

## Book Review

### **Water as a Focus for Regional Development**

Edited by Asit K. Biswas, Olcay Unver & Cecilia Tortajada  
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Water development projects are very much interlinked with the overall regional development framework around the world. Regrettably, water professionals often failed to draw attention comprehensively to the various interrelationships between water development and regional development. As a result, due to the increasing concerns of social and environmental activists during the 1980s and 1990s, environmental and social impacts of water development projects always tend to be negative. To address this misleading development, this book, authored and edited by the world's leading water professionals, reviews the experiences from different parts of the world to find out the socio-economic and environmental consequences of water development projects in the context of regional development.

In the first chapter, Professor A. K. Biswas highlights the interrelationship between water development projects and regional development. With relevant experiences from previous projects around the world, he notes that if properly planned and implemented, water development projects can be used as an effective means to reduce poverty and unemployment, promote income redistribution, the availability to better social services, the empowerment of women, reduce deforestation and increase biodiversity due to the availability of energy, improve the lifestyles of the poor and the landless, and promote transboundary cooperation. The cooperative water development approach between India and Bhutan for the construction of Chukha dam shows that an integrated water development approach could bring prosperity for all riparian states. The author finishes by proposing that water development projects should be designed as an integral component of the regional development framework.

Chapter 2, by Tsuyoshi Hashimoto, illustrates the characteristics of regional development of developing countries in Asia and the role of water development projects in reducing regional disparities. This chapter discusses the procedures and methods for the evaluation of water resources potential, and water supply and demand balance analysis along with three case studies from the Philippines, Thailand and Sri Lanka. In addition, it highlights the opportunities and challenges for water development in Asia, and calls for an integrated approach with proper institutional arrangements. The author also notes that transboundary cooperation in Asian international river basins is an indispensable tool for coping with the current water

crisis. The proposed cooperative development of the Salween River basin by Myanmar and Thailand and the Lower Mekong River basin by Laos and Thailand are discussed to emphasize the benefits of transboundary cooperation. The case study presented in the subsequent chapter, from Gujarat State, India, by Rajiv K. Gupta, illustrates how water development is interlinked with poverty alleviation. Options for water–energy crisis-solving efforts are discussed as well.

In chapter 4, Zahir Uddin Ahmad describes the constraints, challenges and potential for integrated development of GBM basins, which are shared by five countries, i.e. Bangladesh, India, Nepal, Bhutan and China (Tibet). This chapter points out the issues related to the utilization of regional water resources, and regional water-based development potentials, and focuses on the possible ‘win–win’ situations for all riparian states. The author stresses the need to develop an overall integrated water development plan intended to foster regional development.

Rivers are the backbone for regional development, if and when water professionals address the up–downstream relationships in an integrated manner. In Chapter 5, James E. Nickum elaborates the up–downstream conflict between upstream Inner Mongolia and downstream Shangdong Province in the Yellow River basin, China. Allocations of water among provinces are the biggest challenge along the Yellow River basin. He suggests that enforcing lowered water use and higher efficiency in upstream provinces with a progressive forms of water pricing, cost recovery and water users’ organizations-based management could be beneficial for the effective utilization of water along the Yellow River basin. Chapter 6 focuses on the current and future prospects of water management in Japan. Yutaka Takahasi illustrates the historical review of river management in Japan as well as amendment of river law in 1977. The case of the Nagara River Estuary Barrage project near Nagoya City in central Japan shows the extent of conflicts between the administration and environmentalists for implementing a water development project. It shows how the effective consultation between different stakeholders may lead to a consensus towards better river improvement works in harmony with ecosystems.

In Chapter 7, the socio-economic and environmental impacts of a South Eastern Anatolia project, widely known as GAP, are assessed by Olcay Unver and Rajiv K. Gupta. GAP regions cover 10% of the area of Turkey, which accounts for nearly 10% of the country’s total population. The study shows that this project helps the region to uplift regional agricultural productivity, industrial development, quality of life, gender empowerment, employment generation, income redistribution, decrease the fertility rate and poverty, and increase education, health facilities and other social services. Together with extensive data, this chapter reveals how a water development project could be implemented as a means of integrating water resources development with overall human development in the poorest and most backward regions of a country. After analysing the economic, social and environmental impacts of the Ataturk dam, one of the 20 dams included in the GAP project, in Chapter 8, Cecilia Tortajada argues that in Sanliurfa and Adiyaman regions, the overall impacts of the dam and its reservoir have been positive. From the detailed study of three villages in the project area, she suggests that for a successful rehabilitation and resettlement process, the resettled people should be trained on how to manage their expropriation funds properly. The results from the study presented in Chapter 8 support the positive impacts of GAP projects asserted in Chapter 7. The author notes that the GAP project has the potential to become an excellent example of people-centred integrated regional development.

Chapter 9 deals with the water management institutions in Southern African International river basins. Southern Africa has 15 international basins shared by two or more countries. To analyse the dynamics of institutional development of water management, the author, Anthony, R. Turton, has chosen five river basins with strategic significance for their respective riparians, including: the Orange, Limpopo, Okavango, Incomati and Maputo. The author portrays the evolution of water management institutions in these river basins in a very organized manner. In doing so, he first analyses historically the genesis of conflicts and then describes the institutional development in these selected river basins.

In Chapter 10, Naser James Bateni describes the history, environmental considerations, institutional framework and regional impact of water resource development in California, USA. He also elaborates the current water development planning in California, which has four fundamental principles, i.e. selecting the least environmentally damaging alternative, integrated resources management, the least cost planning, and protecting ecology and the ecosystem.

In chapter 11, Luis E. García, Diego J. Rodríguez and Felipe B. Albertani review three case studies from Latin America to focus the interrelationships between water resources development and regional development. These are El Cajon Hydroelectric Project (Honduras), the Segredo Hydroelectric Project (Brazil), and the Urban Development and Sanitation Project (Bolivia). The authors recapitulate the lessons learned from each project and conclude that promoting the analysis of water-related projects from a development impact perspective is fundamental.

Salto Grande dam on the Uruguay River has been constructed jointly by Argentina and Uruguay. The dam has been in operation since 1982. The history of the dam dates back to 1938, when Argentina and Uruguay created a Joint Technical Commission to determine the possibility of hydroelectric production on the river. In the final chapter, Lilian del Castillo de Laborde presents an overall picture of the construction, resettlement of the population, operation and maintenance, institutional framework, and environmental management of this dam. The most creditable part of this chapter is that the author summarizes the experience and lessons learnt from this water development project. This study is an example of the joint management of a river for the benefit of the whole region.

The studies presented in the chapters, together with the overreaching first chapter, draw a very vivid picture of water for regional development worldwide. The broad focus of the book allows readers to appreciate water development as an engine for regional development. The book draws attention to the constraints related to the effective planning, management and implementation of the water development projects with some specific guidelines to overcome those constraints. Reading this book is a moving, regenerative experience. Water professionals, engineers, academics, government, policy-makers, sociologists and environmentalists need more of the kind of knowledge, sensitivity, wisdom and people-centred approach expressed from the studies presented in this beautiful and learned book.

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