncertainty about this relationship see McCaffrey (n 87) 450–51.
108 ibid 458.
109 Edith Brown Weiss 'The evolution of international water law' (2007) 331 *Recueil des cours* 207.
110 On the need for further development of the 'ecosystems approach' see Owen McIntyre 'The emergence of an "ecosystem approach" to the protection of international watercourses under international law' (2004) 13(1) *Review of European Community and International Environmental Law* 1–14 and McIntyre (n 11) 286–313.
111 *Proposed Goal, detailed illustrative targets and associated indicators,* annexed to UN-Water *A Post-2015 Global Goal for Water: Synthesis of key findings and recommendations from UN-Water* (2014) 6.
112 Owen McIntyre 'The protection of freshwater ecosystems revisited: towards a common understanding of the "ecosystems approach" to the protection of transboundary water resources' (2014) 23(1) *Review of European Community and International Environmental Law* 88–95. This is an update of his article of 2004.
113 Berlin Rules (n 54) Commentary to art 4.
114 In defence of the assertion that the right is accepted in general international law, reference is made to art 25 of the International Covenant on Civil and Political Rights, according to which every citizen has the right to take part in the conduct of public affairs. However, this article is generally interpreted as referring to participation in national or municipal politics, through electing and getting elected.
115 Berlin Rules (n 54) art 18. See also art 4.
116 See Thomas Tödtling *Water Governance: From a Global and Regional Perspective* (Kovač 2013) 63. And see Kranz and others (n 8) 258–59. There it is suggested that the Watercourses Convention at least implicitly encourages public participation.
117 Watercourses Convention art 32.

states actually to offer such judicial remedies to affected individuals and other subjects.[118] The UNECE Convention does a little better in this respect.[119] It requires states to make all sorts of information on the management of the transboundary waters available to the public, but it says very little about public participation and access to justice of the public.[120]

Again according to the Berlin Rules, a person who suffers damage, caused by the way water resources are being managed, may institute proceedings before a competent court.[121] It does not matter whether the claimant has the nationality of the state concerned or not – one may think of a foreign investor.[122] Non-governmental organisations 'with a proven interest regarding waters or the aquatic environment in a State' can do the same. Although this is not made explicit in the Berlin Rules or the accompanying commentary, it could be argued that such organisations could also institute proceedings on behalf of future generations. It would be a major step forward if international water law would encourage states to permit and facilitate such applications, both from individuals in their own interest and from NGOs in the general interest or the interest of future generations.

It requires some imagination to interpret the SDG on water in such a way that it calls upon all states to take some courageous first steps in this direction. UN-Water suggested that 'all countries [must] strengthen equitable, participatory and accountable water governance'.[123] In the view of UN-Water, any system of water management should include 'participatory decision-making'.[124] At least, including the public in the decision-making will make the public at large more aware of the urgency of the problem, and it will make them feel jointly responsible for meeting the challenge of developing water resources in a 'greener' fashion.[125]

4 CONCLUSION

In this article, an attempt has been made to show three ways in which the SDG process can be used to encourage the evolution towards a 'greener' or more sustainable international water law.

First, the SDG process encourages the *sustainable* use of freshwater resources. From this, a recommendation for all states unambiguously to embrace a 'sustainable' interpretation of water law's fundamental principles can be derived. It has been shown how the cornerstone of international water law – the principle of equitable and reasonable use of water resources – can be interpreted in a more sustainable development friendly way.

Secondly, the SDG process makes ample references to the need to protect ecosystems, including freshwater ecosystems. It has been shown how international water law can provide clarity as to the exact meaning of 'ecosystems', and the rights and obligations that follow from the adoption of a so-called 'ecosystems approach' to international water law.

Finally, the SDG process emphasises the importance of public participation in water governance at all levels, be it local, national or even global and hence this article has analysed how public participation can attain its proper place in the legal framework of international water law.

118 The *travaux préparatoires* show that this is as far as many states allowed the Convention to go. See also McCaffrey (n 67) 68–69.

119 This is therefore a good example where the UNECE Convention (n 22) complements the Watercourses Convention. See also Alistair S Rieu-Clarke, Rémy Kinna 'Can two global UN water conventions effectively co-exist? Making the case for a "package approach" to support institutional coordination' (2014) 23(1) *Review of European Community and International Environmental Law* 22.

120 UNECE Convention (n 22) art 16. See also Kranz and others (n 8) 257. It is, of course, worth mentioning the role of the Convention on Access to information, public participation in decision-making and access to justice in environmental matters (adopted under the auspices of UNECE on 25 June 1998 at Aarhus, Denmark). See, for example Serhiy Vykhryst 'Public participation and information under the Water Convention' in A Tanzi, O McIntyre, A Kolliopoulos and A Rieu-Clarke (eds) *The UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes: Its Contribution to International Water Cooperation* (Martinus Nijhoff 2014).

121 Berlin Rules (n 54) art 69.

122 ibid art 70.

123 *Proposed Goal* (n 111) 7.

124 ibid.

125 See also Tödtling (n 116) 79.

TRANSBOUNDARY WATER COOPERATION AND THE RESPONSIBILITY TO PROTECT

DAVID DEVLAEMINCK
*China International Water Law, School of Law, Xiamen University**

The primary focus of this article is to argue that certain violations of the human right to water can act as a triggering mechanism for humanitarian intervention through the 'Responsibility to Protect' (R2P). This connection is established through R2P's focus on the four mass atrocity crimes and water's intrinsic connection to life. Once this connection has been established this article will determine what implications this may have for transboundary water cooperation, ultimately arguing that some aspects of R2P, particularly its focus on preventive measures, may be useful in the promotion of transboundary water cooperation. Although it is demonstrated that the connection may be a tool to promote transboundary water cooperation, owing to the concept of sovereignty, any such assistance cannot be forced upon other states.

1 INTRODUCTION

In 2015 the World Economic Forum ranked global water scarcity as the most critical of 28 risks (including those associated with nuclear weapons and outbreaks of disease) based on impact and the likelihood of the risk materialising within 10 years, moving potential water crises up from third place only one year earlier.[1] With this increased risk the impacts of the global water crisis are becoming ever more serious, many of which will affect the lives and livelihoods of citizens in states across the world. In 2010, the United Nations General Assembly passed Resolution 64/292, recognising 'the right to safe and clean drinking water and sanitation as a human right that is essential for the full enjoyment of life and all human rights'.

Water is intrinsically connected to life and, owing to the transboundary nature of water, it is in everyone's best interest to cooperate over its use. Although norms of cooperation concerning transboundary waters have been enshrined within international water law there remains the potential for regional mechanisms to fail or fall short of expectations, and therefore for conflict to prevail. Given the intrinsic connection between water and life, these conflicts have the potential to impact drastically the lives and livelihoods of those within these states, to violate the rights of their citizens and to increase tension.

It is difficult for human rights to protect human interests in instances of transboundary violations, as human rights are typically construed as national concerns. Despite this, the principle of responsibility to protect (R2P) as a framework for humanitarian intervention could be used to fill this gap by creating obligations for the international community in instances of extreme human rights violations. In this article it is argued that there is a connection between the human right to water and the responsibility to protect and that this connection can allow certain violations of the human right to water to act as a triggering mechanism for the responsibility to protect. Although R2P is typically applied to instances of mass atrocity, this article will argue that specific aspects of R2P can act as a mechanism to allow the international community to assist in and promote transboundary water cooperation. In order to do so it will be necessary first to make the connection between R2P and the human right to water. Once this connection has been established the connections and implications that this may have for transboundary water cooperation will be discussed. Although the human right to water has impacts at both the international and domestic levels, this article will focus on international aspects of the right, given R2P's international nature.

2 THE HUMAN RIGHT TO WATER AND THE RESPONSIBILITY TO PROTECT

2.1 The human right to water

The human right to water has been included in human rights declarations for decades, first appearing at the UN Water Conference in Mar del Plata, Argentina in 1970. At this conference it was stated that: 'all peoples have the right to have access to drinking water in quantities and of a quality equal to their basic needs'.[2] In 1989, the human right to water was included within the UN Convention on the Rights of the Child, although this convention only provided a right to 'adequate, nutritious foods and clean drinking water' for the purposes of health for those protected by the convention, ie those under 18 years of age.[3] Over the next few decades, the right to water appeared in various documents before, in 2010, the UN General Assembly passed Resolution 64/292[4] recognising, although controversial, the human right to water as a universal human right.[5] This right, with its foundation in

* PhD Candidate. Email: d.devlaeminck@stu.xmu.edu.cn www.chinainternationalwaterlaw.org.

1 Brett Walton 'World Economic Forum ranks water crises as top global risk' *Circle of Blue* (15 January 2015): 'impairments to water supplies and punishing cycles of flood, drought, and water pollution are now viewed by heads of state, nonprofit leaders, and chief executives as the most serious threat to business and society' http://www.circleofblue.org/waternews/2015/world/world-economic-forum-ranks-water-crises-as-top-global-risk/.

2 Malin Falkenmark 'UN Water Conference: agreement on goals and action plan' (1977) 6(4) *Ambio* 225.

3 United Nations Office of the High Commissioner for Human Rights Convention on the Rights of the Child 1990 art 24.2.

4 It is important to note that the human right to water is highly controversial and whether or not the right creates obligations and duties for the international community is debated it will, however, be argued that this is irrelevant to the connection between R2P and the human right to water owing to the connection between water and life, as well as the interactions between human rights.

5 United Nations General Assembly (UNGA) *The Human Right to Water and Sanitation* A/RES/64/292 (2010).

the right to life and the right to health, assigns nine core obligations to states.[6] The most important obligation for this discussion is the obligation to 'ensure access to a minimal essential amount of water that is sufficient and safe for personal and domestic uses to prevent disease'.[7]

The wording of this obligation suggests a minimum quantity and quality of water that states must strive to provide and protect. Minimum levels of water can be divided into those required for 'survival' and those required for 'life'. Peter Gleick argues that, based upon bodily need, an individual would require five litres of water per day to survive;[8] however, when other needs are taken into account – such as the need to prepare food – then this amount increases to 7.5 litres per day.[9] This level of water access is problematic since, if it were to be used it as a baseline for the human right, it would leave a high level of risk for related health concerns. With this in mind, some authors suggest that a recommended level of 50 litres per person per day is required, whereas others give a range of between 25–100 litres per day.[10]

The right also assigns limited obligations[11] between states and the citizens of other states. General Comment No 15 of the UN General Assembly states that parties must 'recognize' that international cooperation can assist states in meeting the rights of their own citizens and that the citizens of other states also have this right.[12] Much like the duty to cooperate found within norms of international water law, this limits the actions of riparian neighbours and recognises the interconnectedness of the lives and waters which riparian neighbours share.

2.2 The responsibility to protect

In the 1990s and early 2000s the international community witnessed multiple instances of failed and controversial intervention. In Kosovo, Srebrenica and Somalia the world witnessed intervention without satisfactory justification, whereas in Rwanda the failure of the UN system led to the deaths of hundreds of thousands. Although the global community appears to be unified on the notion that instances of mass atrocity are morally wrong, it remains uncertain as to how these crimes should be dealt with.

This division led to the creation of the International Commission on Intervention and State Sovereignty (ICISS) in 2001. Funded by the Canadian Government, ICISS created a report entitled 'The Responsibility to Protect', in which it outlined a new framework of humanitarian intervention viewing sovereignty not solely as self-determination but also as responsibility.[13] Through sovereignty states have a responsibility to protect their citizens; however, if states are not meeting or are unable to meet this responsibility then, according to the concept of R2P, the international community may be justified in intervening in the affairs of that state.[14]

R2P is divided into three subcategories of responsibility, placed upon the international community through the United Nations: to prevent, react and rebuild. Although primary responsibility to protect citizens falls to the state in which they reside, when a humanitarian crisis occurs the international community may take a variety of actions to assist and possibly intervene through the responsibility to react. First, states can take action from outside of the state through political and economic sanctions or military build-up. If conditions continue to escalate and the characteristics of the intervening force and the situation on the ground meet six criteria then the international community may intervene directly within the state. These six criteria include: just cause, right intention of the intervening force, last resort, proportional means in response to the violation, reasonable prospects of success and right authority as granted by the United Nations.[15]

After such an intervention occurs, R2P obligates the international community to assist in the rebuilding process so

6 The majority of UN documents and academics claim that the right to water finds its foundation within the right to health and the right to an adequate standard of living; however, it has also been said that the right to water is fundamental to upholding all other rights. Given water's intrinsic connection to life it is undeniable that the core of the right to water is found within the right to life. The following three documents place the right to water in relation to the right to an adequate standard of living and the right to health: United Nations Committee on Economic, Social and Cultural Rights (UNCESCR) *General Comment No 15: The Right to Water* (E/C.12/2002/11); UNGA *The Human Right to Water and Sanitation* (n 5); United Nations Human Rights Council (HRC) *Human Rights and Access to Safe Drinking Water and Sanitation* (24 September 2010) A/HRC/15/L.14. See also the work of Catarina de Albuquerque, former Special Rapporteur on the Human Right to Safe Drinking Water and Sanitation, who views the right as two rights: one to water and the other to sanitation. Her work also places the foundation of the right within the right to health and adequate standard of living, but recognises that these rights are deeply intertwined within the whole body of rights. See C de Albuquerque 'On the right track: good practices in realising the rights to water and sanitation' (2012) 25–28 http://www.ohchr.org/Documents/Issues/Water/BookonGoodPractices_en.pdf.

7 UNCESCR *General Comment No 15* (n 6) ss 3, 37.

8 Peter Gleick 'Basic water requirements for human activities: meeting basic needs' (1996) 21 *Water International* 83–92.

9 Guy Howard, Jamie Bartram 'Domestic water quantity, service level and health' World Health Organization WHO/SDE/WSH/03.02 (2003) 9.

10 United Nations Human Rights Council *Report of the United Nations High Commissioner for Human Rights on the scope and content of the relevant human rights obligations related to equitable access to safe drinking water and sanitation under international human rights instruments* (A/HRC/6/3) 11.

11 Although many would argue that the human right to water does not create obligations upon states, it could be argued that the human right is a part of customary international law in *statu nascendi*. This means that it is not yet customary law, but that it is likely to become so in the future. Winkler's analysis of state practice surrounding the human right to water shows that current state practice is still too inconsistent to consider the human right to water as customary international law, however the acceptance of the right by the UN General Assembly and the Human Rights Council are a move in the right direction. For more information see Inga Winkler *Human Right to Water: Significance, Legal Status and Implications for Water Allocation* (Hart Publishing Oxford 2012). Not only does the right create obligations, but it is evident that the international community is moving towards *erga omnes* duties, ie duties towards the international community within international water law. This could imply that the duties discussed in this article go beyond the connection between R2P and the human right to water. For more information see P Wouters, A D Tarlock 'The third wave of normativity in global water law' (2013) 23(2) *Journal of Water Law* 51–65.

12 UNCESCR *General Comment No 15* (n 6) ss 3, 29.

13 International Commission on Intervention and State Sovereignty (ICISS) *The Responsibility to Protect* (International Development Research Centre Ottawa 2001).

14 Similar views of state responsibility have been echoed in the International Law Commission's *Draft Articles on Responsibility of States for Internationally Wrongful Acts*, which also incorporates mass atrocity crimes into what it characterizes as serious obligations. For more information see International Law Commission *Draft Articles on Responsibility of States for Internationally Wrongful Acts, with commentaries* (2001) http://legal.un.org/ilc/texts/instruments/english/commentaries/9_6_2001.pdf.

15 ICISS *The Responsibility to Protect* (n 13) 32.

as to create conditions within the state that would not permit such a humanitarian crisis to reoccur.[16] This includes more than merely a rebuilding of structures, but also a rebuilding of institutions and communities.[17] In all instances, the international community ought to prevent instances of mass atrocity before they begin. In order to do so it can take political/diplomatic, economic, legal or military action in the form of legal reform, training etc. These actions aim to resolve the root causes of mass atrocity, or to directly prevent a foreseeable mass atrocity.[18]

In 2005 the international community, through the United Nations General Assembly, unanimously adopted a limited text of R2P which states that the international community has an obligation to protect populations against instances of the four mass atrocity crimes and acknowledges that preventive actions can play an important role in intervention.[19] This may lead us to believe that R2P has the support of the international community; however, divisions still remain.[20] For example, although China[21] has supported the development of R2P through its actions on the Security Council, it has also attempted to constrain its development.[22] China has voted in favour of R2P on multiple occasions: first in 2006 when the Security Council reaffirmed its support for the concept through Resolution 1674, and again in 2011 through its abstention on Security Council Resolution 1973, which permitted intervention in Libya.

Although China has supported these resolutions it has consistently noted its concerns in relation to state sovereignty and non-interference. For example, with regard to Resolution 1674 China's representative, Li Baodong, stated that China has 'serious concerns over some elements of the resolution and noted the need to respect sovereignty, independence, unification, and territorial integrity of Libya'.[23] This support had seemingly reached its limit when, in October 2011 and February 2012, China vetoed Security Council resolutions on Syria,[24] noting its support for notions of non-interference.[25]

3 CONNECTING THE HUMAN RIGHT TO WATER AND THE RESPONSIBILITY TO PROTECT

As stated above, R2P allows for the justification of military intervention upon the fulfilment of six criteria: just cause, right intention of the intervening force, last resort, proportional means in response to the violation, reasonable prospects of success and right authority as granted by the United Nations.[26] These criteria allow for justified military intervention in a greater number of cases than has been accepted by the international community. Since the accepted version focuses on the four mass atrocity crimes, it may appear that connecting R2P and the human right to water[27] may be more difficult. However, a closer look at the definitions of mass atrocities as well as the connections between the human right to water and various other human rights will provide further insight. First, it will be argued that the human right to water can invoke the responsibility to react, the responsibility to rebuild and, finally, the responsibility to prevent.[28] If it can be shown that there is a connection between the responsibility to react and the human right to water, then it follows that there is a connection between the human right to water and the responsibilities to prevent and rebuild.

Each criteria that justifies military intervention within R2P, save for just cause, is dependent upon the intervening force and is therefore less limiting since the appropriate intervening force can more easily be found than the appropriate set of conditions on the ground, which would justify intervention. The ICISS R2P doctrine allows for just cause to be achieved, first, when there is a 'large scale loss

16 ibid 39.
17 ibid 41–42.
18 ibid.
19 United Nations General Assembly *World Summit Outcome Document* (A/60/L.1*) 2005 arts 138–40.
20 For more information concerning the inconsistencies within R2P see Alex J Bellamy 'The responsibility to protect: five years on' (2010) 24(2) *Ethics & International Affairs* 143–69 and Carlo Focarelli 'The responsibility to protect doctrine and humanitarian intervention: Too many ambiguities for a working doctrine' (2008) 13(2) *Journal of Conflict and Security Law* 191–213.
21 China has always been a staunch supporter of state sovereignty. China's international policy is based upon the Five Principles of Peaceful Coexistence, which include: (1) mutual respect for territorial integrity and sovereignty; (2) mutual non-aggression; (3) mutual non-interference; (4) equality and mutual benefit; and (5) peaceful coexistence. These five principles were later expanded at the 1955 Bandung Conference and became a fundamental part of the preamble within the Chinese Constitution in 1982. For more information see Phil C W Chan 'China's approaches to international law since the opium war' (2014) 27(4) *Leiden Journal of International Law* 881 and Yonghin Zhang 'Ambivalent sovereignty: China and re-imagining the Westphalian ideal' in Trudy Jacobson and others *Re-envisioning Sovereignty: The End of Westphalia?* (Ashgate Publishing Abingdon 2008).
22 Christopher Holland 'Chinese attitudes to international law: China, the Security Council, sovereignty and intervention' *NYU Journal of International Law and Politics Online Forum* (17 July 2012) http://nyujilp.org/chinese-attitudes-to-international-law-china-the-security-council-sovereignty-and-intervention/.
23 ibid 36.
24 China was not the only state to veto or abstain from these votes. Russia also used its veto on these two occasions and Brazil, South Africa, India and Lebanon abstained from the 2011 resolution. The 2012 resolution was supported by all members, except China and Russia; see Holland (n 22) 38.
25 ibid 38.
26 ICISS *The Responsibility to Protect* (n 13) 32.
27 See David Devlaeminck 'The human right to water and the responsibility to protect' McMaster University Open Access Dissertations and Theses Paper 8352 (2013) https://macsphere.mcmaster.ca/bitstream/11375/13519/1/fulltext.pdf.
28 Although the scope of the human right to water is not yet extraterritorial, it appears that it is moving in that direction. General Comment No 15 states that parties 'recognize' that international cooperation can assist states to meet their obligations under the human right to water and that citizens of other nations have the right to water. Although the human rights documents only call for recognition, the obligations of the human right to water (to respect, protect and fulfil) are now found within various international and regional mechanisms, including the UNECE Water Convention (discussed later in this article). Typically the responsibilities to protect, respect and fulfil found within human rights are a national responsibility, but in instances of mass atrocity such violations are so serious that they become the concern of the international community, creating an overlap in obligations, primarily, but not solely, within the responsibility to prevent. For more information see ICISS *The Responsibility to Protect* (n 13) 14 and Mark Gibney 'Universal duties: the responsibility to protect, the duty to prevent (genocide) and extraterritorial human rights obligations' (2011) 3(2) *Global Responsibility to Protect* 123–51. Of special note is the work of the Extraterritorial Obligations (ETO) Consortium, a collection of academics and human rights groups who work to elaborate upon and promote the idea of ETOs. See ETO Consortium *Maastricht Principles of Extraterritorial Obligations of States in the Area of Economic, Social and Cultural Rights* (2013) http://www.etoconsortium.org/en/library/maastricht-principles/, which attempts further to close the gap in the promotion of transboundary human rights' obligations.

of life, actual or apprehended, with genocidal intent or not, which is the product either of deliberate state action, or state neglect or inability to act, or a failed state situation'[29] and, secondly, in a situation where there is a 'large scale ethnic cleansing, actual or apprehended, whether carried out by killing, forced expulsion, acts of terror or rape'.[30] Given these characteristics, just cause can be found within the four mass atrocity crimes of genocide, ethnic cleansing, war crimes and crimes against humanity, which is the version of R2P accepted by the UN General Assembly.

When comparing the definitions of mass atrocities within international law there is a striking similarity between them: each definition includes the deprivation of food or water used as a weapon.[31] The Rome Statute of the International Criminal Court defines genocide as a group of various actions, one of which includes 'deliberately inflicting on the group conditions of life calculated to bring about its physical destruction'.[32] War crimes and grave breaches of the Geneva Convention also include 'intentionally using starvation of civilians as a method of warfare by depriving them of objects indispensable to their survival'.[33] Finally, crimes against humanity include a series of actions that entail deprivation of the materials necessary for life, which have been 'calculated to bring about the destruction of part of a population' as part of a 'widespread or systematic attack directed against any civilian population, with knowledge of the attack'.[34]

Each of these definitions includes the intentional deprivation of food or water used as a weapon. This intentional deprivation is a clear violation of the human right to water; however, not all deprivations will trigger the responsibility to react. Upholding the human right to water requires states to provide and maintain a level of water access that is sufficient to prevent disease. This could be within a range of approximately 25–100 litres per day dependent on the individual, culture and climate. However, even at levels lower than 25 litres per day the individual may not be placed in conditions that would lead to death. Only in extreme cases, that is, those that fall below the level of water access for survival, would this intentional deprivation fit within the definitions of mass atrocity.

In these extreme instances, violations of the human right to water, in light of water's intrinsic connection to life, would amount to a violation of the right to life; such deprivation of water equates to a deprivation of life itself and thus would invoke the responsibility to react. Thus, even though the creation of duties and obligations through the human right to water is highly controversial, this connection between the right to water and the right to life provides the necessary foundation to associate the right to water and R2P. Subsequently, since we can invoke the strongest reaction within the responsibility to protect, we can also invoke the responsibility to rebuild, owing to the fact that this responsibility is triggered after each instance of military intervention within the responsibility to react.

The ICISS R2P document states that the 'responsibility to protect implies the accompanying responsibility to prevent'.[35] This implied responsibility of the international community has also been echoed within UN resolutions and documents.[36] Therefore, owing to a clear connection between extreme violations of the human right to water and the responsibility to react it is logical that there would also be a connection to the responsibility to prevent, given that the aim of this responsibility is to prevent mass atrocities before they occur.

Preventive methods may be especially useful to uphold other core obligations found within the human right to water. These include, at minimum, ensuring access to water in a non-discriminatory way, safe physical access to water without excessive delay or distance, physical safety and equal distribution.[37] Taken alone, violations of these aspects of the right are unlikely to have the potential to escalate into a mass atrocity; however, when paired with other issues within a state they may lead to conflict as a result of the intrinsic connection between water and life and the pervasiveness of water use within society.

4 R2P, PREVENTION AND TRANSBOUNDARY WATER COOPERATION

So far in this article it has been argued that extreme violations of the human right to water can trigger a humanitarian response through R2P. The responsibility to react and the subsequent responsibility to rebuild are unlikely to be useful in promoting transboundary cooperation since it is highly unlikely they will be triggered. The use of direct military intervention, sanctions or other actions within the responsibility to protect may be highly undesirable in transboundary situations, as this promotes an atmosphere of intervention. Thankfully, the situations and crimes that would trigger this kind of response through R2P, although possible, are highly unlikely. Instead of intentional, malicious deprivations of water, water related actions are likely to be tools of genocide and war crimes, not the crime itself. With this in mind, the responsibility to prevent is more likely to prove useful within situations of water stress where it is likely that these situations will pair with other social conditions and conflicts to create conditions that could lead to mass atrocity.

29 The ICISS version of R2P permits intervention in instances where a state's inability to act leads to mass atrocity. However, the accepted version only permits intervention in instances of intentional mass atrocity. Given the nature of human rights and R2P there are interesting connections in relation to the inability to act. Human rights can, on the one hand, be seen as minimum standards (in relation to their core obligations); however, on the other hand they can be seen as a goal in which states and the global community attempt to achieve over time (in relation to their progressive fulfilment). The responsibility to prevent within R2P builds upon this progressive fulfilment of human rights in an attempt to prevent future mass atrocity; the responsibility to react upholds the core obligations when situations escalate, and the responsibility to rebuild aims to create the conditions where this will not reoccur.

30 ICISS *The Responsibility to Protect* (n 13) 32.

31 The definition of ethnic cleansing is not discussed here since its characteristics can be found within the definitions of the other three crimes of mass atrocity.

32 United Nations General Assembly *Convention on the Prevention and Punishment of the Crime of Genocide* A/RES/260(II)[A–C] (1948) art 2.

33 United Nations Diplomatic Conference of Plenipotentiaries on the Establishment of an International Criminal Court *Rome Statute of the International Criminal Court* A/CONF.183 (1998) art 8, 2b, xxv.

34 ibid art 7, 1–2.

35 ICISS *The Responsibility to Protect* (n 13) 19.

36 This is discussed in more detail in section 4.

37 UNCESCR *General Comment No 15* (n 6) ss 3, 37.

4.1 Conflict and water

In 2012, the Office of the Director of National Intelligence in the United States completed a report which argued that water stress felt in states over the next few decades will increase the risk of instability, state failure and regional tension. By 2030 it is expected that global fresh water requirements will reach 6900 billion cubic metres per year if current consumption trends continue, which is 40 per cent above sustainable supply.[38] This connection between environmental and national security was echoed by the Department of Defence in 2014, stating that climate change will act as a 'threat multiplier' as it causes 'rising global temperatures, changing precipitation patterns, climbing sea levels and more extreme weather events'.[39] With increasing population, pollution and climate change, future water supply and distribution remain uncertain. Water itself may not be a direct source of conflict, however water issues are likely to raise regional, national and international tensions. This increased tension, when paired with other social, economic, political and environmental tensions has the potential to create the right conditions for conflict.

Water stress, as a source of conflict, has the potential to be a part of a foundation for mass atrocity. Mass atrocities have multiple causal mechanisms which are 'distinct combinations of conditions and events that are necessary to lead to the outcome'.[40] The majority of mass atrocities result from conflict situations and, therefore, by combating water stress and promoting cooperation it is possible to reduce the risk of mass atrocity. Out of approximately 100 mass atrocity events since 1945, 67 per cent of them have occurred within conflict situations.[41] Although it is not definite that the presence of these causal mechanisms will lead to mass atrocity it is impossible to accurately predict which of them will or will not lead to mass atrocity. Therefore, it is best to eliminate the foundations of conflict wherever they are found so as to minimise the risk of escalation.

For example, by tracing the history of the mass atrocity in Darfur, Sudan it is clear that the atrocity was directly attributable to water scarcity. Darfur had been in a state of conflict for nearly three decades. In the 1970s a series of droughts struck the region, causing nomadic herders from the north to move south in search of food and water for their animals.[42] This was a common occurrence that would typically be mitigated by regional conflict management mechanisms; however, these mechanisms were weakened after British colonisation practices replaced local leaders. With increasing population came increased pressure on regional resources, which were further exacerbated once more by the droughts of the 1980s.[43] The response from the Sudanese Government was inadequate and famine spread, leading to civil war in 1987. Clearly, the lack of water was not the sole cause of this mass atrocity. However, it was one of many causal mechanisms that combined to cause it.

