



ITALIAN FUNDS-IN-TRUST
FOR THE FOURTH PHASE (2010–2012) OF
THE UNITED NATIONS WORLD WATER ASSESSMENT PROGRAMME (UN-WWAP)

Annual Report

1 January–31 December 2010

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Overview

This status report gives an account of activities that took place between 1 January and 31 December 2010. The report is structured along the components of the United Nations World Water Assessment Programme (UN-WWAP).

Component 1. The World Water Development Report

The UN World Water Development Report (WWDR) is the UN's flagship report on water. It is a comprehensive review of the state, use and management of the world's freshwater resources and it aims to provide decision-makers with the tools to implement sustainable use of our water. The WWDR is released every three years in conjunction with the World Water Council's World Water Forum.

Preparation of the upcoming fourth edition of the WWDR (WWDR4) – with its overarching topic 'Managing Water under Uncertainty and Risk' – is underway. The report will present an in-depth analysis of how driving forces affect water now and how they are likely to do so in the future, as well as challenge area and regional accounts. Examples of and options for dealing with water issues will be provided, highlighting the need to recognize increased and new uncertainties and to analyze risks that exacerbate the challenges to decision-making.

Component 2. Case studies

WWAP co-produces case studies with the United Nations Educational, Scientific and Cultural Organization (UNESCO) Member States that outline water resources issues and management practices in use in parts of the world with different physical, climatic and socio-economic conditions. The case study process aims to assist countries in enhancing their self-assessment capability while highlighting the state, uses and management of freshwater in those countries. For the WWDR4 case study volume, fifteen case studies have been confirmed.

Component 3. Water indicators

During its fourth phase (2010–2012), WWAP is running two projects on indicators and data: the Pilot Study on Indicators (PSI) and the indicators for the WWDR. WWDR4 continues the well-established approach of updating the key WWDR indicators, which establish and monitor key trends and show how changing water resource endowments affect countries and regions, whether the efficiency of water use for socio-economic development is improving, and whether degradation of the water environment is slowing.

Component 4. World water scenarios

WWAP has initiated a scenarios project to examine possible futures under different policies taking into account the impacts of climate change and other major drivers such as demographics, economic development, consumption patterns, environmental effects, and social and cultural trends. The scenarios project successfully completed its first phase on drivers and has entered its second phase on scenarios.

Component 5. Capacity development

WWAP carries out a capacity-building programme to enhance the ability of governments to conduct their own assessments of water resources through human resource development, education and training, the provision of methodologies, the improvement of institutions and infrastructure, and the development of data and information networks. The training activities are divided into: (i) Training Programme on Water Assessment and Monitoring; (ii) Training Programme on Conflict Resolution (see PCCP below); and (iii) training programme in WWDR4 priority areas.

The From Potential Conflict to Cooperation Potential (PCCP) programme is housed within UNESCO's International Hydrological Programme (UNESCO-IHP) and is a contribution to WWAP. PCCP facilitates multilevel and interdisciplinary dialogues in situations where water users need support to manage their shared water resources in an equitable manner. It capitalizes on the desire of the concerned parties to successfully manage and develop their shared water resources on a foundation of peace and cooperation.

Component 6. Communications, networking, advocacy, information dissemination and gender mainstreaming (cross-cutting component)

WWAP has strengthened its communication, networking, advocacy and information dissemination processes – now a cross-cutting component – to reach a wider audience and to deliver WWAP messages and outcomes from WWAP activities in the most effective way possible. Particular emphasis is now placed on gender mainstreaming activities. In 2010, WWAP worked to disseminate the findings of the WWDR3 while developing a communications strategy for the WWDR4.

Component 7. Publications (cross-cutting component)

In addition to the WWDR, WWAP publishes a range of materials. In 2010, WWAP published a briefing note with UN-HABITAT, *Water for Sustainable Urban Human Settlements*, and the brochure *Water for the Millennium Development Goals*. Translations and reprints of existing publications were also made.

Component 1. The World Water Development Report

The first two editions of the WWDR provided a picture of the issues, trends and developments on a challenge area basis. The third edition took a new approach by providing a holistic picture of the water domain while recognizing the externalities and their role on the state, use and management of the earth's water resources.

The upcoming fourth edition builds on the earlier reports. Its overarching topic – 'Managing Water under Uncertainty and Risk' – was approved during the 11th meeting of UN-Water held on 15 August 2009 in Stockholm, Sweden. The WWDR4 will aim to describe the major changes taking place in the world and their links to water resources, use and management, and show that current management approaches can work only when changes are incremental and predictable. Much of the report will hence be concerned with decision-making under increased uncertainty resulting from discontinuity and unpredictability, and will show that leaders in government, the private sector and civil society will need to make decisions based on knowledge gained from systematic analysis of indicators, scenarios and other such methods.

UN-Water members decided that the WWDR4 would be structured in three building blocks – or modules – each comprising chapters. The structure approved by UN-Water on August 2009 is as follows.

Module 1: Status and possible futures This module will provide an overview of recent developments, emerging trends and key challenges in the world's water resources and in their use and management. It will describe how major global changes are creating increased and new uncertainties and risks related to water. The module will highlight geographic hotspots and key sectoral issues to illustrate their links and the actions being taken to assess risks, reduce vulnerabilities and generate benefits. This module will also report the findings of the scenarios project

Module 2: Managing water under uncertainty and risk The overarching topic of WWDR4 is the title and subject of this module. The key issues affecting water will be investigated through the lens of risk and uncertainty, with particular emphasis on climate change and other drivers of change for water.

Module 3: Knowledge base and supporting documents In this module the status of water sectors and the water situation in different regions of the world will be updated in the form of Challenge Area Reports (CAR) and Regional Reports (RR) prepared by the UN-Water agencies and by regional economic commissions.

The annotated table of contents was subsequently developed by WWAP and approved by UN-Water in the relevant stages of the approved workplan for production.

Progress and activities

WWDR4 preparation

Preparation of the WWDR4 is a complex and participatory process based on the contribution of twenty-eight UN agencies, members of UN-Water, as well as several UN-Water partner organizations. The CAR and RR that make up Module 3 are prepared directly by UN-Water agencies. The CAR and RR are the principal source of substantive content for the WWDR4 – its so-called knowledge base. Their

messages and conclusions guide the selection of material for the baseline summary in Module 1, which highlights emerging trends, recent developments and geographic hotspots. The CAR and RR also feed into Module 2, which draws heavily on them for examples of how various stakeholders are managing water under uncertainty and risk today, and what needs to be done in the future.

The first draft of the WWDR4 therefore started with Module 3. The deadline for the UN-Water agencies to submit the first drafts of their CAR and RR to WWAP was 30 June 2010.

