
Preface and acknowledgements

By the time this book went to press the Johannesburg world summit on sustainable development had ended. The main objective of this summit was to reflect on Agenda 21 of the Rio summit ten years ago. The theme of the Johannesburg summit was ‘people, planet, prosperity’ and thus focused on social development, poverty eradication and environmental conservation. While sustainable development has been defined in many different ways, these three major concerns capture the essence of it. On the other hand, sustainable development planning deals with developing plans and supporting decision-making activities to achieve social development, poverty eradication and environmental conservation.

The role of decision-making in sustainable development is also highlighted in Agenda 21. This document lists 38 issues of sustainable development (<http://www.un.org/esa/sustdev/issueslist.htm> – accessed on 18 November 2002), two of which relate to decision-making. These are ‘Integrated decision-making’ and ‘Information for decision-making and participation’. It is necessary to integrate issues of ‘environment and development at the centre of economic and political decision-making’. However, at the core of the decision-making process is the need for quality information. Information must be collected and disseminated appropriately. One of the most important sources of information is the outcome of the application of model-based decision support systems in sustainable development planning. Modelling brings objectivity to any planning process and supports the corresponding decision-making activities by providing specific and appropriate information.

Thus the primary aim of this book is to disseminate the roles and applications of model-based decision support systems (DSS) in sustainable development planning. Invitations to contribute to this book were sent via special-interest electronic list servers around the globe. Several renowned authors were also specially invited to contribute. Each prospective contributor was initially asked to prepare a two- to three-page proposal on his/her contribution. These proposals were reviewed by the editors and suggestions were made to prepare the full papers. The submitted papers were then reviewed by independent reviewers and the final acceptance/rejection decisions were made by the editors based on the revised papers submitted by the contributors.

The book contains three parts. Part I, Modelling for sustainable development, has four chapters. It deals with the concepts of modelling sustainability from planning and development perspectives and reviews the applications of

modelling and decision support in sustainable development planning based on published literature. Part II of the book, Case studies, consists of ten chapters and analyses the applications of various models based on decision support framework for sustainable development planning in the following areas: environmental management, mining, energy management, land and water management, agriculture, aquaculture and infrastructure. Part III of the book, Future directions, proposes future directions for modelling and decision support in the light of the review in Chapter 1 and various other chapters in this book.

We are grateful to the authors of various chapters for their contributions. It had been a long process from the initial outlines to developing the full chapters and then revising them in the light of reviewers' comments. We sincerely acknowledge the authors' willingness to go through this long process. We also acknowledge the work and knowledge of various reviewers of the chapters, many of which had to be done at short notice.

Thanks to all the people at Edward Elgar with whom we corresponded for their advice and facilitation in the production of this book.

Ms Andrea Swasbrook prepared camera-ready copy of the manuscript with her usual professionalism and cooperation and we wish to record our thanks to her.

Finally, we are grateful to our families for their support all the way through.

M.A. Quaddus
M.A.B. Siddique
Perth, Australia