The current Syrian conflict can also be traced back through a variety of factors including religious and socio-political tension, political reform (including the Arab Spring) and a deteriorating economy; all of these could be attributed to scarce water resources.[44] Syria's population grew from approximately 3 million in 1950 to over 22 million in 2012, decreasing water availability from 5500 m^3 to 760 m^3 per person in 2012, a level which is considered to be water scarce.[45] From 2006–2011 Syria faced a multi-year drought resulting in crop failures. In eastern Syria 1.3 million people were affected by these failures, resulting in the displacement of 1.5 million people from rural to urban areas, many of which were already experiencing water stress.[46]

4.2 The responsibility to prevent within international law and international water law

There has been much debate regarding the legality of the responsibility to prevent within R2P. Through Resolution 1625 the Security Council has acknowledged the need to take preventive action in order to prevent armed conflict, although very little action has come from this acknowledgement.[47] In 2014 the Security Council requested that states recommit to preventing mass atrocity in Resolution 2150.[48] R2P entails a collective obligation upon the international community and national obligations upon states reflective of the positive duty of cooperation found within Articles 40 and 41(1) of the International Law Commission's Article of State Responsibility.[49] These articles state that some violations of international law may be so severe, as is the case of mass atrocities, as to trigger an obligation to cooperate in order to bring about compliance. International law requires that states respect and uphold human rights, and this has been generally accepted by the international community.[50] R2P brings together these various tenets of international human rights law within a single doctrine to obligate states to act against mass atrocity, including its prevention.[51] Where R2P provides a framework for action, the human rights that it aims to uphold act as the content of such a response.

Even though there has been little action to prevent mass atrocities, there may be a foundation for preventive

38 Office of the Director of National Intelligence (ODNI) 'Global water security: intelligence Community assessment' (Washington DC 2012) 1.

39 Office of the Deputy Under-Secretary of Defense for Installations and Environment 'Department of Defense 2014 Climate Change Adaptation Roadmap' (2014) http://www.acq.osd.mil/ie/download/CCARprint.pdf.

40 Lawrence Woocher 'The responsibility to prevent: toward a strategy' in A Knight, F Egerton (eds) *The Routledge Handbook of the Responsibility to Protect* (Routledge New York 2012) 31.

41 Alex J Bellamy 'Mass atrocities and armed Conflict: links, distinctions, and implications for the responsibility to prevent' The Stanley Foundation (2011) 2 http://www.stanleyfoundation.org/publications/pab/BellamyPAB22011.pdf.

42 Andrew S Natsios, Zachary Scott 'Darfur, Sudan' in J Genser, I Cotler (eds) *The Responsibility to Protect: The Promise of Ending Mass Atrocity in Our Time* (Oxford University Press New York 2012) 236.

43 ibid.

44 Peter Gleick 'Water, drought, climate change, and conflict in Syria' (2014) 6 *Weather, Climate and Society* 331.

45 ibid 332.

46 ibid 334.

47 United Nations Security Council *Resolution 1625* (S/RES/1625/2005) http://www.un.org/en/ga/search/view_doc.asp?symbol=S/RES/1625%282005%29.

48 United Nations Security Council *Resolution 2150* (S/RES/2150/2014) http://www.un.org/en/ga/search/view_doc.asp?symbol=S/RES/2150%282014%29.

49 Sheri Rosenberg 'Responsibility to protect: a framework for prevention' (2009) 1(4) *Global Responsibility to Protect* 449.

50 ibid 452.

51 ibid 459.

measures within international law. Direct prevention within the responsibility to prevent found in R2P can be said to be grounded on the ideals of due diligence, which require states to take 'reasonable measures of prevention as could be expected from governments under similar circumstances'.[52] This means that even if the state were to take all necessary measures of prevention under this responsibility and the mass atrocity still occurred, then that state would not be held accountable.[53] Due diligence, as articulated in the Human Rights Committee General Comment on Article 2 of the ICCPR, demands that state parties 'ensure to all individuals within its territory and subject to its jurisdiction the rights recognised in the present covenant, without distinction of any kind', thus requiring states to adopt legislation and policies to make do on the rights within the covenant.[54] Furthermore, General Comment 31 of the International Covenant on Civil and Political Rights (ICCPR) states that a failure to do so may give rise to 'violations by State Parties of those rights, as a result of a State Parties' failure to exercise due diligence to prevent' rights violations.[55]

In relation to transboundary obligations due diligence must be practised externally by those states that have influence over the state in question, and also in relation to its connection (political, economic etc) to the actor in question.[56] These tenets within international law create a satisfactory foundation for direct prevention within R2P, since due diligence is based upon a knowledge and mediation of the immediate risk of mass atrocity. Root cause, however, cannot be based upon the notion of due diligence as its preventive measures occur well before a mass atrocity can be predicted, at a stage where levels of risk and knowledge of it may be low.

In order to determine a foundation of root cause prevention it is necessary to turn to the principles of international human rights law. Through the UN Charter states have obligations towards their own citizens, as well as the citizens of other states. Articles 55 and 56 of the UN Charter express a desire to create conditions of stability and wellbeing within the global community through the promotion of 'peaceful and friendly relations' amongst states.[57] Within Articles 55 and 56 of the UN Charter states assume a general obligation to cooperate in order to achieve the standards of human rights[58] and, furthermore, pledge to take joint and separate action to meet the standards set out within this article.[59] States have also expressed an 'international legal interest' in the implementation of human rights obligations through the ratification of treaties.[60] Article 2(1) of the International Covenant on Economic, Social and Cultural Rights (ICESCR) requires states 'to take steps . . . through international assistance and cooperation' in order to achieve realisation of the covenant rights.[61] Consequently, states have agreed to seek assistance and thus, they have also agreed to the implicit duty to provide assistance.[62]

Furthermore, regional agreements, which echo the tenets of the human right to water and the general principles of water law, provide 'added value' in relation to upholding the human right to water and the promotion of transboundary water cooperation. For example, the 1992 UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes incorporates the obligations of the human right to water.[63] Within the preamble and articles it mentions the 'adequacy of supply, non-discrimination and the requirement to adopt national and local actions to achieve access to drinking water and sanitation for all'.[64] In order to achieve these goals the UNECE Water Convention promotes water cooperation including joint management, the establishment of early warning systems and the exchange of information.[65] A similar promotion of human rights can be found at a more regional level, including the Joint Declaration of Principles for the Utilization of the Waters of the Lower Mekong Basin, which included a priority for domestic water use, although this did not make it into the 1995 Mekong Agreement.[66]

These various documents and legal norms show an inclination towards an obligation to promote good neighbourliness, although this foundation appears to be on a loose footing. Despite this, there is a clear progression in these issues towards a legal foundation of root cause prevention. Even without a solid foundation for root cause prevention many state actors may find it to be in their best interest to take preventive action, as they are likely to be obligated to intervene under the responsibility to react. By responding early, these states can minimise the costs and commitments they would incur in comparison to the burdens felt by the international community through the responsibility to react and rebuild.

4.3 Water cooperation and R2P

With a foundation for methods of direct prevention through due diligence, a loose foundation for root cause prevention and a foundation for action within water law allow us to begin to create an image of what this would look like for international transboundary water cooperation. Returning to General Comment No 15, there is a clear recognition of the role that international cooperation can play in upholding human rights.[67]

In order to do so, water crises and stressors must continue to be recognised as a source of potential conflict and the responsibility to prevent must be modified in order to respond adequately. Broken down into direct and root

52 ibid 453–54.
53 ibid 454.
54 ibid 454.
55 ibid.
56 ibid 468.
57 United Nations Department of Public Information (UNDPI) *Charter of the United Nations* (UN Department of Public Information New York 1986) arts 55, 56.
58 Christina Leb 'The right to water in a transboundary context: emergence of seminal trends' (2012) 37(6) *Water International* 643.
59 UNDPI *Charter of the United Nations* (n 57) arts 55, 56.
60 Leb (n 58) 643.
61 ibid 644.
62 ibid.
63 ibid 648.
64 ibid 649.
65 For more information concerning aspects of the human right to water found within the UNECE Water Convention see de Albuquerque (n 6) and A Tanzi 'Reducing the gap between international water law and human rights law: the UNECE Protocol on Water and Health' (2010) 12 *International Community Law Review* 267–85.
66 Christina Leb *Cooperation in the Law of Transboundary Water Resources* (Cambridge University Press Cambridge 2013) 208.
67 UNCESCR *General Comment No 15* (n 6) ss 3, 29.

cause prevention, the responsibility to prevent allows for action both from outside and within the state. Direct prevention methods target foreseeable conflict through the initiation of dialogue, military build-up, threats of sanctions and more.[68] Root cause prevention includes actions such as development aid, legal reform, military and security reform and addresses political and economic deficiencies.[69]

With water stress as one of many causal mechanisms of conflict, root cause prevention can act to promote water cooperation and lessen the impacts. In order to see how this can be achieved a detailed analysis of the water situation on the ground is required. Such an analysis displays the disparities in access between regions and across borders, thus allowing the international community to pinpoint hotspots. Once these areas have been identified, international assistance can occur to allow for local, national and international dialogue and cooperation.

If the international community were to apply the connection between the human right to water and R2P to promote water cooperation then it could discharge its duty to prevent, whilst lowering the risk of conflict and mass atrocity. The purpose of transboundary water cooperation is to create a means in which riparian states can meet their water needs whilst respecting the water usage of neighbouring states. This typically creates a method for states to settle disputes on such matters. In other words, cooperation on transboundary waters creates a foundation for conflict prevention and benefit sharing, which can ease tensions and promote cooperation in other areas.

For example, in 1948 India cut off the water supply to Pakistan for two of the eastern rivers: the Ravi and the Sutlej. This caused serious problems to the national economy of Pakistan and highlighted the necessity for conflict resolution and agreements concerning water usage in the Indus basin. With the assistance of the World Bank, this led to the Indus Waters Treaty.[70] The treaty has been applauded for its relative success over the past 50 years in spite of multiple disputes and conflicts between India and Pakistan. Owing to the success of this treaty Pakistan was able to create two dams and complete multiple other projects. Pakistan built the Mangla Dam on the Jhelum River and the Tarbela Dam on the Indus River and further plans are in place for another dam on the Indus at Kalabagh.[71] India too has benefited from the Indus Waters Treaty, constructing the Bhakra Nangal and Beas dams, allowing them to use the water from the eastern rivers before they cross into Pakistan.[72]

4.4 Sovereignty: assistance cannot be forced

Although it has been argued above that the responsibility to prevent within R2P can act as one mechanism to assist international water cooperation, this assistance cannot be forced upon states consequent on the ideals of sovereignty. Although R2P reframes sovereignty as responsibility, sovereignty continues, and should continue, to protect states from external intervention. Sovereignty can be seen as a functionally justified right of states. A functionally justified right is one that requires a level of function for its possession. For example, the majority of states enforce a licensing system for drivers owing to the dangers associated with allowing everyone to drive. In order to receive their licenses drivers must be competent rather than perfect drivers. They must have a knowledge of the rules, the basic physical ability to operate the vehicle etc. So long as the driver is meeting a level of competence, then the state would not be justified in intervening. However, if the driver falls below this level of competence then there may be justification for the state to intervene; for example, if the driver caused an accident due to negligence then the state would be justified if it decided to take action to revoke the driver's licence.

According to a functional account of sovereignty, which views sovereignty as a functionally justified right of the state,[73] states are also said to have requisite functions including upholding the basic human rights of their citizens. So long as states are meeting these requisite functions at a level of competence, rather than perfection, then they should be able to run their own affairs without interference from other states. However, when a state fails to meet this level of competence another state may be justified in intervening to correct this situation, although such intervention ought to be proportional to the violation.[74]

In situations where root cause prevention will be viable, states are likely to be performing their requisite functions at a level of competence, and therefore the international community cannot force assistance upon them without violating their sovereignty rights. Since this assistance cannot be forced upon states it is unlikely that it will be attempted, since many states will not allow another to assist in the management and negotiations of its transboundary water agreements. Transboundary waters are a domestic and an international issue and it may be the case that states would promote this connection so long as it does not affect them or their transboundary waters.

This view of sovereignty is highly theoretical and is only a representation of the view of some states. For example, as discussed earlier, whereas the United States has been a participant in many instances of humanitarian intervention and may promote a view similar to this, the Chinese Government has upheld a more traditional view of sovereignty, as evident in Security Council votes. China has abstained on the majority of Security Council votes regarding humanitarian intervention, although China ended this pattern of abstention by vetoing action on the Syrian crisis.[75] Ultimately, China and other states are improbable supporters of the notion of R2P, making this connection an unlikely solution to limited transboundary water cooperation at this time.

68 ICISS *The Responsibility to Protect* (n 13) 23.
69 ibid 23.
70 Aquastat 'The Indus basin' 10 http://www.fao.org/nr/water/aquastat/basins/indus/indus_bp.pdf.
71 Ashok Swain 'The Indus II and Siachen Peace Park: pushing the India-Pakistan peace process forward' (2009) 98(404) *The Round Table* 572.
72 ibid.
73 For a complete analysis of this account see Christopher Heath Wellman 'Debate: taking human rights seriously' (2012) 20(1) *The Journal of Political Philosophy* 119–30.
74 ibid.
75 Holland (n 22).

5 CONCLUSION

In this article it has been argued that there is a connection between the international human right to water and the responsibility to protect, in the sense that extreme violations of the human right to water can act as a triggering mechanism for humanitarian intervention within R2P. With this connection in mind it is also possible to trigger the implied responsibilities to rebuild and to prevent. With a weak foundation for direct prevention and root cause prevention within the concepts of due diligence and the obligation to cooperate, it is clear that a legal duty to prevent such conflict is emerging. Although it has been demonstrated that a theoretical connection between violations of the right to water and the responsibility to protect exists, the instances that would trigger military intervention are likely to be extremely rare. Instead, water is more likely to combine with other economic, social and political issues to raise tension and increase the likelihood of conflict and thus mass atrocity.

With this in mind there are tools within R2P that may prove to be useful, primarily preventive measures. Applying preventive measures to the water sector will include a variety of methods, although the promotion of transboundary water cooperation will be key. Cooperation on transboundary waters creates the fundamental tools for conflict prevention and benefit sharing, which can ease tensions and promote cooperation in other areas. Through such cooperation states will have the necessary water resources to respect, protect and fulfil the human right to water of its citizens. However, even though this connection exists it is unlikely to be used. Although R2P provides a progressive view of sovereignty, many states do not share this view. These differing views and practices surrounding sovereignty may ultimately mean that R2P and its connection to the human right to water may go unused.

INSTITUTIONAL AND GOVERNANCE ASPECTS OF WATER MANAGEMENT: SUBSIDIARITY AND DECENTRALISATION

THE SECRET OF THE DUTCH APPROACH TO WATER MANAGEMENT

PROFESSOR DR REMCO NEHMELMAN
*Utrecht Centre for Water, Oceans and Sustainability Law, Utrecht University**

1 INTRODUCTION[1]

A famous quotation from the renowned biologist Charles Darwin reads as follows: 'If the misery of our poor be caused not by the laws of nature, but by our institutions, great is our sin' and this is indeed applicable to the topic discussed in this article. Managing the overflow or scarcity of water in the world is one of the big challenges of the 21st century. The second UN World Water Development Report 2006 describes the world water crisis in this century primarily as a water management crisis.[2] This means that although *technical* renewal will always be necessary in dealing with water issues, the real problem concerning is related to water management. One of the reasons why sustainable and good water management is difficult to achieve is that water-related issues are so diffuse and as a result, many stakeholders or actors are always involved in decision-making and the decisions that have been taken can potentially be in competition with one another. Nevertheless, good water management is one of the most essential tasks of government. Without establishing control of floods or alleviating the scarcity of water it is hard to achieve an economically sound and safe society.

A famous quotation from Dutch literature reads as follows: 'The Dikes make up the State'[3] and the Dutch are world-famous for knowing how to solve water issues, especially those related to flood control. As the Netherlands are located in a dangerous delta-area of Europe, the Dutch have struggled for many centuries to control water. The establishment of dykes, windmills and pumping stations are all measures that have been taken to keep the water away from the lowlands. Although problems concerning water governance still exist in the Netherlands, the experience the Dutch have had with water-related issues has led to the existence of much precious knowledge – sometimes acquired by trial and error – which might be valuable for other states and areas in the world where water management is a serious problem.

Recently, the Organisation for Economic Co-operation and Development (OECD)[4] published an important and extensive report on water governance in the Netherlands. One of the main conclusions of the report is that the Netherlands has an excellent track record on water management in several areas and the Dutch system has managed to 'keep its feet dry' and to develop a strong economy and robust water industry in a country where 55 per cent of the territory is below sea level or prone to flooding.[5]

What is the secret of this Dutch success? This article will set out the key factors that have led to this success and, although lessons can be learned from the Dutch approach, it is important to recognise that each area or state has a different set of territorial, historical, political and economic elements that will affect its water management system. First, the article will describe the general framework and requirements of Dutch water governance; secondly, it will examine several specific governance aspects of the Dutch water sector, from which it will be clear that decentralisation plays an important role.

2 GENERAL REQUIREMENTS AND FRAMEWORK

When explaining the system of Dutch water management it is important to understand four main general principles that provide the necessary basis for good governance and that, in this author's view, are particularly illustrative of how the unique approach to water management in the Netherlands works. These are (1) legitimacy (2) accountability (3)[6] an integrated approach to water management and, finally, (4) equity, which together create the framework of water management as set out in several reports.[7]

* Professor of public institutional law with a focus on water governance, email: r.nehmelman@uu.nl.

1 This article is (partly) based on an unpublished study carried out in 2013 by myself and my colleagues at the Utrecht Centre for Water, Oceans and Sustainability Law, Utrecht University for the Organisation for Economic Co-operation and Development (OECD). I want to thank my colleagues Professor Dr H F M W van Rijswick, Dr A Buijze, W Ernst LLM and Dr H K Gilissen for their remarks on an earlier draft of this study. This article was presented during the Water Law Workshop and PhD Forum: 'Building academic research cooperation and links' in May 2014 in Xiamen (cooperation between Utrecht University, Xiamen University and Wuhan University during the 1st Annual International Water Law Symposium , Xiamen University Law School, China International Water Law Programme (CIWL): 'A legal perspective on sustainable water management in times of climate change: comparing international, European, Chinese and Dutch water law'), Topic Area 2: 'EU-China legal approaches to governance and implementation'.

2 The United Nations World Water Development Report 2 'Water, a shared responsibility' (2006) 44 ff http://www.unesco.org/bpi/wwap/press/.

3 C W van der Pot, A M Donner *Handboek van het Nederlandse staatsrecht* (W E J Tjeenk Willink Deventer 1977) p 138.

4 The OECD is an international economic organisation of 34 countries founded in 1961 to stimulate economic progress and world trade. It is a forum of countries committed to democracy and the market economy, providing a platform to compare policy experiences, seek answers to common problems, identify good practices and coordinate domestic and international policies of its members. See http://www.oecd.org/.

5 See http://www.rijksoverheid.nl/documenten-en-publicaties/rapporten/2014/03/17/oecd-studies-on-water-water-governance-in-the-netherlands-fit-for-the-future.html 17 (OECD-Report 2014).

6 In legitimacy and accountability also principles such as transparency and participation are included in the Dutch situation, which will be explained later in this article.

7 See eg also the OECD Report 2014 (n 4).

2.1 Legitimacy

As a member of the European Union, the Netherlands has a duty to implement European law. However, the requirements stemming from EU law will not be addressed in depth here.[8] Important elements of EU law, EU environmental law and EU water law are:

- legal principles (legality, legal certainty, proportionality, subsidiarity)
- equity – fundamental rights and values (territorial continuity to rebalance regional disparities, affordability, for example of water tariffs across all users)
- guiding policy principles (sustainability, the integration of environmental law into other policy fields)
- environmental principles (precaution, prevention, best available techniques, tackling pollution at source, cost recovery for water services)
- obligations and objectives stemming from secondary EU environmental and water legislation (eg the implementation of the environmental objectives in Article 4 of the Water Framework Directive (WFD) (2000/60/EC)).

The second criterion for legitimate water governance is compliance with (other) international requirements. Fundamental rights must be respected, as set out in, for example, Article 14(2) of the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), Article 24(2) of the Convention on the Rights of the Child (CRC) and General Comment No 15 of the International Covenant on Economic, Social and Cultural Rights (ICESCR). In addition, the European Convention on Human Rights (ECHR) could be a source of positive obligations in water management, especially Articles 2 and 8, and Article 1 of the First Protocol (A1P1).[9]

Important in this respect is the case law of the European Court of Human Rights in Strasbourg concerning the positive obligations of contracting states to protect citizens from the risks of flooding. These obligations derive from Article 2 of the ECHR (the right to life) and Article 8 ECHR (the right to a private life).[10] As a contracting state of the ECHR the Netherlands has to respect and is respecting this case law. Furthermore, agreements concerning transboundary river basins (the Helsinki Treaty and the Rhine, Meuse and Scheldt Treaties) ought to be respected.[11]

2.2 Accountability

Water governance should also be established in such a way that responsibilities are clear and based on the rule of law. This means that these duties should be enforceable by public and/or private parties either politically (public parties) or before the courts (public and private parties). Citizens should be able to rely on legislation that guarantees a certain level of protection and stability. Legal instruments should be designed with properly effective remedies so as to ensure this protection can be enforced. In the Netherlands, the decentralised legal structure which guarantees this can be found for example in the Water Authorities Act[12] and the Water Act.[13]

Under the Water Authorities Act three public entities are established: the water authority board (representatives), the executive committee and the chair (of a water authority board). These three entities have to work with each other, creating a system of checks and balances. The executive committee and the chair can be held accountable before the water authority board and the 23 water authority boards are directly elected by citizens and therefore themselves accountable to the electorate. The 12 provinces have a legal duty to monitor the water authorities. Finally, the Minister of Infrastructure and the Environment is responsible for central water management and is therefore accountable to the Dutch Parliament (consisting of the Second and First Chambers).

Depending on the water function in question, legislators, both central and local, should be clear about the scope of public responsibilities, in this way enabling private parties to undertake their own responsibilities. This can be ensured by setting out the powers and responsibilities of regional water authorities in central legislation. Preferably, this should not be done by a general *unconditional* legal instrument as this would not contain specific provisions on the scope of the powers available to a water authority. The powers and duties of water authorities should be as specific as possible, set out in instruments that allow for effective recognition of regional differences when necessary and to ensure the requirements of accountability will be fully met.

Although the supply of drinking water has been privatised to a certain extent in the Netherlands, ultimately the supply of drinking water and the establishment of a minimum level of safety are still clearly responsibilities of the government. However, water authorities can, in their water plans, devolve some of their responsibility for the supply of fresh water to private parties. In the Deltaprogramma 2013 this approach is formalised in a policy strategy, whereby private parties have some responsibility to create water retention capacity, thus stimulating innovation with regard to economical water use.[14]

2.3 Integrated approach to water management

International (eg the UNECE Water Convention), European (eg the Water Framework Directive) and Dutch water management is based on a so-called integrated river basin management or integrated water system management.[15]

8 See H F M W van Rijswick (ed) *EG-recht en de praktijk van het waterbeheer* (STOWA 2008) and H F M W van Rijswick, H J M Havekes *European and Dutch Water Law* (Europa Law Publishing 2012).

9 See for instance Application no 48939/99 *Öneryildiz v Turkey* (ECtHR 30 November 2004); Application nos 15339/02, 21166/02, 11673/02 and 15343/02 *Budayeva and Others v Russia* (ECtHR 20 March 2008); Application no 67021/01 *Vasile Gheorghe Tatar and Paul Tatar v Romania* (ECtHR 5 July 2007,); Application nos 17423/05, 20534/05, 20678/05, 23263/05, 24283/05 and 35673/05 *Kolyadenko and Others v Russia* (ECtHR 28 February 2012).

10 See Application nos 15339/02, 21166/02, 20058/02, 11673/02 and 15343/02 *Budayeva and Others v Russia* (ECtHR 20 March 2008) and Application nos 17423/05, 20534/05, 20678/05, 23263/05, 24283/05 and 35673/05 *Kolyadenko and Others v Russia* (ECtHR 28 February 2012.

11 See also OECD Report 2014 (n 4) 91.

12 Bulletin of Acts, Orders and Decrees (Stb) 2007 at 208.

13 Bulletin of Acts, Orders and Decrees (Stb) 2009 at 107.

14 Deltaprogramma 2013, written by the Dutch Deltacommissaris, an independent advisory body to the Dutch Government http://www.deltacommissaris.nl.

15 Integrated river basin management refers to the joint management of river basins by several EU Member States, whereas integrated water system management refers to the integrated management of surface water bodies, groundwater bodies, dykes, retention areas and public water works.

The unit for water governance in the European Union is a river basin, a sub-river basin or a smaller unit defined on the basis of hydrological criteria. In the Netherlands, these terms are usually synonymous and, although the relationship between water systems and water chains (waste water collection and treatment and drinking water supply) is recognised, the systems are not fully integrated into one regulation. Historically, the management unit used to be much smaller than a river basin or a sub river basin, and chemical and ecological water quality, water quantity and safety issues were integrated in regulation so that all these aspects could be taken into account when decisions upon the effects of possibly harmful activities had to be considered.

Integration is not a goal in itself but a means to achieve better water management. From the point of view that integration should lead to better policies it can be concluded that integrated water management may be carried out so as to increase the effectiveness, accountability and thus the legitimacy of water governance. Integration that focuses more on procedures and on reducing the amount of regulation is aiming more for efficiency. It became clear that highly sectorial legislation for each aspect of water management hampered progress in reaching water management goals. In addition to integration within water-related legislation, there are strong relationships with other policy fields to be taken into account such as land use planning, environment, nature conservation, agriculture etc. However, in managing river basins in an integrated way it is not necessary to integrate all legislation that in one way or another could have an effect on water. Coordination mechanisms may in most cases be more effective and efficient.

The ecological approach taken in the Dublin Declaration[16] and Agenda 21[17] has to be reconciled with the fact that water is also an economic good:

> The widespread scarcity, gradual destruction and aggravated pollution of freshwater resources in many world regions, along with the progressive encroachment of incompatible activities, demand integrated water resources planning and management. Such integration must cover all types of interrelated freshwater bodies, including both surface water and groundwater, and duly consider water quantity and quality aspects. The multisectoral nature of water resources development in the context of socioeconomic development must be recognised, as well as the multi-interest utilisation of water resources for water supply and sanitation, agriculture, industry, urban development, hydropower generation, inland fisheries, transportation, recreation, low and flatlands management and other activities. Rational water utilisation schemes for the development of surface and underwater supply sources and other potential sources have to be supported by concurrent waste conservation and wastage minimisation measures. (Agenda 21, Rio de Janeiro, chapter 18).[18]

2.4 Equity

The general principle of equity is very well enshrined in Dutch water law. Water is a basic need; no human being can live without a basic volume of fresh water of sufficient quality. Hence, access to safe, clean water of a certain minimum standard is a fundamental right. The principle of equity is therefore in this context closely connected to the quality of water. When it comes to safeguarding (Dutch) citizens against water (the quantity of water), the general principle of equity has to be interpreted in another sense. Owing to the different land levels in the Netherlands (for example, the southern province of Limburg is above sea level and the province of Noord-Holland (and therefore also the city of Amsterdam) is below sea level), the principle of equity means that every citizen has to pay taxes for the protection of the Dutch coast. Here equity is closely connected with the basic tenet of solidarity. All these requirements could be regarded as principles of 'good water governance'.

3 WATER GOVERNANCE WITHIN THE CONTEXT OF THE DUTCH STATE

The four principles mentioned above are of a general nature: all water governance mechanisms should take these into account, regardless of any spatial, temporal, institutional, political or other circumstances. Another important requirement for water governance mechanisms to be considered as 'suitable' is whether they are appropriate for a state's established constitution, institutions and physical characteristics. This could, of course, be regarded as a general requirement, but as states' characteristics differ this requirement is of a more specific nature. The Netherlands can be characterised as a *decentralised unitary state*. Water governance mechanisms should meet the characteristics of this type of state and all its peculiarities. The focus in this article is on aspects of democracy, and the decentralisation of current Dutch water governance. Alternative arrangements should, in one way or another, also meet these characteristics and peculiarities.

3.1 Decentralisation

The Dutch constitution provides for a democratic, decentralised state.[19] It imposes a general duty of care on all governmental bodies to ensure the habitability of the land and the protection of the environment (Article 21 Dutch Constitution).[20] Organisational provisions guarantee the existence of decentralised water authorities. More detailed provisions on the tasks, responsibilities and competences of those authorities are laid down in the Waterschapswet (Water Authorities Act)[21] and the Waterwet (Water Act);[22] both have the status of an Act of Parliament. Besides these Acts, provincial by-laws are important. Owing to this distribution of power the Netherlands can be categorised as a decentralised unitary state.[23] From a constitutional

16 See https://www.wmo.int/pages/prog/hwrp/documents/english/icwedece.html.

17 See http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=52&ArticleID=66.

18 See also B Teeuwen Legislation – Building Blocks for Good Water Management, Water Governance Centre, The Hague 2013 (in press).

19 See http://www.government.nl/documents-and-publications/regulations/2012/10/18/the-constitution-of-the-kingdom-of-the-netherlands-2008.html (this is the official translation of the Dutch Constitution).

20 Article 21 Dutch Constitution: 'It shall be the concern of the authorities to keep the country habitable and to protect and improve the environment'.

21 Bulletin of Acts, Orders and Decrees (Stb) 2007 at 208.

22 Bulletin of Acts, Orders and Decrees (Stb) 2009 at 107.

23 See L Prakke, J L de Reede and G J M van Wissen *Van der Pot-Donner, Handboek van het Nederlandse Staatsrecht* (Deventer Kluwer 2001) and H J M Havekes 'Functioneel decentraal waterbestuur: borging, bescherming en beweging. De institutionele omwenteling van het waterschap in de afgelopen vijftig jaar' PhD thesis University of Utrecht (The Hague Sdu Uitgevers 2009) 46–51.

law perspective, decentralisation can be defined as the delegation or assignment of public law powers by high-level public bodies to lower-level public bodies. Among the reasons for this decentralisation is the aim to disperse power, based on the principle that public authority should be exercised at a level as close as possible to the citizens, following the principle of subsidiarity.

Two forms of decentralisation can be distinguished: territorial and functional. Territorial decentralisation concerns the provinces and municipalities; they have, in principle, an unlimited general responsibility. They are sometimes termed *general* administrative bodies. This distinguishes them from *functional* administrative bodies, which are responsible for one or more specific tasks. The regional water authorities fall into this category. The distinguishing element between territorial and functional decentralisation is whether the body in question has been entrusted with the management of a particular sector. The regional water authorities can be considered the purest example of functional decentralisation.

