

Contributors

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Albiac is a researcher at the Agrifood Research and Technology Center (CITA-DGA) in Zaragoza, Spain. He earned his Bachelor's degree in Economics at the University of Zaragoza, his Master's and his doctoral degree in Agricultural Economics at the University of Illinois. His research specializes in environmental and natural resource economics, environmental and agricultural policies, water management, water scarcity and droughts, irrigation, groundwater and ecosystems protection, nonpoint pollution and climate change.

George Anderson, New York University, US and Canada

Anderson was a career civil servant in the Canadian government, including duties as Deputy Minister of Intergovernmental Affairs and of Natural Resources. He is a past chief executive officer of the Forum of Federations. An Expert with the Mediation Support Unit of the United Nations in 2012–13, he was a resident fellow at the Center on Constitutional Transitions, New York University in 2013–14 and a past Fellow at Harvard's Center for International Affairs. Anderson was educated at Queen's and Oxford and École Nationale d'Administration in Paris. He is author of *Federalism: An Introduction*, *Fiscal Federalism: A Comparative Introduction*, and editor of *Oil and Gas in Federal Systems* and *Internal Markets and Multilevel Governance*.

Khalid Aziz, Pakistan

Aziz holds a Master's degree in Political Science from Peshawar University and has studied both at Oxford and Cambridge universities. From the latter he obtained an M.Phil in Development Studies in 1981. He joined the Civil Service of Pakistan in 1969 and remained a political agent and a district commissioner. He headed the economic development of NWFP and tribal areas for six years and later became Chief Secretary of NWFP in 1996. One of his outstanding contributions was as negotiator for his province in the distribution of Indus River waters in 1990.

Eugenio Barrios, WWF-Mexico, Mexico

Barrios is a graduate in chemical engineering at the University of Mexico, and earned his Master of Science in Environmental Engineering from the University of Illinois Urbana-Champaign. He has worked for the National Water Commission and the Institute of Engineering at the National University of Mexico, and as an international consultant for the World Bank, the World Meteorological Organization, the Mekong River Commission, and the Government of Panama. In the last 20 years, Barrios has shaped a solid experience in water resource protection projects. Since 2004, he has been Director of the Water Program in WWF-Mexico, and currently he is coordinating the implementation of the national environmental water reserves program in Mexico, and is a member of the Scientific and Technical Review Panel of the Ramsar Convention on Wetlands.

Benedito Braga, University of Sao Paulo, Brazil

Braga holds a Ph.D from Stanford University in water resources. He is President of the World Water Council and Professor of Civil and Environmental Engineering at the University of Sao Paulo. He has served on the Board of Directors of the Brazilian National Water Agency, ANA, from 2001-2009. He was President of the International Water Resources Association (1998-2000) and Vice-President of the World Water Council (2006-2012). Braga chaired the International Committee of the 6th World Water Forum held in Marseille in March 2012. His scientific interests are in the field of systems analysis modeling of hydrologic processes, integrated water resources management and water policy development. He is the author of more than 200 articles and 25 books and chapters of books on the subject of water management at international level. Braga is recipient of the 2002 Crystal Drop Award, given by the International Water Resources Association (IWRA). In 2009 he received the honorary membership from the American Water Resources Association and in 2011 he was awarded the Honorary Diplomat from the American Society of Civil Engineers due to his long and distinguished career in the field of water resources.

Elena Calvo, University of Zaragoza, Spain

Calvo is Professor in the Economics and Business School of the University of Zaragoza. She holds a Ph.D and a B.Sc. in Mathematics from the University of Zaragoza. Her research interests are optimization, numerical methods, and application of mathematical modeling to environmental problems. She works in research areas related to environmental and natural resource economics and policies, water management, nonpoint pollution, forest economics and climate change.

Ana Carolina Coelho, Brazilian National Water Agency, Brazil

Coelho holds a Ph.D in Civil and Environmental Engineering from Colorado State University in Fort Collins (2010), earned as a Fulbright Scholar; a Master's Degree in Environmental and Water Resources Engineering (2010) and a Bachelor's Degree in Architecture and Urban Planning (2002), both from Universidade Federal do Paraná. Coelho is currently a water resources expert at the Brazilian National Water Agency and author of several articles on the subject of water management, in national and international levels. Her fields of expertise include water resources planning and management, institutional analysis, urban and regional planning, decision support systems and GIS.