The preparation by WWAP authors of the first drafts for Module 1 and Module 2 then started on 1 July 2010, as soon as the first CAR and RR had been received. Due to the late arrival of most of the CAR and RR, the preparation of Draft 1 of the WWDR4 ended in mid-November 2010.

The list of the CAR and RR, together with their associated agencies, is presented in Table 1. In addition, the World Health Organization (WHO) has expressed its interest in preparing a CAR on water and health. Note that, due to its importance, climate change impact on water is considered a cross-cutting theme throughout all of the CAR and RR.

Table 1. The CAR and RR and their lead agencies

Number	Challenge Area Report (CAR)	Lead agency
1	State of the resource: Quantity	UNESCO
2	State of the resource: Quality	UNEP
3	Human settlements	UN-HABITAT
4	Food and agriculture	FAO – IFAD
5	Energy	UNIDO
6	Industry	UNIDO
7	Ecosystems	UNEP
8	Allocating water	UNESCO-UNESCO IHE
9	Valuing water	UNDESA
10	Investing in infrastructure, its maintenance and operation	World Bank
11	Institutions for sustainable development	UNDP
12	Developing knowledge and capacity	UNESCO-IHE – UNW-DPC
13	Water-related disasters	ISDR

14	Impact of desertification, land degradation and drought on water resources	UNCCD
Number	Regional Report (RR)	Lead agency
15	Africa	UNECA – WWAP
16	Europe and North America	UNECE
17	Asia and the Pacific	UNESCAP
18	Latin America-Caribbean	UNECLAC
19	Western Asia/Arab Region	ESCWA

WWDR4 consultations

The preparation of the WWDR4 is based on a process of continuous consultation among stakeholders inside and outside the water arena – water experts, managers and the public. The surveys and workshops related to the production of the WWDR4 are listed here.

Note that the comments received from all of the consultations will be evaluated and incorporated in Draft 2 of the WWDR4, which will be prepared between January and April 2011.

Surveys

1) *UN-Water consultation.* UN-Water members and partners were asked to provide comments to Draft 1 of Modules 1 and 2 on 18 November 2010 until 19 December 2010.

2) *WWAP Technical Advisory Committee (TAC) consultation.* TAC members were asked to provide their comments to Draft 1 of Modules 1 and 2 until 19 December 2010.

3) *Public consultation.* As for the WWDR3, the general public was consulted for the WWDR4. A new online tool was used to allow all those interested in providing their comments to do so with ease. The innovative tool is based on CommentPress, an open source theme and plugin for the WordPress blogging engine. The public consultation was open from 30 November to 30 December 2010, at <http://www.unesco-wwap.org/wwdr4blog>. Ninety-two comments from eighteen users were received.

4) *WWDR4 policy consultation.* In its efforts to move beyond the ‘water box’ and to ensure that the WWDR series is user-friendly, relevant and practical to those around the globe involved in making decisions about water management, WWAP developed an online survey to elicit the opinions of key leaders in water resources issues about topics that would be addressed in the WWDR4. The recipients of the survey were identified as those who, thanks to their experience, could offer a perspective that would be invaluable to the process of developing the policy relevance of the WWDR4. Between June and December 2010, WWAP invited its partners and other contacts to provide the name, position and email address of individuals whom WWAP could include in its

consultations throughout the production process of the WWDR4. WWAP also created a form (available in English, French and Spanish; posted on the WWAP website and distributed during key events) inviting relevant individuals to register. Through this registration process, WWAP increased its contact base of individuals interested in contributing to policy consultations by 572 (484 through the English form, 66 through the Spanish and 22 through the French). The link to the survey was emailed in English, French and Spanish to more than 1,100 contacts on 10 January and responses were collected until 23 January 2011. A total of 170 English, 15 French and 48 Spanish survey responses were received.

Workshops

1) *Workshop at WWAP headquarters.* On 16 and 17 March 2010, international experts representing twenty-seven UN agencies met at WWAP headquarters in Perugia, Italy, to discuss the content and development of the WWDR4. The meeting, which focused on the CAR and RR, resulted in agreement on the format, content and schedule for production of these reports.

2) *Africa Water Week.* At the WWAP and UN-Water/Africa Group side event on 24 November 2010, the first draft of the Africa Regional Report was presented with the core objective of discussing the contents with participants and securing their views and input. WWAP will incorporate the outcomes of the event into the second draft of the Africa Regional Report.

Component 2. Case studies (BL2)

Since the inception of WWAP in 2000, case study development has been an integral part of the Programme's work, and WWAP's case study partners have significantly contributed to the content of the WWDR.

In the past three phases of WWAP, the number of case studies has continuously risen, from seven in the WWDR1 to twenty in the WWDR3. The coverage figures have also changed, from twelve countries in the WWDR1 to more than twenty-three in the WWDR3. Over the life of the Programme to date, more than fifty-four countries have been covered at basin or national level. This has prompted WWAP to allocate more space to present the findings of the case study projects and the need for a stand-alone publication – the case study volume of the WWDR.

Progress and activities

Fifteen case studies have been confirmed for the WWDR4 (see Table 2).

The country partners for the current phase coincide with five UNESCO regions. This is very much in line with WWAP's strategy of ensuring homogeneous coverage at the global level.

Table 2. Confirmed case studies for the WWDR4

AFRICA AND ARAB STATES

- 1- GHANA
- 2- JORDAN
- 3- MOROCCO
- 4- KENYA-TANZANIA (Mara River Basin)

ASIA AND THE PACIFIC

- 5- AUSTRALIA (Murray-Darling River Basin)
- 6- CHINA (Yellow River Basin)
- 7- PAKISTAN, INDUS RIVER BASIN
- 8- REPUBLIC OF KOREA (Jeju Island)

EUROPE AND NORTH AMERICA

- 9- CZECH REPUBLIC
- 10- FRANCE (Marseille)
- 11- ITALY (Tevere River Basin)
- 12- PORTUGAL (Tagus River Basin)
- 13- UNITED STATES OF AMERICA, STATE OF FLORIDA (Lower St Johns River Basin)

LATIN AMERICA AND CARIBBEAN

- 14- COSTA RICA
- 15- MEXICO (Lerma-Chapala River Basin)

Component 3. Water indicators

During WWAP's fourth phase, the activities related to the development of a set of water indicators can be divided into two subcomponents: (i) development and update of key WWDR indicators and (ii) data availability.

WWAP continues to develop and update key WWDR indicators to be able to establish and monitor key trends. The outcomes of this exercise will be reported in the WWDR4 and are entirely funded by the core budget.

In parallel, WWAP will continue the work initiated with the Expert Group on Indicators, Monitoring, and Data Bases (EG-IMD) on data availability, in particular for those indicators identified by the UN-Water Task Force on Indicators, Monitoring and Reporting (TF-IMR). It will also expand on the proposed strategies to improve data collection and interpretation, and adopt new techniques or methodologies. This subcomponent will be initiated using the core budget and expanded using external funds.

