

# GLOBAL WATER FRAMEWORK

Outcomes of the 5th World Water Forum

Istanbul 2009



**POLITICAL  
STATEMENTS**

**REGIONAL OUTCOMES**

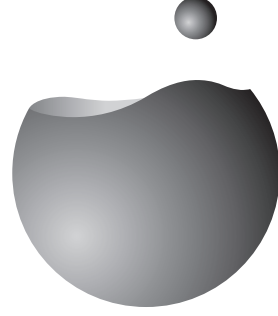
**THEMATIC  
RECOMMENDATIONS**

**STAKEHOLDERS  
PRIORITIES**



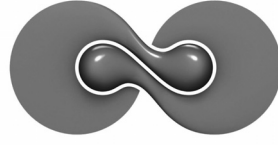
5th WORLD WATER FORUM  
ISTANBUL 2009





World Water Council

**5<sup>th</sup> WORLD WATER FORUM**  
İSTANBUL 2009



BRIDGING  
DIVIDES  
FOR WATER



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Water is at the heart of today's global challenges, including rapid population growth and mass migration, the effects of the financial crisis on infrastructure investment and the impacts of climate change and variability on development. The World Water Forum is a key factor in our collective response--as a global water community--to addressing these challenges and finding solutions that work for the benefit of all. This publication represents a compilation of the collective action of thousands of participants leading up to and during the 5th World Water Forum, held in Istanbul, Turkey, 16-22 March 2009. It will provide a benchmark for continued progress.

### **Istanbul Declaration of Heads of States on Water**

For the first time in the Forum's history, Heads of States/Governments from a number of selected countries met and launched a broad-based Appeal for Action, a call that seeks water security, climate adaptability and international solidarity through a more strategic use of the world's most precious resource, water.

### **Istanbul Ministerial Statement**

Distilled from one year of discussions and negotiations, the Ministerial Statement was adopted by more than 160 governmental delegations. It includes many commitments, for example to intensify efforts to achieve MDG targets, implement IWRM and information sharing at the river-basin level and prevent and respond to water-related disasters. In addition, it also encourages appropriate infrastructure, better scientific research, education, technologies and use of financial resources, while emphasizing the need to share experiences and best practices.

### **Istanbul Water Guide**

An accompaniment to the Ministerial Statement, the Istanbul Water Guide lists 140 recommendations for concrete

action to be implemented to improve water security and management at all levels. It was inspired by about 30 international declarations and was developed with the contributions of thematic and regional coordinators and representatives of major groups.

### **Ministerial Roundtable Reports**

Eight ministerial roundtable discussions were organized with a variety of stakeholders on 21 March 2009 in Istanbul, the outcomes of which independently mirrored those of the thematic process. The roundtable subjects covered water-related disasters, water and climate, financing, coastal zones, sanitation, water and energy, Africa, and water for food and poverty eradication.

### **Parliamentarians for Water Statement & Helpdesk document**

The 5th World Water Forum gathered an unprecedented assembly of 263 Parliamentarians from 57 countries. Following discussions around four central themes, the Parliamentarians drafted a statement and launched the idea of a permanent international Parliamentary "Helpdesk" to aid political cooperation on water legislation and its implementation.

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## **Istanbul Water Consensus and list of signatories and champion cities**

In Istanbul, 250 Local and Regional Authorities from 43 countries presented the Istanbul Water Consensus (IWC), a new compact for Local and Regional Authorities. In Istanbul, 58 signatories committed to prepare action plans to analyse and cope with the challenges they are facing and to report on their progress at the next World Water Forum. Since the Forum, over two hundred additional signatories have joined the ranks, and the list will continue to grow, fueled by the efforts of 10 major “champion cities.”its implementation.

### **Thematic Outcomes**

This chapter is based on a collection of commitments, initiatives and proposals spanning over 100 sessions. One recurring message was that progress can only be achieved through an interdisciplinary approach, both at the international and national levels, due to the interrelatedness of water issues across so many different sectors. There is therefore a need to reinforce the preliminary linkages made at the 5th World Water Forum and continue to think “out of the box.”

