

Contents

Part I Global Water System: Current State and Future Perspectives

- 1 Balancing the Needs of All Services Provided by Global Water Resources 3**
Elizabeth Curmi, Keith Richards, Richard Fenner,
Grant M. Kopec and Bojana Bajželj
- 2 Performance Indicators in the Water Resources Management Sector 15**
Balázs M. Fekete and Eugene Z. Stakhiv
- 3 Virtual Water and Trade: A Critical Economic Review 27**
Erik Gawel
- 4 Data, Models and Uncertainties in the Global Water Cycle 45**
R. J. Harding, A. J. Dolman, D. Gerten, I. Haddeland,
C. Prudhomme and P. van Oevelen
- 5 Integrated Assessments of Water Scarcity: Knowns, Unknowns and Ways Forward 59**
Tabea K. Lissner, Caroline A. Sullivan, Dominik E. Reusser
and Jürgen P. Kropp
- 6 A Global Approach to Estimating the Benefit-Cost Ratio of Water Supply Measures in the Agricultural Sector 73**
A. K. Schürkmann, A. Biewald and S. Rolinski

Part II Dimensions of Change in River Basins and Regions

- 7 The Role of Institutions and Water Variability in Food Security in Uzbekistan: The Case of Rice Markets in the Khorezm Region 91**
Yadira Mori-Clement, Anik Bhaduri and Nodir Djanibekov

8	Dams on Shared Rivers: The Concept of Benefit Sharing.	105
	Waltina Scheumann, Ines Dombrowsky and Oliver Hensengerth	
9	Challenges and Solutions for Urban-Tourist Water Supply on Mediterranean Tourist Islands: The Case of Majorca, Spain	125
	Angela Hof, Macià Blázquez-Salom, Margalida Comas Colom and Alfredo Barón Périz	
10	Unconventional Water Resources of Agricultural Origin and Their Re-utilization Potential for Development of Desert Land Aquaculture in the Aral Sea Basin	143
	B. K. Karimov, M. Matthies and B. G. Kamilov	
11	A Historian's Perspective on Rivers of the Anthropocene.	161
	Philip V. Scarpino	
12	Transdisciplinarity, Human-Nature Entanglements, and Transboundary Water Systems in the Anthropocene.	173
	Jason M. Kelly	
13	Eastern European Perspective on the Environmental Aspects in Current Flood Risk Management: The Example of the Czech Republic	183
	Blanka Loučková	
14	Adaptive Irrigation Management in Drought Contexts: Institutional Robustness and Cooperation in the Riegos del Alto Aragon Project (Spain)	197
	Sergio Villamayor-Tomas	
 Part III Ecosystem Perspectives in Water Resources Management		
15	The Missing Piece in the Conservation Puzzle: Cohesion Among Environmental, Economic and Social Dimensions	215
	Francisco A. R. Barbosa, Paulina M. Maia-Barbosa, Diego G. F. Pujoni and Lorena T. Oporto	
16	Integrating Input-Output Modeling with Multi-criteria Analysis to Assess Options for Sustainable Economic Transformation: The Case of Uzbekistan	229
	Maksud Bekchanov, Anik Bhaduri, Manfred Lenzen and John P. A. Lamers	

17 Sustaining Freshwater Biodiversity in the Anthropocene 247
 Jaime Garcia-Moreno, Ian J. Harrison, D. Dudgeon,
 V. Clausnitzer, W. Darwall, T. Farrell, C. Savy,
 K. Tockner and N. Tubbs

**18 Water Governance and Management Systems and the Role
 of Ecosystem Services: Case Study Insights—Groundwater
 Management in the Sandveld Region, South Africa 271**
 Kathrin Knüppe and Claudia Pahl-Wostl

**19 Tackling the ‘How’ Question: Enabling and Enacting Practical
 Action for Managing the Wicked Problem of Nonpoint
 Source Pollution in Catchments 289**
 James J. Patterson, Jennifer Bellamy and Carl Smith

**20 Experiences with a Transdisciplinary Research Approach
 for Integrating Ecosystem Services into Water
 Management in Northwest China 303**
 Tuck Fatt Siew, Petra Döll and Hamid Yimit

Part IV Governing Water in the Anthropocene

**21 Multilevel Governance of Irrigation Systems and Adaptation
 to Climate Change in Kenya 323**
 Jampel Dell’Angelo, Paul F. McCord, Elizabeth Baldwin,
 Michael E. Cox, Drew Gower, Kelly Caylor and Tom P. Evans

**22 Transboundary Water Management in Federal Political
 Systems: A Story of Three Semi-arid Rivers 343**
 Dustin Garrick, Lucia De Stefano, Jamie Pittock and Daniel Connell

**23 Legal Plurality in Mekong Hydropower: Its Emergence
 and Policy Implications. 355**
 Diana Suhardiman and Mark Giordano

**24 International River Basin Organizations Lost
 in Translation? Transboundary River Basin Governance
 Between Science and Policy 369**
 Susanne Schmeier

**25 The Human Right to Water and Sanitation: Reflections
 on Making the System Effective 385**
 Pedi Obani and Joyeeta Gupta

26 Patterns of Water Law 401
Joseph W. Dellapenna

**27 The Notion of the Global Water Crisis and Urban
Water Realities. 415**
Antje Bruns and Fanny Frick

**28 The Need for a Value-Reflexive Governance
of Water in the Anthropocene. 427**
Simon Meisch



<http://www.springer.com/978-3-319-07547-1>

The Global Water System in the Anthropocene
Challenges for Science and Governance

Bhaduri, A.; Bogardi, J.; Leentvaar, J.; Marx, S. (Eds.)

2014, XVI, 437 p. 70 illus., 26 illus. in color., Hardcover

ISBN: 978-3-319-07547-1