Daniel Connell, Australian National University, Australia

Connell researches the governance of trans-boundary rivers in the federal systems of Australia, South Africa, United States, Mexico, European Union (Spain), India, China and Brazil. Themes include the impact of the historical legacy, water reform, environmental justice, public participation, cultural change, institutional design, distribution of costs and benefits across borders, water markets and risk created by the interaction of different levels of government. Connell also contributes to the ongoing debate about the future of the Murray Darling Basin – the subject of his book *Water Politics in the Murray-Darling Basin* published in 2007. This has included presentations to government departments and agencies, the Treasury, Environment Water and Heritage, the National Water Commission, Land and Water Australia, the Murray-Darling Basin Commission, the Murray Darling Basin Authority, the rural Labor Caucus, and writing op-ed articles for newspapers and interviews for radio and television. In addition he works with Professor Quentin Grafton, who holds the ANU–UNESCO chair in Water Economics and Trans-boundary Governance, focusing on the implementation of the Millennium Development Goals in sub-Saharan Africa.

Osman F. da Silva, Brazilian National Water Agency, Brazil

Silva is an oceanographer and holds a Ph.D in Civil Engineering from Campinas State University (Unicamp) and a postdoctoral degree from the São Paulo University, Brazil. He was also a visiting professor at Ohio State University and worked at the Brazilian National Electric Energy Agency. Silva is currently Deputy Manager and water resources expert at the Brazilian National Water Agency (ANA). He is also the author of several articles on water resources management published in national and international journals.

Lucia De Stefano, Botin Foundation and Universidad Complutense de Madrid, Spain

De Stefano is a Research Fellow at the Water Observatory of the Botin Foundation and Associate Professor at Complutense University of Madrid. Her previous post was as a research assistant at Oregon State University, working on global studies of water conflicts and resilience to climate-change-induced water variability, and regional water governance benchmarking. De Stefano has worked as water policy officer at an international environmental NGO and as a water management specialist in the private sector. A hydrogeologist by training, she holds a PhD. on evaluation of water policies. Her main fields of interest are policy evaluation, water planning, groundwater management and the assessment of good governance attributes.

Derick du Toit, Association for Water and Rural Development, South Africa

Du Toit is an ecologist by training but specializes in environmental learning and professional development. He has worked for a number of years at the Desert Research Foundation of Namibia on translating scientific research into learning programmes. He has subsequently worked on education reform in Namibia, Botswana and South Africa. He currently is project manager with the Association for Water and Rural Development (AWARD) in South Africa.

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Rodrigo Flecha, Brazilian National Water Agency, Brazil

Flecha is a civil engineer and specialist in environmental and sanitary engineering from Universidade Federal de Minas Gerais. He holds a post-graduate degree in environmental techniques and science from Ecole Nationale des Ponts et Chaussées, École Nationale du Génie Rural, des Eaux et des Forêts and Université de Paris I. He was the Water Resources Management Chief at the Brazilian National Water Agency from 2003 to 2013 and is currently the Water Resources Regulation Chief at the same

agency. He is the author of several articles on water resources management published in national and international journals.

Nelson Freitas, Brazilian National Water Agency, Brazil

Freitas holds a Master's degree in Water Resources Engineering, Planning and Management from Instituto de Pesquisas Hidraulicas – Universidade Federal do Rio Grande do Sul (1996) and a Bachelor's degree in Civil Engineering from Universidade Federal de Santa Maria (1987). He has 25 years of expertise in water resources planning and management, including water supply and treatment, in both private and public sectors, as a team leader and project manager in global organizations. He was an OAS consultant for the Brazilian National Water Plan between 2005 and 2006; the Water Planning Manager at the Brazilian National Water Agency between 2006 and 2010; and, is currently the Water Management Manager at the same agency.

Dustin Garrick, McMaster University, Canada

Garrick is the Philomathia Assistant Professor of Water Policy at McMaster University. His research examines water allocation policy responses to water scarcity and climate risk in large transboundary rivers of federal countries. This research advances theory and evidence on collective action and institutional change. Most recently, he has investigated drought management and water allocation reform in semi-arid rivers of Australia and western North America, focusing at the intersection of water markets and river basin planning. He holds a Ph.D from the University of Arizona, an MPA from Columbia University and a BA from the University of Texas. Prior to joining McMaster University in January 2014, he was a research fellow at the University of Oxford (2011–13) where he remains a visiting scientist in the School of Geography and the Environment. He was a Fulbright Scholar in Australia where he also retains a research associate affiliation of the Australian National University Centre for Water, Economics and Environmental Policy.

