

Book Review

Transboundary Water Resources Management: A Multidisciplinary Approach

Jacques Ganoulis, Alice Aureli & Jean Fried (Eds)

Wiley-VCH, 2011. 382, pp., \$165.00

ISBN 3527330143

When he surveyed the American West in the latter part of the 1800s, John Wesley Powell famously recommended that irrigation systems and state frontiers be based on watershed contours lest the borders result in “a great deal of contention” among jurisdictions. No more prescient words have ever been spoken (U.S. House of Representatives, 1891, p. 254). Today, states and nations on every continent expend considerable energy disputing water-related boundaries, contesting their neighbours’ water uses and projects, and arguing over water rights. The result is a challenging system of transboundary water management that is politically charged and, all too often, results in mismanagement and waste rather than efficient and cooperative administration of shared water resources.

Accordingly, any book that seeks to offer guidance on enhancing and implementing proper and effective management schemes for transboundary waters is truly welcomed, but may be met with some reservations. It is welcomed because of the great need for new ideas and solutions for addressing the predicaments facing many riparians around the world, such as dwindling per capita water supplies and climate variability. Yet, it also is questioned, because of the considerable challenge such a book would face in speaking to the multitude of problems and unique circumstances that characterize each transboundary water relationship.

In October 2008, Jacques Ganoulis, Alice Aureli and Jean Fried helped organize the Fourth International Symposium on Transboundary Waters Management in Thessaloniki, Greece. The symposium was the fourth in a series that brought together water managers, policy makers, academics, consultants, and representatives of governmental and non-governmental institutions to share their experiences, technical advancements, knowledge and opinions on how best to manage the world’s varied transboundary freshwater resources. *Transboundary Water Resources Management: A Multidisciplinary Approach* is the most significant work-product of that event.

Using material and papers presented at the conference, the editors compiled a book on the importance of Transboundary Water Resources Management (TWRM), a term used throughout the book and which is capitalized to emphasize the importance and legitimacy of the subject matter. As repeatedly noted in the book, water resources are not confined by artificial, politically crafted boundaries. As a result, frontier waters create complex interactions between the various countries that depend on those resources. Using this reality as a backdrop, the authors of the various chapters examine a variety of aspects and problems related to TWRM from a multitude of disciplines with the goal of providing

0790-0627 Print/1360-0648 Online/12/040693-3

<http://dx.doi.org/10.1080/07900627.2012.713907>

guidance, methodologies and examples which support sharing transboundary water resources around the globe.

While much of the information contained in the book is not new, the fact that such a dense amount of information from varying fields has been compiled into one anthology makes it a unique and useful resource. Conversely, such a broad array of information presented in such a dense manner can also overwhelm the reader. Introductions to the different chapters tend occasionally to be repetitive in emphasizing the same points on transboundary water resources, such as that they span national boundaries, that water is a precious resource required by all, and that issues surrounding transboundary water resources are very complex. Also, because of the diverse nature of the topics, there are occasional inconsistencies between the various chapters. For example, the numbers of transboundary rivers and aquifers around the world and the identification of transboundary aquifer treaties do not match between some of the chapters. Nevertheless, despite these shortcomings, the book provides a multitude of revealing and valuable information as well as case examples that should be of interest to both academics and practitioners in the field of water management.

One of the defining and most interesting aspects of the book is that nearly every topic and section includes case studies from different geographical regions. This is helpful in bringing the studies to life and assisting the reader in understanding how the various methodologies were put into practice. Examples come from river basins and water bodies in the Middle East, South America, Africa, and Central and South Asia, among other areas. While the authors try to bring examples from all over the world, there is somewhat of an imbalance in the geographic representation of the case studies. Approximately half of the more than 30 case examples come from the Balkan Peninsula. In contrast, only one example is offered from Africa.

Information in the book is presented through a series of essays written by different authors. All the articles within the book are relatively short and to the point, which helps the reader in absorbing the material. By the same token, the fact that topics are addressed in a somewhat brief manner often leaves the reader feeling unfulfilled. Many of these concepts are extremely complex and cannot be sufficiently addressed in such a brief manner. Nevertheless, due to the density of the book and the large number of topics, treating each of the essays and case studies in this brief manner may have been the editors' most effective way of presenting all the material.

Using a "multidisciplinary approach", the book is divided according to the different disciplines that are used in analyzing the various transboundary water resources issues and opens with an introduction that lays out the structure of the book. The first major section of the book, "A Global View", is divided into two subsections. The first subsection (Chapter 2) describes the significance of transboundary water resources throughout the world and the urgent need for cooperation among countries to manage these critical resources. This chapter also briefly describes the different considerations (such as environmental, legal and socio-economic issues) that should be taken into account when managing shared freshwaters. The second subsection (Chapter 3) presents a number of important worldwide initiatives for managing transboundary water resources, focusing on management regimes and international instruments, especially in the European context, but also in unique circumstances like Antarctic sub-glacial lakes and rivers.

The second section of the book is titled "Physical, Environmental and Technical Approaches" and is composed of two subsections, with 10 papers and essays in each. The first subsection (Chapter 4) focuses on technical approaches for assessing transboundary aquifers and gives examples of karst aquifer resources as well as case studies from South

America, the Indus Basin and Central Europe, among others. The second subsection (Chapter 5) focuses on similar technical approaches for examining transboundary lakes and rivers and provides case examples primarily from the Balkans region.

Section 3 of the book focuses on “Legal, Socio-Economic and Institutional Approaches” and, like the previous sections, is divided into two subsections. The first subsection (Chapter 6) focuses on legal approaches to the management of transboundary water resources. The chapter provides examples from every continent but Africa to support the theory that agreements between countries can lead to collaboration and cooperation for the management of freshwater resources. The second subsection (Chapter 7) focuses on socio-economic and institutional approaches to Transboundary Water Resources Management. The chapter emphasizes the importance of stakeholder participation and partnerships between different countries and considers the use of various hypotheses of conflict resolution between stakeholders.

The final section of the book is titled “Bridging the Gaps”. This section, containing two articles, pulls information from the examples and discussion of the previous sections. The first essay focuses on how to utilize the relevant information provided throughout the book in order to build a program for capacity building and training for Transboundary Water Resources Management. The second essay builds on the same information to consider integration of a risk-based framework for conflict resolution on transboundary waters.

The extent of contention among riparian jurisdictions has likely surpassed even Powell’s discerning expectations. As regional and global populations and economies continue to expand, and as nations vie for every drop of freshwater in the face of climate variability and other circumstances, the need for effective management of transboundary water resources will only increase. *Transboundary Water Resources Management: A Multidisciplinary Approach* provides an important contribution to this critical issue through numerous analyses and examples. Throughout the very diverse discussion, the editors and authors emphasize the common theme of cooperation and collaboration and that potential transboundary water-related conflicts can be converted into collaborative actions to manage these precious resources.

Kavitha Pramod

Environmental attorney and researcher
kavithapramod1984@gmail.com

Gabriel Eckstein

Texas Wesleyan University School of Law; Director, International Water Law Project
geckstein@law.txwes.edu

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Reference

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