It may be recalled that regional water authorities are entrusted with a specifically defined responsibility (Article 1(2) Water Authorities Act). There is also a close connection between the interest of citizens of the activities of the water authority, the duty therefore of citizens for payment for such activity and participation of citizens in governance of the water authority (known as the 'interest-pay-say' triplet).

3.2 Democratic legitimacy of the water authorities[24]

The water authority has an executive assembly (about 5 seats), which is elected from the general assembly (about 30 seats), as well as a chairman. The general assembly is directly elected by the Dutch citizens and certain stakeholders (see below). The chairman is not elected, but is appointed by the crown (the Dutch Government, which consists of the monarch and the ministers). The water authority as a public institution is grounded in the constitution and regulated further in the Water Authorities Act. It has legislative power in the formulation of by-laws and makes decisions with respect to the budget, annual accounts, taxes, control of water level, licensing, water management plans and water quality. The central government provides a strategic policy based on the national legal framework on water issues. The provincial government supervises the water authorities and is authorised to establish or dissolve them. In a charter the provincial government defines the boundaries of the water authority (based on river water basins), the tasks of the water authorities, the assignment of the water authority and its assembly.

Democratic legitimacy is guaranteed through the representation of various categories of stakeholders on the governing bodies of water authorities. The water authorities' role of water quantity control and flood protection are carried out on the basis of 'stakeholder participation' and the 'benefit principle'. Those who have an interest in, or benefit from, the activities of the water authorities bear the costs in the form of the payment of a tax and have a proportionate say in the assembly, in return, through their elected representatives. Stakeholders pay a water authority tax proportionate to their interest. For a long time only farmers were recognised as stakeholders in Dutch law. Later, residential and business property owners were also recognised as having an interest in water management. Nowadays, households and industries have been recognised as stakeholders as well. The general assembly of the water authority therefore has to represent various interests.

According to the Water Authorities Act, there are five categories of stakeholders. All categories have a fixed number of seats in the assembly, which corresponds to the size of their respective interests (and tax payments) in the activities of the water authority. One might call this 'a stakeholder democracy' or a 'functional democracy'. Section 12(1) of the Water Authorities Act states that the board shall be composed of representatives of categories of parties with an interest in the water authority's performance of its responsibilities. In this sense the water authority is an 'interest group democracy'.

Section 12(2) of the Water Authorities Act has an exhaustive list of the categories of stakeholders the board must include:

- residents (those who actually live in the water authority's area)
- those who own, possess or have a right other than ownership in unbuilt property other than protected natural areas (unbuilt land)
- those who own, possess or have a right other than ownership in natural areas (natural reserve authorities)
- those who own, possess or have a right other than ownership, or have a personal right in developed property used for commercial purposes (owners of businesses and corresponding buildings).

3.3 Supervision of the provinces and the central government

At the regional administrative level, the 12 Dutch provinces play an essential and even a constitutional role in the existence of water authorities. This is seen in Article 133 of the Dutch constitution.

In the first section of Article 133 of the Dutch Constitution one can see the crucial role the provinces have concerning the regulation of water authorities. Article 133(1) stipulates that the establishment or dissolution of water control boards, the regulation of their duties and organisation together with the composition of their administrative organs shall be effected by provincial by-laws according to rules laid down by Act of Parliament. In Article 133(3) the constitutional legislator has regulated that the supervision of the water authorities is given to the provincial and other bodies in accordance with a special Act of Parliament. This Act is the Water Authorities Act. Furthermore, Article 133(3) states that decisions by the administrative organs of water authorities may be quashed by royal decree, but only if they conflict with the law or the public interest. Hence, the Dutch Water Authorities Act is an important link in connection with the relationship between the provinces and the water authorities.

In title V of the Water Authorities Act specific provincial and national governmental supervisory regulations are

24 The text of this paragraph is based on R Lazaroms, D Poos 'The Dutch water board model' in (2004) 15(3–4) *Water Law* 137–40.

laid down.[25] Before these provisions are discussed a few general comments need to be made about the function of, grounds for and types of supervision. Supervision sets limits to the autonomy of decentralised authorities. In a unitary state such as the Netherlands, decisions must be reached by decentralised bodies whose decisions can be reviewed by superior interests or a higher public body. Supervision can be regarded as an integral part of decentralisation and need not necessarily be regarded in a negative light. Supervision guarantees a minimum standard for the unity and the quality of the rule of law.

Supervision can be of several classic types; preventive (*ex ante*), positive and repressive (*ex post*). Preventative supervision can take the form of a higher body's consent to a decision taken by a lower body and which is required to give it the force of law. Positive supervision refers to the situation in which a higher body orders a lower body to reach a given decision or reaches that decision itself (for example, instructions, rules in cases of failure to act). Repressive supervision concerns the possibility of annulment (including suspension) by a higher body of decisions taken by a lower body, with the result that they lose any force of law. All these types of supervision are included in the regulations on water authorities.

3.3.1 Preventive supervision

Under the current Water Authorities Act one can see a clear shift from the former preventive supervisory role of the province to a more positive and repressive supervisory role. The province plays a central role in conducting preventive and repressive supervision. For example, decisions with regard to water levels and decisions to construct and improve water management structures no longer require prior (provincial) approval. It still may, however, be necessary for a project plan to be drawn up, which will be subject to provincial approval under section 5.7 of the Water Act, otherwise under the Water Authorities Act and the Water Act only the cost allocation by-law, the management plan and the aforementioned project plans are still subject to prior approval. The chair of a water authority is obliged to see if the decisions made by the other organs in the water authority do comply with higher regulations; if they do not the central government has to be informed and may overrule the decision (Article 15 of the Water Authorities Act).

3.3.2 Repressive supervision by the provincial executive

As a result of the shift from preventive to repressive supervision, the Water Authorities Act now only refers to repressive, or *ex post*, supervision. Section 156 of the Water Authorities Act stipulates that any act or unwritten decision intended to have legal consequences taken by the governing bodies of a water authority can be annulled by the provincial executive. This provision thus gives substance to Article 133(3) of the Dutch constitution, which further provides that decisions by the governing bodies of a water authority can also be quashed by the provincial executive if they conflict with the law or the public interest. A conflict with the law will generally be quite clear; a conflict with the public interest is, however, a somewhat vaguer concept. From the literature it appears that this concept should be interpreted broadly: 'every public interest that in the opinion of the reviewing body should be given priority over the interest that is served by the decision to be annulled'.[26] Interested parties can lodge an appeal against a provincial executive's annulment decision with the (Dutch) Council of State's Administrative Jurisdiction Division under section 162 of the Water Authorities Act. No appeal is possible against the refusal of annulment or against the failure to take an annulment decision within a reasonable time. Annulment decisions only occur sporadically.

3.3.3 Positive supervision

For rules on positive supervision by a higher authority it is necessary to look to the Water Act Chapter 3 Part 3. The rules provide the provinces with a broad range of supervisory instruments. For example, under section 3.9 of the Water Act, the provincial executive exercises supervision over all primary flood defences in its province, which includes those belonging to the central government. With a view to coherent and efficient regional water management, rules regarding the information to be provided by the water authorities' governing bodies may be laid down in or pursuant to a provincial by-law. Under section 3.11(1) of the Water Act, the rules may also relate to the 'preparation, adoption, amendment and content of plans, decisions or water agreements to be adopted by the water authorities' governing bodies'.

Section 3.12 goes a step further: if coherent and efficient regional water management so requires, the provincial executive may issue an instruction to the water authority governing bodies regarding the exercise of their powers and responsibilities. The instruction must stipulate a period within which it must be carried out. If the governing bodies fail to carry out the instruction, section 3.12(4) authorises the provincial executive to do so on behalf of the water authority. Section 3.13 provides the Minister of Infrastructure and the Environment with corresponding powers as regards provincial executives and the governing bodies of the water authorities. Implementation of these powers is subject to international obligations or supra-regional interests.

3.4 Other roles of the provinces and municipalities concerning water and water authorities

The provincial and municipal authorities also carry out a number of duties in the area of regional and local water management, although they are not 'water authorities' as formally mentioned in the Water Act. The provinces have a part to play in drawing up water agreements and they are the competent authorities for granting permits for 'larger scale' groundwater abstraction. In addition, the province plays a crucial role in setting up, regulating and dissolving the regional water authorities and in supervising their autonomous responsibilities.

Municipal authorities also have responsibilities in the field of (local) water management, which include the collection and transport of urban wastewater under the Environmental Management Act[27] and duties concerning rainwater

25 See van Rijswick and Havekes (n 8) 197–202.

26 See eg P P T Bovend'Eert (ed) *Grondwet, Tekst en Commentaar* (Kluwer Deventer 2004) p 178.

27 Bulletin of Acts, Orders and Decrees (Stb) 2013 at 144.

and groundwater in urban areas under the Water Act. They are required to incorporate water in their spatial-planning decisions so as to produce 'good spatial planning', which means that the importance of water management is recognised in local (as well as in provincial and national) spatial plans. All these municipal water management obligations are carried out with the aid of the municipalities' own instruments (Municipality Act[28]), based on legislation in other policy areas (spatial planning and environment), and through coordination and conferral with the regional water authority, as stipulated in section 3.8 of the Water Act.

4 THE STATUS OF WATER AUTHORITY TAXES

The water authority taxes have a special position in the Dutch tax system. Generally speaking, government levies fall into two categories – taxes and charges. Both levies are imposed and enforceable under the law. The distinction between them is that a charge is levied in return for a specific individual service performed by the government, whereas a tax is levied without the expectation of any *specific* service in return. The financing of water management should be based on the profit principle costs for the provision of water services should be recovered from the various stakeholders.

Under the current Water Authorities Act the water authorities no longer have to have provincial approval of their decisions concerning the imposition of taxes and their annual budgets. The charges cover the costs of flood protection and control of surface water supply, whilst the costs of surface water quality control and wastewater treatment are financed by the pollution levy. On average, about 95 per cent of all (executive) costs and investments of the water authorities is covered by these taxes. The self-financing system of regional taxes makes the water authorities financially highly independent from national politics and periods of economic decline and provides a good position for obtaining long-term loans in order to finance large investments. It may also contribute to sustainable water management.

The form and contents of water authority charges and levies are determined by a number of taxation principles, including the benefit principle, the polluter pays principle, the cost recovery principle and the solidarity principle.

The water authority charges are based on the Water Authorities Act and embody the philosophy that those who benefit from water authority activities should also contribute financially to those activities. The costs are directly related to the benefits – ie the use made of the existing physical infrastructure – whilst every polluter of surface water pays a pollution levy, according to the Water Act, and those responsible for household or industrial discharges of wastewater pay this levy according to the amount discharged directly or indirectly into the sewer and surface water system. The polluter is thereby made financially responsible for the costs of water quality management. For households there is a fixed rate, for industrial companies the pollution is calculated more precisely, depending on the amount and the composition of discharges. In this way the 'polluter pays' principle is put into practice. Both taxes comply with the principle of 'cost recovery' as found in the WFD, where it is stated that the costs related to 'water services' are to be recovered in the river basin and sub-basin districts where those costs are incurred.

Generally speaking, most water authority responsibilities are concerned with water services and the borders of the Dutch water authorities largely correspond with the borders of the Dutch river basin and sub-basin districts. However, it is worth remembering that the Dutch water systems are to a large extent manmade, especially in the polder areas below sea level (the main parts of the west and north of the country). The physical infrastructure is a result of a democratic balance of all the interests involved. Therefore, individual interests cannot be addressed in isolation. The work of the water authorities involves a public interest, and this is reflected in the structure of the water authority taxes. This is what one might describe as the solidarity principle.

However, this is a departure from the principle of cost recovery, and requires justification. The question can arise whether it is fair that following the solidarity principle (in connection with the principle of equity) leads to the fact that the regions more at risk of flooding receive a larger amount of revenue than those regions which are not (eg the provinces of Limburg (southern region) and Groningen (northern region)). This arrangement does not infringe Article 1 (on equality) of the Dutch Constitution since in all regions a minimum level of security against flooding is guaranteed. Because of the different natural conditions in various Dutch regions and the consequent differences in investment, possible variations in treatment can be justified, although one could argue that currently not all water services paid for through general taxes are fully warranted.

5 FINAL REMARKS AND RESUMÉ

Water governance is legitimate only if it fulfils the requirements of the international and EU laws mentioned here as its basis and functions from the premise of the four general and environmental principles of legitimacy, accountability, an integrated approach to water management and equity. Most importantly for the Netherlands, in practice this means that water governance should be based on the prevention of flooding, deterioration of chemical and ecological water quality and water scarcity.

Furthermore, the Dutch Government should take the precautionary principle into account. The financing of water management should be based on the profit principle – ie costs for water services should be recovered from the various stakeholders. Financing based on the solidarity principle should be an exception and should be justified with specific reasons that explain its necessity. Guaranteeing equitable and affordable access to clean water for all may be a good reason to make exceptions to the profit principle. However, water governance mechanisms should ensure accountability and effectiveness, should preferably respect the hydrological and integrated approach discussed above and should, at all times, seek proper balances between the right to water, ecological protection and the economic value of water. Finally, these management systems can only be judged as 'suitable' if they are appropriate to a state's institutional, constitutional and physical characteristics.

28 Bulletin of Acts, Orders and Decrees (Stb) 2012 at 233.

The secret of the Dutch approach to water management is embedded in the way the general principles are implemented in practice and the management is tailored to the Dutch constitutional order and particular territorial circumstances. Although not all of these concepts and systems are transferable to other states, the Dutch knowledge and experience of managing water might be of use in helping to solve water management problems around the world.

MECHANISMS FOR WATER ALLOCATION AND WATER RIGHTS IN EUROPE AND THE NETHERLANDS – LESSONS FROM A GENERAL PUBLIC LAW PERSPECTIVE

PROFESSOR DR MARLEEN van RIJSWICK
*Director, Utrecht Centre for Water, Oceans and Sustainability Law, Utrecht University**

This article focuses on the allocation and regulation of water rights. Although there is a general concern about the allocation and restriction of the right to use scarce water resources, there is also a debate regarding the implementation of a public right to water in general and, in particular, the mechanisms that are used to create a transparent allocation regime based on equality. First, an analysis of the various allocation systems at the international, European and national levels is undertaken; these mechanisms are all based on the transboundary river basin water management framework. At the national level, the Netherlands is taken as an example. The allocation of water rights is determined by natural as well as political and legislative factors, all of which have an impact on setting abstraction limits. Different allocation procedures have been developed worldwide according to national water laws and public law in general. It is argued that European and, in particular, Dutch allocation mechanisms need to be developed further, having regard to the special status of water, the protection of ecosystems and to the procedures and principles used in other allocation mechanisms with a view to guaranteeing the sustainable, balanced and equitable use of water.

1 INTRODUCTION

The availability of clean water is under pressure on account of climate change, urban development, growing populations and economic development. Much has been written about restrictions on the use of scarce water in arid areas. However, this article looks at this issue from a different perspective, namely whether rights to use water are allocated in the same way as other public rights and, if they are, whether the allocation of water use rights should be approached from a different perspective owing to the special characteristics of water. In other words, can the allocation of rights to use water be made fairer by studying the approaches utilized in other areas of law?

Public rights can be defined as the rights which are granted by an administrative authority based on its statutory competence to do so. As Van Ommeren et al state:

> Managing scarcity to serve the public interest is a classic task of government. Whereas economic and political theory have paid much attention to the allocation of scarce goods and rights, until now a consistent legal approach of "the allocating government" has been almost absent. In fact, the law of public administration seems to assume that every party shall be granted a good or right once he satisfies all the conditions for granting. This assumption neglects the fact that in several areas of government regulation, public rights such as authorizations and claims are available only in limited quantity. As a result of this limited availability, some applications for those rights have to be denied even if they satisfy all granting conditions. In other words, sometimes there are not enough public rights available to satisfy all qualified parties.[1]

After establishing the availability of the water resource for distribution an allocation mechanism has to be chosen. Well known allocation mechanisms are those based on the order of application, the drawing of lots, an auction and the comparative assessment (also called 'beauty contest' or 'tender'). Authors discuss the allocating of public rights within the context of a development that could be called 'the economization of administrative law' which is caused – at least in Europe – by the strong influence of European law which traditionally focuses on competition in the common market. This 'economization' of administrative law should on the other hand be in compliance with (probably not only European) principles such as equal treatment of applicants and transparent allocation procedures. Van Ommeren et al designed a general assessment framework based on five criteria on which to allocate public rights: the subject of the allocation (in this article water abstraction rights), the assessment of the capacity of the available resource, the method of allocation and the applicable legal principles of proportionality, transparency, equality, objectivity, legal certainty, due diligence and general legal principles of proper or good administration. The last element of the assessment framework concerns legal protection.

This contribution aims to provide insight into the allocation and regulation of freshwater rights within transboundary river basins within the European Union (international and European perspective) and the manner in which they are allocated in the Netherlands (national perspective). A more detailed analysis of this allocation system focuses on whether it achieves the main water management objectives – for example 'a sustainable, balanced and equitable water use' – which are outlined in European water law (Water Framework Directive Article 1).[2] Furthermore, the article investigates whether allocation processes take into account the various interests concerned and what possibilities stakeholders have to participate, object and

* Professor of European and Dutch Water Law, Utrecht University H.vanRijswick@uu.nl.

1 Paul Adriaanse, Frank van Ommeren and Willemien den Ouden (eds) *Allocating Limited Public Authorizations and Claims: General legal rules and principles for the allocation of limited public rights in the EU and its Member States* (Intersentia 2015); Johan Wolswinkel 'The Allocation of a Limited Number of Authorisations: Some General Requirements from European Law' (2009) *Review of European Administrative Law* vol 2 nr 2, 61–104.

2 Directive 2000/60 of the Parliament and the Council of 23 October 2000 establishing a framework for Community action in the field of water policy OJ L 327, 22.12.2000 pp 1–73.

appeal, which reveals that there is a lack of opportunity for applicants and competitors to be part of the current water allocation process in the Netherlands.

2 WATER – A SPECIAL RESOURCE

Water is not easily comparable with other controlled public rights such as parking permits, subsidies, invitations to tender for government contracts, games of chance or development rights, examples which are often used in the general discussion on the allocation and regulation of public rights. Water is the source of all life and no one can do without a certain amount of fresh, clean water per day. In addition, water is needed for numerous economic activities, including the production of food and generation of power. A totally competitive system for the allocation of rights to use water would fail to take full account of these values of water,[3] which is why water has been granted special status both in international law as well as in European and many national law systems. The EU Water Framework Directive (WFD) states in the first recital:

> Water is not a commercial product like any other but, rather, a heritage which must be protected, defended and treated as such.

The implementation of this protection of the resource is detailed in numerous EU directives and statutory provisions. In this context it is important to draw a distinction between the various uses of water. One of the principal functions is the supply of drinking water, which has resulted in the call for a human right to water and which has been laid down in several legal documents.[4] Other sectors where water is important are agriculture, shipping on inland waterways, power generation, fishing, recreation, transport and the discharge of domestic and industrial waste. Freshwater is found in the form of groundwater and surface water. Of the 1.36 billion km^3 of water on the planet, only 2.8 per cent is freshwater and only 1 per cent is suitable for drinking. This quantity has to be shared among approximately 7 billion people.

Further, one of the most important features of fresh surface water is that it frequently flows in rivers that cross national and administrative boundaries. This, therefore, is the reason for a *river basin* being the framework for water management both at international,[5] European[6] and national level. A river basin management approach calls for a distribution of rights to abstract water among states that share a river basin. Traditionally, the distribution of rights to use a scarce resource is controlled at state level and by local authorities within the states.

Water rights can be characterized as private or as public rights. Both forms are known within Europe.[7] In the Netherlands rights to water use are considered to be regulated public rights as in most other European countries.[8] Regulation by the state enables water use rights to be allocated according to the available quantity and quality of water and distributed among states and individuals and according to the particular use or activity.

There are two reasons why the allocation of rights to abstract water needs to be regulated. In the first place freshwater itself is scarce.[9] This calls for action both at the international, European and national level so as to ensure equitable distribution among the various parties. One of the objectives of the WFD, for example, is to provide a framework for the protection of water, thereby contributing to '(. . .) the provision of the sufficient supply of good quality surface water and groundwater as needed for sustainable, balanced and equitable water use' (Article 1(e), 1st indent). Secondly, sustainable management of the natural resource – water – requires that the resilience of the ecosystem has to be protected. Undermining this resilience through excessive abstraction will result in a water system no longer able to function properly – ie drastically reduced or inadequate for the abstraction of drinking water, for agricultural and industrial use or for shipping on inland waterways. The ecological value of water also needs to be protected. All this requires government regulation to establish controls to water use in all sectors and to develop effective allocation mechanisms appropriate for the available resource. Thus the allocation system and distribution mechanisms are the result of both natural conditions and government action.

3 PLANNING OF ALLOCATION AND DISTRIBUTION OF WATER RIGHTS

European and national authorities generally control the allocation of water rights in line with a phased plan, which can be deduced from both European and national water law (here the Netherlands is taken as an example). In the first phase the competent authority (EU or national legislator) makes a political choice as to the level of protection to be adopted – ranging from a control sufficient to protect the natural resource from over use to a weaker control

3 P Hellegers 'Water, the most valuable asset' Inaugural address, Wageningen University 2011.

4 For example, in the International Covenant on Economic, Social and Cultural Rights (1966) and recognized as a fundamental right by the General Assembly of the United Nations (A/RES/54/175) as well as being described in *General Comment No 15 on the Right to Water*, adopted in 2002 by the Committee of Economic, Social and Cultural Rights; see H Smets (ed) *The right to safe drinking water and sanitation in Europe/Le droit à l' eau potable et à assainissement, sa mise en oeuvre en Europe* (Académie de l'eau, Editions Johanet Paris 2012); H F M W van Rijswick, A M Keessen 'Legal Protection of the Right to Water in the European Union' in F Sultana, A Loftus (eds) *The Right to Water: Politics, Governance and Social Struggles* (Earthscan London 2011) pp 123–38.

5 For example in the (for the EU) important UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Bulletin of Treaties (*Trb*) 1992, 199).

6 In the Water Framework Directive and the Floods Directive (Directive 2007/60 of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks, OJ L 288 6 November 2007 p 27 et seq).

7 M G Quesada 'Water and Sanitation Services in Europe. Do Legal Frameworks provide for 'Good Governance?' UNESCO Centre for Water Law, Policy and Science, University of Dundee 2010.

8 H F M W van Rijswick, H J M Havekes *European and Dutch Water Law* (Europa Law Publishing Groningen 2012); J Dellapenna, J Gupta (eds) *The Evolution of the Law and Politics of Water* (Springer Dordrecht 2009); W de Visser, C Mbazira (eds) *Water delivery: public or private?* (Cahierreeks Staats – en bestuursrecht, Universiteit Utrecht, Centrum voor Omgevingsrecht en –beleid/NILOS) Utrecht 2006. The fact that water management and administration is seen as a public responsibility does not mean to say that this responsibility cannot be carried out using private law resources.

9 The Netherlands currently has enough fresh water although problems of scarcity arise at certain times of year, particularly in sandy soils, and more frequently due to salination in the coastal areas and the effects of climate change. During the summer it is regularly forbidden to use fresh water or groundwater for agricultural purposes.

allowing overexploitation.[10] This decision by public authorities as to how to allocate and distribute water rights creates an artificial, or legal environmental space.

The concept of environmental space is often defined as the amount of any particular resource that can be consumed by a country without threatening the continued availability of that resource, assuming that everyone in the world is entitled to an equal share. Within a river basin or within a state the concept can be used to establish the available quantity and quality of freshwater so that rights (environmental or water) can be granted to legitimate users. Examples can be found in international law, in European water directives and in national legislation. European legislation and regulations, and in particular the WFD, give Member States a large amount of policy freedom provided they do not exceed the boundaries of the general purpose of Article 1 WFD (a sustainable, balanced and equitable water use) and the specific environmental objectives of Article 4 WFD which requires, amongst other things, that Member States shall protect, enhance and restore all bodies of groundwater, and ensure a balance between abstraction and recharge of groundwater (Article 4(1)(b)(ii) WFD).

In the Netherlands the established allocation regime and the policies pursued and legislation implemented by the competent authorities are also based on Article 21 of the Constitution,[11] and on the Water Act.[12] The administration has a large degree of freedom in policy-making and is subject to only marginal review by the administrative courts,[13] and judicial influence inevitably differs from case to case. The emphasis in judicial review thus tends towards maintaining unrestricted policy-making on the part of the administration at the expense of equitable distribution and allocation of water rights and the protection of legitimate interests incorporated in the legislation.

The second phase relates to the establishment of general legislative objectives. European objectives for water management can be found in particular in Articles 1 and 4 of the WFD (see above). No specific provision is given for the protection of the available amount of surface water. In the Netherlands, Article 2.1(1) of the Dutch Water Act sets out the national objectives for water management. These are to prevent and, where necessary, limit flooding, swamping and water shortage, while simultaneously protecting and improving the chemical and ecological quality of water systems and allowing water systems to fulfil societal functions. These general objectives are detailed in more concrete, quantitative norms that determine the available scope for the use of water.

Only recently has the EU broadened the scope of its environmental legislation from source-based regulation (ie prevention of pollution or damage at source – no end-of-pipe solutions) to include the rational and sustainable use of natural resources. Source-based regulation theoretically disregards an allocation system; increasingly, however, the effects-based trail of environmental policy and international agreements in which national maximums are fixed for given emissions, is reducing the exclusive use of source-based regulations. It has become evident through practical application that implementing effects-based obligations does not provide an entirely satisfactory solution. The principal objection in this respect is that the principle of 'first come, first served' allows too little policy control, produces ineffective cost measures and the consequences of 'when it's gone, it's gone' can sometimes be unacceptable. Little fundamental thought has as yet been given to the legal instruments for the allocation of environmental user or polluter space and its relationship with the source-based standards.

4 INTERNATIONAL AND EUROPEAN ALLOCATION MECHANISMS

Management of transboundary water courses in Europe at international, European and national level is shaped by an area-specific approach, so called river basin management. For European river basins the UNECE Water Convention (Treaty of Helsinki),[14] is most important. The Convention has been implemented by the European Union under the WFD and the EU Floods Directive, while in the Netherlands river basin management is based on the Water Act and the regulatory regime specified in the Water Authorities Act.

The characteristic feature of European water directives is that the general purpose in a directive is further specified by the attainment of a given status. For the WFD this means for example attaining 'good status' of groundwater and surface water with the aim, amongst others, of achieving a sustainable, balanced and equitable water use. On the international level parties are obliged to ensure that transboundary waters are used in a reasonable and equitable way, taking into particular account their transboundary character, in the case of activities which cause or are likely to cause transboundary impact (Helsinki Convention Article 2). Article 1 of that Convention defines 'transboundary impact' as follows.

> any significant adverse effect on the environment resulting from a change in the conditions of transboundary waters caused by a human activity, the physical origin of which is situated wholly or in part within an area under the jurisdiction of a Party, within an area under the jurisdiction of another Party. Such effects on the environment include effects on human health and safety, flora, fauna, soil, air, water, climate, landscape and historical monuments or other physical structures or the interaction among these factors; they also include effects on the cultural heritage or socio-economic conditions resulting from alterations to those factors.

To achieve this goal allocation mechanisms are needed.[15] Van Kempen, amongst others, states that although a reasonable and equitable use is one of the main goals for

10 A M Keessen, J J H van Kempen, H F M W van Rijswick, J Robbe and C W Backes 'European River basin districts: are they swimming in the same implementation pool? Different approaches to the transposition of the Water Framework Directive' *Journal of Environmental Law* (2010) vol 22 no 2 pp 197–222.

11 Bulletin of Acts, Orders and Decrees (Stb) 1983 70,

12 Bulletin of Acts, Orders and Decrees (Stb) 2009 107.

13 In most cases the Council of State's Administrative Jurisdiction Division.

14 Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Helsinki 17 March 1992.

15 J J H van Kempen 'Europees waterbeheer: eerlijk zullen we alles delen?' (European water management: fair sharing for all? An analysis of the European river basin approach in light of transboundary water pollution between Member States) (dissertation Utrecht University, BjU, The Hague, 2012).

transboundary water management stemming from international water law, in the European Union water legislation it is not clear what a reasonable and equitable use or distribution actually means. The concept is not defined in legislation nor in jurisprudence. He suggests using criteria set by the UN Watercourses Convention[16] (Article 6) to further develop allocation and distribution mechanisms within the system of EU water law. Article 6 mentions the following 'factors relevant to equitable and reasonable utilization' that may be useful for further development of EU water law in this respect:

> 1. Utilization of an international watercourse in an equitable and reasonable manner [. . .] requires taking into account all relevant factors and circumstances, including:
>   (*a*) Geographic, hydrographic, hydrological, climatic, ecological and other factors of a natural character;
>   (*b*) The social and economic needs of the watercourse States concerned;
>   (*c*) The population dependent on the watercourse in each watercourse State;
>   (*d*) The effects of the use or uses of the watercourses in one watercourse State on other watercourse States;
>   (*e*) Existing and potential uses of the watercourse;
>   (*f*) Conservation, protection, development and economy of use of the water resources of the watercourse and the costs of measures taken to that effect;
>   (*g*) The availability of alternatives, of comparable value, to a particular planned or existing use.
>
> . . .
>
> The weight to be given to each factor is to be determined by its importance in comparison with that of other relevant factors. In determining what is a reasonable and equitable use, all relevant factors are to be considered together and a conclusion reached on the basis of the whole. The distribution should be implemented after consultations in a spirit of cooperation between the states involved and laid down in agreements.

