

# Preface

In 1999 the United Nations system resolved to issue regular editions of *The United Nations World Water Development Report*. An expert group, convened by the United Nations Department of Economic and Social Affairs, developed recommendations for the objectives and targeted audience of the report (box 1).

The first edition, *The United Nations World Water Development Report: Water for People, Water for Life*, was released in March 2003 at the 3rd World Water Forum in Kyoto, Japan. The second, *Water, a Shared Responsibility*, was released in March 2006 at the 4th World Water Forum in Mexico City. The first report provided an inaugural assessment of progress since the 1992 United Nations Conference on Environment and Development in Rio de Janeiro. Both reports were based on key challenge areas (such as water for food, water for energy, and challenges for governance). Stand-alone assessments were prepared by UN agencies. The assessments included pilot case studies on which the Report drew in developing appropriate assessment methodologies and lessons learned.

This third edition embraces a holistic structure and focuses on the second objective established by the expert group – to accelerate coverage and investments for basic human water needs (drinking water supply, sanitation and health, food security, mitigation of floods and droughts and prevention of conflicts), giving priority to developing countries.

## Contents of the Report

A major theme of this Report is that important decisions affecting water management are made outside the water sector and are driven by external, largely unpredictable forces – forces of demography, climate change, the global economy, changing societal values and norms, technological innovation, laws and customs and financial markets. Many of these external drivers are dynamic, and changes are accelerating. The conceptual framework

### Box 1

#### Objectives and targeted audience of *The United Nations World Water Development Report*

It is recommended that *The United Nations World Water Development Report* be targeted for national decision-makers and water resources managers, with two complementary objectives:

- To strengthen and stimulate national capacities and cross-sector institutions in integrated water development planning and in sustainable management of water resources at river basin and aquifer levels.
- To stimulate an acceleration of coverage and investments, in priority, for basic human water needs (drinking water supply, sanitation

and health, food security, mitigation of floods and droughts and prevention of conflicts), giving a priority to developing countries.

A more effective and targeted support of the international community for such local and national efforts would also be an important objective of this awareness-raising and action-oriented report.

**Source:** United Nations Expert Group Meeting to Examine Methodologies for the Preparation of a Biennial 'World Water Development Report', convened and organized by the UN Department of Economic and Social Affairs, New York, 11-14 January 2000.

that evolved for the Report is on the inside front cover of the Report and in figure 1.1 in chapter 1. The figure illustrates how developments outside the water domain influence water management strategies and policies. The Report emphasizes that decisions in other sectors and those related to development, growth and livelihoods should incorporate water as an integral component, including responses to climate change, food and energy challenges and disaster management.

At the same time, the Report's analysis of the state of the world's water resources is imbedded in a more expansive context of what can be accomplished through water management. The analysis leads to a set of responses and recommendations for action that differ from those that have emerged from more introspective analyses of the water sector because they incorporate the contribution of water to sustainable development.

This Report offers a holistic approach to links between water and climate change, food, energy, health and human security. Human security, broadly conceived, includes basic needs for food, water, health, livelihoods and a place to live – issues addressed in the Millennium Development Goals. As the second part of the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), released in April 2007, demonstrates, poor people are likely to suffer most from the effects of climate change.<sup>1</sup>

### New processes

In keeping with the Report's broader view on policy options, new processes were applied in preparing this Report. Fuller treatment is given to such topics as climate change, business and trade, financing, the role of the private sector, water transport and innovations and new technologies.

The United Nations Expert Group recommendation to involve countries in preparing the reports was reflected in the first edition in case studies based on 10 countries (including 10 national river basins) with different physical, climate and socioeconomic conditions. This method was followed in the second edition and in this Report, which presents the case studies in a companion volume to the main report. The World Water Assessment Programme is also launching a series of supporting publications that include scientific side papers, topic and sector reports and dialogue reports, taking the programme out of its rigid three-year cycle.

The preparatory process for this Report has followed an inclusive, participatory approach benefiting from opinion and feedback from the scientific, professional and decision-making communities from within and outside the water sector.

Broader input to the Report and the World Water Assessment Programme processes in general has been achieved through four mechanisms:

- A Technical Advisory Committee of 11 prominent individuals from around the world with water sector expertise and broader policy-making experience in their countries and internationally.
- Expert groups on indicators, monitoring and data/metadata bases; scenarios; climate change and water; policy relevance; business, trade, finance and the private sector; legal issues and water storage.
- A Report team composed of UN-Water member agencies, their professional and non-governmental organization partners and the broader community of water and water-related sectors.
- Stakeholder engagement through the World Water Assessment Programme Website and review processes, including public as well as solicited input and feedback from hundreds of individuals and organizations.

---

1. 'Poor communities can be especially vulnerable, in particular those concentrated in high risk areas. They tend to have more limited adaptive capacities and are more dependent on climate-sensitive resources such as local water and food supplies.' (IPCC, 2007, Summary for Policymakers. In *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, eds., M. L. Parry, O. F. Canziani, J. P. Palutikof, P. J. van der Linden and C. E. Hanson, Cambridge, UK: Cambridge University Press, p. 9).

This Report marks a transition from the first two reports – a transition from being a report primarily for water managers to being a report for leaders at all levels of government, the private sector and civil society, whose decisions depend on the availability of water resources and make demands on water management. The Expert Group on Policy Relevance consulted hundreds of such leaders to obtain their views on policy issues relevant to the water sector. At the same time, the Report continues to provide useful data for water managers on the state and use of this precious resource. Past reports have looked at trends based on historical data. It is clear that change is accelerating and that the effects of change are not easily projected from trends. To help us understand possible futures and how to cope with their impact on water resources, the World Water Assessment Programme process looks at the development of scenarios that will serve the fourth *World Water Development Report*. This scenario effort takes into account the main drivers of water, including demographics, climate change, social and economic processes and technology, along with their interactions.