Progress and activities

Pilot Study on Indicators

In an attempt to better understand overall water availability, WWAP's PSI project, in partnership with the Global Terrestrial Network for Hydrology (GTN-H) and the Group on Earth Observations-Integrated Global Water Cycle Observations (GEO-IGWCO; Water Community of Practice), has developed an innovative methodology for estimating country-level total actual renewable water resources (TARWR).

Based on (but not limited to) a combination of hydro-meteorological and high resolution (6 minute) river network, ESRI country boundary and surface elevation data, this methodology allows country-level estimates of TARWR to be based increasingly on actual hydro-meteorological data, allowing trends to be monitored, which has not previously been possible on a regular basis. This approach has several advantages, including the identification of TARWR trends (e.g. if countries are getting wetter or dryer) and variability (e.g. extreme variations of water supply from one year to the next). This information can in turn be used in combination with socio-economic data sets (e.g. agricultural production, health or gross domestic product [GDP]) to create highly informative country-level profiles that show linkages between water availability (and variability) and the performance of different economic and social sectors and policies on a comparative annual basis.

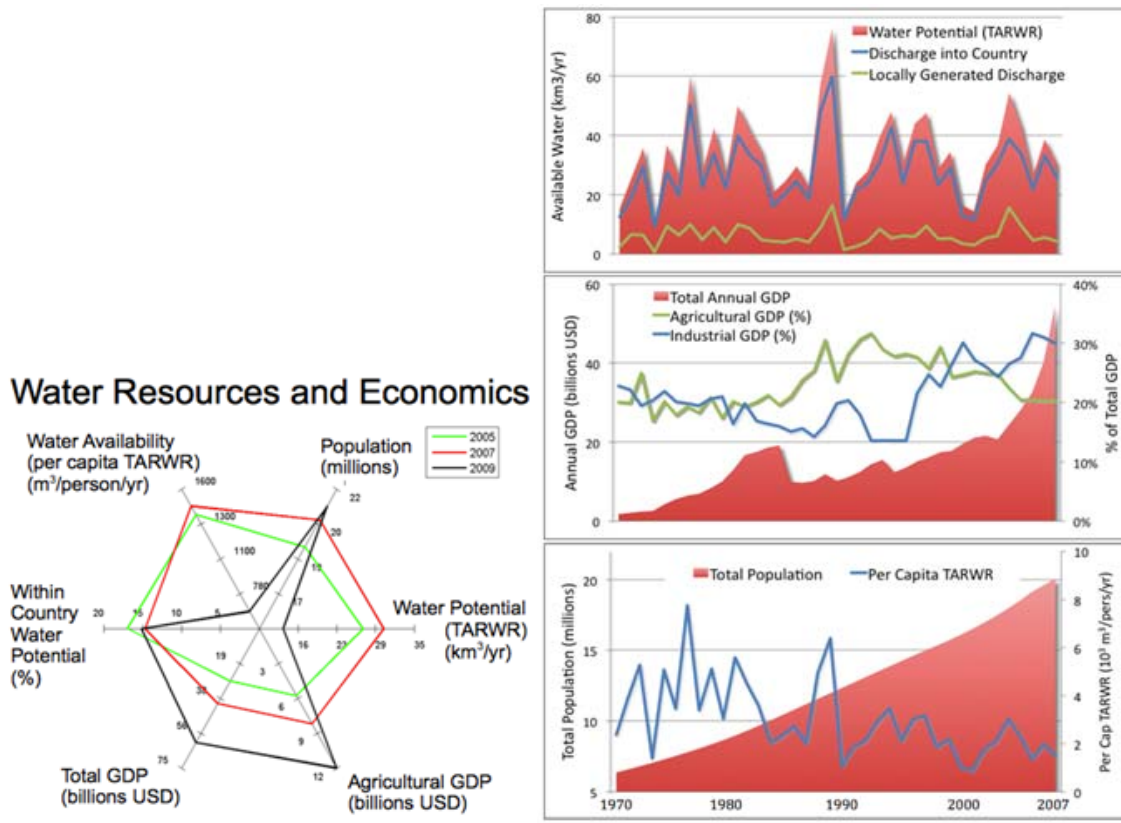
The PSI-TARWR methodology also provides vital input data for the System of Environmental and Economic Accounting for Water, which is under development by the United Nations Statistics Division (UNSD). The TARWR values that are being calculated within the framework of the PSI project will be a part of the indicators section of the WWDR4. To illustrate real-life implementation of PSI methodology, profiles for twenty countries will be generated:

Argentina	Germany
Australia	Ghana
Bangladesh	Mexico
Brazil	Pakistan

Bulgaria	South Africa
China	Sudan
Colombia	Thailand
Costa Rica	Ukraine
Croatia	Uzbekistan
Ethiopia	Viet Nam

The country profiles will generally feature key variables such as the total annual renewable water resources, comparative analysis of GDP and population, although the exact content and layout are subject to change. See Figure 1 for an example profile.

Figure 1. Example country profile generated by the PSI methodology



UN Task Force on Indicators, Monitoring and Reporting

In 2006, the UN Task Force on Monitoring finished its study by publishing the report *Water Monitoring: Mapping Existing Global Systems and Initiatives*. In May 2008, the Task Force on Integrated Water Resources Management (IWRM) completed its mandate by launching the *Status Report on Integrated Water Resources Management and Water Efficiency Plans* at the sixteenth session of the Commission on Sustainable Development. In 2008, UN-Water made the decision to establish the new Task Force on Indicators, Monitoring and Reporting (TF-IMR). TF-IMR, coordinated by WWAP, built on the findings of the previous two task forces and concluded its mandate in August 2009 by presenting its final output (a short list of 15 key indicators; see Table 3) at the Stockholm UN-Water meeting.

WWAP, as the custodian of these indicators, is in the process of collecting data and information from relevant stakeholders to report on their status to UN-Water.