However, under European law there are no criteria for an equitable and sustainable distribution of freshwater among the various countries sharing a river basin which could be taken as guiding principles, nor is there a proper distribution or allocation mechanism for use between Member States. Allocation and distribution are not regulated. For allocation at the *national level* the WFD requires control of abstractions within the general objectives of the directive as described above. It is for the Member States to establish a water allocation process and grant rights to abstract water, for example by way of licences or permits. The 2012 Review of River Basin Management Plans (RBMP1) (reviewed every six years under the WFD) exposed the fact that national water allocation mechanisms still need to be improved in many States. This presents a problem. Although the WFD contains the obligation for Member States to collaborate, to draw up transboundary river basin management plans together and to confer with each other and exchange information in order to be able to meet the goal of a sustainable, balanced and equitable use within the entire river basin, it does not stipulate the criteria or allocation mechanisms on the basis of which the water is to be distributed among the States. This can result in an unbalanced and non-equitable distribution of water use rights between various States and create problems for States in meeting the objectives of the directive.

16 Convention on the Law of the Non-navigational Uses of International Watercourses 1997, Adopted by the General Assembly of the United Nations 21 May 1997.

The implementation of obligations under European directives rests in principle on the individual Member States. But due to the transboundary nature of water the objectives can only be attained if the various parties involved (Member States) collaborate within a river basin, reaching agreements on the distribution and, if necessary, the regulation of water abstraction rights. This has for example been carried out for distribution of the waters of the river Meuse, the Rhine and the Scheldt.[17] And under European water law this collaboration is mandatory; however, there is no provision for an obligation to give other Member States warning if permitted use is exceeded or disasters occur.

In spite of the importance of working together strikingly little has been developed in European law in respect of allocation mechanisms or criteria that may be used to regulate the distribution of water rights between States. Member States can make use of treaties, new or existing, or adopt informal methods of collaboration, in order to agree the transboundary allocation, distribution and regulation of water rights, but making use of international treaties does not release Member States from their individual obligation to meet the objectives of a directive. The nature of the relationship between European directives and international treaties is unclear; nor is it clear how agreements between States should be formulated and which courts will decide on disputes or claims of misuse of the resource.[18]

In coordinating the allocation of rights it is important, particularly for the smaller transboundary water courses, that States collaborate at regional level as well as implementing the WFD, although the directive does not impose an obligation to do so. Collaboration of this kind can be established across borders, on the basis of a bilateral treaty, for example, or can take place within EU border regions.[19] The European Grouping for Territorial Cooperation (EGTC) could facilitate cooperation at community level; but stronger institutional cross-border water management needs to be enshrined in European law on account of the discrepancy between river basin management and the individual responsibility of Member States to attain the WFD objectives.

Agreements for transboundary river basin management between States can be enforced in a number of ways. Disputes concerning the interpretation or application of European law are heard before the European Court of Justice. Otherwise international arbitration is an obvious option, which is also applicable where the interpretation or application of an international treaty such as the Helsinki Convention is concerned to which not only the Member States but also the European Union is a party.[20]

17 J Robbe, H F M W van Rijswick 'Legal instruments for the allocation and regulation of fresh water' Utrecht University 2011 (in Dutch) http://ucwos.rebo.uu.nl.

18 E Hey, H F M W van Rijswick 'Transnational water management' in O Jansen, B Schöndorf-Haubold (eds) *The European Composite Administration* (Intersentia 2011) pp 227–49.

19 H F M W van Rijswick, H K Gilissen and J J H van Kempen 'The need for international and regional transboundary cooperation in European river basin management as a result of new governance approaches in EC water law' *ERA Forum* vol 11, 2010 no 1 pp 129–57.

20 Case C–459/03 *Commissie v Ireland* [2006] I-04635 (MOX plant).

The Water Framework Directive (like the Floods Directive) provides for arbitration and mediation by the European Commission. Member States can request the Commission to act as mediator. Although the directive obliges the Commission to respond, it cannot make a binding decision, because the directive makes no provision for this. On the other hand the Commission can decide that the conflict gives cause for initiating treaty infringement proceedings before the Court of Justice, but given the fact there are no criteria for the allocation and distribution of water rights it is not clear what the Court could then rule on. Member States can initiate treaty infringement proceedings against each other, but they seldom feel the need to do so.

Another possibility lies in allowing national authorities to take legal action in another Member State, for example in a dispute concerning the granting of a permit for water abstraction. Although the Court expressly suggested this in *Banks*,[21] it did not impose an obligation on States to make cross border legal action possible under national law. The question thus arises as to whether in any given instance it is the central or the local authorities which have access to the courts and the answer will depend in particular on the national procedural law of the Member State in question. In the Netherlands foreign local authorities in principle have the same access to the courts as Dutch parties.

Under the Aarhus Convention local authorities may have more opportunities to gain access to the courts in all EU Member States and in the courts of other state parties to the Convention if they can demonstrate that they have a sufficient interest or that a right has been infringed. However, unlike environmental organizations, local authorities do not have a privileged position, so access to justice before the administrative courts in another country is not necessarily certain.[22]

5 ALLOCATION AND REGULATION OF ABSTRACTION RIGHTS IN THE NETHERLANDS

The object of the allocation of water rights is the sustainable, balanced and equitable use of natural resources. Once the strategy of a balance between abstraction and recharges of groundwater, which also ensures that the drinking water supply is the top priority has been established at European level,[23] distribution of the available water resources between legitimate claimants and the granting of rights can follow.

5.1 Distribution mechanisms

In the Netherlands the distribution and licensing of abstraction rights is governed largely according to the priorities list and permitting regime laid down in the Water Act (sections 2.9 and 6.6 respectively) A third instrument is the National Water Plan, laid down at national, provincial and water authority level[24] and which implements the EU river basin management plans and the programme of measures.[25] The Plan is drawn up under section 4.1 of the Water Act and section 4.1 of the Water Decree[26] by the ministers of Infrastructure and the Environment (I&E) and Economic Affairs (EA). Section 4.7 of the Water Decree stipulates that the National Water Plan must state which national waters are suitable for the 'abstraction of drinking water'. Provincial Executives draw up regional plans which also are part of the implementation of EU river basin management plans and programmes of measures showing which regional waters can be used as drinking water.[27] The regional water plan also shows the other functions of the regional waters.[28] The Water Act allows additional functions to be allocated in the management plans of the central government and the water authorities.[29] The designation of functions to waters (shipping, drinking water, bathing water, water for industrial uses and energy plants, agricultural use etc) in particular is of importance in the allocation and distribution of abstraction permits, as the function not only determines which objectives apply to specific waters and how these objectives will, through the adoption of measures, be achieved, but also who are the appropriate claimants to the use of the water.

The plans therefore lay down how the water will be distributed among the various activities, but this is implied rather than clearly stated. It has to be deduced from the combination of objectives and function allocation how the water will be distributed.

Stakeholders are allowed to participate in the preparation of the plans, a right that emanates directly from European water directives and the directives that implement the Aarhus Convention. However, there is no specific procedure providing for public participation and no access to the administrative courts to bring a challenge to the adoption of plans.

5.2 Permits

For certain abstractions a permit is required. Under section 6.4 of the Water Act a permit is required for the abstraction of large quantities of groundwater, the competent authority being the Provincial Executive. For smaller amounts of groundwater the competent authority is the regional water authority. Abstractions from a body of surface water require a permit from the minister of I&E or the water authority (Water Act s 6.5). Only in times of (potential) shortage does the list of priorities (below) overrule permit holders' rights.

Reviewing a permit application for conformity with the statutory grounds for refusal is seen as a permitted distribution criterion. The question is whether in that case the obligations that are taken into account in the distribution of other public rights (other than water) also apply; namely

21 Judgment of the ECJ of 30 March 2000, Case C–178/97 *Banks* [2000] ECR I-2005.

22 A M Keessen, J J H van Kempen and H F M W van Rijswick 'Transboundary river basin management in Europe: legal instruments to comply with European water management obligations in case of transboundary water pollution and floods' *Utrecht Law Review* 2008 pp 35–56.

23 EFD and European Commission 'Strategy on Water Scarcity and Droughts' Brussels 18 July 2007, COM (2007) 414 def, Article 4 lid 1 sub b–ii.

24 Water Act pt 4, Water Decree pt 4 (Bulletin of Acts, Orders and Decrees (Stb) 30 November 2009, 548). See van Rijswick, Havekes (n 8).

25 WFD art 3.

26 Bulletin of Acts, Orders and Decrees (Stb) 30 November 2009, 548.

27 Water Decree s 4.12(1)(b).

28 Water Act s 4.4(2)(a).

29 ibid s 4.6(2)(b).

an obligation arising under the principle of proportionality to create the possibility for competition and a distribution procedure[30] and the obligation arising under the precautionary principle and the principle of proper administration to inform the various stakeholders of the possibility of participating in this distribution.[31]

In the Netherlands water abstraction permits are granted on a 'first come first served' basis and, notably, have no time limit. It can be argued that a distribution system based on the order of receipt of the application meets the requirement that a procedure should contain a competitive element.[32] This procedure is not deemed to be inconsistent with the principle of legal certainty or the precautionary principle.[33] However, the fact that abstraction permits are granted on a permanent basis and remain in force for the permit holder's legal successors[34] means they differ significantly from many other allocated public rights, where the permit is often issued for a fixed term only, so that in the next round further and new applications can be made. Conditions and restrictions can be attached to the permits and contravening the conditions is prohibited.[35] The granting of permits is further subject to the normal requirements of administrative law based on the General Administrative Law Act (GALA) and principles of good governance.[36]

There is also a regime of general rules applicable to a large number of users where a permit is not required so long as the users notify their water use to the competent authorities. If conditions attached to a permit are supplanted by a general regulation under the Water Act (which is possible for many activities in the water sector), the general regulation will take into account the current norms and objectives. Once the general regulation is in force, everyone has equal rights in the sense that if the authorities have carried out the obligation to give notice of a general regulation, anyone can avail themselves of the resource to an equal degree. Customized regulations can be imposed if compliance with the norms and objectives so requires, with the result that there can be a certain number of individual cases within the regime of general rules.

The Water Framework takes the approach that cost recovery for water services is an important instrument to contribute to a sustainable, balanced and equitable water use. Allocation is certainly not equal. Dutch citizens pay for drinking water in proportion to their consumption but for water used for other purposes there is no direct relationship between the amount of water used and the tax levied by the water authorities. However, the Dutch financial arrangements are such that not all water services are paid for. Use of waters managed at the state level is free of charge,[37] for example the use of freshwater in agriculture for irrigation or watering cattle and the use of a body of water for shipping. The recent judgment of the European Court of Justice in a case against Germany seemed to approve this approach as the Court ruled that Member States have wide discretion in how they recover the cost for water services (Article 9 WFD).

5.3 The list of priorities

The Water Act contains a list of priorities for the distribution of freshwater in the event of a drought. Section 2.9(1) stipulates that the social and ecological priorities that will determine the distribution of the available surface water in the event or threat of a water shortage is to be laid down by administrative order as stipulated in the Water Decree. Under subsection 2 further rules can be brought in by administrative or provincial order regarding the priority list and that they may also be applied to the distribution of groundwater. Section 2.1 of the Water Decree details the list of priorities; those listed in the last two categories can be further specified at regional or provincial level.

1. Guaranteeing flood protection and averting irreversible damage;
2. Public utilities, with drinking water having the highest priority as far as delivery reliability is concerned, followed by the power supply, likewise as far as delivery reliability is concerned;[38]
3. Small-scale high-grade use, prioritized as follows:
   a. temporary sprinkler irrigation of capital-intensive crops,
   b. processing industrial process water, and
   c. the quality of water in urban areas;
4. Other needs, with the following order of priority: shipping, agriculture, natural environment (other), industry, water recreation, inland fishing, drinking water (for the other needs) and energy (for the other needs), and finally
5. 'Other interests'.

5.4 Comment

To summarize, a number of allocation and permitting systems are in place: namely, plans, permits, general rules and a statutory list of priorities. In the case of the plans the criteria on which distribution is based are not clear, nor is the procedure (how distribution takes place), nor how nor the various interests involved are weighed up against each other. The publication of plans does mean that shortage

30 *ABRvS* 18 July 2007, *AB* 2007 302, with note Jans (Schindler) re the Gaming Act (*Wet op de kansspelen*).

31 *CBB* 3 June 2009, *AB* 2009, 373, annotated by C J Wolswinkel (Swiss Leisure Group).

32 *CBB* 28 April 2010, *AB* 2010, 186, annotated by Wolswinkel (Pierik and Meeson).

33 *Vzgr. CBB* 31 March 2010, *AWB* 10/84; *LJN BL*9683 (Dirk van den Broek Deventer).

34 Water Act s 6.24.

35 ibid s 6.20. A restriction can also be one on the term of validity.

36 ibid s 6.16 states that in principle s 3.4 of the General Administrative Law Act and s 3.12 of the Environmental Management Act apply.

37 See P E Lindhout, H F M W van Rijswick 'The effectiveness of the principle of recovery of the costs of water services jeopardized by the European Court of Justice' *Journal for European Environmental & Planning Law* 12 (2015) 78–92; see P E Lindhout 'Cost recovery as a policy instrument to achieve sustainable and equitable water use in Europe and the Netherlands' (Utrecht University, PhD Thesis, March 2015); P E Lindhout 'Application of the cost recovery principle on water services in the Netherlands (*JEEPL* 10.4 (2013) 309–32; P E Lindhout 'A wider notion of the scope of water services in EU water law: boosting payment for water related ecosystem services to ensure sustainable water management?' *Utrecht Law Review* (2012); R Brouwer 'Payments for Ecosystem Services: Making Money Talk' (Inaugural speech VU, Amsterdam 2010).

38 At European level highest priority is given to the drinking water supply, but given the vulnerability of the Netherlands to flooding it is not strange that, because of the guarantee of flood protection in the Netherlands, the safety interest heads the list of priorities.

and distribution are made known, but it is questionable whether this meets the requirements which in general are applicable to the allocation of public rights. Van Ommeren et al refer to Dutch jurisprudence in the field of administrative law where it is confirmed that when an allocation process is planned, the administrative authority should inform the interested parties in advance about the availability and procedure of the allocation so that all the interested parties can compete for the permits.[39]

Under the Public Contracts Directive[40] the contracting authority must be transparent in its procedures and treat all applicants equally without discrimination. This obligation includes, according to the jurisprudence of the Court of Justice, a commitment on the part of the authorities to guarantee every potential applicant an appropriate degree of openness, so that the applicant's right of competition is unaffected and the contract award can be screened as to its impartiality.[41] This duty of transparency also applies to the allocation of controlled authorizations. It is important in this context that decisions are based upon the principles of proportionality, due diligence and good or proper administration, and also the principle of legal certainty should the allocation procedure change.

However, although these principles play an important role in other sectors they are not apparent in Dutch administrative law and the allocation of water rights. Application of these principles could help to achieve the aim of sustainable, balanced and equitable water use. A system based on restricted participation in planning procedures and restricted access to the courts, would appear to be less well developed. As it is, the granting of permits to the 'first come, first served' and on a permanent basis until the available 'environmental space' has been fully utilized, protects existing rights and prevents the creation of a competitive market place where new entrants can apply.

5.5 Redistribution of water rights

Despite the fact that in the Netherlands permits are in principle granted on a permanent basis, various strategies exist for amending a distribution scheme or for the reallocation of permits. However, it is questionable whether these strategies for achieving redistribution are aimed at enabling a form of competition or will contribute to the aim of sustainable, balanced and equitable water use. Reallocation can be made in the interests of similar companies, but can also be made for different types of activities, for example, a redistribution between agriculture and drinking water supply, or between industry and agriculture on the one hand and nature on the other.

New policies, properly communicated through inclusion in the water plans can change the allocation process, such as restricting the granting of permits for groundwater abstractions for low-grade use, such as irrigation in the agricultural sector. Many Dutch provinces have opted for this policy after it became clear that the dwindling amount of clean groundwater was in need of protection. Groundwater abstractions are now only granted for high-grade use such as for drinking water. When new policies have been communicated to all interests well in advance no compensation has to be paid.

A more radical step is the amendment, supplementation or revocation of existing permits under section 6.22 of the Water Act.[42] There are a limited number of reasons under Dutch water law on the basis of which a permit can or must be amended, supplemented or revoked. A permit can be revoked if it has not been used for three years. The competent authority will revoke a permit:

- at the request of the permit holder,
- in the event of facts or circumstances which result in the activities for which the permit was granted no longer being considered permissible, bearing in mind the objectives of the Water Act,
- if a treaty or decision of an international organization so necessitates.

A permit will only be revoked if amending or supplementing it will not suffice or the conditions and restrictions attached to the permit are no longer appropriate.[43] The withdrawal of existing permits is usually accompanied by financial compensation, as laid down in the Water Act. These decisions are usually the result of new scientific understanding, new case law or new policy. Changes in the status of water bodies can also be a reason for amending a permit, such as when periods of drought lead to low water levels or, under the regime of general rules, the appropriate abstraction levels from a water body may well be exceeded because no individual assessment of the users' conformity with norms and objectives – the criterion for distribution – has taken place. Perhaps it could also be argued that this refers to the revocation of wrong decisions, such as when permits have to be revoked because it appears too much was permitted to be able to meet the objectives. However, this reasoning ignores the fact that many of the reasons for failing to comply with the norms do not lie with the parties that hold a permit, namely diffuse sources of pollution and the activities covered by a regime of general rules. Merely revising permits would dump the charges of this incorrect decision-making disproportionately in the laps of the permit holders. It may be that an assessment, or lack of assessment, led to a decision inconsistent with European law. Changing circumstances can also lead to the revocation of permits. Den Ouden argues that in cases where circumstances have changed the primary decision was not unlawful and that for this reason the powers of administrative bodies to be able to revoke permits should be defined conservatively or should be subject to stricter standards. From the point of view of legal certainty much can be said in favour of this, but from the perspective of achieving water management objectives and an equitable allocation of water rights I have my doubts.

39 See *CBb 3* June 2009, *AB* 2009, 373, annotated by C J Wolswinkel (Swiss Leisure Group) and *CBb* 28 April 2010, *AB* 2010, 186, annotated by C J Wolswinkel (Pierik and Meson).

40 See Public Contracts Directive (2004/18/EG) s 2.

41 See, amongst others, the following cases, Case C–324/98 ECJ 7 December 2000 NJ 2001, (Telaustria) para 62; Case C–324/07 (Coditel Brabant) ECJ 13 November 2008 para 25; Case C–91/08 (Wall) ECJ 13 April 2010 para 36.

42 See also W den Ouden 'De intrekking van begunstigende beschikkingen door bestuursorganen, Eens gegeven blijft gegeven? (The revocation of favourable decisions by administrative bodies, Once given, given forever?)' in T Barkhuysen, W den Ouden and J E M Polak (eds) *Bestuursrecht harmoniseren: 15 jaar Awb (Harmonizing administrative Law: 15 years of the General Administrative Law Act)* (BjU The Hague 2010) pp 689–715.

43 Water Act s 6.22(3).

One possibility would be to issue permits for a fixed term rather than on a permanent basis, which would also allow for increased competition. Section 6.26 of the Water Act stipulates *inter alia* that section 8.22 of the Environmental Management Act (EMA) applies *mutatis mutandis* to water permits. Section 8.22 EMA (implementing the European Industrial Emissions Directive) contains the so-called duty to update permits. The competent authority is required to check on a regular basis whether, given the *technical possibilities for protecting the environment* and developments relating to *the quality of the environment* the permit is still adequate. It is important here to note that under section 7.14 of the Water Act a general compensation regime has been established.[44] The same duty to update applies *mutatis mutandis* to the general rules.

5.6 Comment

Under the Dutch Water Act the possibilities for revoking, amending or supplementing a permit are limited. For example, a permit cannot be amended or revoked at the request of a third party, which excludes any possibility of increasing the number of water users and achieving a redistribution of water use rights. The main reason for supplementing or revoking a permit is to achieve the objectives of the Water Act. Given the way in which section 6.22 is formulated, it does not seem possible for existing permits to be amended or revoked and new permits granted to applicants; thus an amendment of the Dutch Water Act is recommended in order to achieve more competition between legitimate claimants and in the end a sustainable, balanced and equitable water use.

All in all it seems in particular that a change of policy, together with a tightening up or revocation of existing permits offers the best opportunities for redistributing existing water rights. However, Dutch administrative courts will not easily accept the revocation of incorrect decisions if the grounds for revocation are not those stipulated in the Water Act. As we know, if no more space is available for expansion within the current norms and objectives, neither the Water Act nor the EMA offer direct possibilities for re-allocation and the acceptance of new claimants to water use.

In recent years a study has been conducted into the question of whether a system of tradable water rights could be introduced in the Netherlands (and in Flanders and Belgium) alongside or instead of the permitting regime.[45] From an economic perspective negotiable water rights seem to be a rational choice,[46] but given the special value of water, with a certain amount having to be available for every person and for various functions, and the fact that this trade would need to fit into river basin management plus the high cost of setting up and maintaining a market system of this kind, the option is for the moment not being taken up in the Netherlands.

5.7 Legal protection against allocation decisions

When does a stakeholder have any influence on the way in which the rights to abstract water are allocated and what does this influence consist of? Is it involvement in a political-administrative process, public participation in planning or legal protection in the classical sense? From the preceding sections it can be concluded that stakeholders in the Netherlands have few opportunities to apply for a permit during a re-allocation of permits, or to bring the matter before the administrative courts. They are of course able to engage at the planning stage, as required under the WFD and Dutch law, but this is not the same as legal protection before the courts which is under Dutch law only available where individual decisions affect private parties.

5.7.1 Challenges to administrative decisions

It could be thought desirable that it should be possible to challenge in the courts the allocation mechanisms and the norms and objectives set by the legislature. However, no legal protection is available under Dutch administrative law against generally binding regulations. There is no system in place for challenging water plans either.

5.7.2 Administrative legal protection in the case of permit granting

For permit holders and other parties with a direct interest (but not third parties), the only possibility of challenging a decision on allocation or distribution in the administrative courts is when a permit is granted, tightened up or revoked or customized regulations are imposed. Stakeholders can request the water authority for a redistribution of permits but the Water Act provides only a limited number of grounds on which a permit can be revoked or tightened up. A re-allocation of permits is not one of them, even if proposed new permits do conform with the obligation to be compatible with the objectives of the Dutch Water Act. And the principal (and only acceptable) reason to review the grant or revocation or revision of a permit is its compatibility with the objectives of the Dutch Water Act. Allocation and rights that do not meet the requirements of a sustainable, balanced and equitable water use, or are not in conformity with general legal principles governing the allocation of other public rights do not appear to be a reason for amending or revoking permits or granting new ones if new permits are incompatible with these objectives.

5.7.3 Civil law protection

In the Netherlands if no legal protection is available via the administrative courts, a matter can always be brought before the civil courts. The civil courts, however, have as yet little experience in reviewing water plans, general rules and amendments or revocations of water permits. Criteria for the review of these administrative instruments by the civil courts need to be developed. A principle such as a balanced and equitable allocation of water use rights does not yet exist as a rule of law, but could be fleshed out on the basis of existing rules of law that have been

44 See, for the Dutch compensation regime under the Water Act: Willemijn van Doorn-Hoekveld 'Compensation in flood risk management with a focus on shifts in compensation regimes regarding prevention, mitigation and disaster management' *Utrecht Law Review* vol 10 Issue 2 May 2014 pp 216–38.

45 A Jolink 'Legal implications of introducing economic instruments in the field of European and Dutch water management' (Utrecht University 2010); P de Smedt, F Maes 'Naar een markt voor verhandelbare lozingsrechten? (Towards a market for tradable discharge rights?)' (Maritiem Instituut Universiteit Gent) www.steunpuntmilieubeleidswetenschappen.be.

46 P Holdemond, M Thobani 'Tradable water rights, a property rights approach to resolving water shortages and promoting investment' (The World Bank, Policy Research Working Paper July 1996).

developed for the allocation of other public rights such as, for example, the obligation to create room for competition, a duty to furnish information for potential candidates, and the provision of a clear and coherent procedure which takes into account principles such as legal certainty, proportionality, proper administration and equality.

6 CONCLUSIONS

There is no rule of law either in European or in Dutch law which stipulates that water abstraction rights must be distributed in a sustainable, balanced and equitable way, other than that it is a general aim of the European Water Framework Directive. Under the current European or national legal system it is not clear which rule of law is being infringed in the case of damage to, of misuse of water resources. Nor are there any requirements to provide for adaptation to environmental change in the existing allocation mechanisms. It is true that everyone is equally entitled to use water, but that does not necessarily make a permit system such as the one set out in the Dutch Water Act unlawful. The norm of 'an equitable distribution of water abstraction rights' could be fleshed out on the basis of existing rules of law such as those developed for the distribution of other public rights. It has been suggested that there is an obligation to ensure competition, information and create a clear and coherent procedure for allocation. However, a link is needed with the principles of legal certainty, proportionality, transparency, proper decision-making and equality.

A substantive review criterion for a sustainable, balanced and equitable distribution of water rights can be deduced from the requirements for river basin management plans under the WFD. These have been implemented in the Netherlands in the various water plans as these must show the actual pressures to which water is subject, who or what is causing them and the degree to which those involved contribute to the financing of water services. It can be deduced from the plans, therefore, whether the benefits and burdens of water management have been distributed equally and proportionately among the various users.

Decisions concerning systematic allocation should be based upon a proportional distribution of burdens. However, this principle needs to be further developed and a link made with the system laid down in the WFD, which requires a relationship to be established between actual water quality, desired water quality, the various sources of pollution and the obligation to tackle the sources of pollution on the basis of monitoring data. This system is backed up by the obligation to ensure an equitable and proportionate distribution of the costs of controlling the various sources of pollution. The following criteria can apply to the establishment of a 'proportional distribution of the costs':[47]

- the contribution made by the sector or target group to the problem as a whole, its relative development over time and the reductions achieved in the past;
- the degree to which competition is affected;
- feasibility and practicality of measures;
- costs;
- effects on other policy fields: for example, other environmental themes and safety.

With the systematic distribution and redistribution of water rights, account should also be taken – as is partially done in emissions trading systems – with the need to set aside a reserve for newcomers. The allocation system should be revised to include equality and transparency, not on the basis of 'first come, first served' which prejudices new applicants, and with rights granted for a fixed term. Under the present system of allocation, rights to abstract water are not distributed in a sustainable, balanced and equitable way, nor effectively or proportionately.

The lack of flexibility of the current system makes the management of water shortages, should they occur, problematic and also restricts the application of wider criteria to the granting of permits, such as generally desired environmental goals, the economic and social costs and benefits. The authorities' reluctance to provide possible compensation under the Dutch legal system is for the moment exerting an unwelcome influence on the redistribution of water rights. The rule of law and legal certainty (which protects existing rights) play an important part. If the principle of a proportional distribution (reasonable and equitable) was embedded in the allocation mechanism, it would open up a competitive application process for water abstraction permits and lead to increasingly sustainable management of the resource. This principle needs to be further elaborated in European as well as Dutch water law.

47 See Chris Backes, H F M W van Rijswick 'Effective environmental protection: towards a better understanding of environmental quality standards in environmental legislation' in Lena Gipperth, Charlotta Zetterberg 'Miljörättsliga perspektiv och tankevändor' Vänbok till Jan Darpö, Gabriel Michanek (Iustus Förlag AB Uppsala 2013) pp 19–50.

REGULATING WATER POLLUTION IN CHINA AND THE EUROPEAN UNION WITH A FOCUS ON AGRICULTURAL POLLUTION

LIPING DAI
Utrecht Centre for Water, Oceans and Sustainability Law, Utrecht University[1]

This article explores how China and the EU regulate water quality and design implementation strategies, with a particular focus on control of water pollution from agricultural sources. The similarities and differences between Chinese and European policies and practice are explored, with observations on those areas of the European experience that may be relevant to and have an influence on the Chinese system.

I INTRODUCTION

Preventing and reducing water pollution is an ongoing problem for policy-makers and regulators, particularly pollution from agricultural sources, as finding those liable for pollution is a more complex issue than when pollution emanates from industrial sources. Dealing with water pollution involves team work as regulatory, economic and communication policy instruments[2] are all involved in controlling pollution.

This article examines the regulatory framework for establishing water quality objectives in both China and the European Union (EU) and how China and the EU Member States design implementation strategies to control pollution of water bodies from agricultural sources.[3] The challenges facing China today in this area are outlined with suggestions towards improved policies and more effective implementation. How the establishment of the water quality objectives is achieved is examined in section 2, with particular attention given to the policy framework of water pollution management in China resulting from a special domestic situation whereby formal law can sometimes be less effective.[4] Implementation strategies for achieving the objectives are compared in section 3 and the similarities and differences between the two regions, and the conclusions reached through analysis of China's strategies and the experiences of representative Member States are discussed in section 4.[5]

2 ESTABLISHING WATER QUALITY OBJECTIVES

2.1 Policies shaping China's water quality objectives

The No 1 Document of 2011, which was announced in December 2010 and which was the first policy document to come into force in 2011, is China's equivalent to the EU Water Framework Directive.[6] It aims at maintaining and improving the water environment and achieving sustainable use of water resources. The 2011 No 1 Document, which outlines a 10-year water management plan and which traverses two national five-year plans, is a new development in water management in China.[7]

The 2011 Document does not directly prescribe water quality objectives; instead, it sets out a system of 'most stringent standards' known as the 'Three Red Lines' (being quantity, efficiency of use and quality). These define quantitative controls for the allocation and abstraction of water resources, controls for efficient water use and quality controls, including pollution limits for the different uses of water bodies, or Water Function Zones (WFZs). The 2011 Document focuses more on 'what to do' in terms of achieving the most stringent standards, and leaves concrete methods and technologies of 'how to do' to its subsequent implementing regulations.

The National Water Function Zoning of Important Rivers and Lakes (2011–2030) (Zoning Policy) is a guide to the implementation of the most stringent standards system,[8] and provides criteria by which to determine water quality objectives. WFZs are divided into a two-level system: the first level includes zones for protection, conservation, development and utilization; the second level refines the development and utilization zones into seven categories: drinking water sources, industrial use, agricultural use, fisheries, scenic and recreational use, transition and polluting emissions control.