Andrea K. Gerlak, International Studies Association and University of Arizona, US

Gerlak is Director of Academic Development with the International Studies Association, and Policy Associate with the Udall Center for Studies in Public Policy at the University of Arizona. Gerlak's research expertise is in institutional analysis and water governance. Her research addresses conditions supporting collective action, the interface between science and policy, institutional change and adaptability, and human rights and development. She has served on the faculty of Guilford College and Columbia University. A few of her recent publications have

appeared in journals such as *Global Environmental Politics*; *International Environmental Agreements*; and *Water International*.

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Heikkila is Associate Professor at the School of Public Affairs at the University of Colorado Denver. Heikkila's research focuses on analyzing institutions for coordinating and collaborating across natural resource boundaries and for resolving environmental conflicts. This includes studies of interstate water conflicts and cooperation in the US, conflicts and cooperation related to hydraulic fracturing, the organization and performance of large-scale ecosystem restoration programs, the coordination of groundwater and surface water in the western US, and water governance institutions in northeast Brazil and the Mekong Basin. She holds an MPA and Ph.D from the University of Arizona.

Rakesh Hooja

Hooja had been Director of the Indian Institute of Public Administration in New Delhi from 2010 until his untimely death in September 2012. He was educated at the Universities of Rajasthan and East Anglia. He occupied many positions during 36 years in the Indian Administrative Service, including Chief Secretary to the State Government of Rajasthan and Joint Secretary, Department of Jammu and Kashmir Affairs, in the Government of India. Hooja authored or edited 31 books, wrote 430 articles and edited various journals. His interests included public administration, local government, and water policy.

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Horbulyk is Associate Professor of Economics at the University of Calgary, where his teaching and research interests include environmental and resource economics, cost-benefit analysis and public policy. Horbulyk holds an undergraduate degree in agricultural economics and a doctorate in economics, and he has worked professionally on water resource issues in a number of developing countries. He is a former editor of the *Canadian Journal of Agricultural Economics*, and he previously served as a theme leader in the Research Program on Economics, Policy and Risk funded by the Alberta Ingenuity Centre for Water Research.

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Ke is Associate Professor of Environmental Law at Research Institute of Environmental Law at Wuhan University, and he also works as General Secretary, Committee of Academics, Chinese Association of Environmental and Natural Resources Law. He has rich academic experience as an environmental law scholar in China and overseas. He has studied and researched environmental law at the National University of

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Mujib Khan, Pakistan

Khan is a development expert with over 20 years' experience in public sector management in areas marked with complex social and military conflict, both as a civil servant as well as a consultant, covering both the design and implementation of reforms. He has worked on public policy, governance, and institutional development in the arenas of public administration, public financial management, criminal justice, and anticorruption in South Asia and countries in the former Soviet Union. His recent work has focused on support to the design and implementation of centre-of-government reforms, covering institutional redesign, public financial management, and democratic accountability.

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Koff is Professor of Social Sciences at the University of Luxembourg where he coordinates the research axis on Comparative Governance: Europe in the World (European Governance Program). He is founding President of the Consortium for Comparative Research on Regional Integration and Social Cohesion (RISC) as well as coordinator of RISC's Working Group on Development, Equity and Policy Coherence. His research focuses on comparative border politics, comparative regional integration, development and human security. With Carmen Maganda, he is co-editor of the journal *Regions & Cohesion* and he edits the book series on Regional Integration and Social Cohesion for Peter Lang Publishing.

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Kumar earned his B-Tech in Civil Engineering in 1988, M.E. in Civil (Water Resources Management) in 1991 and Ph.D in Water Management in 2006. He has 21 years of professional experience in the field of water resources. He is currently Executive Director of Institute for Resource Analysis and Policy in Hyderabad. He has nearly 140 publications to his credit, including three books, two edited volumes, several book chapters, many articles in peer-reviewed journals and research monographs. His latest book is *Managing Water in River Basins: Hydrology, Economics and Institutions*, by Oxford University Press, New Delhi. He has published extensively in international journals, such as *Water Policy*, *Energy Policy*, *Water International*, *Journal of Hydrology*, *Water Resources Management and Resources*, *Energy and Development Journal*. Currently, he is Associate Editor of *Water Policy*.