Table 3. The TF-IMR indicators

	Issues	Short term Indicators
Water availability or level of scarcity?		
C O N T E X T	Context finite resources and population	1. Total actual renewable water resources per capita or water crowding (people/m ³)
	Climate change impact on water resources and adaptation capacity	2. Current compared to potential storage capacity (or per capita) (+ irrigated areas/irrigation potential)
	Ability to invest for sustainable management	3. National expenditure on water supply and sanitation as % of total budget
How intense is our water use? Is it sustainable?		
F U N C T I O N	Intensity of human uses of renewable but finite resources	4. Intensity of water resources usage: total water withdrawals over total actual renewable water resources (TARWR) (+ intensity of groundwater use compared to recharge)
	Comparative weight of different consumptive uses	5. Abstracted water used by main sectors as % of total withdrawals
	On-stream direct use of freshwater services for fisheries	6. Comparative evolution of inland fish capture and production (aquaculture) since the 1960s
	Trade and water use	7. Share of blue, green and virtual water used to produce food in a country
How effective are our uses?		
Social performance: <i>Are we on track to reach the MDG target?</i>		
P E R F	Access to improved water supply	8. Population with access to improved water sources (%)
	Access to sanitation	9. Population with access to improved sanitation (%) (JMP)
Economic performance: <i>Are we producing enough value per m³ distributed, used or stored?</i>		
P E	Food production	10. Change in water productivity of irrigated agriculture
	Industrial production	11. Change in water productivity of the industrial sector

	Issues	Short term Indicators
R F	Energy production	12. Change in hydropower productivity (production/potential)
Environmental performance: <i>How environmentally sustainable are human uses?</i>		
P E R F	Degradation of key renewable water resources	13. Change in quality of freshwater systems (% of samples above or below standards/limits): - change in concentration of nutrients in freshwater - change in concentration of salt in aquifers
	Mitigation efforts to reduce pollution	14. Urban wastewater treatment connection rates
	Risks of biodiversity loss	15. Threatened freshwater species

WWDR indicators

The first edition of the WWDR reported on more than 160 indicators, ranging from the global quantum of water available and withdrawals for human use to compliance with water quality standards for key pollutants and governance mechanisms to support water management. The first report also explicitly recognized the need for further work, notably in collecting biogeophysical and socio-economic data as well as data on environmental protection and investment in water. It highlighted the danger of data availability driving the selection of indicators, which results in a data-rich but information-poor syndrome in which plenty of data is produced but is not tailored to information needs.

The number of indicators decreased to sixty-two in the WWDR2 and eventually to fifty-one in the WWDR3 (see Table 4) because there was no systematic process for updating the data used for most of the indicators presented in the first report.

WWDR4 will build on the findings of the previous reports and continue the ongoing iterative process of refining and developing indicators.

Table 4. The WWDR indicators

LEVEL OF STRESS ON THE RESOURCE
Index of non-sustainable water use
Rural and urban population
Relative Water Stress Index
Sources of contemporary nitrogen loading
Domestic and industrial water use
Impact of sediment trapping by large dams and reservoirs
Coefficient of variation for the Climate Moisture Index
Water Reuse Index
GOVERNANCE
Access to information, participation and justice

Assessing progress towards achieving the IWRM target
SETTLEMENTS
<ul style="list-style-type: none"> Index of performance of water utilities Urban water and sanitation governance index Slum profile in human settlements
STATE OF THE RESOURCES
<ul style="list-style-type: none"> Total actual renewable water resources <ul style="list-style-type: none"> Precipitation Total actual renewable water resources per capita Surface water as share of total actual renewable water resources Overlap as share of total actual renewable water resources Inflow from other countries as share of total actual renewable water resources Outflow to other countries as share of total actual renewable water resources Total use as share of total actual renewable water resources Groundwater development as share of total actual renewable water resources
ECOSYSTEMS
<ul style="list-style-type: none"> Fragmentation and flow regulation of rivers Dissolved nitrogen (nitrates + nitrogen dioxide) Trends in freshwater habitat protection Freshwater species population trends index
HEALTH
<ul style="list-style-type: none"> Disability-adjusted life year Prevalence of stunting among children under age 5 Mortality rate of children under age 5 Access to safe drinking water Access to basic sanitation
FOOD, AGRICULTURE AND RURAL LIVELIHOODS
<ul style="list-style-type: none"> Percentage of undernourished people Percentage of poor people living in rural areas Agriculture GDP as share of total GDP Irrigated land as a percentage of cultivated land Agriculture water withdrawals as share of total water withdrawals Extent of land salinized by irrigation Groundwater use as share of total irrigation
INDUSTRY AND ENERGY
<ul style="list-style-type: none"> Trends in industrial water use Water use by major sector Organic pollution emissions (biochemical oxygen demand) by industrial sector Industrial water productivity Trends in ISO 14001 certification Electricity generation by energy source

<p>Total primary energy supply by source</p> <p>Carbon intensity of electricity generation</p> <p>Volume of desalinated water produced</p> <p>Access to electricity and water for domestic use</p> <p>Capability for hydropower</p>
RISK ASSESSMENT
<p>Disaster Risk Index</p> <p>Risk and policy assessment indicator</p> <p>Climate Vulnerability Index</p>
VALUING AND CHARGING FOR THE RESOURCE
<p>Water sector share in total public spending</p> <p>Ratio of actual to desired level of public investment in drinking water supply</p> <p>Ratio of actual to desired level of public investment in basic sanitation</p> <p>Rate of cost recovery</p> <p>Water charges as percentage of household income</p>
KNOWLEDGE BASE AND CAPACITY
<p>Knowledge Index</p>

Component 4. World water scenarios (BL4)

WWAP is undertaking a project to explore alternative futures of the world's water and its use to 2050. Such a study is considered necessary because the last global water scenarios were published more than 10 years ago. Since then, technology and socio-economic conditions in the world have changed dramatically and change continues to accelerate. Furthermore, scenarios being conducted in sectors other than water provide new possibilities and challenges for the world's water and links that may be explored. New tools have become available to develop scenarios reinforced by analysis through quantitative models at the national and subnational levels.

Conventional analysis of historical data coupled with stochastic analysis had provided until recently a fairly good basis for examining extremes and sensitivities, robustness, resilience and reliability under past climate variability. But the increasing uncertainties related to climate change, and the variability and risks that come with them, increase the difficulty of developing and maintaining sustainable water management systems. In this light, scenario-building is a useful, and perhaps indispensable, water management tool.

Objectives

- To develop a second generation of global scenarios incorporating climatic variability and change to support linkages between socio-economic anticipatory decision-making and the global water system, including the identification of major risks and opportunities and alternative futures, and to provide a perspective for national and subnational scenario-building.
- To provide an interdisciplinary articulation of the current scientific understanding of the global water system, including major uncertainties and principal areas of agreement, using qualitative descriptions and quantitative projections, expert opinion and analysis of available information.
- To catalyze global water policy development in synergy with World Water Council work to effectively address risks and uncertainties linked to global changes and transboundary contexts.

Structure

The project is organized into two principal Phases – (1) drivers and (2) scenarios – which are discussed in detail below. During 2010, WWAP completed Phase 1 of the project and initiated consultations for Phase 2.

Progress and activities

In 2010, work on the World Water Scenarios project included the fine-tuning of the conceptual framework of the whole exercise and a better definition of its objectives and structure.

Phase 1: Drivers

A significant number of existing scenarios related to water at the global and smaller geographic scales were first identified and reviewed to determine a set of candidate drivers that could form the starting

point for the current project. Through this review, ten drivers were identified for graduate-level researchers to examine in depth possible future developments that could affect or follow from the drivers. Potential linkages among the selected drivers were also assessed, and the applicability and relevance of drivers according to distinguishing characteristics of groups of countries or regions was taken into account.