The zoning policy sets out classified management for different WFZs; it does not establish water quality objectives as these are created by combining the zoning policy with

1 Utrecht Centre for Water, Oceans and Sustainability Law, Faculty of Law, Economics and Governance, Utrecht University, Utrecht, the Netherlands. email: l.dai@uu.nl. The author would like to thank Professor Marleen van Rijswick, Dr Andrea Keessen and Professor Patricia Wouters for their generous assistance with this work.

2 H L P Mees, J Dijk, D van Soest, P P J Driessen, M H F M W van Rijswick and H Runhaar 'A method for the deliberate and deliberative selection of policy instrument mixes for climate change adaptation' (2014) 19(2) *Ecology and Society* 58 http://dx.doi.org/10.5751/ES-06639-190258.

3 The regulatory instruments discussed here must be distinguished from EU Regulations, ie EU legislation that is binding and directly applicable to and obligatory for all Member States.

4 For discussion of the relation of policy and formal law in water governance see Liping Dai 'A new perspective of water governance in China: captain of the river' (2015) 40(1) *Water International* 87–99.

5 It is clearly not possible to include every Chinese and EU regulatory measure; most of the important principles involved are covered. Moreover many instruments, for example sanctions on or liability for environmental damage, are more commonly discussed under administrative enforcement and civil or criminal liability, which are not the focus of this article.

6 The No 1 Document is the first document issued by the Central Committee of the Communist Party each year. It sets national policy priorities for the forthcoming year. Whether the No 1 Document is in fact law is very much debated; some scholars consider it to be soft law. For more discussion of the No 1 Document see Liping Dai 'Water resources management in China: a legal approach and overview' *forthcoming*.

7 M Griffiths 'Comparison of EU-WFD and China's No 1 Policy' (in Chinese) (2012) 12(6) *Water Resource Development Research* 82–85.

8 The Zoning Policy was drafted by the Ministry of Water Resources (the Development and Reform Committee) and the Ministry of Environmental Protection, and was approved by the State Council No 167 [2011], in which 1027 rivers were covered, each watershed area being more than 1000 km^2. In total these rivers account for two-thirds of all national rivers (exceeding1000 km^2).

the Environmental Quality Standards for Surface Water (GB3838, EQSSW), the Water Quality Standards for Irrigation (GB5084) and Water Quality Standards for Fishing (GB11607). The EQSSW sets different quality standards for different zones – from Class I (for drinking water sources and national protection zones) to Class V (for agricultural use and general landscaping).

The zoning policy, by reference to EQSSW, identifies 3631 WFZs nationwide with a water quality objective of Class III or above, and 862 WFZs of Class IV or below. Eighty per cent of quality objectives must be achieved by 2020, and all of them by 2030. Another guidance document, the 'Opinion of the State Council on Implementing the Most Stringent Water Resources Management System' (Opinion),[9] laid down three more specific quality objectives to be observed alongside the zoning policy, which are:

- to achieve more than 60 per cent of the established objectives in important national rivers and lakes by 2015 (for example, according to the zoning policy and the EQSSW, 60 per cent of the 3631 WFZs in important national rivers and lakes are to reach the water quality objective of Class III or above)
- to achieve higher than 80 per cent of the established objectives in important national rivers and lakes, and 100 per cent in urban drinking supply regions by 2020[10]
- to control by 2030 the total quantity of main pollutants in the WFZs within the pollutant-carrying capacity and achieve a compliance rate higher than 95 per cent.[11]

As stipulated in the 2011 Document and the zoning policy, the Ministry of Water Resources hands down the water quality, allocation and distribution and efficiency objectives to the River Basin Management Authorities and provincial administrative authorities. The compliance rates for the first two dates vary throughout the provinces according to their water environments and status; for example Beijing has to achieve 50 per cent by 2015 and 77 per cent by 2020, whilst in Shanghai these percentages are 53 per cent and 78 per cent. By averaging the compliance rates of all the provinces (including the autonomous regions and municipalities), the national average compliance rates reach the required 60 per cent by 2015 and 80 per cent by 2020. Achieving the objective of 95 per cent in important rivers and lakes by 2030 applies to the whole country.

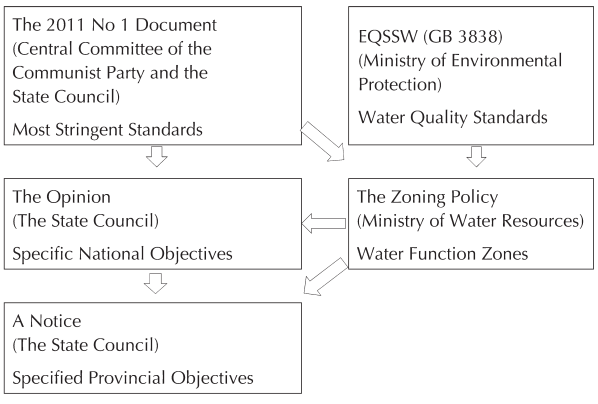

Figure 1: The relationship between different policies for establishing water quality objectives.

2.2 Water quality objectives of the EU Water Framework Directive

The EU Water Framework Directive (WFD) establishes a legal framework to protect and restore water quality across the Member States, which must prevent their waters from deterioration and achieve a common water quality objective by a set deadline – a 'good water status' for both surface water and groundwater before 2015.[12,13] 'Good water status' refers to both the chemical and ecological status of water bodies. The basic management units for surface water and groundwater are the river basin districts; water bodies are divided into natural, artificial and heavily modified waters. Water quality objectives are set for the different water bodies; for example, instead of a good ecological status, the artificial and modified water bodies must meet 'good ecological potential' and there are also some exemptions from meeting the 2015 deadline.

For Member States, establishing water bodies is the first step to setting environmental quality standards and water quality objectives. The ecological status or ecological potential, and the chemical status must be assessed as defined in Annex V of the WFD. The elements for assessment are subdivided into three groups: (1) biological elements; (2) hydromorphological elements supporting the biological elements; and (3) chemical and physico-chemical elements supporting the biological elements.[14]

Uitenboogaart and others have conducted a detailed comparison of the transposition of the WFD and establishment and accomplishment of objectives in five different Member States (the Netherlands, Denmark, France, England and Wales, and Germany) to ascertain how the general environmental objectives of the WFD were transposed and how the Member States established those objectives as standards and norms. They compared the objective-setting process of water quality at the river-basin level according to a number of topics, for example, the designation of water bodies and the objective-setting process in steps.[15] They found that good ecological status for

9 State Council No 3 'The Opinion of the State Council on implementing the most stringent water resources management system' (in Chinese) http://www.gov.cn/zwgk/2012-02/16/content_2067664.htm.

10 Urban drinking supply regions belong to the Drinking Water Source Zones of the 2nd level of the Zoning, water quality is established as being Class II–III.

11 State Council No 2 'Notice of the General Office of the State Council on issuing measures for assessing the implementation of the strictest management system for water resources' (in Chinese) (2013) http://www.mwr.gov.cn/zwzc/zcfg/xzfghfgxwj/201301/t20130107_336155.html.

12 WFD art 4 consists of several objectives, which differ in their formulation and in the presence or absence of deadlines and exemptions; more information can be found at section 4.1 of J J H van Kempen 'Countering the obscurity of obligations in European environmental law: an analysis of Article 4 of the European Water Framework Directive' (2012) 24(3) *Journal of Environmental Law* 499–533.

13 The criterion of good ecological status is defined in Annex V of the WFD, measured on the scale of high, good, moderate, poor and bad. Good chemical status is defined in terms of compliance with all the quality standards established for chemical substances at the European level, measured as good or failing.

14 Water Framework Directive Common Implementation Strategy Working Group 2A 'Overall approach to the classification of ecological status and ecological potential' (2003) 28.

15 Y Uitenboogaart et al *Dealing with Complexity and Policy Discretion: A Comparison of the Implementation Process of the European Water Framework Directive in Five Member States* (Sdu Uitgevers The Hague 2009).

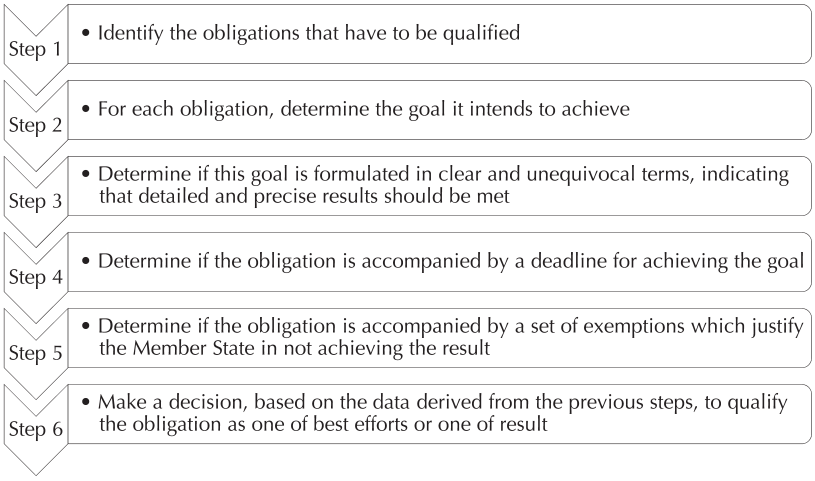

Figure 2: Six-step method to assess the quality of obligations.

natural water bodies and good ecological potential for artificial water bodies and heavily modified water bodies are assessed and then categorized based on several different criteria. Keessen and others later compared the regulation of quality norms and standards in 11 Member States, and both studies found that different criteria are used to establish water bodies and the types of obligations imposed.[16]

According to Van Kempen it is important to distinguish between obligations of best endeavours to achieve a result (obligation of effort) and obligations to succeed in attaining a result (obligation of result).[17] Van Kempen's analysis shows that the obligations to achieve both chemical and ecological good surface water status are obligations of result (see Figure 2).

3 INSTRUMENTS FOR ACHIEVING THE ESTABLISHED WATER QUALITY OBJECTIVES

3.1 Achieving objectives in China

In China the 'Government's Objective Responsibility System' (GORS) is the main strategy for achieving environmental objectives. Governments at all levels are responsible for implementing the system with priority given to the reduction of pollution and polluting emissions. The State Council specifies levels of total emissions of certain pollutants for all administrative regions, where the total is divided between sectors and responsibility for the control of emissions is devolved to district authorities.[18] For example, the total emissions quota for Beijing of the Chemical Oxygen Demand (COD), which is the principal determinant of water pollution, is 183,000 tons until 2015, 98,000 tons of which are assigned to industrial and domestic discharges and the remainder for other pollution sources.

The Opinion, which specifies that water quality objectives must be achieved within given timeframes (see section 2.1 above), outlines what measures should be put in place and how they should be implemented in order to achieve the targets. The measures specified are:

- strengthening monitoring and managing WFZs
- increasing protection for drinking water sources
- promoting the protection and restoration of water ecological systems.

These are to be implemented by establishing accountability and assessment of performance in the management of water resources by:

- reinforcing the system for monitoring water resources
- improving the water resources management system
- refining input mechanisms for water resources management
- enhancing policies, regulations and public supervision mechanisms.

In order to assess performance, in other words, to strengthen the GORS, the State Council introduced categories ranging from excellent (90 points or more out of 100 points), good (more than 80 and less than 90 points), qualified (more than 60 and less than 80 points) or unqualified (less than 60 points).[19]

The leading officials of the Communist Party and local governments are responsible for the administration of water quality under contract with the upper level governments, who evaluate their performance according to the State Council's established indicators ranging from excellent, through good, to qualified and unqualified. Assessments are undertaken every five years and result in commendations or sanctions at each end of the scale, which places local governments at the forefront of environmental pollution control.

3.2 The links between water regulations and agricultural-related regulations in China

Although the National Census on Pollution Sources revealed that agriculture was the main source of environ-

16 A M Keessen et al 'European river basin districts: are they swimming in the same implementation pool?'(2010) 22(2) *Journal of Environmental Law* 197–221.

17 Note 11.

18 State Council No 26 'The comprehensive working plan for energy conservation and emission reductions in the 12th Five-Year Plan Period' (in Chinese) (2011) http://www.gov.cn/zwgk/2011-09/07/content_1941731.htm.

19 State Council No 2 'Assessment methods for the most stringent water management system' (in Chinese) (2013), available at http://www.gov.cn/zwgk/2013-01/06/content_2305762.htm.

mental pollution together with water pollution,[20] a cohesive legal framework integrating the management of both water and agriculture is not yet well formulated. The regulatory system in China is in the form of a pyramid. Under the Constitution and the Environment Protection Law, further specific environmental laws are enacted and are divided into three groups:

1. Pollution prevention and control laws, for example the Water Pollution Prevention and Control Law, the Air Pollution Prevention and Control Law, and the Solid Waste Pollution Prevention Law.
2. Resource conservation and utilization laws, such as the Water Law, the Agriculture Law and the Grassland Law.
3. Environmental management laws, for example the Environmental Impact Assessment Law.[21]

The first group of pollution prevention laws plays a leading role in control of water pollution from agricultural sources. The newly revised Water Pollution Prevention and Control Law (2008) included the provision that: 'the use and application of pesticides and fertilizers shall be reasonable and related standards shall be applied, and animal waste shall be treated to render it harmless'.[22]

Laws that regulate agricultural activities do not directly address water pollution, but they do help to improve water quality indirectly. For example, the Regulation on the Protection of Basic Farmland states that: 'the state advocates and encourages agricultural producers in the application of organic fertilizers, the rational application of chemical fertilizers and agricultural chemicals in the basic farmland under their management'.[23] Increasing agricultural pollution in recent years has led to the revision of many of the laws regulating agriculture practices; for example, the Cleaner Production Promotion Law, revised in 2012, requires that: 'the use of chemical fertilizers, pesticides, and feed additive compounds shall be in accordance with scientific principles . . . The use of toxic or hazardous wastes as fertilizers or as landfill to build up fields is prohibited'.[24]

The Law on the Prevention and Control of Environmental Pollution by Solid Wastes requests that:

> . . . those who adopt agricultural films for agricultural use shall take certain measures such as recycling to prevent or reduce environmental pollution caused by the films; those who engage in livestock and poultry breeding shall collect, store, transport and dispose of the livestock and poultry manure in accordance with the state regulation and prevent environmental pollution; and the specific measures for preventing and controlling rural consumer wastes shall be prescribed by local regulations.[25]

The Regulation on the Prevention and Control of Pollution from Large-scale Breeding of Livestock and Poultry requires that:

> . . . the prevention and control of pollution from livestock and poultry breeding shall give overall consideration to the need to protect the environment and to promote the development of the livestock husbandry; and the construction of livestock and poultry farms and breeding establishments within Drinking Water Source Protection Zones is prohibited.[26]

3.3 Implementation strategies in the European Union

Under the WFD Member States are required to establish 'good' status of all Community waters by 2015, setting up RBDs as the basic management units (Article 3) and establishing a Programme of Measures (Article 11) and River Basin Management Plans (RBMPs) (Article 13). The programme of measures must include 'basic' measures,[27] which are the minimum requirements under other existing EU legislation (including for example the pollution control measures under the Nitrates Directive) and, where necessary, 'supplementary' measures, which are adopted to reinforce the provisions of the directive or set up new ones when the basic measures are not sufficient to achieve good water quality.[28]

Tackling pollution from agriculture is one of the main challenges in achieving the WFD's objectives, as 40 per cent of rivers and coastal waters in the EU are affected by agriculture.[29] The Common Agricultural Policy (CAP), which contains a number of instruments related to water resource management, was established in 1957 by the EEC; its original objectives were to provide affordable food for EU citizens and a fair standard of living for farmers.[30] Five decades have now passed and the updated CAP 2014–2020 has three current objectives: viable food production, the sustainable management of natural resources and climate action and a balanced territorial development.[31]

20 The 1st National Census on Pollution Sources was jointly released by the Ministry of Environmental Protection, the Ministry of Statistics and the Ministry of Agriculture on 6 February 2010. For further information on water pollution from agriculture see Liping Dai 'Something old, something new, something borrowed and something blue: tackling diffuse water pollution from agriculture in China: drawing inspiration from the European Union' (2014) 10(2) *Utrecht Law Review* 136–54.

21 Y Qi, X Zhou 'Water pollution control in China: review of laws, regulations and policies and their implementation' IGES (Hayama) 2009 http://pub.iges.or.jp/modules/envirolib/view.php?docid=2775.

22 Water Pollution Prevention and Control Law (2008) arts 47–50. The Water Pollution Prevention and Control Law was adopted by the National People's Congress in 1984, and was subsequently revised in 1996 and 2008.

23 Cleaner Production Promotion Law art 19. See State Council No 257 'The regulation on the protection of basic farmland' (in Chinese) (1998) http://www.mlr.gov.cn/zwgk/flfg/tdglflfg/200406/t20040625_570370.htm.

24 Cleaner Production Promotion Law art 22, issued by the Standing Committee of the National People's Congress No 54 [2003], revised in 2012.

25 Law on the Prevention and Control of Environmental Pollution by Solid Wastes arts 19, 20 and 49, issued by the Standing Committee of the Eighth National People's Congress No 58 [1995], revised in 2004 and 2013.

26 Regulation on the Prevention and Control of Pollution from Large-scale Breeding of Livestock and Poultry arts 3, 11, issued by the State Council No 643 [2013].

27 See Water Framework Directive (Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy). Basic measures are included in art 10 and part A of Annex VI to the WFD.

28 A non-exclusive list of supplementary measures is provided in part B of Annex VI to the WFD. See R Müssner et al 'WFD and agriculture linkages at the EU level: final report about cross-compliance and the WFD' (2006) http://www.ecologic.eu/download/projekte/1950-1999/1966/1966_deliverable_12.pdf.

29 European Environment Agency Report *European Waters: Assessment of Status and Pressures* (Luxembourg: Office for Official Publications of the European Union 2012).

30 European Union *The Common Agricultural Policy: A Story to be Continued* (Publications Office of the European Union Luxembourg 2012).

31 European Commission 'Agricultural policy perspectives: a brief overview of CAP reform 2014–2020' http://ec.europa.eu/agriculture/policy-perspectives/policy-briefs/05_en.pdf.

Cross-compliance (reinforcing compliance with the EU's existing regulations) is one of the instruments of the CAP and represents the baseline or reference level for agri-environment measures.[32] It links direct payments to farmers who comply with basic standards concerning the environment, food safety, animal and plant health and animal welfare, as well as maintaining land in a good agricultural and environmental condition (Council Regulation 73/2009 and Commission Regulation 1122/2009).[33] Two elements are included in the cross-compliance: one is represented by the statutory management requirements, which refer to 18 legislative standards related to public, animal and plant health, the environment and animal welfare;[34] the other requires Member States to maintain all agricultural land in a good agricultural and environmental condition according to a range of standards.[35]

Although the WFD is not listed in the CAP, the implementation of the statutory management requirements does help to achieve the water quality and water management objectives of the WFD, either directly or indirectly (see Figure 3).[36,37] The requirement for good agricultural and environmental condition also helps to achieve the WFD's objectives. The most common measures adopted by the Member States are the establishment of green cover, restrictions on the burning of vegetation, controlling the encroachment of unwanted vegetation and restrictions concerning the use of machinery on waterlogged land.[38]

The Nitrates Directive (91/976/EEC) is particularly important as it specifically attempts to reduce water pollution caused by nitrates from agricultural sources. The aim is to safeguard drinking water supplies and to prevent wider ecological damage arising from the eutrophication of freshwater and marine waters generally by establishing vulnerable zones.[39] Compliance with the Nitrates Directive is a key component in meeting the WFD's objectives.

4 DISCUSSION AND COMPARISON

4.1 Establishing the water quality objectives

In terms of the establishment of water quality objectives, China's 2011 Document shares many similarities with the EU WFD; however, as the levels of development and the culture are different in these two regions, the water management policies are implemented in different ways.

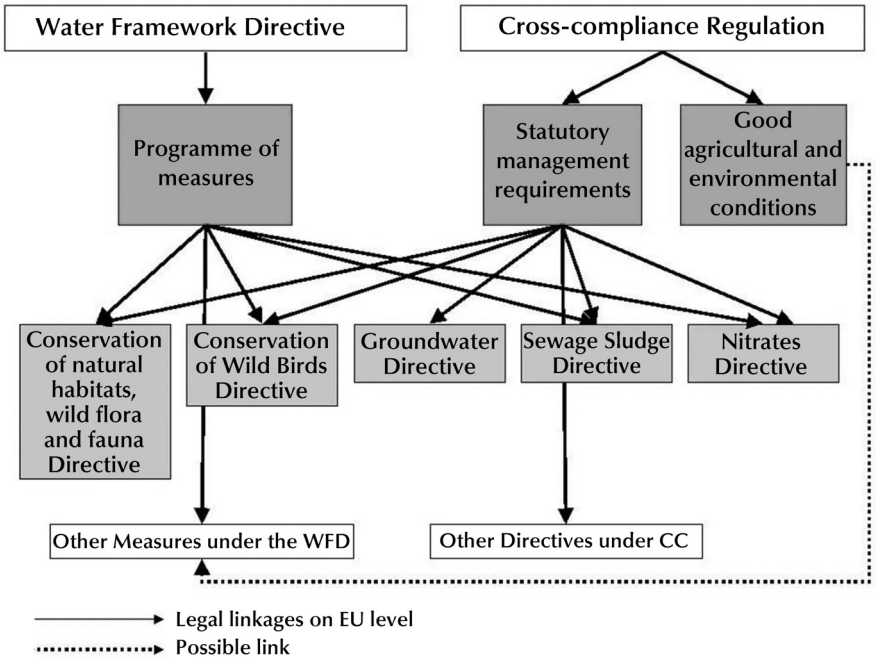

Figure 3: Links between the cross-compliance framework and the WFD.

Source: R Müssner et al 'WFD and Agriculture Linkages at the EU Level. Final Report about Cross Compliance and the WFD' (2006) http://www.ecologic.eu/download/projekte/1950-1999/1966/1966_deliverable_12.pdf.

32 Note 30.

33 European Commission *Agriculture and Environment* http://ec.europa.eu/agriculture/envir/cross-compliance/index_en.htm.

34 Article 5 of Council Regulation 73/2009. The 18 legislative standards are listed in Annex II. For a full understanding of EU water law including other water directives see H van Rijswick, H Havekes *European and Dutch Water Law* (Europa Law Publishing Groningen 2012).

35 Article 6 of Council Regulation 73/2009. The range of standards set is listed in the third column of Annex III.

36 With regard to water management, the related directives covered by the statutory management requirements are the Groundwater Directive (2006/118/EC), the Nitrates Directive (91/676/EEC), the Sewage Sludge Directive (86/278/EEC), Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna and the Birds Directive (79/409/EEC as amended by Directive 97/49/EC). The Groundwater Directive, which is a daughter directive of the WFD, is not listed.

37 T Dworak, M Berglund, T Thaler, E L Fabik and B Amand *Assessment of Agriculture Measures Included in the Draft River Basin Management Plans: Summary Report* (Ecologic Institute Berlin/Vienna 2010).

38 Müssner (n 28).

39 A Volkery, K Geeraerts, A Farmer, L Chalsège, B Vandresse, L D S Gaspar and D L Ursachi *European Commission–General Directorate Environment Support to Fitness Check Water Policy* (Deloitte Consulting Institute for European Environmental Policy Belgium 2011).

Both China's 2011 Document and the EU WFD outline long-term plans for water management: a 10-year plan in China and a 6-year planning cycle in the EU. Both of them set out the basis for water quality objectives and timetables for reaching these. The WFD requires Member States to achieve at least 'good' water status for both their surface water and groundwater before 2015, whilst China's deadlines are 2015, 2020 and 2030.

Unlike the EU WFD, however, which establishes some general water quality objectives and leaves some of the environmental quality standards to be set by the Member States, the 2011 Document sets out the 'Three Red Lines', which are the guidelines for objectives set out in the implementing regulations: the Opinion, the Zoning Policy and the Notice. By dividing its water bodies into different WFZs, China establishes different targeted objectives for those zones and sets out different compliance rates for the targeted objectives under different policy documents. The short-term objectives (2015 and 2020) for each province might be different, but the compliance rate of more than 95 per cent by 2030 is similar under both regimes. One recent difference is that the EU laid down possibilities for extension of the deadline twice (to 2021 and 2027) but there is no clear corresponding statement about a time extension in China.

The management units in both the EU and China (RBDs and WFZs) provide the basic framework for achieving environmental quality objectives; however, there is greater diversity in the EU owing to the Member States' freedom in implementation of the WFD than there is amongst the Chinese provinces where, under a centralized government the same political structures and therefore similar water management arrangements exist across the country. In China, the EQSSW define surface water as rivers, lakes, canals, irrigation channels and reservoirs (Article 1.2), although this is not as detailed as in the EU WFD, which further distinguishes between natural water bodies, heavily modified water bodies and artificial water bodies (Article 4(3)). With these divisions the impact of human activities are taken into account and the economic constraints are more easily reconciled with the environmental objectives.

Heavily modified water bodies and artificial water bodies are given an alternative objective of 'good ecological potential', where ecological indicators are taken into account. In contrast, by referring to the EQSSW, China's zoning policy divides WFZs according to 24 chemical indicators and excludes ecological indicators. The EU WFD sets basic requirements for assessing both ecological status and ecological potential, and although this is still a challenge for Member States, it does not detract from the fact that China should take note of the benefit of including the health of the aquatic ecosystem in water resource management.

The EU WFD refers to both surface water and groundwater, whereas Chinese policy is less well developed for groundwater. This does not mean that the pollution of groundwater in China is not a problem. For example, on the North China Plain more than 70 per cent of the overall groundwater was classified as Grade IV+ in 2013, in other words unfit to be touched by humans.[40] A general survey of the extent of the pollution of the country's groundwater is expected in 2015.[41]

There is virtually no system in place in China to monitor the effectiveness of the measures to achieve the objectives. According to Van Kempen's 6-step method, the obligation of achieving different compliance rates should be qualified as obligations of result because the objectives for each province are detailed and the deadlines are clearly specified by the official national Notice. However, to date there is no regulation imposing remedial measures for any non-achievement.

4.2 Implementation strategies and their effectiveness

China and the EU apply very different strategies to achieve their established objectives. China adopts the GORS and the EU establishes an integrated legal system.

4.2.1 The Chinese Government's objective responsibility system

The GORS is proving to be effective in achieving the objectives. For example, in Wuxi City in Jiangsu Province in sectors where the water is monitored the quality is reported to have improved significantly under the GORS system; 74.7 per cent of the sectors reached the required standards in 2008, which was 50 per cent better than in 2007 when the system had not yet been adopted.[42]

However, the GORS has its limitations. There is no allowance for public participation in the GORS system.[43] The result of an evaluation of the GORS is extremely important for a provincial government in that it largely determines the government's financial fate (eg a good result may help to ensure support funding from the upper level) and the responsible persons' career paths (eg promotion or dismissal).

These stratagems give a false impression which means that 'the data becomes better and better, whilst the practical situation becomes worse and worse'.[44] Theoretically, citizens can initiate public-interest litigation when governments fail to act or enforce the law. However, in practice, the local judiciaries are dependent on local governments for funding, and their decisions may be interfered with. From 2002 to 2011 environment-related litigation at first instance only accounts for 0.2 per cent of the total cases,[45] and from 2000 to 2013, less than 60 environmental public-interest litigation cases arose.[46]

In the EU infringements of EU law by Member States are brought by the Commission against the Member States in the European Court of Justice (ECJ) and for national law in

40 China Water Risk http://chinawaterrisk.org/notices/north-china-plain-groundwater-70-unfit-for-human-touch/.

41 The National Planning for Prevention and Control of Groundwater Pollution was jointly released by the Ministries of Environmental Protection, Land and Resources and Water Resources and was approved by the State Council No 119 [2011].

42 Liping Dai (n 4).

43 ibid.

44 S He 'The objective responsibility system: operation and characters' (in Chinese) (2010) 24(7) *China Agricultural University Journal of Social Sciences Edition* 24(7) 173–82.

45 Chun Yuan 'Analysis of national environmental litigation from 2002 to 2011' (in Chinese) http://www.legaldaily.com.cn/zbzk/content/2012-12/19/content_4069404.htm?node=25497.

46 'Judges have no environmental case to hear while environmental conflicts occur frequently' (in Chinese) *China News* http://www.chinanews.com/gn/2014/10-08/6652268.shtml.

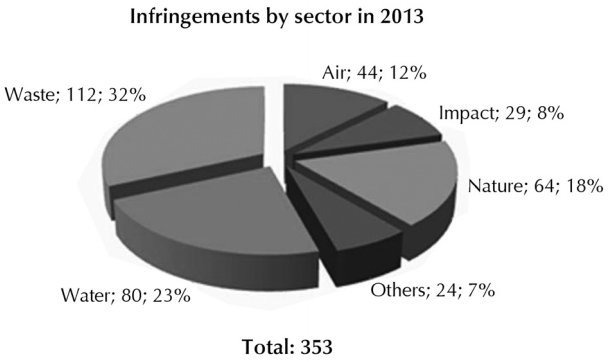

Figure 4: Infringements in the EU by environmental sector.

Source: European Commission 'Legal enforcement' http://ec.europa.eu/environment/legal/law/statistics.htm

the national courts. For example, the ECJ has taken action against Spain for having failed to designate a competent authority,[47] and against Greece[48] and Italy[49] for their failure to undertake the necessary analyses for some or all of their river basins.[50] In 2013 alone, 353 environmental infringements were brought before the ECJ, amongst which 80 (23 per cent) were water cases (see Figure 4).