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Fang is Professor at Shaanxi Normal University. She also serves as Deputy Director of the Northwest Institute of Historical Environment and Socio-Economic Development of the university, and Vice Chairperson of the Shaanxi Association for Yellow River Culture and Economic Development. She has worked on water resource management for more than a decade. Her research field particularly focuses on watersheds conflicts and agricultural water management in northwest China. She studied at the University of Giessen, Germany, where she received her Ph.D in 2003. She also worked at the University of California, Riverside, as a Fulbright scholar.

Elena López-Gunn, ICATALIST and Universidad Complutense, Spain

López-Gunn is founder and manager of ICATALIST, a knowledge broker company currently engaged on projects with FAO and with Repsol, a Spanish energy company. She was previously a Senior Research Fellow at the London School of Economics, working on rights based approach to water in Latin America. Her research and publications record has concentrated on areas related to collective action on common pool resources like groundwater, climate change and adaptation, and studies which adopt a public policy angle on water management issues related to institutional reform.

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Maganda is Research Associate in the Political Science Institute at the University of Luxembourg, Executive Director of the Consortium for Comparative Research on Regional Integration and Social Cohesion (RISC), and co-editor of the journal *Regions & Cohesion* by Berghahn Journals. Formerly she was Coordinator of the Bi-national Border Water Project for the Center for US-Mexican Studies at the University of California San Diego, and Hermès-FMSH Postdoctoral Fellow at Clerse, Université de Lille 1. Maganda has a Ph.D in Social Anthropology from CIESAS-Mexico with a dissertation entitled 'Availability of Water: a Constructed Risk'. Her present research focuses on comparative regional perspectives of water politics/security in border regions, Integrated Water Resources Management in cross-border river basins in Europe and the Americas, and its relationship with development, social participation and the human rights framework.

Mike Muller, Commissioner, National Planning Commission of South Africa, University of Witwatersrand, South Africa

Muller is a Commissioner in South Africa's first National Planning Commission. He was Director-General of the South Africa Department of Water Affairs and Forestry from 1997–2005, responsible for policy

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Jamie Pittock, Australian National University, Australia

Pittock is Senior Lecturer in the Fenner School of Environment and Society, and Director of International Programs for the United Nations Educational, Scientific and Cultural Organization Chair in Water Economics and Transboundary Water Governance. His current work includes developing research programs that link Australian and southern African expertise to improve management of river basins, green water and agriculture. He is also Program Leader for the Australia and United States – Climate, Energy and Water project of the US Studies Centre and ANU Water Initiative. Prior to joining ANU, Pittock worked for WWF International as director of their global freshwater program on conservation of wetlands, water use in agriculture, and river basin management.

Sharon Pollard, Association for Water and Rural Development, South Africa

Pollard holds a Ph.D in freshwater ecology from the University of Cape Town. Her interests are broad but lie at the interface between society and freshwater sustainability. Important conceptual frameworks for her work include complexity theory and systems thinking and how this is given expression in water governance through integrated approaches such as Integrated Water Resources Management. Equally her interests in praxis have led to a wide range of research that attempts to understand the role of theory (and science) in influencing and learning from the ‘real world’. This has meant also a growing interest in social learning. She now co-ordinates various projects that work across multiple scales from the local, such as in the case of wetlands and livelihoods, through to the development of catchment management strategies and international water sharing agreements. These areas of interest have involved the development of systems views to catchments (socio-ecological systems), national guidelines for Catchment Management Strategies and understanding constraints to Integrated Water Resources Management.

J. Owen Saunders, University of Calgary, Canada

Saunders served as Executive Director of the Canadian Institute of Resources Law at the University of Calgary for over two decades until

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Schlager is Professor in the School of Government and Public Policy at the University of Arizona. Her research programme focuses on common pool resources and comparative analyses of institutions for governing water. She is co-author of two books, *Common Waters Diverging Streams*, a study of conjunctive water management practices in the western US, and *Embracing Watershed Politics*, an examination of polycentric governance of watersheds. She is also lead editor of *Navigating Climate Change Policy: The Opportunities of Federalism*, an exploration of federal climate change policies and processes.

Andre Silveira, University of Cambridge, United Kingdom

Silveira is a Ph.D student in the Department of Geography, University of Cambridge. He holds a diploma in Political Science and an MA in European Integration Studies. His Ph.D project is concerned with the evolution of institutional structures and processes guiding water quality governance in large cross-jurisdictional river systems, with China's Pearl River Basin and Europe's Rhine River Basin as case studies. He is assistant coordinator of the EU-China River Basin Governance Research Network and has been involved in the policy dialogue component of the EU-China River Basin Management Programme as a consultant.