Preface

As economies and populations grow, global water scarcity is increasing, and tough decisions about water allocation will have to be made. But most countries are poorly equipped to anticipate and adapt to the socio-economic consequences of increasing water scarcity because they lack sufficient information about water use and resources. Many countries compile some kind of database for water resources and water use; however, these databases are independently collected and used by different agencies and rarely integrated with economic accounts. We believe that water accounting, an approach that integrates water accounts and economic accounts, provides that missing information and has a unique contribution to make to water management.

In 2004, we produced a book, *Environmental Accounting in Action: Case Studies from Southern Africa*, based on a unique regional initiative to develop environmental accounts in Africa that began in 1995. That book provided a broad overview of the environmental accounting experiences for the three core countries in the regional initiative, Botswana, Namibia and South Africa, and covered accounts for minerals, forestry, fisheries and water. At the time, we recognized that water accounting is such a complex issue that a single chapter was not sufficient to explain fully either how the accounts were constructed, or how they contribute to sustainable water management. An entire volume would be required. This book represents our effort to provide a comprehensive explanation of water accounting in Southern Africa.

The first handbook for environmental accounting, known as the System of Environmental and Economic Accounts or SEEA (UN et al., 2003), has now been supplemented by several specialized manuals for individual resources, including one for water, known as the System of Environmental and Economic Accounting for Water or SEEAW (UN, 2005). However, there is still a considerable gap between the guidelines found in the official manuals and the practical application of those guidelines. Like our first volume, this book on water accounting uses case studies from southern Africa to fill that gap, especially for developing countries where the experience with environmental accounting has been limited so far.

The regional programme for environmental accounting grew out of a recognition that resource constraints pose an increasing challenge to

economic development in Africa, and that economic principles are increasingly important for sustainable resource management, but that decision-making in the past has often not been grounded in economic assessment of the availability and quality of natural resources. A framework for information and integrated environmental–economic policy analysis was needed to support sustainable development, and environmental accounts provide such a framework.

In response to the recognized need for environmental accounts, discussions were held with stakeholders in southern Africa in 1993–94, and a three-phase, long-term strategy was designed for building environmental accounts throughout the region. From the beginning, water was a major focus in all countries. During the first two phases of the project, 1995 to 2001, environmental accounts were introduced in Botswana, Namibia and South Africa. In each country, the work proceeded as a partnership between agencies that compile accounts, usually a national statistical office, and agencies that would use the accounts, such as the Ministry of Environment or a university-based research centre. In addition to in-country work, the regional programme developed an accounting framework, which addresses regional and transboundary resource management issues; and conducted technical training and outreach in the region. Most importantly, perhaps, the Centre for Environment and Economic Policy in Africa (CEEPA) at the University of Pretoria, was established as a regional host to support this work in the long term.

We have now entered the third phase of this initiative and have expanded the environmental accounting initiative to several other countries in East and Southern Africa, notably Mozambique, Tanzania and Uganda. Water accounting continues to be a major focus of all countries' accounting efforts. This book brings together much of the work that has been done on water accounting in Botswana, Namibia and South Africa, the countries that have advanced the most, but there is a considerable amount of additional work currently under way, both in the three countries where we began as well as the new countries that have joined the regional initiative. An important new development is river basin accounting, both for national and international rivers.

The water accounting work in Africa has recently been extended to and complemented by various continent-wide initiatives co-ordinated by CEEPA to address the consequences of, vulnerability to and adaptive strategies of Africa's rural population to impacts of climate change on water availability.

The work presented in this book is the result of a vast collaboration among many people, those within the three countries where the work has been carried out, as well as our many advisers and supporters throughout

the world. We also want to express our gratitude to several international donors who provided much of the financial support for this work, notably the Swedish International Development Co-operation Agency, the United States Agency for International Development, the United Nations Statistics Division and the World Bank.

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