

Preface

In the second half of the twentieth century and particularly in its last quarter, the need for sound use and protection of freshwater resources, coupled with due consideration to the needs of different interest groups, have become more and more obvious. It is understood that less than 0.5 % of the world's water resources is freshwater available for human use, and that around one-third of the world's population lives in areas where water is scarce or extremely scarce. Moreover, by 2025, that number is expected to grow to two-thirds. Therefore, the second half of the twentieth century witnessed the increasing prominence of concerns over water management issues, which is now very present.

With regard to the water crises summarized above, the problem can be solved not only by implementing new technologies, but also through changes in water use practices and water resources management. In this sense, the primary reasons that water problems afflict developing countries are accepted to be of political and institutional nature, and not technical ones. In this respect, the Global Water Partnership concluded that “the water crisis is mainly a crisis of governance.” It is accepted that sectorial regulation of water resources management leads to “splintered and uncoordinated” water use and hinders the organization of water protection mechanisms. One of the ways to find reasonable solutions to water-related problems in these countries is to implement the principles of integrated water resources management. There is also a need for ever-efficient water technologies, improving the situation in respect of excessive water use in agriculture. It should be noted that agriculture is the biggest water consumer worldwide. Apart from technological innovations aiming at “more crop for every drop,” demand management tools is also another proposed solution for increased water efficiency which could also lead to increase in improved water productivity in the agricultural sector.

The issue of “sustainability” in terms of water use lies at the heart of this dynamic debate. Taking it more broadly, sustainability means not only seeking a balance between today's and tomorrow's needs, but also working towards a balanced view of water with consideration of intertwined relationships among all stakeholders, namely policymakers, water users, water service providers, and others, all competing water needs (of industry, energy sector, households, irrigation,

recreation, ecological flows), and all relevant economic sectors (manufacturing, tourism, agriculture, water services sector, etc.). Reaching food security, particularly under the shadow of climate change, has become one of the utmost priorities for many countries adding further complications to existing equations of competition.

This book is located at the crossroads of two key phenomena: sustainability and water use. These themes should be taken in their width, meaning that the axis of sustainability and water use brings together academic research and discussions on water efficiency, new technologies, water-agriculture nexus, transboundary cooperation towards river-basin management, pricing issues, participatory water management, role of women in sustainable water use, and other themes. It is divided into two parts:

Part I deals with approaches in sustainable water use and management and offers users an overview of the theoretical basis and elements which have been guiding the implementation of sound approaches to use water resources.

Part II contains a set of case studies in sustainable water use and management, where ongoing projects and initiatives are demonstrated in practice.

Consistent with its editorial objectives, this publication aims to contribute to this growing debate with discussions of new approaches, methods, concepts, arguments, and findings. We hope that not only water experts but also readers from different backgrounds and disciplines will benefit from this volume.

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Examples of New Approaches and Perspectives

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