The ten drivers for which literature review and analysis was conducted and reports were produced are:

1. Water resources, including groundwater and ecosystems
2. Infrastructure
3. Climate change and variability
4. Agriculture*
5. Technology*
6. Demography
7. Economy and security*
8. Governance and institutions (including the right to water)*
9. Politics*
10. Ethics, society and culture (including questions of equity)*

The asterisks denote the six more controversial drivers, which were the subject of Real Time Delphi (RTD) consultations among experts in each of the fields in June and July 2010. These experts evaluated the completeness and accuracy of the reports and offered judgements, ratings and comments concerning the importance of events and developments, the likelihood of their happening and when they might happen.

The other four drivers were surveyed (by *SurveyMonkey* consultation) across a number of experts in August to October 2010, with a request that they add important possible developments they thought were missing and rank the importance of and set time horizons for the driver.

UN-Water Members and exponents of the scientific and academic community were invited to participate in both the RTD and the *SurveyMonkey* consultations.

Findings

The findings of Phase 1 will be integrated into the WWDR4. They confirm the accelerating importance of forces outside the control of water managers that will shape both the challenges they face and the financial and institutional resources they will have available to meet these challenges.

Those outside the 'water box' who make decisions that determine the conditions for water management are faced with the uncertainty of how these forces will evolve. And the acceleration of change reduces the time between recognizing the need to make a decision and completing all the steps to make the right decision at that time. Water managers can inform their decisions and manage only with the tools they have available. Information regarding the drivers must be developed as

closely as possible to the geographic scale at which all levels of decision-makers work; therefore, conducting an iterative water scenarios process at global, regional and local levels is critical.

Outputs

- Reports on the results of RTD studies on the following four drivers: technology; economy and security; agriculture; and ethics, society and culture.
- Reports on the results of SurveyMonkey consultations on the following five drivers: politics; infrastructure; demography; climate change and variability; and water resources.
- An overview report describing the RTD approach and statistical analysis of the results.
- An overview report describing the survey approach and findings, including the highest-ranking developments by driver for all surveys and RTD, and a complete list of developments with their rankings.
- A draft *Report on the World Water Scenario Projects–Phase 1* by the Project Manager and revision by the Implementing Partner (Millennium Project) was received in December 2010. A final version is expected by February 2011.

Phase 2: . Scenarios

Phase 2 involves developing a set of approximately five scenarios (possible futures) and one vision of 'Water for All' (the preferred future) in 2050. A scenario focus group (SFG) representing regions and groups of countries sharing common issues will review the final report of Phase 1 (Drivers) and be asked to describe its concept of 'Water for All' in 2050. The SFG, with the support of some of the scenario specialists, will then consider a first set of stylized scenario outlines prepared by the Scenarios Management Unit based on the results of Phase 1 and give guidance on their development before qualitative and quantitative analyses (modelling) are done and the scenarios are developed further. These will be used along with a few select case studies at the regional/basin level and a toolkit of regional best practices and approaches as background material for the preparation of scenarios by local actors. Phase 2 is expected to be accomplished by March 2013.

Implementation of Phase 2 started in November 2010 with the following actions:

- Finalization of the World Water Scenarios Project Proposal to be submitted to the Global Environmental Facility (GEF)
- Preparation of a project plan, results framework and timeline
- Design of the structure of the scenarios implementation process
- Preparation of the basis for the scenarios development groups (SDG): selection of members and preparation of draft documents for consultation
- Fund raising

Component 5. Capacity development (BL5)

The WWAP capacity development programme consists of three main subcomponents, as follows.

1. Training Programme on Water Assessment and Monitoring The activities developed under this programme include capacity-building in monitoring technologies and database science, in assessment-related institutional management, and in education and training.

2. Training Programme on Conflict Resolution The PCCP training modules on negotiation and mediation for water conflict management provide insights into the art of cooperation and trust-building related to the use of transboundary water resources. They focus on conflict prevention and mitigation and are a forum where participants can exchange their skills while enhancing their comparative advantages and experiences for confronting cases of transboundary water conflicts.

3. Training programme in WWDR4 priority areas This programme identifies specific situations of – and areas subject to – water crisis. It provides ad hoc guidance through science and technical knowledge to help affected countries and regions develop their capacity in adaptive management. Particular focus is devoted to issues raised during the preparation of the WWDR4, including the drivers affecting water, the implications of climate change and variability on water availability, and adaptation techniques.

The WWAP premises at the Villa La Colombella in Perugia have remarkable potential as a training facility. The premises offer two large conference rooms, six training rooms, a computer lab and a guesthouse, which can accommodate at least sixty people. During the third phase of WWAP, offices and conference rooms were furnished. The guesthouse needs further improvement to be able to accommodate trainers and trainees.

Progress and activities

In WWAP's fourth phase, funds have been allocated to improve the premises at the Villa La Colombella and increase the capacity of the guesthouse, which will allow WWAP to implement training activities and host at least 35 participants at very limited costs. During 2010, works started and the guesthouse was upgraded to host 12 people.

The activities include one-block training courses held twice a year (spring and autumn sessions) at WWAP headquarters in Perugia. Training activities started in 2010 and concentrated on PCCP.

'Water Conflict Management' – Training of Trainers from Africa, 20–24 September 2010

WWAP and UNESCO-PCCP offered a training course in 'Water Conflict Management' for trainers from African countries at the Villa La Colombella in Perugia. Ten trainers from Sub-Saharan countries (Gambia, Ghana, Kenya, Madagascar, Namibia, South Africa, Tanzania, Uganda and Zambia) successfully completed the course, which was devised as a forum where participants could exchange their skills while enhancing their comparative advantages and experiences. It aimed to enhance the teaching ability of each participant to act effectively in his or her country. The course resulted in new and additional insights into the art of cooperation and trust-building related to the use of transboundary water resources.

Component 6. Communications, networking, advocacy, information dissemination and gender mainstreaming

In 2010, WWAP worked to disseminate the findings of the WWDR3, *Water in a Changing World*, broadly. In addition, WWAP has been developing a communications, outreach and dissemination plan for the WWDR4 that will be implemented upon its launch. The plan has a global scope to ensure that the report's findings and messages reach the intended audience of diverse stakeholders: decision-makers and policy-makers at all levels, water professionals, non-governmental organizations (NGOs), development agencies, business leaders and the public. Dissemination of the findings of WWDR4 will be pursued in multiple formats and languages, through the media and at events.