Member States have found implementation of the WFD challenging. Incomplete implementation across the EU as a whole brings the risk that a proper assessment of the impact of the WFD may be hampered by the lack of evidence from Member States that have not yet put the Directive into practice, and this in turn impedes any process of identifying changes that may need to be made.[51]

4.2.2 Integration between the legal and policy frameworks for water and agriculture

The EU adopts a coordinated legal framework in order to control pollution from agricultural sources.[52] This coordination enables greater transparency in policy implementation, better communication and the use of joint resources by the administrative bodies concerned (within and across Member States and regions).[53]

Although there are some laws in China dealing specifically with agricultural pollution, they are not well synchronised. In the Water Pollution Prevention and Control Law it is stated that 'the use of pesticides must comply with the state provisions and norms on the safe use of pesticides' (Article 47) and the 'state provisions and norms could be found in the Standards for the Safe Application of Pesticides in 1990';[54] however, this is only a guidance document which cannot be enforced, and is long out of date.

Article 48 continues:

> The competent department of agriculture and other related departments under the local people's government at or above the county level shall take steps to guide agricultural producers to use fertilizers and pesticides in a scientific and reasonable way and control the overuse of fertilizers and pesticides so as to prevent water pollution.

The Regulations on Pesticide Administration state that: 'The competent administrative departments of agriculture of the people's governments at or above the county level shall enhance guidance in the safe and rational use of pesticides'.[55] The absence of any provisions to guide and monitor implementation or introduce sanctions for non-compliance of these laws is notable. Although agricultural pollution was included as a new section in the Water Pollution Prevention and Control Law 2008 the rules for implementation, which were adopted in 2001, remain unchanged.

5 CONCLUSION

In China ecosystem protection and management is not taken into account in the setting of water quality objectives. Although the Ministry of Environmental Protection proposed an assessment of the ecological security of important national lakes and reservoirs in early 2008, there is no official guideline available to date. A study of the EU policies and regulations could lead to establishing regional pilot schemes taking ecosystems and local conditions into consideration, which could then be developed nationwide. China also needs to develop more scientific water quality objectives, ie taking the health of aquatic ecosystems into consideration. Surface water resources are not integrated with groundwater resources, mainly because these fall into different governmental sectors. Ideally, a high-level commission to coordinate the key water management sectors would then be followed by institutional reform. Finally, judicial freedom and judicial independence, greater transparency throughout all levels of government, better coordination of environmental regulations and stringent monitoring and imposition of sanctions are all developments that should be called for urgently.

47 Case C–516/07 *Commission v Spain* [2009] ECR I–76.
48 Case C–264/07 *Commission v Greece* [2008] ECR I–00022.
49 Case C–85/07 *Commission v Italy* [2009] ECR I–3491.
50 See Volkery et al (n 39).
51 UK House of Lords European Union Committee 33rd Report 2010–12 'An Indispensable Resource: EU Freshwater Policy' para 15 http://www.publications.parliament.uk/pa/ld201012/ldselect/ldeucom/296/29605.htm.
52 See TFEU art 11, which states that environmental protection must be integrated into the EU's policies and regulations.
53 Note 39.
54 Standards for the Safe Application of Pesticides (GB 4285-89), approved by the National Environmental Protection Bureau (now the Ministry of Environmental Protection) in 1989.
55 Regulations on Pesticide Administration art 55, issued by the State Council No 326 [1997], revised in 2001.

THE INTEGRATION OF THE ADAPTATION APPROACH INTO EU AND DUTCH LEGISLATION ON FLOOD RISK MANAGEMENT

DR HERMAN KASPER GILISSEN
Utrecht Centre for Water, Oceans and Sustainability Law, Utrecht University[1]

1 INTRODUCTION

Climate change, worldwide, gives rise to multifarious issues concerning water management. At a global level, in general, average temperatures and the sea level are expected to rise, and weather and precipitation patterns are expected to change. At regional levels, this will lead to both an increase of flood risks and risks related to drought and water scarcity, mostly as a result of sea level rise, increasing river discharges and heavy rainfall, respectively longer, more severe warm and dry periods.[2] To obtain a more concrete view of the expected regional effects of climate change, both for the EU and the Netherlands, climate risks have been assessed and scenarios and policy papers have been drafted.[3]

Although scientific uncertainty remains as to the magnitude of these effects, there is a broad scientific and political consensus that action needs to be taken. In this respect, two types of response can be distinguished: mitigation and adaptation action. However, as the effectiveness of the so-called 'limitationist approach' under the present circumstances could more and more be questioned, adaptation becomes a more realistic approach in combating these climate issues.

'Adaptation' refers to 'adjustments in ecological, social or economic systems in response to actual or expected climatic stimuli and their effects or impacts. It refers to changes in processes, practices and structures to moderate potential damages or to benefit from opportunities associated with climate change'.[4] Although this general definition leaves much room for further interpretation with a focus on particular regional circumstances,[5] it clearly conceptually delineates the adaptation approach, which is one that lends itself to be integrated within diverse sectoral policy domains at various institutional levels.

This process of integration is referred to as 'mainstreaming',[6] which is one of the major focus points of current developments in adaptation policy as such.[7] It must be borne in mind, however, that the factual process of mainstreaming is still in its infancy. In some policy domains there is already a clear integral notion of the adaptation approach, which has also been embedded within the law. The domain in which the adaptation approach to date seems to have matured at most is that of flood risk management, at least at the EU and Dutch domestic levels.[8]

This article aims to assess whether the adaptation approach has been appropriately integrated within the legal systems of flood risk management at the EU and Dutch national levels. Appropriateness, admittedly, is a rather vague criterion. For the purposes of this article, it is confined to an assessment of whether the most important characteristics of the climate change issue (ie that climate change is a process with diverging regional effects, which is not yet fully understood, but is subject to ongoing research and debate, creating a steady flow of advancing insights) have been taken into account, and whether there is clarity about the scope, division and allocation of responsibilities.

The way in which the adaptation approach has been embedded within the legal systems of flood risk management cannot be understood correctly without having insight

1 This article has been written in the framework of the European Union's Seventh Programme for Research, Technological Development and Demonstration within the STAR-FLOOD project (www.starflood.eu). Contact: h.k.gilissen@uu.nl.

2 See Fifth Assessment Report of Working Group I of the IPCC *Climate Change 2013: The Physical Science Basis* http://www.ipcc.ch/report/ar5/ (IPCC 2013).

3 See COM(2007) 354; COM(2009) 147; COM(2012) 673; COM(2013) 216; Koninklijk Nederlands Meteorologisch Instituut *KNMI Climate Change Scenarios 2006 for the Netherlands* (KNMI Scientific Report WR 2006-01 De Bilt 2006) http://www.knmi.nl/klimaatscenarios/knmi06/WR23mei2006.pdf; Koninklijk Nederlands Meteorologisch Instituut *Klimaatverandering in Nederland: Aanvullingen op de KNMI'06 klimaatscenarios* (KNMI-Brochure De Bilt 2009) http://www.knmi.nl/klimaatscenarios/documents/brochure09.pdf; Koninklijk Nederlands Meteorologisch Instituut (KNMI 14) *Climate Change Scenarios for the 21st Century: A Netherlands Perspective* (KNMI Scientific Report WR 2014-01 De Bilt 2014) http://www.knmi.nl/bibliotheek/knmipubWR/WR2014-01.pdf; and Delta Programme 2014.

4 See Third Assessment Report of Working Group II of the IPCC *Climate Change 2001: Impacts, Adaptation and Vulnerability* https://www.ipcc.ch/ipccreports/tar/ (IPPC 2001) 881. For comparable definitions see also B Smit, I Burton, R J T Klein and J Wandel 'An anatomy of adaptation to climate change and Variability' (2000) 45 *Climatic Change* 223–51 at 227–28; W N Adger, N W Arnell and E L Tompkins 'Successful adaptation to climate change across scales' (2005) 15 *Global Environmental Change* 77–86 at 78; R Verheyen *Climate Change Damage and International Law: Prevention Duties and State Responsibility* (Martinus Nijhoff Publishers Leiden/Boston 2005) 34–35; and COM(2007) 354.

5 See R J T Klein 'Adaptation to climate variability and change: what is optimal and appropriate?' in C Giupponi, M Schechter (eds) *Climate Change in the Mediterranean: Socio-Economic Perspectives of Impact, Vulnerability and Adaptation* (Edward Elgar Cheltenham 2002) 32–47 at 34–35.

6 See D McEvoy, D L Lonsdale and P Matczak *Adaptation and Mainstreaming of EU Climate Change Policy: An Actor-based Perspective* (January 2008) Centre for European Policy Studies no 149; A Prutsch, S McCallum, T Grothman, I Schauser and R Swart 'Modify existing and develop new policies, structures and processes' in A Prutsch, T Grothman, S McCallum, I Schauser and R Swart (eds) *Climate Change Adaptation Manual: Lessons Learned From European and Other Industrialised Countries* (Routledge New York 2014) 246–71; and C J Uittenbroek 'How mainstream is mainstreaming? The integration of climate adaptation into urban policy' (diss. Utrecht University 2014).

7 See COM(2013) 216.

8 See H K Gilissen *Adaptatie aan klimaatverandering in het Nederlandse waterbeheer: Verantwoordelijkheden en aansprakelijkheid* (Kluwer Deventer 2013).

into the developments concerning this approach in a broader context. To this extent, the coming of age of the adaptation approach within the international climate debate as an ever more adhered to approach in combating the adverse effects of climate change will be addressed first (section 2). Secondly, the major policy developments giving further substance to the adaptation approach within the EU and the Netherlands will be discussed (section 3). Relevant adaptation provisions in the legal systems of flood risk management at both levels in a descriptive and evaluative way are examined in section 4, by means of a quick scan. Finally, some overall conclusions are set out in section 5.

2 THE COMING OF AGE OF THE ADAPTATION APPROACH[9]

Ever since the 1970s there has been a vivid international scientific debate on climate change. As time progressed, this debate became more and more political. During the 1988 Conference on the Changing Atmosphere in Toronto – which was attended by both scientists and state representatives – it was solemnly declared that the global emission of greenhouse gases should be strongly (ie 20 per cent) reduced by 2005. Furthermore, inter alia, the need for a legally binding international agreement was stressed in order to be able to achieve these goals.[10] Thus, the focus of the international climate debate was set: climate change was declared to be a 'common concern of human kind',[11] and a strong belief took root that this threat could only be repelled by mitigation measures. The malleability of the global climate – which can be viewed as a characteristic of 'the positive spirit of the 1990s' – became the starting point of negotiations on the conclusion of the United Nations Framework Convention on Climate Change (UNFCCC).[12] This makes clear that during the early stages of the climate debate, the so-called 'limitationist approach' became prevalent; adaptation to climate change was generally viewed as a fatalistic, obstructionist, lazy, arrogant and anti-environmental approach.[13]

Indeed, the early 'adaptation approach' actually asked for antipathy, as it factually proclaimed a passive attitude towards climate change by putting trust into the 'invisible hands' of natural adaptation capacity and market forces: adaptation would take place of itself without any human intervention.[14] Surprisingly, the more the feasibility of achieving global success with mitigation measures was questioned the more this approach gained increasing support. Despite the fact that the UNFCCC, the Kyoto Protocol and eventually (only) political agreements were concluded,[15] mitigation action has not yet proven as effective as these global (be they legal or political) agreements are meant to be. This seemed to be fertile soil for the adaptation approach to evolve into a conceptually more active one, proclaiming adaptation measures to be taken by human hands.[16] According to Nordhaus: 'Mitigate we might; adapt we must!'[17]

Thus, after a relatively long period of aversion, the adaptation approach favoured during the mid-1990s came to be generally accepted as a necessary reaction to climate change by the beginning of the new millennium, explicitly in addition to mitigation.[18] In the course of the first decade of the 21st century, adaptation and mitigation were viewed as complementary approaches with promising synergetic effects, if 'optimally mixed'.[19] This approach to climate change – which came to be known as the 'realistic approach' – soon became prevalent.[20]

The birth of this realistic approach, however, seems not to be the final stage in the coming of age of the adaptation approach, as in its latest report of 2014 the IPCC placed an even stronger focus on adaptation as an ever more independent approach beside mitigation.[21] This, of course, does not mean the limitationist approach was formally – or will ever or even should be[22] – rejected, but it can be interpreted as the adoption of a somewhat more realistic attitude towards mitigation: as long as there is no certain and convincing proof of the limitationist approach being effective in due time, adaptation in the short term becomes the most realistic approach for combating the adverse effects of climate change.

This development towards 'independency' cannot be ignored. It is to be expected that this trend will continue in the next few decade(s) and that scientific and political attention to adaptation will increase even more. This might eventually mean that the adaptation approach becomes prevalent. The coming of age of the adaptation approach within the international political and scientific climate debate has put adaptation on the policy agenda at lower institutional levels. This approach, however, particularly requires extensive elaboration at these lower levels,

9 Parts of this section have previously been published as a column at http://www.starflood.eu/category/column/. See also Gilissen *Adaptatie aan klimaatverandering in het Nederlandse waterbeheer* (n 8) 20–38 for a more extensive elaboration of the developments within the climate debate.

10 See 'The changing atmosphere: implications for global security' Toronto Conference Statement (June 1988) 296–97; J Jäger 'From conference to conference' (1992) 2 *Climatic Change* iii–vii (editorial).

11 See also Resolution 43/53 of 6 December 1988 and Resolution 44/207 of 22 December 1989 of the UN General Assembly.

12 See generally D Bodansky 'The United Nations Framework Convention on Climate Change: a commentary' (1993) 18(2) *Yale Journal of International Law* 451–558.

13 See R A Pielke 'Rethinking the role of adaptation in climate policy' (1998) 8(2) *Global Environmental Change* 159–70 at 162.

14 See E L F Schipper *Exploring Adaptation to Climate Change: A Development Perspective* (University of East Anglia Norwich 2004) 49 and E L F Schipper 'Conceptual history of adaptation in the UNFCCC process' (2006) 15(1) *Review of European Community and International Environmental Law* 82–92 at 88.

15 See for instance D Bodansky 'The Copenhagen Climate Change Conference: a postmortem' (2010) 104(2) *The American Journal of International Law* 230–40 on the conclusion of political agreements in the Copenhagen Accord.

16 See in general Schipper *Exploring Adaptation to Climate Change* (n 14) and Schipper 'Conceptual history of adaptation in the UNFCCC process' (n 14).

17 See W D Nordhaus *Managing the Global Commons: The Economics of Climate Change* (Massachusetts Institute of Technology Cambridge 1994) 189.

18 See IPCC 2001 (n 4).

19 See S M Kane, J F Shogren 'Linking adaptation and mitigation in climate change policy' (2000) 45(1) *Climatic Change* 75–102.

20 See Fourth Assessment Report of Working Group II of the IPCC *Climate Change 2007: Impacts, Adaptation and Vulnerability* http://www.ipcc.ch/report/ar4/ (IPPC 2007). See also T J Wilbanks, S M Kane, P N Leiby, R D Perlack, C Settle, J F Shogren and J B Smith 'Possible responses to climate change: integrating mitigation and adaptation' (2003) 45(5) *Environment* 28–38 at 31–32.

21 See Fifth Assessment Report of Working Group II of the IPCC *Climate Change 2014: Impacts, Adaptation and Vulnerability* http://www.ipcc.ch/report/ar5/ (IPCC 2014).

22 The limitationist approach falls outside the scope of this article, which explicitly does not imply it should be neglected, nor rejected as an important approach in combating climate change and its adverse effects.

as in fact it only provides a framework for developing more concrete regulations, strategies and plans of measures, based on regional needs and relevant circumstances of any kind.

3 ADAPTATION POLICY DEVELOPMENTS: ELABORATION OF THE ADAPTATION APPROACH

In the literature it has been argued that the international climate regime (ie the UNFCCC and related documents and decisions) is not a major source of adaptation responsibilities,[23] but that especially the international scientific and political climate debate proved to have an agenda-setting effect.[24] Indeed, the EU and many of its Member States – including the Netherlands – from the first decade of this century onwards have put increasing effort into drafting adaptation policies, further elaborating the adaptation approach.[25] There has always been a strong interaction between these developments and the coming of age of the adaptation approach as described above, as these developments were mainly prompted by this fast-rising approach, whilst at the same time contributing to its evolvement.

Moreover, as the first notions of the adaptation approach at both institutional levels emerged, more recent developments took place on parallel, overlapping, highly intertwined and eventually integrated tracks. As a last general remark, whereas the first notions of adaptation mainly represented rather vague and abstract policy ambitions, the latest developments – especially at lower institutional levels – aim at achieving far more concrete objectives, although the overall conclusion remains that 'we're not there yet'.[26] The most relevant developments are discussed further below.

3.1 Developments at the EU level

Whereas early EU climate policy focused principally on mitigation,[27] the first policy domain for the adaptation approach to emerge was the domain of flood risk management. Over time, flood risks across the EU were expected to increase in severity, mainly as a result of climate change, increasing population density and concentration of economic activities in flood-prone areas. In a Communication of 12 July 2004 the Commission stressed that coordinated and integrated action would considerably contribute to the effectiveness of the overall level of long-term protection against floods across the Community (Union).[28] Flood risk management, according to the Commission, should aim at limiting both the chance and the consequences of floods by virtue of a programmatic approach, focusing on prevention, protection, preparedness, crisis management and recovery.[29]

Eventually, on 18 January 2006 the legislative proposal for the Directive on the assessment and management of flood risks was submitted, introducing a programmatic, phased and cyclic approach to flood risk management, giving the Member States considerable policy discretion to determine their objectives and to choose their strategies and measures, but also enjoining them to take into account the likely impacts of climate change on the occurrence of floods.[30] The proposal was adopted on 23 October 2007 and entered into force on 26 November 2007. It soon came to be known as the Floods Directive (FD).[31]

As the developments in the policy domain of flood risk management rushed towards the enactment of the FD in 2007, the Commission explicitly emphasised the importance of addressing adaptation to climate change in a more integral manner in its Communication of 9 February 2005.[32] The first official EU policy document in which adaptation was addressed in an integral manner was the Green Paper of 29 June 2007.[33] This Green Paper elaborated on the effects of climate change for the EU and its Member States, distinguishing vulnerable areas, area types and (social) sectors. Moreover, it aimed at raising awareness and creating a solid knowledge base through integrated scientific and applied research, in anticipation of the establishment of a comprehensive European Adaptation Strategy (EAS) by 2013.

Over and above this, in order to develop the policy ambitions outlined in the Green Paper even further, in April 2009 the White Paper on Adaptation was published,[34] paving the way for the establishment of the EAS and for mainstreaming the concept of adaptation into sectoral policy domains, namely public health, agriculture, forestry, biodiversity, ecosystems, water, marine and coastal areas, production systems and infrastructure.[35] The water sector was addressed in further detail in a working document accompanying the White Paper,[36] which inter alia referred

23 As it was concluded in 1992 and entered into force in 1994, the UNFCCC exudes a strong sense of the limitationist approach. See P Sands 'The United Nations Framework Convention on Climate Change' (1992) 3 *Review of European Community and International Environmental Law* 270–77; Bodansky (n 12); R Verheyen 'Adaptation to the impacts of anthropogenic climate change: the international legal framework' (2002) 11(2) *Review of European Community and International Environmental Law* 129–43; and Verheyen *Climate Change Damage and International Law* (n 4).

24 See Gilissen *Adaptatie aan klimaatverandering in het Nederlandse waterbeheer* (n 8) 56.

25 See for instance R Swart, R Biesbroek, S Binnerup and others *Europe Adapts to Climate Change: Comparing National Adaptation Strategies* PEER Report no 1 (Partnership for European Environmental Research Helsinki 2009); J Klostermann, J Gupta and R Biesbroek 'Multilevel klimaatbeleid in Nederland: mitigatie en adaptatie' (2009) 4 *Bestuurskunde* 17–26; D Ellison 'Addressing adaptation in the EU policy framework' in E C H Keskitalo (ed) *Developing Adaptation Policy and Practice in Europe: Multi-level Governance of Climate Change* (Springer Dordrecht 2010) 39–96; G R Biesbroek and others 'Europe adapts to climate change: comparing national adaptation strategies' (2010) 20(3) *Global Environmental Change* 440–50; and Gilissen *Adaptatie aan klimaatverandering in het Nederlandse waterbeheer* (n 8) ss 3.3, 4.2.

26 See Gilissen *Adaptatie aan klimaatverandering in het Nederlandse waterbeheer* (n 8) 440–42.

27 See for instance the fifth (1992) and the sixth (2002) European Environmental Action Programmes, in which mitigating anthropogenic climate change was addressed as one of the major challenges within the EU environmental policy field for the years to come.

28 See COM(2004) 472.

29 See COM(2004) 472 at 4.

30 See COM(2006) 15 at 5–6.

31 See in further detail F A G Groothuijse *Water weren: Het publiekrechtelijke instrumentarium voor de aanpassing en bescherming van watersystemen ter voorkoming en beperking van wateroverlast en overstromingen* (diss. Utrecht Instituut voor Bouwrecht Den Haag 2009) 111–118 and H F M W van Rijswick, H J M Havekes *European and Dutch Water Law* (Europa Law Publishers Groningen 2012) 254–58. See also section 4 of this article.

32 See COM(2005) 35.

33 See COM(2007) 354.

34 See COM(2009) 147.

35 See COM(2009) 147 at 10–15.

36 See SEC(2009) 386.

to the previous developments within the framework of flood risk management, expressing that the full implementation and execution of the FD is considered to provide for an appropriate framework for a Union-wide integration of the concept of adaptation within this policy domain. No further EU (legislative) action was deemed necessary.[37]

On 16 April 2013, the European Adaptation Strategy was eventually published.[38] Publication of the EAS marked a temporary end of the development of integral EU adaptation policy, as this strategy inter alia encourages Member States to adopt comprehensive National Adaptation Strategies (NASs) themselves, at the latest by 2017. In 2017, the Commission will assess the progress made by the Member States. If they appear to have failed in drafting comprehensive NASs, the Commission will immediately consider proposing binding EU adaptation legislation.[39] Water management is still an important pillar within the EAS, although the main focus concerning water is on the implementation of the Strategy on Water Scarcity and Droughts.[40] Attention to this aspect of water policy appears to have been somewhat overlooked in the EU from as long ago as 2007, despite the fact that progress on its implementation has regularly been evaluated and Member States have repeatedly been encouraged to do better.[41] However, the EAS has paid less attention to flood risk management, as the implementation of the FD should have taken place at the latest on 26 November 2009[42] – the same year the White Paper was published – and the first phased planning cycle was already in full swing at the time the EAS was published.

The concept of adaptation has found its way into EU flood risk policy and has developed into an integral and overarching EU policy domain as such. These policies, however, mainly reflect the rather simple notion of adaptation and express the need to integrate this approach into all relevant sectoral policy domains. On the basis of the principle of subsidiarity, the role of the EU, in particular the Commission, is complementary to the role of the Member States.[43] The Member States are primarily responsible for mainstreaming adaptation within their sectoral policies and for implementing and executing these policies themselves.

The role of the Commission is an initiating, facilitating, stimulating, information-sharing, awareness-raising, co-funding, coordinating, supervisory, evaluative and framework-setting one.[44] This role must not be underestimated, although it is clear that Member States have considerable discretion as to how to define their own adaptation objectives and the means by which they will pursue these goals. Given the high divergence regarding the regional effects of climate change, the national and regional levels are the appropriate levels at which extensively to elaborate the adaptation approach. At these levels, concrete adaptation strategies and practically oriented plans of measures can understandably diverge greatly, as can – unfortunately – levels of ambition.[45]

3.2 Developments at the Dutch domestic level

Near flood events during the last decade of the 20th century heralded a major change in the policy perception prevailing at that time on flood risk management in the Netherlands. During the first years of the new millennium issues concerning climate change, sea level rise and soil subsidence gave rise to the development of a new approach, addressing 'water' as one of the main guiding principles within the Dutch system of landscape planning.[46] This was first expressed in a policy paper of the Commission on 21st Century Water Management[47] and was later confirmed and further elaborated in a Government Memorandum and several administrative agreements, in particular the 'Starting Agreement on 21st Century Water Management' and the 'National Administrative Agreement on Water Issues'.[48]

The notion that protection against floods could no longer only be guaranteed by technical water safety measures became increasingly credible, and it was believed that water should be given more space to flow freely in periods of large water surpluses.[49] Given this notion, several programmes of measures were established, such as the programme 'Room for the River' and the project 'Weak Coastal Links', both mainly to retain or to create more space for water, in order to provide for proper protection against floods over the next decade or so.[50] Climate change being an important initial driver of these developments, it has been argued that the concept of adaptation in the Netherlands mainly originated within the policy framework of flood risk management some years before these developments took root at the EU level.[51]

The second half of the first decade of the new millennium is characterised as a period of integration, as the first integral adaptation policy documents emerged, and important steps were taken towards the establishment of a

37 See SEC(2009) 386 at 6.
38 See COM(2013) 216.
39 See COM(2013) 216 at 6.
40 See COM(2007) 414.
41 See COM(2008) 875; COM(2009) 147; COM(2010) 228; COM(2011) 133; and COM(2012) 673.
42 See FD art 17(1).
43 See COM(2013) 216 at 3.
44 See Gilissen *Adaptatie aan klimaatverandering in het Nederlandse waterbeheer* (n 8) 67–69.
45 See A M Keessen, H F M W van Rijswick 'Adaptation to climate change in European Water law and policy' (2012) 8(3) *Utrecht Law Review* 38–50; A M Keessen and others 'European river basin districts: are they swimming in the same implementation pool?' (2010) 22(2) *Journal of Environmental Law* 197–222; and Y Uitenboogaart, J J H van Kempen, M Wiering and H F M W van Rijswick *Dealing with Complexity and Policy Discretion: The Implementation of the Water Framework Directive in Five Member States* (Sdu Uitgevers Den Haag 2009).
46 See H K Gilissen, J Kevelam and H F M W van Rijswick *Water en Ruimte: De bescherming van watersysteembelangen in het ruimtelijk spoor* (2nd rev edn Berghauser Pont Publishing Amsterdam 2014).
47 See Commission on 21st Century Water Management 2000 (Commissie Waterbeheer 21e eeuw) *Waterbeleid voor de 21e eeuw: Geef water de ruimte en de aandacht die het verdient* (Den Haag 31 August 2000).
48 See Starovereenkomst Waterbeleid 21e eeuw (2001) and Nationaal Bestuursakkoord Water (2003).
49 See Groothuijse (n 31) 27–29 and Van Rijswick and Havekes (n 31) 259–63.
50 See for instance H K Gilissen, M Kok, J Edelenbos and others *Governance Analysis Case Noordwijk: 'Weak Links' Along the Coast* Paper for the Conference 'Deltas in times of climate change' (Rotterdam September 2010) and M H Winnubst *Turbulent Waters: Cross-scale Conflict and Collaboration in River Landscape Planning* (diss. Nijmegen Radboud University Nijmegen 2011).
51 See Klostermann, Gupta and Biesbroek (n 25) 21–23 and Gilissen *Adaptatie aan klimaatverandering in het Nederlandse waterbeheer* (n 8) 100–101.

system of integral water management, resulting inter alia in the entry into force of the Water Act in 2009.[52] Partly in response to a Motion of Parliament,[53] the Dutch central government in 2006 initiated the national programme 'Adaptatie Ruimte en Klimaat' (ARK), stimulating the establishment of integral adaptation policy covering the policy domains of water, infrastructure and mobility, nature and biodiversity, rural areas, urban areas, recreation, public health and energy. Building upon the ARK, in 2007 a National Adaptation Strategy (NAS) was published as a comprehensive and thorough policy paper, clarifying climate risks according to sector and focus area, and setting the agenda for determining more concrete strategies based on pre-set sectoral and thematic adaptation objectives.

Despite the explicit aim for integrality of both the ARK and NA the main focus, however, was on flood risks and adaptation within the water management sector, as it was claimed that the effectiveness of adaptation within any sector is fully dependent on the effectiveness of adaptation in the water sector. Moreover, as another characteristic of this early adaptation policy, the aim of most policy objectives was principally on retaining current situations and protecting current interests, instead of internally adapting to changing climatic circumstances.[54]

Not very surprisingly, the focus on adaptation within the water management sector seemed to dominate in the years to come.[55] In the course of 2007, the Dutch Cabinet established the (second) Delta Commission (DC) with the task of comprehensively advising on the protection of the Netherlands against the adverse long-term effects of climate change.[56] In its report of 2008, the DC concluded that over the coming decades the Netherlands would be facing major adaptation challenges regarding both flood risks and fresh water supply.[57] Concerning flood risks, it recommended increasing all safety levels of dike rings by a factor of 10, and expeditiously executing programmes of measures within the riverine region and alongside the coast, explicitly anticipating the long-term effects of climate change.[58]

Another particular recommendation was to adopt a Delta Act, providing a legal basis for the appointment of a Delta Commissioner, and the establishment of a Delta Fund and a Delta Programme.[59] In October 2009 the Cabinet accepted the bill entitled the 'Delta Act on Water Safety and Fresh Water Supply', which entered into force on 1 January 2012, as a part of the above-mentioned Water Act of 2009.[60] By that time, a Delta Commissioner had already been appointed (2010) and the establishment of a Delta Programme (DP) was in preparation.

From 2010 until 2014, the Delta Programme has delivered five coherent and consecutive reports. The first report (DP 2011) aimed at exploring the major long-term challenges in flood risk management, and roughly charted possible long-term adaptation strategies.[61] The reports published in 2011 and 2012 (DP 2012 and DP 2013) further examined and analysed the challenges and strategies, and started paving the way for making so-called Delta Decisions by 2014.[62] Based on the assessment of 'promising strategies' in DP 2013,[63] DP 2014 presented a selection of 'preferred strategies' elaborated in further detail.[64] This eventually led to the publication of a Delta Decision in 2014 (DP 2015),[65] which has to be implemented in the strategic water policy (water plan) by 2015 and in the law (Water Act) by 2017, and from then on will be the leading strategy in Dutch flood risk management and will function as a central principle in establishing programmes of measures.