In addition, education, capacity development and financial support need to be enhanced in virtually every domain to support further progress. Finally, solutions must be sustainable and flexibly adapted to specific local or regional circumstances: no “one size fits all” approach can be applied to water management.

### **Regional Outcomes**

This compilation of seven regional processes presents many important statements taking into account regional specificities, in both thematic and political arenas. These processes were important catalysts for mobilizing stakeholders, promoting cooperation and impacting political action in their regions. Organisers and participants committed to organize regional preparatory fora in the future to support continued progress on water issues in local contexts.

### **Children’s Declaration**

Held just prior to the Forum, the Children’s Forum welcomed 135 children from 21 countries who discussed and agreed on the Children’s Declaration.

### **Youth Declaration**

An assembly of over 200 young people from all over the world, the Youth Forum encouraged youth to become vectors of that much needed change for the better. The Youth Declaration that they produced was read during the Forum’s closing.



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**HEADS  
OF STATE  
DECLARATION**

# ISTANBUL DECLARATION OF HEADS OF STATES ON WATER

**16 March 2009**

**W**e, the Heads of States, Governments and International Organizations, gathered in Istanbul on 16 March 2009 on the occasion of the 5th World Water Forum, under the theme "Bridging Divides for Water", appeal to all national governments, international organizations and other stakeholders to generate a common vision and framework to develop and manage water resources in a sustainable manner and to guarantee access to safe water and sanitation for all.

Water sustains human life and the environment; it connects people, cultures and economies. Water is indispensable for all economic and social development, food security, and ending poverty and hunger. It is also essential to achieve the Millennium Development Goals and other internationally agreed development goals.

The world is facing major global changes, such as rapid population growth, migration, uncontrolled and unhealthy urbanization, land-use changes, economic expansion, changes in trade patterns, climate change, which have a direct negative impact on water resources. These global changes are seriously threatening water availability and quality and encourage overextraction. The recent economic and financial crisis also must be acknowledged and its consequences on integrated water resources management and services urgently need to be evaluated.

Water also has a power to destroy lives and livelihoods as has been experienced through floods, hurricanes and droughts, and climate change is expected to exacerbate these already disastrous events.

Water resources cannot be managed without appropriate capacity and properly designed and maintained infrastructure. Thus, investment in these areas should be given the highest priority.

Many decisions taken at all levels of government both influence and depend significantly on water. Yet this connection is rarely recognized and much less acted upon.

Therefore, we urgently need new policies, adaptation strategies, institutional reforms with the effective contribution of local elected administrations and water users, international commitments, financial mechanisms, technology and innovation in order to address global water issues and adapt water management strategies to the global changes.

We affirm our political will to take rapid action bearing in mind the key elements of success: Solidarity, security, adaptability and useful dialogue and cooperation on transboundary waters between neighbours. Working together with a participatory, inter-sectoral and multi-disciplinary approach to manage water resources, the world can and will attain greater prosperity and increased stability through the sharing of the many benefits of water.

To achieve this, we call on all nations to join efforts in order to develop a global framework for addressing the world's water issues and to implement tools that will help us accomplish solidarity, security and adaptability.

We, the Heads of States, Governments and International Organizations gathered in Istanbul, pledge to create a more sustainable and water safe world in the 21st Century and, in this context, appeal to everyone to join us in meeting this challenge. ■





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ISTANBUL  
MINISTERIAL  
STATEMENT

# ISTANBUL MINISTERIAL STATEMENT

**22 March 2009**

**W**e the Ministers and Heads of Delegations assembled in Istanbul, Turkey, on 20-22 March 2009 on the occasion of the 5th World Water Forum, 'Bridging Divides for Water', are determined to address the global challenges related to water within the context of sustainable development. We, therefore:

*Reaffirm* the prior commitments made by national governments to achieve the internationally agreed upon goals on water and sanitation, including those in Agenda 21 and the Johannesburg Plan of Implementation, and acknowledge the decisions of the United Nations Commission on Sustainable Development (UNCSD), the multilateral agreements relevant to water, water use, sanitation and health.