Progress and activities

Local and global advocacy initiatives

World Water Day

WWAP invited stakeholders and colleagues in the Umbria region of Italy to its headquarters at the Villa la Colombella to celebrate World Water Day on 22 March 2010. The day's agenda included discussions of water issues and presentations on ongoing water research and programmes conducted by institutions and universities in Umbria, as well as an artistic exploration of the day's theme 'Clean Water for a Healthy World'. WWAP also took the opportunity to present its new headquarters and the activities of WWAP to the attendees.

World Water Monitoring Day

World Water Monitoring Day is an international education and outreach program that builds public awareness of and involvement in protecting water resources by engaging citizens to conduct basic monitoring of their local water bodies. Officially celebrated every 18 September, the results of each year's monitoring efforts can be submitted to coordinating bodies from 22 March to 31 December. Events around the world are coordinated by the International Water Association and the Water Environment Federation.

On World Water Monitoring Day 2010, WWAP and its local partner Perugia Officina per la Scienza e la Tecnologia (POST) launched an initiative called 'Water for All, All for Water' to raise awareness among young people and teachers in Perugian schools of the importance of water quality for our lives. Local schools interested in the initiative were provided with an easy-to-use test kit distributed by WWAP through POST to sample local water bodies. WWAP and POST will select the best projects submitted, which will be announced during World Water Day on 22 March 2011.

'Water, Climate and... Action!' short film contest

WWAP and TheWaterChannel.tv organized an online short film contest with the support of the Mexican National Water Commission (CONAGUA) and the Mexican Consejo Consultivo del Agua. The contest ran from 22 September to 15 November 2010.

The 'Water, Climate and... Action!' contest accepted entries showing people's experiences of and messages about climate change and its relation to water and their life. Selected short films were screened during a side event organized by WWAP at COP16 in Cancun, Mexico, in December 2010. The films have been and will continue to be used to help convey the message to policy-makers and decision-makers that we need to act now to adapt to the effects of climate change.

Advocacy and promotion at international events

World Water Day, Zaragoza, Spain, 22 March 2010

WWAP's sister programme, the UN-Water Decade Programme on Advocacy and Communication (UNW-DPAC), organized a conference in Zaragoza, Spain, on the theme of this year's World Water Day: 'Clean Water for a Healthy World'. Dr Elías Fereres Castiel, a member of WWAP's Technical Advisory Committee, provided the keynote speech on behalf of WWAP, in which he focused on the key messages and findings of the WWDR3, *Water in a Changing World*. The conference took place at the University of Zaragoza with the support of the Government of Aragon, the Zaragoza City Council and the World Council of Civil Engineers.

World Water Day, New York, USA, 22 March 2010

On World Water Day 2010, the UN General Assembly convened a high-level dialogue on the implementation of the International Decade for Action 'Water for Life', 2005–2015, and on progress achieved so far towards realizing internationally agreed water-related development targets, including the Millennium Development Goals (MDGs). The event marked the midpoint of the International Decade for Action and was the first milestone towards the High-Level International Conference on the Mid-Term Comprehensive Review of the Implementation of the International Decade for Action 'Water for Life', 2005–2015 held in Tajikistan in June 2010.

Three panel discussions were held during the day focusing on water issues in relation to the MDGs (and how to accelerate efforts to achieve them), to climate change and disaster risk management, and to peace and security. WWAP Coordinator Mr Olcay Unver gave a presentation during the third panel discussion in which he also highlighted important related issues such as poverty, food, energy, health, the environment and trade.

31st National Coordination Meeting of UNESCO Clubs and Centres in Italy, Assisi, Italy, 9–11 April 2010

This year's meeting explored the theme 'A Path to Peace: A Commitment to Culture, Society and Solidarity by the UNESCO Clubs of Italy'. Ms Michela Miletto, Deputy Coordinator of WWAP, gave a presentation during the opening ceremony on the work of the UNESCO Programme Office for Global Water Assessment in Perugia and on WWAP.

Earth Day: Nat Geo Music Live, Rome, Italy, 22 April 2010

WWAP joined Nat Geo Music (an Italian music television channel affiliated with National Geographic) and other partners to celebrate Earth Day 2010 in Rome with live music and original initiatives to raise public awareness of current and future environment challenges. Nat Geo Music Live 2010 was a large, free concert held in the heart of Italy's capital, organized in partnership with the Italian Ministry of Youth, the Italian Ministry of the Environment and the City of Rome. On the occasion of

this 40th Earth Day, the event aimed to convey the message of preservation of our planet's environmental resources. WWAP highlighted the challenges of conserving our freshwater resources and biodiversity.

'UN-WWAP: Past, Present and Future', Italian Parliament, Rome, Italy, 28 April 2010

On 28 April, a seminar on WWAP was held in the Legislative Chambers of the Italian Parliament in Rome. The objective was to introduce the Italian scientific community and Italian legislators to the activities of WWAP and the status of its Secretariat offices in Perugia. The meeting was organized by the Italian National Commission of UNESCO-IHP under the auspices of the Vice President of the Italian Legislative Chamber. The audience of more than seventy-five comprised members of the Italian legislature, ministerial and regional representatives, representatives from universities and the scientific community, and members of the public, as well as representatives from UNESCO-IHP and WWAP.

Members of the Italian scientific community who took the floor stressed the importance of WWAP to the community. Italian legislators and representatives of the Region of Umbria and Municipality of Perugia welcomed Italy's hosting of WWAP and emphasized their firm belief that Italy should continue to support the programme. Presentations were given by Olcay Unver, Michela Miletto and Pasquale Steduto, Principal Officer of the Food and Agricultural Organization (FAO) Water Development and Management Unit and former Chair of UN-Water. Their presentations outlined the mission and activities of WWAP and stressed its important role in monitoring the world's environmental resources and progress in sustainable development.

Conference on Sustainable Development (CSD)-18, New York, USA, 3–14 May 2010

As part of CSD-18, WWAP contributed to the side event 'Water for Life', hosted by the Government of Tajikistan on 7 May. Ambassador Aslov, UN delegate from Tajikistan, invited a number of speakers, including Mr Zafar Adeel, Chair of UN-Water, Mr Nikhil Chandavarkar, Secretary of UN-Water, Mr Aslam Choudhury, former Secretary of UN-Water, and Olcay Unver to discuss issues related to implementing the UN-Water agenda. Mr Unver gave a presentation on the challenges of international water assessment – including data and information problems, the need to reach out to decision-makers, insufficient institutional capacity and funding issues – and the insufficient inclusion of water issues in important global processes such as those related to the MDGs, climate change, energy and food.

This event was the second milestone towards the High-Level International Conference on the Mid-Term Comprehensive Review of the Implementation of the International Decade for Action 'Water for Life', 2005–2015 held in Tajikistan in June 2010.

High-Level International Conference on the Mid-Term Comprehensive Review of the Implementation of the International Decade for Action 'Water for Life', 2005–2015, Dushanbe, Tajikistan, 8–10 June 2010

The High-Level International Conference gathered about 800 participants from 75 UN Member States, among who were heads of government, scholars, NGO representatives, experts and UN representatives.