In preparing this Report new data were available to update only a third of the 60-plus indicators that were reported in the second edition. And some indicators were found to be no longer valid. The lack of data was echoed by the coordinators and authors of this Report, who found that indicators and data were often not available for analysing and reporting on issues considered important. As a consequence, a new process was developed for indicators and monitoring that aims at a better understanding of the trends and developments, including changes, in the state of water resources, their uses and the interface between the state and water uses and between water and other sectors. This reflects a recommendation of Agenda 21 – a comprehensive plan of action agreed at the Rio Summit for all areas of human impact on the environment – that a detailed data collection for both fluxes of ‘exploitable water resources’ and of ‘associated costs and finances’ be conducted within a comprehensive plan for water development at the basin level.<sup>2</sup>

To this end, the World Water Assessment Programme established an Expert Group on Indicators, Monitoring and Data/Metadata Bases, and UN-Water established a Task Force on Indicators, Monitoring and Reporting, which is coordinated by the World Water Assessment Programme. Their results will be reported by the World Water Assessment Programme in a process leading to the fourth *World Water Development Report* and by UN-Water. A table showing the status of indicators reported on in this Report is presented in appendix 1. More detailed information may be found at [www.unesco.org/water/wwap](http://www.unesco.org/water/wwap).

Few countries know how much water is being used and for what purposes, the quantity and quality of water that is available and that can be withdrawn without serious environmental consequences and how much is being invested in water management and infrastructure. Despite the availability of new remote sensing and geographic information system technologies that can simplify monitoring and reporting and despite the growing need for such information in an increasingly complex and rapidly changing world, less is known with each passing decade. Strengthening such information systems is vital not only at a national scale but also at a global scale – to inform the construction of global models of the hydrologic cycle and decisions on where interventions, including external aid, would be most useful. Chapters 10 and 13 of the Report, in particular, treat this subject.

### **Challenges remain in managing water resources for development**

The contribution of sustainable access to safe drinking water and adequate sanitation to achieving the Millennium Development Goals is well established. Largely ignored, however, is the fact that water resources are at the core of many of the Millennium Development Goals on which progress is lagging. This Report and others elaborate the direct and indirect contributions of water management across all the Millennium Development Goals.

It is not enough to hope that the trickle-down effects of economic growth will result in equitable distribution that includes the poor. The economic growth and poverty-reducing contributions of water resources must be made explicit and specific at the country level. Intergovernmental efforts must support such actions and maintain the momentum of the global commitments made since the Millennium Declaration in 2000.

2. United Nations, 1992, Agenda 21, Chapter 18, Protection of the Quality and Supply of Freshwater Resources: Application of Integrated Approaches to the Development, Management and Use of Water Resources, New York: Department of Economic and Social Affairs, United Nations.

## Preface

---

While mitigation of anthropogenic climate change is vital, the blunt reality is that all countries – particularly developing countries that will be hit hardest and earliest – and business sectors must also adapt to climate change. Even if greenhouse gas concentrations stabilize in the coming years, some impacts from climate change are unavoidable. These include increasing water stress in many regions, more extreme weather events, the potential for large population migration and the disruption of international markets. These challenges cannot be separated from the challenges of sustainable development in a complex global context.

This report provides evidence of the need for public investments in water resources infrastructure and implementation capacity. It also provides evidence of the vital importance of water resources and environmental sustainability to engage the private sector, civil society and communities to invest and become involved, offering examples of how this can be done.

Bilateral donors, important in funding water investments, must avoid the temptation to reduce their aid budgets during the current global financial and economic crises. Multilateral aid could be an important source of financing for many years to come. Yet both bilateral and multilateral donors appear not to recognize the contribution of the water sector to growth: the water sector's share of official development assistance has remained below 6% for some time. This said, the flow of official development assistance has increased in recent years and so has the water component in dollar terms. But most of the increase has gone to water supply (and sanitation, to a lesser degree), while aid flows to other water sectors have stagnated in dollar terms and fell as a percentage of total assistance.

Like other physical infrastructure, water infrastructure deteriorates over time and needs repair and replacement. Investment is also required in operation and maintenance and in developing the capacity of the sector so that infrastructure meets appropriate standards and functions efficiently.

### **The case of sub-Saharan Africa**

Sub-Saharan Africa, in particular, remains mired in poverty. Its progress towards achieving the Millennium Development Goals lags behind that of other regions. The percentage of the population living in absolute poverty is essentially the same as it was 25 years ago. About 340 million Africans lack access to safe drinking water, and almost 500 million lack access to adequate sanitation. Countries in sub-Saharan Africa store only about 4% of their annual renewable flows, compared with 70%-90% in many developed countries, yet water storage is essential to ensure reliable sources of water for irrigation, water supply and hydropower and to provide a buffer for flood management.

### **The need to act now**

The challenges that face decision-makers are numerous. The context in which they must make decisions is not well defined. This Report does not attempt to provide a full set of answers. But it identifies the key issues that must be faced. It describes some of the ways that decision-makers have dealt with these challenges, providing options for consideration across levels of government and sectors.

Despite the many unknowns, we need to act now – with decisions about investments in water infrastructure and in implementation capacity to enable environmentally sustainable economic growth and social development and with decisions on safety nets to ensure basic services that protect the poor.

We hope that this third *United Nations World Water Development Report* will stimulate decision-makers in government, the private sector and civil society to act.

**Olcay Ünver**  
World Water Assessment Programme Coordinator  
United Nations Educational, Scientific and Cultural  
Organization

**William Cosgrove**  
*United Nations World Water  
Development Report 3*  
Content Coordinator