The new safety standards will represent an annual general per capita probability of death caused by a flood event of 0.001 per cent (1:100,000), which for each area will be calculated by multiplying the consequences of a flood event and the chance of such an event. It is expected that all primary flood defence structures will meet the new safety standards by 2050. Another main feature of the DP 2015 is a moderate shift in strategy, to some extent reflecting the policy concept of 'multi-layered safety'.[66] The main strategy remains to prevent flood events by taking protective measures, such as building dikes and creating or retaining space for water. Under 'specific circumstances',[67] however, there is a possibility of 'smartly combining' protective measures with spatial flood mitigation measures and complementary preparation and disaster management in order to provide the required safety levels.[68]

Having implemented this strategy in national water law and policy, the Netherlands will presumably meet the requirements resulting from the EU Floods Directive.[69] Moreover, it can be argued that the adaptation approach is adequately mainstreamed within the policy framework of Dutch flood risk management. Of course, it might develop further over time, as climate change and adaptation will remain subject to continued vigilance, but to date the integration process can be considered as finalised. This is, however, not necessarily the case for other sectors, such as energy, ICT, infrastructures and public health, as preliminary research shows sector-specific climate risks in combination with low levels of awareness.[70] For these

52 See Van Rijswick and Havekes (n 31) 108–113.

53 See Motion Lemstra of 21 March 2005 (Parliamentary Documents I 2004/05, XXI-C).

54 See P P J Driessen and H F M W van Rijswick 'Normative aspects of climate adaptation policies' (2011) 2(4) *Climate Law* 559–81.

55 See S Schaap *Klimaat en overstroming: Een verleidelijk verband* (oration Delft Technical University Delft 2010).

56 See *Government Gazette* (2007) 179.

57 See Delta Commission (Commission Veerman) *Samen werken met water: Een land dat leeft, bouwt aan zijn toekomst: Bevindingen van de Deltacommissie 2008* (Den Haag 2008) 25–27, 29–31.

58 The recommendation to increase safety levels by a factor of 10 was eventually disregarded in 2013.

59 See Delta Commission (n 57) 77–85.

60 See section 4 of this article.

61 See DP 2011 at 56–67 and Annex 2.

62 See DP 2012 at 15–18, 20–43 and DP 2013 at 35–42.

63 See DP 2013 at 43–46.

64 See DP 2014 (Deltaprogramma 2014 *Werk aan de Delta: Kansrijke oplossingen voor opgaven en ambities* (Den Haag 2013)) 94–97.

65 See DP 2015 at 16–23. In total, five Delta Decisions have been taken. One addressed water safety and the others addressed fresh water supply, spatial adaptation, the Lake Ijssel region and the Rhine–Meuse Delta.

66 See D L T Hegger, P P J Driessen, C Dieperink and others 'Assessing stability and dynamics in flood risk governance: an empirically illustrated research approach' (2014) 28 *Water Resource Management* 4127–42.

67 For instance, when safety measures are extremely costly or have disproportionate societal effects.

68 See DP 2015 (n 65) 16, 19.

69 See section 4 of this article.

70 See H Runhaar, H K Gilissen, C Uittenbroek, H L P Mees and H F M W van Rijswick *Publieke en/of private verantwoordelijkheden voor klimaatadaptatie: Een juridisch-bestuurlijke analyse en eerste beoordeling* (Utrecht University Utrecht 2014).

(and other) sectors, mainstreaming the adaptation approach is one of the challenges for the years to come.

Recent developments show slow but steady progress in the 'recalibration' of the 2007 National Adaptation Strategy. This is partly driven by developments and incentives at the EU level (EAS) and should eventually lead to the establishment of a comprehensive and fully integral National Adaptation Strategy by 2017.[71] The discussion above preludes important shifts regarding adaptation. Adaptation within the water management sector is taken to another level, as the new strategy has to be converted into concrete plans of measures, both at national and regional levels. In addition, there is a shift in focus: as the 'precondition' of increasing adaptability in flood risk management – at least in theory – seems to be met, more attention can now be paid to mainstreaming adaptation in other policy domains.

4 LEGAL INTEGRATION OF THE ADAPTATION APPROACH

The adaptation approach emerged in the international political and scientific arena and underwent major conceptual shifts through time. As the notion of the necessity of adaptation action grew, this approach took root in the policy at lower institutional levels. Both at the EU and the Dutch national level it first started to develop within the policy domain of flood risk management, but soon also grew as a more integral policy domain itself. Moreover, the adaptation approach at both levels found its way into the legislation on flood risk management, namely the Floods Directive and the Water Act. This must not, however, be considered as an independent development, but rather as one of the particular results of the developments described above, as it was mainly done to establish a legal framework for future adaptation action and to facilitate further adaptation policy developments concerning flood risks. This progression will be discussed further below.

4.1 The integration of the adaptation approach in the EU Floods Directive

The Floods Directive (FD)[72] builds upon the framework established in the 2001 Water Framework Directive. Its purpose is to establish a framework for the assessment and management of flood risks, aiming at the reduction of the adverse consequences for human health, the environment, cultural heritage and economic activity associated with floods in the EU.[73] The FD is characterised by a phased and cyclical approach. Each cycle consists of three phases, namely the phase of undertaking preliminary flood risk assessments and identifying flood risk areas, the phase of preparing flood hazard maps and flood risk maps, and the phase of establishing flood risk management plans.[74] Each cycle takes six years, so whereas the first 'generation' of flood risk management plans must be completed by 22 December 2015, the next generation must be completed by 22 December 2021, and so on, going through all consecutive preparatory phases in each cycle.[75]

According to Article 7 FD and Part A of the Annex, the flood risk management plans must consist of the conclusions of the preliminary flood risk assessment, delineating the flood risk areas that are subject to the plan; the flood hazard maps and flood risk maps and a conclusion that can be drawn from those maps; a description of the appropriate objectives of flood risk management; and a summary of the measures and their prioritisation aiming to achieve those objectives. The Member States have considerable policy discretion to determine their objectives, as well as to choose their strategies and measures.[76]

During each consecutive cycle, the assessments, maps and plans must be reviewed and, if necessary, updated. As the FD in its preamble explicitly highlights climate change as a factor that contributes to an increase in the likelihood and adverse impacts of flood events,[77] the likely impact of climate change on the occurrence of floods must be taken into account in the consecutive reviews of the preliminary flood risk assessments and flood risk management plans.[78] The requirement periodically to review and update the assessments and plans for the Member States implies a duty to conduct research into climate change and its impacts on the occurrence of flooding.[79] The adverb 'likely' implies that only the impacts of climate change that could reasonably be expected on the basis of current knowledge (state of the art) must be taken into account in the reviews, as well as in undertaking and establishing new generations of flood risk assessments and flood risk management plans.

In order to determine which impacts are 'likely', Member States, however, must investigate a broader range of *possible* impacts of climate change on the occurrence of floods, automatically contributing to the increase of knowledge. Moreover, new insights into climate change and its effects on flood risks have to be taken into account in new planning cycles, and can lead to adjustments of new generations of plans every six years, making flood risk management across Europe more adaptive step by step.

Thus, there is a legal obligation for Member States to have fully integrated adaptation policies within their flood risk management policies, at the latest by 2021. The Member States, however, are encouraged to do so earlier in their first generation of flood risk management plans.[80] The introduction of a phased and cyclic approach can be considered especially as an appropriate way to address climate issues within flood risk management. This fits well with the main characteristics of climate change, namely that climate change as such is a process with rather high levels of uncertainty regarding its concrete effects through time. This, moreover, fits well with the ever-continuing but never completed developments in knowledge and insights into this process; policy decisions can at best be based on the current state of the art.

71 See Planbureau voor de Leefomgeving *Aanpassen met beleid: Bouwstenen voor een integrale visie op klimaatadaptatie* (Den Haag PBL 2013).

72 For closer reading, see for instance Van Rijswick and Havekes (n 31) 254–58 and Groothuijse (n 31) 111–118.

73 See FD art 1.

74 ibid arts 4, 5, 6 and 7.

75 ibid art 14.

76 See Van Rijswick and Havekes (n 31) 210.

77 See FD Consideration 2 of the preamble.

78 ibid art 14(4) and Consideration 14 of the preamble.

79 See Gilissen *Adaptatie aan klimaatverandering in het Nederlandse waterbeheer* (n 8) 85–87.

80 As can be derived from FD art 4(2).

Another characteristic of climate change, namely that its effects can highly differ from region to region, is appropriately covered by the FD, as well as the fact that regional circumstances – such as population density and the concentration of (socio)economic activities – can differ significantly and might change over time. In this respect, it is understandable that the main responsibility to determine adaptation objectives and formulate concrete strategies lies fully with the Member States, as does the responsibility for appointing competent authorities for the execution of these strategies by virtue of concrete plans of measures.[81]

Nevertheless, there is a downside to this approach. The FD, being a typical example of a framework directive, does not prescribe any explicit objectives, strategies or types of measures by which these objectives must be pursued. It grants the Member States a large measure of policy discretion. This might entail that policy ambitions and ways in which responsibilities have internally been allocated will differ greatly across the Union. From a transboundary perspective, this can be problematic within river basins, as this might put the coordination objectives of the FD and even the solidarity principle – which is at the very heart of the directive[82] – under pressure.[83]

In other words, as the responsibilities for the Member States as individual addressees of the FD – although generally formulated – are clear, the effectiveness of their measures and the effectiveness of the FD as such is also dependent on the efforts other Member States put into flood risk management. This is a well documented phenomenon in EU water law.[84] Problems such as these can be obviated by increasing transboundary cooperation and coordination of policy objectives between Member States within a river basin, or at least between neighbouring Member States. However, ultimately the effectiveness depends on the political willingness of the Member States to cooperate.[85]

In addition to this, the question can be raised whether and to what extent the Water Framework Directive (WFD) – as the overarching legal framework for EU water law – provides appropriate instruments for adaptation to climate change. It should first be mentioned that the WFD is not primarily important for flood risk management, although it is for other climate related issues of water quantity management, for instance regarding drought and water scarcity. In fact, the EU strategy on drought and water scarcity is mainly to be implemented by means of the instruments provided for in Article 9 WFD (cost recovery).[86]

Unlike in the FD, no explicit adaptation provisions have been included in the WFD, most likely because adaptation during the legislative procedure of the directive was not a (political) issue as important as it became in the course of the first decade of the 21st century.[87]

The wording of the WFD, however, leaves much room for interpretation, and its programmatic approach at first glance seems to be promising for the implementation and integration of the adaptation approach in EU and domestic water policy.[88] As long as the effectiveness of the programmatic approach and the enforceability of the WFD remains questionable,[89] this integration is not very likely to succeed. To improve the current situation, in the literature amendments of the WFD (especially Articles 4 and 9) have been suggested, and moreover the need for more clarity about the exact status of the directive's objectives has explicitly been underscored.[90]

4.2 The integration of the adaptation approach in the Dutch Water Act

The entry into force of the Dutch Water Act (WA) in 2009 introduced a new era of integrated water management, as nine former acts concerning sectoral aspects of water management, including the Flood Defence Act, were integrated into one piece of legislation.[91] The main objective of the WA is to prevent and, where necessary, limit flooding, swamping and water shortage, while simultaneously protecting and improving the chemical and ecological status of water systems, and allowing water systems to fulfil societal functions.[92] Concerning fluvial flood risks, for dike rings concrete safety standards have been set in Annex II of the WA.[93] Also for secondary flood defence structures safety standards have been set by Order in Council or Provincial Order.[94] Finally, for water nuisance (average annual overtopping probability) standards have been set by Provincial Order.[95] For pluvial floods (rainwater run-off) no legal standards apply.[96]

81 ibid art 3(2)(a).

82 See FD Consideration 15 of the preamble.

83 See Keessen and Van Rijswick (n 45); Keessen and others (n 45); and Uitenboogaart and others (n 45).

84 See H F M W van Rijswick, H K Gilissen and J H H van Kempen 'The need for international and regional transboundary cooperation in European river basin management as a result of new approaches in EC water law' (2010) 11(1) *ERA Forum* 129–57.

85 See J J H van Kempen *Europees waterbeheer: eerlijk zullen we alles delen?* (diss. Utrecht Boom Juridische Uitgevers Den Haag 2012); Van Rijswick, Gilissen and Van Kempen (n 84); and H K Gilissen *Internationale en regionaal-grensoverschrijdende samenwerking in het waterbeheer* (Sdu Uitgevers Den Haag 2009).

86 In a broader context, see P E Lindhout 'Cost recovery as a policy instrument to achieve sustainable and equitable water use in Europe and the Netherlands' (diss. Utrecht University Utrecht 2015). See also COM(2007) 414; COM(2008) 875; COM(2010) 228; COM(2011) 133; and COM(2012) 673.

87 Early European climate policy strongly focused on mitigation (see for instance the 6th Environmental Action Programme). The adaptation approach only emerged within EU environmental and climate policy after 2005 (see COM(2005) 35 and section 3 above). See McEvoy, Lonsdale and Matczak (n 6) 3.

88 See Keessen and Van Rijswick (n 45).

89 See Lindhout (n 86). See also Case C–525/12 *Commission v Germany* (ECJ 11 September 2014) and P E Lindhout, H F M W van Rijswick 'The effectiveness of the principle of recovery of the costs of water services jeopardized by the European Court of Justice' (2015) 12 *Journal of European Environmental & Planning Law* 78–92.

90 See Van Rijswick and Havekes (n 31) 356–62; J J H van Kempen 'Countering the obscurity of obligations in European Environmental law: an analysis of art 4 of the European Water Framework Directive' (2012) 24(3) *Journal of Environmental Law* 477–97; Gilissen *Adaptatie aan klimaatverandering in het Nederlandse waterbeheer* (n 8) 87–93, 445–48; and (integrally) Lindhout (n 86).

91 There is no room for an in-depth discussion of the WA and the Dutch system of integral water management here. See further H J M Havekes, P J de Putter (eds) *Wegwijzer Waterwet 2014: Een praktische handleiding* (Kluwer Deventer 2013); Van Rijswick and Havekes (n 31); Groothuijse (n 31). An English translation of the WA is available at http://www.helpdeskwater.nl/algemene-onderdelen/serviceblok/english/legislation/@29167/dutch-water-act/.

92 See WA art 2.1(1). The WA is based on art 21 of the Dutch Constitution: 'It shall be the concern of the authorities to keep the country habitable and to protect and improve the environment'.

93 See WA art 2.2(1).

94 ibid art 2.4.

95 ibid art 2.8.

96 This, however, does not mean there is no government responsibility to prevent or limit these types of floods, although these responsibilities are not discussed in further detail here. See WA art 3.5 and EMA (Environmental Management Act) Title 10.5.

The standards mentioned above give shape to the legal duties of care of the water management authorities, which have been assigned responsibilities on the basis of Chapter 3 of the WA.[97] This will remain the same after the standards have been amended, most likely by 2017.[98] Based on the regional needs and circumstances, the water management authorities must further interpret and elaborate these duties, referred to as their management tasks, in their management plans (plans of measures).[99] By doing so, they must take into account strategic policies and objectives which, in the light of the statutory objectives and standards mentioned above, have been set in strategic water plans, both at the national and at the provincial levels.[100] They are also responsible for executing the measures as laid down in their management plans. All plans mentioned have to be revised and updated at least once every six years.[101]

Thus, a cyclical systematic approach and, as far as flood risk issues are concerned, legal safety standards characterise the Dutch system of integral water management, as does the particular way in which it has been organised institutionally.[102] The adaptation approach has mainly been embedded within this legal system by means of the Delta Act on Water Safety and Fresh Water Supply, which entered into force in 2012 as an integral part of the Water Act.[103] In addition, for legal provisions about the Delta Programme,[104] this new legislation provides for the obligation that the national water plan, from 2015 onwards, must contain a vision on the desired developments concerning flood risk management (and fresh water supply), taking into account the expectations about the adverse effects of climate change and covering a period of at least 40 years.[105]

In other words, long-term adaptation strategies and objectives have to be integrated within the national strategic water policy, and must be revised and updated every six years according to the latest insights and experiences. In conjunction with this vision, the Delta Programme must indicate annually which concrete measures and provisions of national interest are to be implemented over the next period of six years to prevent or limit floods.[106] It shall also contain an indicative overview of strategies and measures preferably to be implemented during the following period of 12 years.[107] Thus, the Delta Programme constantly provides an input for long-term national adaptation policy based on newly generated insights[108] and, moreover, is at the basis of developing more concrete and short-term adaptation projects and plans or programmes of measures.

The legal adaptation provisions in the WA are mainly directed towards the central government. This does not mean that regional planning authorities (provincial executives) and regional water management authorities do not have to take into account the effects of climate change within their strategic and executional planning, as – based on the principle of due care – there is a general obligation to investigate and take into account all relevant facts and circumstances.[109] Their representative organisations, moreover, take part in the establishment of many kinds of administrative agreements concerning adaptation to climate change, such as the National Administrative Agreement on Water Issues. These representatives also have a say in the establishment of strategic policy at the central level[110] and play an important role within the ongoing process of annually establishing and implementing the Delta Programme.[111]

Finally, decentralised authorities play an essential role in concrete project development and execution within the framework of nationally established and directed plans and programmes of measures, such as the programme 'Room for the River', the 'Weak Links' project, and the 'Flood Protection Programme'. As a matter of course, they will also play such a role in the organisation and execution of future adaptation and flood risk management projects, plans and programmes.[112] To implement these further in daily practice, the concrete instruments at their disposal – mainly enshrined in Chapters 5 and 6 of the Water Act – are generally deemed to be sufficient in the literature.[113]

In this context it could be argued that the adaptation approach has appropriately been embedded within the (traditional) legal system of flood risk management, as the characteristics of this system provide ample opportunities for the specific features of climate change to be taken into account in a structured and future-oriented way. The strong focus on safety standards – which was reconfirmed in the latest Delta Programme – makes clear that flood *defence* is the dominant strategy in Dutch flood risk management. There are no obvious indications that this will change considerably in the (near) future, although there is a slight and tentative shift towards other strategies, namely flood mitigation, preparedness and crisis management.[114]

The Dutch adaptation approach, in other words, is a conservative one: it aims at maintaining possibilities for safe

97 See WA arts 3.1, 3.2.
98 See section 3 of this article.
99 See WA art 4.6.
100 ibid art 4.1, 4.4.
101 ibid art 4.8(1).
102 See H J M Havekes *Functioneel decentraal waterbestuur: borging, beschermings en beweging: De institutionele omwenteling van het waterschap in de afgelopen vijftig jaar* (diss. Utrecht Sdu Uitgevers Den Haag 2009).
103 See WA s 3.1A, art 4.1(2)(d), ch 4A and s 7.4A.
104 See section 3 of this article.
105 See WA art 4.1(2)(d). By doing so, the Netherlands will (most likely) comply with the requirements of the Floods Directive as discussed above.
106 See WA arts 4.9(2)(a), 4.9(5)(a).
107 See WA art 4.9(5) last sentence.
108 Scientific and applied studies on flood risk management can be part of the Delta Programme. These studies can be financed from the Delta Fund. See WA art 4.9(4) in conjunction with WA art 7.22a(2)(b).
109 See GALA (General Administrative Law Act) art 3:2. See Gilissen *Adaptatie aan klimaatverandering in het Nederlandse waterbeheer* (n 8) 135–37.
110 See WA art 4.3(1)(a).
111 ibid art 3.6d(1) WA in conjunction with arts 3.6b and 4.9(7).
112 Measures of national importance resulting from the Delta Programme will be financed from the Delta Fund. See WA art 7.22a(2)(a).
113 See H F M W van Rijswick 'Klimaatverandering en water; biedt het voorontwerp Waterwet voldoende instrumenten voor adaptief beheer?' in S T Ramnewash-Oemrawsingh, T P de Kramer (eds) *Klimaatverandering en rechtsontwikkeling anno 2005: Preadvies VMR 2006-4* (Boom Juridische Uitgevers Den Haag 2006) 267–82 and – more recent, but like-minded – Gilissen *Adaptatie aan klimaatverandering in het Nederlandse waterbeheer* (n 8) 152–62.
114 This is referred to as the policy concept of 'multi-layered safety'. See also section 3 of this article.

and undisturbed land use of any kind, now and in the future, even though climate change affects flood risks and many socio-economically important forms of land use take place below the sea level. Whereas the scope, division and allocation of responsibilities as to this legally embedded defence strategy are very clear, there is still uncertainty as to the other (emerging or possible[115]) strategies, mainly with regard to the scope and division of responsibilities. The reason for this is obvious, as these strategies do not (yet) have a sound and explicit legal basis. Fortunately, it is too early to consider this a lost cause, but regulation – at least to some degree – is a precondition for these strategies successfully to develop any further.

5 CONCLUSIONS

Conceptually evolving as an internationally ever more widely supported approach in combating the adverse effects of climate change during the last decade of the previous century, the adaptation approach started to extend its roots into the climate policy at lower institutional levels from the first years of the new millennium onwards. The first policy domain in which this approach started to develop and became fully integrated was the domain of flood risk management. An important step within this process was the adoption of explicit adaptation provisions in the legislation on flood risk management, both at the EU and at the Dutch national levels, facilitating further substantive development of the adaptation approach.

Whereas the EU Floods Directive is deliberately intended as framework legislation, the Member States have policy discretion to determine their own adaptation objectives, as well as to decide by means of which strategies and measures they will pursue these goals. The Netherlands has chosen a future-oriented flood defence strategy, aiming to achieve newly developed safety standards mainly by means of building/strengthening flood defence structures and creating or retaining more room for surface water.

As to their appropriateness in terms of this article, it can be argued that both systems – by adopting a systematic and cyclic approach and by explicitly addressing climate issues in relevant legal provisions – provide adequate legal frameworks to respond to changing climatic circumstances and scientific developments. Responsibilities, moreover, are allocated at an appropriate institutional level and, although programmatically and for every project they need elaboration in further detail along the lines of the chosen strategy, should not be considered unclear. In this respect, important lessons could be learnt regarding the integration of the adaptation approach in other policy domains and socio-economic sectors, such as drought/water scarcity, ecology/water quality, landscape planning, energy, infrastructure, ICT, nature/biodiversity and agriculture.

115 Other strategies to distinguish are *risk prevention* and *compensation*. The former strategy, in short, aims at allowing floods, but preventing them from causing any damage, for instance by adopting building or land use prohibitions for certain flood-prone areas. The latter strategy, in short, also allows floods to occur, and mainly focuses on compensating any damages. However, there are possibilities to impose land use prohibitions and there is a compensation system for disaster relief; these are not principal features of Dutch flood risk management.

PROMOTING SUSTAINABLE WATER MANAGEMENT IN AREA DEVELOPMENT: A REGULATORY APPROACH

DR ANOESKA BUIJZE
Utrecht Centre for Water, Oceans and Sustainability Law, Utrecht University[1]

Water management is an integral part of sustainable area/urban development, and this article examines the interplay between water law and governance in three cases in the Netherlands to determine what sort of written law can provide normative guidance during governance processes, whilst at the same time leaving ample room for innovation and allowing local actors to determine and implement the solution best suited to local circumstances. It is found that generic, abstract rules do not function well under all circumstances, whereas instrumental rules are not necessarily problematic and sometimes essential. In particular, rules are needed to allocate (financial) responsibility. However, the legal system must develop more refined ways to deal with uncertainty.

1 INTRODUCTION[2]

This article aims to investigate the interplay between legislation and governance processes in urban development projects, in particular with regard to water management. It will determine how legislation should be drafted to give sufficient normative guidance, whist leaving enough room for innovation, and to ensure that local actors can find and implement solutions that are suited to local circumstances. Currently, urban planners regard legislation as too restrictive, whereas lawyers frown upon unregulated governance, which infringes upon legal certainty and provides insufficient safeguards to protect environmental quality.

Dutch environmental law is subject to criticism from various corners. Characterised as a system that emphasises legal certainty over flexibility,[3] it is now felt to be too rigid to allow for new organic and private-sector-led methods of urban development.[4] It is seen as a hindrance for economic development, especially in times of economic crisis, where perhaps the balance between economic and environmental concerns should be struck differently.[5] Some even argue that it is too rigid to accommodate sustainable initiatives with clear benefits for environmental quality as well as economic gains.[6] This perceived rigidity is also a problem for the implementation of sustainable area development.

Sustainable area development is a loosely defined concept that has quickly gained popularity in the Netherlands. Key elements of the approach are the search for a balance between people, planet and profit, and synergies between as many separate values as possible. To achieve this, public authorities have to increase cooperation and look beyond sectorial boundaries. An example would be the inclusion of an attractive water body in a residential area that allows the water board to meet its goals for water retention capacity, whilst at the same time contributing to the province's ecological goals.

These problems are caused in part by the fact that many rules are sectorial instead of general and that they have been written for specific situations and problems, as well as by the level of detail and technicality they contain.[7] Some of these problems are regional in nature, but concerns about sustainability and law are relevant to all. Nor are these problems specific to Dutch law: they are merely the newest incarnation of an all too familiar dilemma about how to strike a balance between legal certainty and flexibility.[8]

This contribution starts by setting out some of the conditions for sustainable urban development and discussing the role of water management in sustainable development. It then proceeds to discuss the extent to which, on the one hand, governance approaches and, on the other hand, legislation are likely to help or hinder bringing about sustainable development. It will be shown that neither governance structures nor legislation suffice on their own, and a clever combination of the two is needed. Next, three case studies about the interplay of water law and governance will be presented to clarify how governance and legislation can complement each other in practice.[9] The final section presents the findings of the research

1 Anoeska Buijze is a postdoctoral researcher at the Utrecht University Centre for Water, Oceans and Sustainability Law. Comments on this article are welcomed at a.buijze@uu.nl.

2 This work is part of the CONTEXT project and was supported by the Netherlands Organisation for Scientific Research [438-11-006]. An earlier version of this article was presented at the 1st Annual International Water Law Symposium and Workshop in Xiamen, China (22 May 2014).

3 E Buitelaar, N Sorel 'Between the rule of law and the quest for control: legal certainty in the Dutch planning system' (2010) 27 *Land Use Policy* 983–89 at 985.

4 PBL, Urhahn Urban Design *Vormgeven aan de spontane stad. Belemmeringen en kansen voor organische stedelijke herontwikkeling* (2012) 15. *Memorandum to the Environmental Planning Act* (2013–2014) Kamerstukken II 33 962 nr 3 at 15.

5 M Lurks 'De economische crisis in het omgevingsrecht' (June 2009) 2 *Tijdschrift voor Omgevingsrecht* 49–50 at 49.

6 H C Borgers *Duurzaam handelen. Een onderzoek naar een normatieve grondslag van het milieurecht* (SDU Den Haag 2012), although he attributes this to the way law is applied rather than to how legislation is drafted.

7 *Memorandum to the Environmental Planning Act* (n 4) 15; F Davidson 'Planning for performance: requirements for sustainable development' (1996) 20(3) *Habitat Intl* 445–62 at 459; H F M W van Rijswick, W G M Salet 'Enabling the contextualization of legal rules in responsive strategies to climate change' (2012) *Ecology and Society* 1–8 at 4.

8 See eg J Raz 'Legal principles and the limits of law' (1972) 81(5) *Yale Law Journal* 823–54 at 841; Davidson (n 7) 454; C S Diver 'The optimal precision of administrative rules' (1983) 93 *Yale Law Journal* 65–109.

9 The case studies were conducted by the researchers of the CONTEXT programme and can be found in full at http://context.verdus.nl/pagina.asp?id=1413.

project and explains what sort of regulation is needed to allow local actors to create their own sustainable solutions to water management problems, and what successful governance processes look like.

2 THE TRANSITION TO SUSTAINABILITY

Sustainability requires us to meet the needs of the current generation without compromising future generations' ability to meet theirs.[10] This requires a careful balancing between economic, social and environmental interests so as at least to preserve the planet's capacity to foster life.[11] Water management is an essential aspect of any attempt at sustainable urban development. Maintaining a good chemical and ecological quality is important, both because drinking water is an essential resource and because many other ecosystem services depend on it.[12] In addition, climate change causes changes to the global water cycle, which must be taken into account in current development projects to allow them to prosper in the future, as well as today.[13] Water retention capacity for times of drought, and flood protection measures, must be future-proof.[14] This is true for the Netherlands, but also for large conglomerations in the rest of the world, which tend to concentrate around sources of fresh water and in coastal regions.[15]

The change towards a more sustainable society has been characterised as a *transition process*.[16] Achieving more sustainable urban development is part of this process. A transition process is a time of – often rapid – change. Sustainability will most likely be achieved through a series of innovations, many of which we cannot imagine yet. These changes cannot be imposed by government institutions, but rather come from society itself. Thus, traditional top-down steering philosophies with a strong role for legislation are not likely to contribute much to the process. Legislators lack the knowledge to predict the effects of legislation on the complex society in which they intervene. Thus, legislation is an ill-suited choice to reach policy objectives.[17]

Instead, we need flexible and adaptive decision-making, openness to participation by a wide range of actors, effective multi-level governance and social structures that promote learning and adaptability without limiting the options for future development.[18] That does not mean there is no role for government actors. They should facilitate the developments, stimulate other actors to participate and provide normative guidance.[19] Law can have a place here, but should not restrict the desired changes and developments.

3 GOVERNANCE OR LAW?

The conditions set out above suggest that transition processes could be facilitated by a governance approach. Governance allows for the involvement of a multitude of actors and, because of the lack of formal rules, these actors have the freedom and flexibility to meet unforeseen challenges and to embrace innovation.[20]

This is especially true with regard to water management. There is a shift in thinking about private responsibility: public authorities are starting to feel that private parties can and should contribute to water management.[21] Farmers should take some responsibility for ensuring access to water during dry spells, residents should take care not to diminish water drainage capacity and even flood safety is no longer an exclusive government responsibility.[22] In addition, knowledge and other resources are scattered, as are competences and responsibilities, which necessitates the involvement of a large number of actors.[23]

Governance might be a good way to promote sustainable area development and to deal with water management aspects involved in the process: it provides room for private initiative, and it offers the flexibility required to deal with changes in the water cycle, which cannot always be foreseen.