Olcay Unver was a panellist at the 'Water Quality' round table on 8 June and the 'Water and Climate Change' round table on 9 June. Mr Unver gave presentations highlighting messages from the WWDR3, *Water in a Changing World*.

WWAP also had the opportunity to provide comments on the draft Dushanbe Declaration, which includes recommendations for the successful implementation of the second half of the 'Water for Life' decade. The Declaration formed the principal outcome of the conference and the Government of Tajikistan went on to submit it for consideration to the UN General Assembly at its 65th session in September 2010 in New York.

WWAP participated in the international exhibition held during the conference, where copies of the WWDR3 as well as other WWAP material such as the *Messages Series* and the *Side Publications Series* were distributed.

Third Asia Pacific Ministerial Conference on Housing and Urban Development, Solo, Indonesia, 22–24 June 2010

Ministers responsible for housing and urban development in the Asia-Pacific region met for this conference on 'Empowering Communities for Sustainable Urbanization'. WWAP contributed to a policy paper led by UN-HABITAT with the support of partners including the UN Economic and Social Commission for Asia and the Pacific (ESCAP), the UN Economic and Social Commission for Western Asia (ESCWA) and the Asian Development Bank (ADB) for the working group on the Delivery of MDGs for Water and Sanitation. The policy paper highlights the importance of water and sanitation for sustainable human settlements and provides policy options to reach the MDG targets for water and sanitation in the Asia-Pacific region. It served as a basis for the discussions held by the working group during the conference.

World Cities Summit and Water Leaders Summit 2010, Singapore, 28–30 June 2010

As part of the Singapore International Water Week held from 28 June to 2 July 2010, two important political meetings took place: the World Cities Summit (28–30 June), which gathered, mayors, policy-makers and interested participants from the private sector and the public around the theme 'Liveable and Sustainable Cities for the Future'; and the Water Leaders Summit (29–30 June), an annual meeting bringing together ministers, mayors, senior government officials and others to discuss pressing water governance, technology and business issues. On these occasions, WWAP disseminated its briefing note *Water for Sustainable Urban Settlements*, produced in partnership with UN-HABITAT (see Component 7).

WorldFuture 2010, Boston, USA, 8–10 July 2010

On behalf of WWAP, Mr William Cosgrove, Project Manager for WWAP's World Water Scenarios project, outlined the project and its challenges at the WorldFuture 2010 conference on 10 July. The WWAP scenarios initiative aims to develop water-related scenarios that will enable policy-makers and decision-makers in socio-economic sectors with important impacts on water use and resources to make more-informed decisions. Mr Cosgrove also described developments in the water sector from the 2000 publication of *World Water Vision: Making Water Everybody's Business* (Cosgrove and Rijsberman for the World Water Council) to the 2009 publication of the WWDR3, *Water in a Changing World*.

World Water Week, Stockholm, Sweden, 5–11 September 2010

On 6 September, WWAP hosted a side event – ‘Managing Water under Uncertainty and Risk: Towards the 2012 UN World Water Development Report’ – to present the working structure and themes of the WWDR4, as well as its preliminary findings. On 8 September, WWAP co-hosted the seminar ‘Sick Water is Threatening the MDGs: A Stakeholder Dialogue to Address Capacity Development and Communication Needs’, a dialogue session organized by UN-Water and led by UNW-DPAC and the UN-Water Decade Programme on Capacity Development (UNW-DPC), as well as UN-HABITAT and the United Nations Environment Programme (UNEP). Olcay Unver together with William Cosgrove also provided a presentation – ‘Uncertainty, Risk and Possible Futures of the World Water System’ – during the World Water Week’s Workshop 7 on ‘Resilience, Uncertainty and Tipping Points’.

IFAT Entsorga Trade Fair, Munich, Germany, 13–17 September 2010

In collaboration with UN-Water members and partners, UNW-DPC coordinated a UN-Water seminar and exhibit at the IFAT Entsorga Trade Fair for innovations, new developments and services in the fields of water, sewage, waste and raw materials management. The UN-Water seminar ‘Institutional Capacity Development on Water Management, Water Supply and Sanitation’ was held on 16 September. Michela Miletto provided a presentation during the seminar: ‘Water Management and Institutional Development: Messages for Stakeholders’.

International Water Association (IWA) World Water Congress and Exhibition, Montreal, Canada, 19–24 September 2010

During the Congress Olcay Unver spoke about the the WWDR4 at the session ‘Water Allocation and Sharing in National and Transboundary Systems’ on 21 September. William Cosgrove was a keynote speaker and provided a presentation on ‘Cities of the Future in (Today’s) Developing Countries’.

Conference on ‘Water and Health: Where Science Meets Policy’, Chapel Hill, NC, USA, 23–26 October 2010

Olcay Unver participated in this event as a speaker in the session on water management in the water resources stream.

‘Promoting Water Cooperation and Dialogue for Achieving the Millennium Development Goals’, New York, USA, 30 November 2010

On 30 November 2010, the Republic of Tajikistan, represented by its First Deputy Minister, hosted a side event at the UN Headquarters in New York on ‘Promoting Water Cooperation and Dialogue for Achieving the Millennium Development Goals’. The objective was to discuss aspects of strengthening cooperation and dialogue to resolve current water issues towards achieving the MDGs and Internationally Agreed Development Goals (IADGs). The side event also aimed to demonstrate best practices in cooperation among water users at local and national levels, and effective approaches and mechanisms towards joint use of water resources in transboundary basins of rivers, aquifers and lakes. Olcay Unver moderated the discussions. Key messages, proposals and comments emerging from the event will be summarized and circulated to all permanent missions to the UN and relevant networks.

3rd Africa Water Week, Addis Ababa, Ethiopia, 22–26 November 2010

WWAP, in collaboration with the UN-Water/Africa Group, convened a special side event on 24 November in the fringes of the 3rd Africa Water Week. WWAP was represented by Michela Miletto and Ms Stéfanie Neno (WWAP Networking Officer). The first draft of the Africa Regional Report was presented with the core objective of discussing the contents with participants and securing their views and input.

COP16, Cancun, Mexico, 29 November–10 December 2010 In the framework of the 16th session of the Conference of the Parties (COP16) to the United Nations Framework Convention on Climate Change (UNFCCC), CONAGUA organized the 'Dialogs for Water and Climate Change'. The objective of these events and activities was to increase understanding of the effects of climate change on water and adaptation strategies. CONAGUA invited WWAP to organize a session.

