## BOOK REVIEW

## Charting the Water Regulatory Future: Issues, Challenges and Directions Julien Chaisse (ed)

Edward Elgar Publishing, 2017, pp xxx + 411 ISBN 978-1-78536-671-0, hardback, £105

This title focuses on water and addresses a plethora of water issues from a variety of legal perspectives, including foreign investment, international trade and human rights. It has been compiled by a diverse group of academics polarised by both speciality and location. It has been composed for a mainly academic audience; however, the size, content and flow would make this an informative and enjoyable read for anyone who has an interest in this vitally important area. I would recommend this work and consider it a constructive addition to the field of an increasingly interdisciplinary subject.

Considering the extensive possibilities available to the editor, the book has been compiled so that it is both broad in range and deep in topic. This has been achieved by dividing the work into three sections. Part I focuses on public international law. Part II is concerned with various ethical, legal and human rights-related issues concerning water. Part III comprises a series of chapters discussing various economic drivers and determinants of a global market for water services, including privatisation and globalisation.

After the introductory chapter by the editor, the second chapter of Part I by Manzoor Ahmad starts by highlighting the increasing demand for water and the looming global water crisis, highlighting that water use is growing at twice the pace of population growth. This chapter focuses on the regulatory framework of water use, with a particular focus on the WTO. It analyses what is being done and the improvements that could be made by reducing water wastage. The chapter advocates that there needs to be greater transparency, for example, in the provision of water-related subsidies, including irrigation subsidies. The chapter also highlights that there are concerns about the commodification of water by institutions such as the WTO, a concept which will only grow with increased private ownership.

The third chapter by Rebecca Bates explores the nature of water services and application of the General Agreement on Trade in Services (GATS). This chapter argues that, given the essential role of water and sanitation, greater certainty must be provided to ensure the effective operation of trade laws, the validity of national legislation and the protection of water consumers. The next chapter, by Paolo Turrini, discusses the interesting and timely concept of 'virtual water', a term used to describe the amount of water needed to produce a crop. It elaborates on the current paradox that those who live in water-scarce locations often farm water intensive crops to sell in water-abundant countries. It further discusses the concepts behind different types of water usage.

Julien Chaisse, the editor of the work, authored the next chapter on water privatisation. This chapter provides the current international legal framework for foreign direct investment and its related regulatory governance. The chapter highlights the surprising fact that only 10 per cent of consumers receive their water from a private source; it then continues to describe one of the most popular forms of privatisation, known as concessions. The penultimate chapter of Part I is by Catherine Titi and concerns the state regulation of water. It deals with regulation and litigation and considers a number of cases, including Bolivia's infamous Cochabamba 'Water War' and how this conflict resulted in the end of that private concession. The final chapter by Virginie J M Tassin covers a variety of social, environmental and legal topics, including the human right to water, wastewater management issues, the law of the sea and the health of the oceans.

Part II is entitled 'Ethical, legal and social issues'. It commences with a chapter by Miharu Hirano and Shotaro Hamamoto. This chapter flows from the preceding chapter expanding the discussion on the human right to water and specifically its relationship with investment arbitration. Pakistan is considered in Chapter 9 by Sikander Ahmed Shah. The chapter develops further the running theme of the human right to water and uses Pakistan as a regionally specific example. Similarly, in the next chapter by Cosmas Emeziem a Nigerian perspective is provided. It is interestingly unique in a text such as this to have nationals of water-stressed countries describing their specific situations and providing detail which is often lacking in similar texts. There is then a return of focus towards the private sector in Preetha Mahadevan's chapter. This discusses a variety of different private structures and how they can provide water either as an independent corporation or in conjunction with their government. The author states that there are already 300 million customers to the three largest water providers and this global growth is expected to be exponential. The final chapter by Ana Paula de Barcellos is centred on a case study of Brazil. It also introduces the arguably final element of water provision, sanitation. The chapter highlights the need for both greater sanitation services and improvement in the governance of these services.

Part III provides various economic perspectives to the work. Sacchidananda Mukherjee and Debashis Chakraborty delve into the finance and maintenance of infrastructure essential for water provision. This is an often overlooked but important topic. Infrastructure demand is growing at an astonishing pace and, as the chapter discusses, if universal access to household water and sanitation is to be achieved, huge investment will be essential.

The second chapter of Part III has a focus on the public and heavily regulated system in Ireland. It describes water provision in Ireland as a natural monopoly, which as a term is debatable. What was once called a natural monopoly is now no longer so in other regions, particularly with non-household retail competition being introduced from 1 April 2017 in England. The chapter makes the presumption that a public monopolistic provision is the most efficient market structure, but without addressing the obvious successes of privatisation in England. Or alternatively, if the author deems privatisation to have been a failure, then on what grounds? The chapter includes many interesting tables comparing, for example, annual water costs and unit price costs. It would have been a good addition if the work had a comparison on the profit or loss of the companies, those publicly owned and those in private ownership and the amount of government borrowing from those publicly owned. Information such as this would have provided a different dimension to the amount of annual customer charge. The chapter is, however, admirably detailed in other areas, for example on the analysis of the RPI-X formula.

Multinational provision is scrutinised in Chapter 15 by Tihomir Ancev, Samad Azad and Francesc Hernandez-Sancho. They focus on multinational provision and highlight the United Kingdom and France as being the biggest players. Although this chapter has referred to the United Kingdom and France in one multi-national breath, France with the giants of Suez and Veolia cannot be compared with the water provision of UK companies, which is almost entirely focused on provision within its shores.

Efficiency is defined in the chapter as 'a comparison between observed and optimal values of a production firm's output and input' (page 326). However, this is a narrow economic view. Water must be considered holistically to encompass water quality, access and the sustainability of provision. Drinking water quality and river quality should also be considered. This would be an epic task and the chapter is concise with its economic focus.

The final chapter, by Jonatan A Lassa and Allen Yu-Hung Lai, is both interesting and informative. Microfinance is changing the way finance operates across the world and has the potential to have a very positive impact on water provision. Community centric solutions have great potential for water and sanitation and are a part of the solution to the puzzle of global water provision.

This book covers a broad range of water-related areas and offers an analysis of many areas of provision. What is clear, not only from this work but from the academic materials published, is that global water demand is growing rapidly and there is a clear need to improve water provision. This book is informative on a broad range of topics and I would highly recommend it to anyone with an interest in the area.

Michael James Bowes Eversheds Sutherland LLP