However, a heavy reliance on governance also has its disadvantages. Weak interests will tend to be underrepresented and long-term effects may be discounted.[24] This is particularly problematic with regard to creating sustainable solutions. Local authorities may engage in a race to the bottom to attract investment and jobs, a classical argument as to why environmental protection should be ensured at a higher level.[25] More generally, the behaviour of authorities can become less predictable, resulting in arbitrariness and differences in treatment of individuals.[26] In addition, the outcome of governance processes is uncertain, with detrimental effects for legal certainty as well as the investment climate.[27]

10 World Commission on Environment and Development (the Brundtland Commission) *Our Common Future* (Oxford University Press Oxford 1987).

11 T Kuhlman, J. Farrington 'What is sustainability?' (2010) 2 *Sustainability* 3436–48 at 3438–39.

12 B D Richter, R Mathews, D L Harrison and R Wigington 'Ecologically sustainable water management: managing river flows for ecological integrity' (2003) 13(1) *Ecological Applications* 206–24.

13 H K Gilissen *Adaptatie aan klimaatverandering in het Nederlandse waterbeheer. Verantwoordelijkheden en aansprakelijkheid* (Kluwer Deventer 2013).

14 ibid.

15 L Creel *Ripple Effects: Population and Coastal Regions* (Population Reference Bureau Washington DC 2003) 1.

16 J Cramer 'De bijdrage van milieurecht aan duurzame ontwikkeling' in N Teesing (ed) *De toekomst van het milieurecht: eenvoudig beter?* (BJu The Hague 2012) 23; *Memorandum to the Environmental Planning Act* (n 4) 13.

17 F A Hayek *Law, Legislation and Liberty: A New Statement of the Liberal Principles of Justice and Political Economy Vol 1 Rules and Order* (Routledge and Kegan Paul London 1973) and *Vol 2 The Mirage of Social Justice* (Routledge and Kegan Paul London 1976).

18 J Ebbeson 'The rule of law in governance of complex socio-ecological changes' (2010) 20 *Global Environmental Change* 414–22 at 414.

19 Cramer (n 16) 23–25.

20 Van Rijswick and Salet (n 7) 1.

21 Gilissen (n 13) 128.

22 OECD *Water Governance in the Netherlands. Fit for the Future?* (OECD Publishing OECD Studies on Water 2014) 109 at 129 http://dx.doi.org/10.1787/9789264102637-en.

23 OECD (n 22) 90; Gilissen (n 13) 129.

24 Y Rydin, M Pennington 'Public participation and local environmental planning: the collective action problem and the potential of social capital' (2000) 5(2) *Local Environment* 153–69 at 158–59.

25 A Hoppe, H Voelzkow 'Raumordnungs- und Regionalpolitik: Rahmenbedingungen, Entwicklungen, Perspektiven' in T Ellwein, E Holtman (eds) *50 Jahre Bundesrepublik Deutschland. Rahmenbedingungen—Entwicklungen—Perspektiven* (Westdeutscher Verlag Opladen Germany 1999) 279–96.

26 Raz (n 8); R Dworkin *Law's Empire* (Harvard University Press Cambridge Mass 1986).

27 Buitelaar and Sorel (n 3) 988; G Majone 'Credibility and commitment' in G Kochendörfer-Lucius, B Pleskovic (eds) *Investment Climate, Growth and Poverty* (World Bank Washington 2005) 105–14 at 105.

Legislation has its own pitfalls, however. Ideally, legal rules are generic and abstract, and can be applied to a large variety of situations. They do not need to be changed very often, because they represent values that are enshrined in society, which are fairly durable themselves.[28] In practice, these ideal rules are rarely found. Legislators enact rules as a reaction to perceived social problems, and the rules often offer a solution for exactly that problem only.[29] When in practice they fall short, because the legislator did not understand the full extent of the problem, or because inevitably new problems turn up, the legislator responds by creating still more rules. In environmental law, this has led to a large collection of detailed, instrumental and often sectorial rules, which are subject to change whenever societal change or new technologies mean they become obsolete, or at least less useful. During a period of transition, legislation will become outdated quickly and the legislative process can be slow and cumbersome, so that new developments are difficult to manage. This is often construed as a problem. The rules allegedly restrict flexibility, hinder innovative solutions and are difficult to work with.

On the other hand, legislation cannot simply be omitted. It offers an opportunity to correct the weaknesses inherent in unregulated governance processes, protecting weak interests and parties by giving them access to decision-making procedures and legal courts.[30] It gives normative guidance to local actors, and it provides actors with legal certainty, an asset that cannot be missed.[31] In the UK, where public authorities have a wider margin of discretion when making planning decisions,[32] the lack of legal certainty is perceived as the main problem that needs to be addressed with the applicable legislation.[33]

4 GOVERNANCE AND LAW

Thus, some authors argue that legislation and governance should be combined and that they can complement each other.[34] They acknowledge the self-regulating potential of society, and argue that it is important that legislation builds upon existing values and unwritten norms, so that it can rely on informal mechanisms of enforcement.[35] Regulation, in their opinion, can give normative guidance by making those values explicit, but should leave sufficient room for actors to take local and current circumstances into account. They assume that generic, abstract and durable rules are best suited to provide this normative guidance.[36] Detailed, location-specific rules should be avoided, because they restrict local decision-making too much.[37] Hence, they agree that the current state of environmental law, scattered and detailed as it is, is likely to be a hindrance to sustainable development.[38]

But is this true? We assume in this contribution that 'good' legislation promotes sustainable solutions, whilst not restricting the room available to local authorities to come up with solutions that are well suited to local circumstances, or which are innovative but unforeseen by a central legislator. However, empirical data about the interaction between governance and law are lacking.[39] Thus, it is hard to say something about the sorts of legal norms that meet these criteria beyond what legal theorists have dreamt up. Although the assumption that general rules offer a great deal of room to local actors to come up with innovative ideas is intuitively appealing, we do not know whether it is true.

The remainder of this article presents three case studies where various actors have tried to come up with sustainable solutions to water management problems within the boundaries set by environmental law. In the Haarlemmermeer case, actors tried to include extra water retention capacity in addition to what was legally required to deal with climate change, but failed to implement the sustainable solution they had designed. In the Utrecht station area, the municipality introduced an innovate technique for decontaminating groundwater, which was non-existent when the relevant legislation was enacted. In the Markermeer-IJmeer case, actors came up with an innovative solution to improve the ecological quality of a large body of water.

5 WATER RETENTION CAPACITY: HAARLEMMERMEER[40]

The Haarlemmermeer is a polder in the province of North Holland, not far from Amsterdam. The north-east of the municipality houses the main Dutch airport, Schiphol. The municipality contains several towns but, until recently, the polder was mainly used for agriculture. Water management in the polder is tailored to this use. The water system in Haarlemmermeer is not self-sufficient. The polder relies on water from outside to ensure a sufficiently high water level during summer, whereas in the winter water is pumped out of the polder. The current system is not future proof: there are threats of water shortages and salinisation.

The Haarlemmermeer is also the location of choice for the development of new housing to resolve the shortage in the Amsterdam metropolitan area. The development project takes an integrated approach: it aims to create new housing, improve the water management in the Haarlemmermeer polder, address the shortage of recreational space in the municipality and resolve mobility issues. This programme is ambitious: the space needed for the realisation of all the plans exceeds the available hectares, so a combination of functions is necessary. The polder's proximity to the airport means the number of

28 L L Fuller *The Morality of Law* (Yale University Press New Haven Connecticut USA 1964).
29 Van Rijswick and Salet (n 7) 2–3.
30 Ebbeson (n 18) 416.
31 ibid 417.
32 Buitelaar and Sorel (n 3) 984.
33 UK Government *Enterprise Zone Prospectus* (Department of Communities and Local Government London 2011) 10.
34 Van Rijswick and Salet (n 7); Ebbeson (n 18).
35 A Buijze, W Salet and M van Rijswick 'How central interventions enable contextualized practices of sustainable development' (forthcoming).
36 Van Rijswick and Salet (n 7) 4; Buitelaar and Sorel (n 3) 988.
37 Buitelaar and Sorel (n 3) 988.
38 Van Rijswick and Salet (n 7) 3.
39 Indeed, the CONTEXT research project was launched to test the hypotheses that van Rijswick and Salet (n 7) put forward.
40 The case description is based on S Dembski *Case Study Amsterdam Buiksloterham, the Netherlands: The Challenge of Planning Organic Transformation* (CONTEXT Report 2 AISSR programme group Urban Planning Amsterdam 2013).

applicable rules increases even further, because the legislation relating to Schiphol has to be taken into account and noise exposure rules become harder to comply with. Thus, the potential for clashes between sectorial rules is clearly present.

However, although the applicable rules did limit what was possible within the area, this was not perceived as problematic: 'Though limiting development options, the necessity of the [norm] is widely accepted. It also provides certainty to both developers and the airport'.[41] For example, rules that aim to reduce the goose population in the vicinity of the airport to prevent collisions with planes are widely supported, even though they make it more difficult to realise water retention capacity. Nevertheless, the project did eventually fall through when the national government decided to realise a 380 kV overhead power line in the plan area, making it impossible to realise a high quality development that also had a solid business case.

The project included two specific measures related to water management: a detention pond of 1 million cubic meters to deal with peak loads and a 2 million cubic meter retention pond to make the Haarlemmermeer water system self-sufficient, which would remove the need to pump water in and out of the polder. The realisation of the ponds was complicated slightly by the regulations pertaining to Schiphol: because bird collisions are a risk to aviation safety, large water bodies in the vicinity of the airport are discouraged. The danger they pose to aircraft must be taken into account when deciding to create new water bodies. However, this problem was easily resolved by electing to broaden existing ditches instead of creating one large body of water. What was more important was the allocation of responsibilities. For the detention pond, matters were clear: its realisation was a core task of the water board based on the National Policy Accord on Water and the Water Act.[42] Although it was included in the integrated plans for the area, it was clear who was responsible for its realisation and its financing was independent of the rest of the project. Sadly, the realisation of the retention pond was not nearly as easy, and indeed fell through with the rest of the project when the decision on the power line was made. The retention pond was a clear example of a sustainability measure: it was aimed at ensuring sustainable water management in the Haarlemmermeer in the face of climate change and impending water shortages. There were no legal barriers to its realisation, but neither was there a clearly allocated legal responsibility to do so.

Although there is an obligation to take climate change into account in water management, which can be derived from the principle of carefulness, this obligation is very general and undefined: the principle in general requires that administrative authorities collect all necessary information concerning relevant facts and interests before they take a decision.[43] The development of a robust and climate proof water system is a 'new development', and as such it is excluded from the duties of water boards.[44] Instead, its creation was a 'shared ambition'. It was also unclear who should fund it. Indeed, the retention pond competed for funding with other projects, such as the realisation of more green space in the municipality. Its realisation became part of a negotiated package deal, and its integration into the overall project resulted in its not being realised when the rest of the project fell through. Dembski concludes that:

> The failure of the Westflank[45] was not a regulation but a governance problem. The regulation barriers crucial for the Westflank were either respected from the very beginning or, where considered necessary and politically feasible, negotiated and adapted. All this time, the Westflank project continued without successfully addressing some of the crucial questions. There was no shared sense of urgency and no clear problem ownership. Additionally, there seemed to be plenty of political no-go areas and hidden agendas that were not revealed. As a consequence, it proved difficult to discuss the agreed project objectives and develop real alternatives. *The results of a soft governance process became hard and inflexible.*[46]

The case study shows that an integrated approach is not necessarily more flexible: it does increase the range of possible outcomes, but it makes it more difficult to adapt the integrated plan – the result of extensive negotiations and balancing of interests – when unexpected developments occur, in this case the power line. The isolated detention pond, on the other hand, was realised independently of the project.

6 GROUNDWATER: UTRECHT STATION AREA[47]

Utrecht is the fourth largest city in the Netherlands. Currently, part of the inner city is being renewed: the station, the neighbouring shopping centre and the Trade Fair are being renewed, and new facilities, housing and offices will be added. The project is realised in close cooperation with the private parties that own the real estate in the area. The presence of contaminated groundwater is one of the complications the project faces. This issue is dealt with in the Soil Protection Act.[48] The goal of this Act is to prevent new contamination and to ensure the so-called functional decontamination of existing pollution. This means that if existing contamination poses a danger to the environment or to human health, decontamination is required to the extent this is necessary for the intended use of the land. Not all existing contaminations need to be cleaned, but moving them is prohibited.

Because construction activities can affect existing contamination, their likely consequences must be examined up front. In serious cases, decontamination may be necessary to make construction possible. New cases of contamination are subject to a different regime: Article 13 of the Soil Protection Act imposes a duty of care to do everything that can be reasonably required to prevent new cases of contamination or, if that proves impossible, to clean them up immediately.

41 ibid 41.

42 Nationaal Bestuursakkoord Water 2003 www.helpdeskwater.nl/publish/pages/473/nationaal_bestuursakkoord_water.pdf.

43 Gilissen (n 13) 449 para 4.4, where he argues that the legislator should clarify this obligation.

44 Water Authorities Act Stb 1999 331 art 1.

45 The Westflank is part of the municipality of Haarlemmermeer, and the area where the new developments would take place.

46 Dembski (n 40) 54 (emphasis in original).

47 The case description is based on A Buijze *Case Study Utrecht Station Area, the Netherlands: How PPPs Restructured a Station, a Shopping Mall and the Law* (CONTEXT Report 4 AISSR programme group Urban Planning Amsterdam 2013).

48 Wet Bodembescherming Stb 1996 496.

Many of the rules in the Soil Protection Act are of the kind that one would expect to cause problems. The legislation is sectorial, and prescribes – in great detail – how the objectives of the Act are to be realised. It assumes that individual cases of contamination can be delineated, and prescribes expensive investigation duties. When its main approach – identifying and decontaminating individual cases of pollution – is not feasible, it outlines exceptions to the main rule. These exceptions are written for specific circumstances, although the actual text of the Act abstracts from them. Article 42, for example, introduces the cluster approach, where a cluster of cases can be decontaminated simultaneously. Although it is left to the local authorities to determine whether a cluster approach is justified, applying it still requires the identification of individual cases.

For various reasons, the standard approach envisioned in the Soil Protection Act was not feasible in the station area. The contamination existed for a large part of volatile organic chlorine compounds (VOCls). This kind of contamination spreads easily, and so any construction activity is likely to have adverse consequences that require decontamination or at least counter-measures to prevent the pollution from spreading. It also makes it impossible to discern individual cases of pollution where the contamination has dispersed and become mingled. This leads to problems in the application of the Soil Protection Act, because it is no longer possible to delineate a case of pollution that needs to be cleansed, nor is it possible to identify the party responsible for cleaning it.

In addition, the research and cleaning costs were prohibitive, meaning that certain developments could not proceed. If there is no development, there is no legal obligation to decontaminate, so this is a lose-lose situation: the projects cannot continue but neither is the soil cleaned up. One project that was especially problematic was the inclusion of geothermal heat pumps in the station area. These pumps rely on pumping groundwater to heat buildings in winter and cool them in summer. They would contribute to the CO_2 emission reduction goals set for the station area, but they would also spread contaminated groundwater.

The municipality devised a new, area-oriented technique for decontaminating the area as a whole: the bio-washing machine. This was an area-oriented approach that relied on the natural degradation of VOCls. This process was expedited by pumping the water around and adding bacteria. The municipality expects this will result in a marked improvement in soil quality in 30 years' time. The solution was likely better to contribute to the realisation of the objectives of the Soil Protection Act than its classic application would: after all, that would result in no development and no decontamination. It was also considerably cheaper, and allowed for geothermal heat pumps in the area. These pumps would contribute to the CO_2 emission reduction goals for the areas, and would be impossible to realise without the bio-washing machine because they relied on pumping around contaminated water.

This solution was supported by all layers of government, as well as the main private parties who owned property in the area. However, it was not in line with the Soil Protection Act, at least not with how it was interpreted and applied in practice. However, the Act contains ample provisions that award discretionary room to local authorities. The municipality made optimal use of its discretionary room, with the support of the state attorney, and calculated a way of fitting the bio-washing machine into the framework of the Soil Protection Act.

In order to justify the area approach, the municipality relied on the cluster approach in the Soil Protection Act. Although when interpreted strictly this can only be applied to a cluster of individually discernable cases of pollution, the provision explicitly gives discretionary room to the municipality to determine whether a cluster of cases exists. Thus, it was essentially up to the municipality to justify why it felt that it would be appropriate to use a cluster approach, and that is exactly what the municipality did. The clear benefits of the bio-washing machine provided the municipality with a host of arguments. Although there was a slight risk of the Council of State (the highest administrative court in the Netherlands) eventually rejecting this approach, the municipality felt it had made the right decision, and one that was within the boundaries set by the law.

The reinfiltration of contaminated groundwater is classified as new pollution and is subject to the regime of Article 13 of the Soil Protection Act. Thus, the municipality is under a duty of care regarding everything that can be reasonably asked of it to prevent reinfiltration or, if that is impossible, at least to clean up the new contamination. The municipality argued that it had met its duty of care to prevent new contamination from occurring because its overall plan would contribute to better soil quality. The geothermal heat pumps were an essential part of that, because pumping around the water expedited the degradation of the VOCls. Thus, the reinfiltration of contaminated water was justifiable.

Despite the support of the private parties, the municipality bore the majority of the costs for the project. This is perhaps unfair, because the private parties would profit financially from the bio-washing machine. However, the municipality has no legal instruments to enforce contributions, so it relied entirely on negotiation and voluntary contributions.

This case shows that even detailed, sectorial legislation offers room for flexibility and innovation, provided the chosen solution is widely supported and public authorities are willing to expend effort to show that their solution is justifiable. Although the regime for new pollution seems more lenient in the sense that the applicable provision is less specific and detailed and thus should offer more room for flexibility, it did not prove much easier to apply in practice. Policy rules and court rulings had established some appropriate ways to deal with the duty of care to prevent new contamination, and deviating from that practice required as much justification and research as a novel interpretation of more detailed provisions in the Act.[49]

49 For an impression of how the municipality struggled with the correct application of general norms see R P M Fennis *Gebiedsgerichte aanpak van grondwaterverontreiniging – een onderzoek naar de gebiedsgerichte aanpak van grondwaterverontreiniging binnen de in Nederland en Europa erkende milieurechtelijke beginselen* (Utrecht University Utrecht 2011) http://www.uu.nl/faculty/leg/NL/organisatie/departementen/departementrechtsgeleerdheid/organisatie/onderdelen/centrumvooromgevingsrechtenbeleid/publicaties/Documents/SBRscriptie%20Ren%C3%A9e%20Fennis_2c%20februari%202012.pdf.

The case of the bio-washing machine also shows the value of an inspiring vision: the plan helped to improve soil quality, made sustainable energy solutions for the station area possible and had clear economic benefits. It was not difficult to get actors on board, and it has now become something of an export product for the municipality: it is a success story that inspires cities all over the world.[50]

7 ECOLOGICAL QUALITY: MARKERMEER-IJMEER[51]

Markermeer-IJmeer is a lake in the centre of the Netherlands. It is a protected nature area and borders on Almere and Amsterdam. Housing is in short supply in the region, and there are plans to enlarge Almere by building 60,000 houses and to add a new district – IJburg II – to Amsterdam. To unlock these areas, existing infrastructure will have to be improved. These developments will have to deal with the presence of the protected nature conservation area and the applicable rules that aim to protect its integrity. This comprises both nature protection legislation and water law, more specifically the Nature Protection Act and the Water Law, both of which transpose European legislation – the Birds and Habitats Directives and the Water Framework Directive.

Based on the Nature Protection Act, developments can in principle only be allowed if there is no reasonable scientific doubt that they will not have a significant impact on the protected area. This rule can be abandoned if there is a pressing social need but, in that case, the negative impact must be mitigated. If mitigation is impossible – and only then – the negative impact may be compensated. The Water Framework Directive requires Member States to set water quality standards that must be realised by 2015, although extensions are possible.[52]

Compliance with this legislation is made more difficult by the existence of a so-called autonomous negative trend in the lake. This means that, if no action is taken, the quality of the water and the ecosystem will degrade over time. The applicable legislation does not seem to have considered the possibility of an autonomous negative trend: the Birds and Habitats Directives are based on the idea that habitats and species must be conserved. Protecting them from the negative impact of development is the means to this end. However, in the case of Markermeer-IJmeer, this is insufficient. The Water Framework Directive is more lenient towards heavily modified water bodies, which the Markermeer-IJmeer definitely qualifies as, and sets lower quality standards for such bodies. Even so, meeting this standard requires positive action.

Even in the absence of the autonomous negative trend, the consequences of the Nature Protection Act are severe. For each development, either the absence of a negative impact or the presence of a pressing social need must be shown. In the latter case, the damage to the protected area must be mitigated – preferably – or compensated. This requires large amounts of research and leads to uncertainty for each project about its feasibility.

A number of actors have formed a coalition to solve this problem. They have come up with the idea of a robust ecological system (*toekomstbestendig ecologisch systeem*, literally a future-proof ecological system). They intend to enable future developments near the lake by creating a 'reservoir' of compensation and outstanding ecological quality. Moreover, by strengthening the ecological quality of the lake, it will become more resistant to negative impacts from development. This solution differs from the standard approach in a number of ways. The objective of the applicable legislation is still realised; in fact, the overall ecological quality of the lake will improve. However, the idea that compensation should occur in the same area as the ecological losses was abandoned. In addition, the scale of the compensation is much larger than usual and compensating measures are no longer tied to one specific development. The new approach negates the need to undertake extensive research for each new development and is much cheaper than compensating for individual projects. In spite of the financial gains, financing the robust ecological system has proved complicated. When using the traditional approach, the costs for compensation can be tied to the project that caused them. With the robust ecological system, there are few guidelines to determine who should pay. It has proved difficult to resolve this in a rather informal governance process.

The robust ecological system has not yet been fully implemented, although some preliminary steps have been taken. Its urgency is not felt as strongly as it once was: the crisis has dampened the enthusiasm for the housing and infrastructure projects in the area. Whether this solution would hold up when challenged before the courts is uncertain: it is defensible, since it is a more effective way of realising the objectives of the EU directives, which generally leave the manner in which objectives are to be achieved to the Member States, but it is also a clear departure from Dutch practice under the Nature Protection Act. Only the courts can determine how it will turn out eventually. However, there is broad support for the measure.

Previous developments in the region faced strong opposition from environmental interest groups. However, many of these groups have embraced the robust ecological system.[53] We see that the discussion is now framed in a very different way: ecology is presented as an opportunity rather than as a barrier to development. The Nature Protection Act is not seen as a barrier to development; rather, the robust ecological system is presented as a tool to make development possible. This framing is important because, as Waterhout and others conclude, the success of innovative solutions depends on acceptance by stakeholders: the easiest way to ensure that decisions will not be annulled by the courts is to ensure that nobody will challenge them.

Support from stakeholders is important, but the success of contextualisation also depends on the willingness of the

50 See http://www.citychlor.eu/ and http://globalsoilweek.org/.

51 The case description is based on B Waterhout, W Zonneveld and E Louw *Case Study Markermeer-IJmeer, the Netherlands: Emerging Contextualization and Governance Complexity* (CONTEXT Report 5 AISSR programme group Urban Planning Amsterdam 2013).

52 See P De Smedt and H F M W van Rijswick 'Nature conservation and water management: one battle?' in C Born (ed) *20 Years of Habitats Directive* (Routledge-Earthscan London 2014) for more on the relation between the Birds and Habitats Directives and the Water Framework Directive.

53 One of them, Natuurmonumenten, has even contributed financially to its realisation.

eventual arbiter of legal norms to embrace it. Uncertainty about this is problematic, and may cause risk-aversion. In this particular case that did not happen, at least not enough to stall the project, perhaps because of its high potential gains. The local plan initiators did approach the European Commission directly for advice on how to make plans more ecologically and legally robust to gain more certainty. The Commission found the plans to conform to the spirit of EU legislation, but warned that the final decision on whether the plans were in compliance with the directives should be made by the Court of Justice.

The law in this case was a trigger for action: in combination with the autonomous negative trend in the area, it required a proactive approach. It does appear to give sufficient discretionary room for innovation, although this has not been tested before the courts. Waterhout and others stress the importance of the commitment of all relevant actors – the most important weakness they see in the process is the lack of involvement and commitment of the national and provincial governments – and of the existence of a feeling of urgency.

This case study shows the importance of good governance for the effective contextualisation of legal rules. The actual flexibility that rules afford will depend to a large extent on the way that various actors handle them. It also shows the effects of uncertainty about the interpretation that will be given to rules by courts, or rather, the uncertainty about the extent to which courts – as the final arbiters of the meaning of legislation – will accept the interpretation of other actors.

This emphasises the importance of durability. Durable written rules will in fact allow developments in practice, whilst the framework established to judge whether novel interpretations and applications of written rules are acceptable will gain clarity over time. The latter point can be illustrated by the evolution of soil protection legislation, where technological change is prevalent, and changes in legislation are relatively minor or unnecessary. Finally, the case suggests that a proactive approach makes it easier to handle stringent demands that flow from legislation. Environmental concerns are reframed: they are no longer a barrier to development; rather, the creation of a robust ecological zone creates an opportunity for development that would otherwise not be possible.

8 CONCLUSION: GOOD LEGISLATION

Law in application is more flexible than it appears on paper. Buitelaar and Sorel have already said as much specifically for planning law.[54] This is not necessarily a problem for the safeguarding function of legislation. A minimum level of protection is still ensured because if an innovative 'solution' is implemented at the cost of environmental objectives, interest groups can go to court. Both the Utrecht station area case and the Markermeer-IJmeer case show that authorities take great care to justify innovative decisions to limit court procedures and improve the chances the decision will hold up before a court. Hence, the easy access to courts in the Netherlands may be a mechanism that ensures that the safeguarding function is not lost if governance processes result in non-traditional solutions.

When we look at the factual interplay between law and governance, a couple of things stand out. First, the assumption that environmental law in its current form, with its detailed, instrumental and often sectorial rules, is a serious hindrance for governance processes reaching sustainable outcomes appears to be false. In those cases where no sustainable solution was implemented, the obstacles were mostly financial. The rules were not problematic.

In those cases where an innovative solution that was not foreseen by the central legislator was found by local actors, there were no insurmountable legal barriers to its implementation. That does not mean it was necessarily easy to comply with the rules. Deviating from standard solutions requires extensive justification and motivation, and public authorities need to do large amounts of research to prove that it is plausible that the innovations they want to implement do indeed lead to the desired outcome. This process is made easier if legislation has clearly defined goals. Functional decontamination, the goal of the Dutch Soil Protection Act, allows for meaningful debate about how to achieve it. Both legislation that has a goal that is too generic, and purely instrumental legislation that does not define the goals that it serves, make it harder to implement novel techniques and solutions.[55]

General rules are in practice much less workable than legal theory suggests. It takes a great deal of effort to apply such norms in local conditions. If they award true discretionary room, the administration has to justify and motivate its decisions. If not, they have to justify their judgment on how the norm applies in local circumstances. Either way, their evaluation is subject to judicial review, and the outcome of court cases is uncertain. Thus, even when there are general rules that theoretically allow for a variety of solutions to problems that local authorities encounter, standard approaches and rules of thumb tend to develop. Deviating from the standard again requires extensive justification and motivation.

Secondly, sustainability ambitions pay off. In many urban development projects, environmental rules are seen as an obstacle. They set a boundary within which the real project goals – profits – are to be realised and optimised. Abandoning this approach and adopting environmental quality and sustainability as additional project goals has some clear advantages. It helps to bring actors on board who would otherwise fight the project because of its detrimental effects on the environment. Instead, their time and expertise can be used to improve the project, which can help to create new ideas. Ambition, in other words, generates enthusiasm. This mechanism is clearly at work in the Markermeer-IJmeer case. In the station area, the positive approach of the bio-washing machine may be part of the explanation for the lack of legal procedures on this issue, whereas the rest of the project is heavily contested.[56]

54 Buitelaar and Sorel (n 3) 985.

55 This confirms the hypothesis put forward by van Rijswick and Salet (n 7).

56 This is in line with insights from planning theory, where inspiration – a shared vision between actors – is a rare thing, but very important in situations where government has to deal with a lot of other actors and does not have control over all resources. Davidson (n 7) 450.

Legislation should therefore be drafted in a way that stimulates actors to see sustainability as a goal, rather than a limitation on what would otherwise be possible. Norms that oblige actors to achieve something and that require positive action seem to stimulate the concept that environmental goals should be embraced: achieving functional decontamination or good ecological quality stimulates action, whereas a norm prohibiting a decline in environmental quality stimulates actors to see the environment as an obstacle.

An important risk factor when trying to implement sustainable urban development is money. In the Haarlemmermeer case the lack of financing was an important factor in the cancellation of the plans, or part of the plans. In the station area and Markermeer-IJmeer cases the plans combined environmental gains with financial gains. Nonetheless, financing them proved difficult. In the station case, the private parties stood to reap large benefits, whilst providing a minimal amount of funding. In the Markermeer-IJmeer case the project could only be launched after a charitable donation. Thus, although actors can be trusted to come up with sustainable plans, the legislator may help by allocating financial responsibility. Alternatively, subsidies could be used as a steering mechanism.

UKELA Annual Conference – Liverpool

'Water, water everywhere' – the big legal issues in energy, infrastructure, nature conservation, planning and regulation

Friday 3rd to Sunday 5th July 2015

Almost all areas of environmental law and practice are concerned with water in one way or another.

Fracking, habitat protection, infrastructure development and environmental permitting all raise important legal issues for the water environment.

This conference focuses on practical, cutting-edge knowledge and know-how on the wide range of environmental issues that relate to water, with expert speakers from the UK, European Commission and the USA.

Speakers will cover subjects ranging from port regeneration to flooding and habitats and from fracking to planning for water infrastructure.

CPD – 7.5 (for attending all sessions)

For more details and to book your place at the UKELA event of the year, please visit **www.ukela.org**

Follow @UKELA_LAW #ukela2015