The WWAP side event, 'Water and Climate: Broadening Approaches for Adaptation Strategies', took place on 1 December and brought together a large audience of scientific community, stakeholder, country and media representatives, as well as policy-makers and decision-makers. WWAP introduced a discussion paper on the scientific aspects of climate change and climatic variability coupled with policy and response options as a basis for the discussion. The objective of the event was to constructively discuss and move towards understanding the interconnections between climate change, water resources and forces such as demographics and economics, and the measures being taken by authorities to cope with increasing variability. The discussion paper is currently being revised based on input gathered during the session and will be published by WWAP in 2011. The top three entries of the 'Water, Climate and... Action!' short film contest organized by WWAP and TheWaterChannel.tv with the support of CONAGUA and Consejo Consultivo del Agua in the framework of COP16 were also screened during the event.

WWAP also co-organized with CONAGUA a workshop on 'Climate Change Scenario Modeling' that took place on 3 December. The objectives were to share successful experiences of adaptive water planning for climate change impacts and to explore how ongoing adaptive water management processes can benefit from the WWAP project to develop new water scenarios. Seven Mexican cases and WWAP presented the project 'Building a Second Generation of World Water Scenarios'.

Gender mainstreaming

As a programme of UN-Water hosted by UNESCO, both of whom consider gender issues a priority, one of the objectives of WWAP is to promote gender and cultural balance. The WWDR3, *Water in a Changing World*, highlighted that managers and all professionals in the water sector need to act within a framework that 'integrates gender-sensitive and equitable approaches in water issues'.

WWAP intends to mainstream gender perspective throughout its activities and products. In this light, in 2010, WWAP produced guidelines for gender mainstreaming to be used by the WWAP Secretariat and also by the WWDR4 production team – including authors and lead agencies for the CAR and RR – during preparation of the report.

The next steps in the mainstreaming process include the formation of an Advisory Group on Gender who will collaborate with existing groups to pool resources and create synergy of processes and events. WWAP is also planning to organize two side events at international conferences to focus the attention of players in the water arena on its gender-related activities and findings.

IT tools used by WWAP

This section gives an insight into the IT tools that WWAP has established and is using to prepare the WWDR4 and other products.

- **Alfresco:** WWAP uses Alfresco as a web-based document management system. Its primary purpose is to allow the sharing of documents with collaborating organizations and individuals for production of the WWDR4. Alfresco reduces email flow, tracks document versions and fine-tunes access rights to workspaces and content. It can also send automatic notifications to selected users when a document has been modified and uploaded, and invite them to provide feedback. The Alfresco platform is hosted by WWAP on its dedicated server and access is restricted.
- **CommentPress:** For the public consultations for the WWDR4, WWAP set up a 'wwdr4blog' with the WordPress blogging engine and publishing platform and installed the CommentPress open source theme and plugin. CommentPress allows readers to comment paragraph by paragraph in the margins of the text. The blog was hosted by WWAP on its dedicated server and was accessible to the public (no restricted access and no user account required).
- **Real Time Delphi:** The Delphi method is a structured communication technique, developed as a systematic, interactive forecasting method that relies on a panel of experts. In the standard version, the experts answer questionnaires in two or more rounds. After each round, a facilitator provides an anonymous summary of the experts' forecasts from the previous round as well as the reasons they provided for their judgements. The experts are encouraged to revise their earlier answers in light of the replies of other members of their panel. It is believed that during this process the range of answers will decrease and the group will converge towards the 'correct' answer. The process is stopped after a pre-defined stop criterion (e.g. number of rounds, achievement of consensus, stability of results) and the mean or median scores of the final rounds determine the results. Real Time Delphi (RTD) is an advanced form of the Delphi method; "a consultative process with increased efficiency over the original Delphi to increase efficiency of the Delphi process. WWAP regularly uses RTD as a method to support remote group discussions on complex issues for which it is difficult to arrive at conclusions.
- **SurveyMonkey:** WWAP uses SurveyMonkey, an online survey software and questionnaire tool that enables users to create their own web-based surveys, to regularly to carry out targeted or public surveys in multiple languages.
- **Website:** The WWAP website is WWAP's principal communication tool. It comprises sections on news and events as well as details on WWAP activities and products, in particular the WWDR and related publications. The WWAP website receives an average of 21,000 visits per month.

Component 7. Publications

As well as producing the triennial WWDR, WWAP publishes special reports, briefing notes, messages series, side publications series, educational and training materials, and brochures. These publications are key to pursuing capacity development objectives, to enhancing the visibility of WWAP, especially at international events, and to promoting the programme's activities and products. The theme of the WWDR4, 'Managing water under risk and uncertainty', as well as some international benchmarks such as the MDGs, will be used as the focal point for WWAP's

Progress and activities

Water for Sustainable Urban Human Settlements, a WWAP briefing note written in partnership with UN-HABITAT (available at http://www.unesco.org/water/wwap/wwdr/pdf/WWAP_Urban_Settlements_Web_version.pdf), was published in 2010 as a contribution to both the World Cities Summit ('Liveable and Sustainable Cities for the Future') and the annual Water Leaders Summit. Both meetings were held in Singapore to coincide with Singapore International Water Week (28 June–2 July 2010). The briefing note is targeted to mayors, leaders and decision-makers of various levels involved in urban development. It highlights the importance of water to sustainable urban settlements and proposes options for integrating water issues in urban development policies.

The brochure *Water for the Millennium Development Goals* (available at http://www.unesco.org/water/wwap/publications/WWAP_Water_and_MDGs.pdf) was launched during the Summit on the Millennium Development Goals held in New York from 20 to 22 September 2010. The brochure underlines water as a cross-cutting issue for the achievement of the MDGs. The eight MDGs that emerged from the UN Millennium Declaration in 2000 galvanized an unprecedented coordination of efforts of the world's nations to improve the situation of the world's poorest people by 2015. The MDGs identify specific development priorities and targets: (1) eradicate extreme poverty and hunger; (2) achieve universal primary education; (3) promote gender equality and empower women; (4) reduce child mortality; (5) improve maternal health; (6) combat HIV/AIDS, malaria and other diseases; (7) ensure environmental sustainability (including the target to halve the proportion of the population without sustainable access to safe drinking water and basic sanitation); and (8) develop a global partnership for development.

Translations of *Overview of Key Messages from the WWDR3* and *Facts and Figures from the WWDR3* were published in Spanish, French, German, Catalan and Japanese in 2010. Korean translations of the full WWDR3, as well as of WWDR1 and WWDR2, were launched in July.

In 2010, WWAP publications were distributed to governments, NGOs, intergovernmental organizations (IGOs), private-sector groups, educational institutions and libraries, as well as at events of global relevance in Canada, China, France, India, Indonesia, Italy, Singapore, Spain, Tajikistan and the United States. Following strong demand for printed copies of certain publications – notably the special report *Climate Change and Water* (an overview from the WWDR3), the briefing note *The Implications of Climate Change on Water*, *Overview of Key Messages from the WWDR* and *Facts and Figures from the WWDR3* – reprints have been necessary.