

Preface

The response to the call for abstracts for the symposium *Changes in Water Resources Systems: Methodologies to Maintain Water Security and Ensure Integrated Management* was very large. A total of 116 abstracts were submitted, which would have been too high a number of articles to publish in a single Red Book. Therefore, a selection was made of about 60 abstracts, and the authors were invited to submit a full article. Special attention was paid to the thematic and geographic coverage of the articles. After review and revisions, the 42 articles that make up this volume were accepted for publication.

The International Commission on Water Resources Systems (ICWRS) of the IAHS was the sponsor of the Symposium *Changes in Water Resources Systems: Methodologies to Maintain Water Security and Ensure Integrated Management*, held during the IUGG General Assembly in Perugia, Italy, from 2–13 July 2007 under the motto *Earth, Our Changing Planet*. In 2006, ICWRS organized the 3rd International Symposium on Integrated Water Resources Management in Bochum, Germany, which was also very well attended. The positive response to two symposia within a year of each other shows that the interest in integrated management of water resources systems is broad and sustained. As a guiding principle, integrated water resources management (IWRM) is now well established. In the policy arena, IWRM is more or less taken as a given, and IWRM is continuously enriched with new concepts, such as adaptation and transition management. The scientific basis for IWRM, however, has not yet fully crystallized. As this book also shows, IWRM is, for an important part, a set of practices and, consequently, case studies play an important part in the scientific literature.

The theme of this book specifically addresses changes in water resources systems. The continuously changing pressures on our water resources are very diverse. The pressure to produce food and provide household water is of extreme importance in Africa. In Asia, the rapidly emerging economies of China and India show that the need for water of sufficient quality is becoming a real development constraint. In Europe, North America, Australia and Japan, water resources have for a long time been recognized as being essential for social well-being, and this recognition is now expressed in institutional changes, such as the European Water Framework. In addition, investment decisions everywhere are made against the background of increasing uncertainty due to ubiquitous changes, such as climate change, economic globalization, and land-use intensification. This diverse set of challenges is met with an equally diverse set of solutions and approaches. Without pretending to be comprehensive, we do hope that the present volume does provide a good sample of the multitude of issues that are dealt with in the context of IWRM.

In line with this thematic diversity, the geographical coverage of the articles is wide as well, with articles from 14 different countries. With the exception of Oceania, all continents and major regions of the world are represented. From the on-set, it has been the intention to pay special attention to studies concerning developing countries. That

is why there are relatively more papers from Africa and Asia. China is especially well represented in the present publication. Clearly, the rapid economic growth of China depends on, and affects, the quality and quantity of water resources available. This volume gives an up-to-date insight into what the main issues are in this rapidly changing part of the world.

In all, IWRM is a very lively field of study, which will continue to produce interesting articles and discussions. The objective of future research should not be theoretical closure, but the continued development of analytical tools that enable stakeholders and decision makers to make optimal use of their limited resources within the specific context of their water system.

Finally, some words concerning the production of this Red Book. The cooperation within the editorial team went very smoothly, resulting in timely delivery of reviews and revisions. We would like to thank Ms Evgenia Rabinovitz for organizing and managing the large number of abstracts and resulting correspondence. Our special thanks go to Ms Penny Farnell of IAHS Press in Wallingford; her tremendous editorial efforts turned manuscripts written in heterogeneous styles into the consistent set of articles that now lies before you.

Editor in Chief

Nick van de Giesen

*Delft University of Technology,
The Netherlands*

Co-editors

Xia Jun

*Chinese Academy of Sciences
Beijing, China*

Dan Rosbjerg

*Technical University of Denmark
Lyngby, Denmark*

Yoshihiro Fukushima

*Research Institute for Humanity and Nature
Kyoto, Japan*