



Book Review

GOVERNANCE AND COMPLEXITY IN WATER MANAGEMENT
Creating Cooperation through Boundary Spanning Strategies

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Water resources management has re-entered the priority agenda in the last decade due to several factors such as: natural events (such as floodings and droughts) and climate change, impacts and risks of industrial discharges affecting water quality and human health, European Union legislation.

Apart from the technology development with a direct contribution to improvement of water and wastewater treatment technologies, water management challenges include issues such as: huge storage locations for excess water during floodings, improved irrigation works, decentralised urban and rural water systems, ecological restoration. Thus, water managers need to consider multiple actors, multiple preferences, multiple problem perception and multiple institutional rule setting, considering collaboration across sector and organisational boundaries, with considerations of political and strategic alliances. In this context, the authors define the boundary spanning of water managers encountering complex water challenges as follows: *adaptive governance of activities by linking their sector, scales and timeframes to other previously independent sectors, scales and timeframes.*

The message of this book is that a careful reconsideration of strategies to achieve water management ambitions, together, with more in-depth knowledge on the theories and practices of boundary spanning, could bring solutions for contemporary water problems.

Several case studies which reflects the experiences and lessons of cooperation and exchange with professional water managers are presented with consideration of their complexity and conflict by boundary spanning in adaptive water management. There is also important that contemporary water

management themes such as: flooding and flood policy, water depletion and water restoration and nature, the acceptance and use of scientific models, information and the international cooperation on water basins discussed are also discussed.

The book integrates in its 11 chapters boundary work approaches, new forms of governance and water resources management to explore frameworks for spanning sector, scale and time boundaries.

Chapter 1 presents a historical perspective on the role of water management in society, describing water management innovations that occurred during the last decades. There are also presented the concepts, forms and applications that are dealing with boundaries in the context of adaptive water management.

Chapter 2 brings into attention a model for the analysis of boundaries in interaction processes and also new concepts were introduced such as: boundary judgments and its sector, and scale and time dimensions. Moreover it was presented an explanatory framework for analyzing their role in social interaction processes.

Chapter 3 examines boundary spanning in flood defense policies in The Netherlands, in which the level of analysis are the systems, with a special attention given to social systems.

In Chapter 4 the main topic is the temporal dimension of boundary judgments which are elaborated in a cognitive approach within the explanatory framework, given an example of resource depletion by irrigation. This chapter presents also the impact of aspects of the time perspective on the likelihood of conflict, rivalries, problem definition and adaptive actions taken.

Chapter 5 presents the analysis of a case in which an inhabited area was prepared for use as water buffering storage in case of threatening river water levels. It describes the perspective of various phases of the process from the characteristics of the actors involved, the influence of the structural context of the process which is assessed and it ends up with rebounds on the strategies used for managing complexity with boundary spanning.

Chapter 6, is a case study following the framework for analysis of boundary spanning and boundary judgments, in this case the building of a new river to reconnect a natural creek system to the tributary river basin it once belonged to is analyzed.

Chapter 7 discusses the implications of institutional settings of multi-sector cooperation for boundary spanning. Thus, two cases of wetland restoration involving land use reordering process are analyzed (by using the theoretical tools presented in Chapter 2) and evaluation of its application is realized, highlighting the successes and failures in each scenario.

Chapter 8 presents the boundary between natural science-based knowledge and decision-making processes in water management. The position of scientific models is discussed and consideration is given to the exchange of natural science knowledge and policy processes.

In Chapter 9 are discussed two approaches in relation to project implementation, i.e. serial and parallel implementation, guidance on the application of such choices being provided.

Chapter 10 presents the analysis of boundary spanning across borders of sovereign countries by

introducing four guidance schemes, the authors' ideas and personal boundary spanning experience being also discussed.

Finally, Chapter 11 presents the conclusions of the editors from the scientific perspective and from the perspective of boundary spanning in practice. The need for a careful reconsideration of strategies to reach out for water ambitions, together with the more in-depth knowledge on the theories and practices of boundary spanning is required so as to facilitate water problems solving.

This book will challenge academics, researchers and practitioners in the areas of water management, planning and sustainability due to the incorporation of the conceptual, theoretical and practical focuses to address complexity and conflict in adaptive water management. The authors and editors of this book have experience in water engineering and integrated and trans-boundary water management, policy studies, flood management, participatory processes, corporate social responsibility, most of them having a close collaboration with the University of Twente and its CSTM (*Twente Centre for Studies in Technology and Sustainable Development*) department.

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