*Recognize* the need to achieve water security. To this end it is vital to increase adaptation of water management to all global changes and improve cooperation at all levels.

*Recognize* that the world is facing rapid and unprecedented global changes, including population growth, migration, urbanization, climate change, desertification, drought, degradation and land use, economic and diet changes.

*Recognize*, in particular, the specific challenges facing different parts of the world, especially Africa, in meeting the MDGs and attaining an acceptable level of water security for socio-economic development.

Therefore, we the Ministers and Heads of Delegations, present at the Ministerial Conference of the 5th World Water Forum, share the view on the following:

**1.** We will intensify our efforts to reach internationally agreed upon goals such as the MDGs and to improve access to safe and clean water, sanitation, hygiene and healthy ecosystems in the shortest possible time through appropriate policies and adequate financial resources at all levels.

**2.** We will further support the implementation of integrated water resources management (IWRM) at the level of river basin, watershed and groundwater systems, within each country, and, where appropriate, through international cooperation to meet economic, social and environmental demands equitably, inter alia to address the impact of global changes, taking into account the interests of all stakeholders, using a participatory process in decision making and planning while creating better links between relevant sectors to achieve solutions that benefit all parties.

**3.** We endeavour to improve water demand management, productivity and efficiency of water use for agriculture including, where appropriate, building irrigation networks and also improve rain-fed agriculture to increase crop productivity and conserve water with a view to achieving sustainable production of sufficient food for rapidly increasing populations, and changing consumption patterns, improving living standards, especially in rural areas, and ending poverty and hunger consistent and in harmony with internationally agreed development goals and other relevant international obligations/agreements.



**4.** We support country-led development projects in different sectors related to water, especially with regard to energy and food security and poverty eradication. We will work to build new and maintain, strengthen and improve existing infrastructure for multiple purposes including water storage, irrigation, energy production, navigation and disaster prevention and preparedness that are economically sound, environmentally sustainable and socially equitable.

**5.** We will strengthen our understanding of the impacts of global changes on water resources, natural hydrological processes and ecosystems. We will work to preserve environmental flows, increase the resilience of and restore degraded ecosystems, taking advantage of new mechanisms as well as partnerships with foresters to enhance water-related forest services.

**6.** We will strengthen the prevention of pollution from all sectors in surface and ground-water, appropriately applying the polluter pays principle, while further developing and implementing wastewater collection, treatment and reuse.

**7.** We will consider the need of water-short areas to invest in desalination and wastewater treatment for reuse and provide technological support and know-how to make them sustainable and affordable.

**8.** We will respect international law providing protection for water resources, water infrastructure and the environment in times of armed conflict and cooperate in its further development, as necessary.

**9.** We resolve to develop, implement and further strengthen transnational, national and/or sub-national plans and programmes to anticipate and address the possible impacts of global changes. Assessments of varying hydrological conditions, extreme water events and the shape and functionality of existing infrastructure are essential in this context. Investment efforts to establish necessary infrastructure, to increase storage and drainage capacity in particular, needs to be scaled up, taking into account water efficiency.

**10.** We resolve to work to prevent and respond to natural and human-induced disasters, including floods and droughts. We resolve to proceed, where possible, from crisis management to disaster preparedness and prevention of human-induced disasters and risk management by developing early warning systems, implementing structural and nonstructural measures, both for water resources and access to water and sanitation, and building capacity at all levels. We resolve to also take necessary post-disaster mitigation and rehabilitation measures for affected people and hydrological systems.

**11.** We will strive to improve water-related monitoring systems and ensure that useful information is made freely available to all concerned populations, including neighbouring countries.

**12.** We will clarify at all levels, as appropriate, the roles, rights and responsibilities of all actors and promote cross-cutting coordination and policies, in particular to provide people with access to water and sanitation as a key to achieve sustainable development while maintaining responsibility in line with social considerations, with national governments and local authorities, and support various forms of partnerships.

**13.** To improve at the national level the governance of the water sector, we will, as appropriate, aim to:

- a) Promote institutional water management reform,
- b) Strengthen water sector laws and regulatory frameworks, increase political and administrative accountability for their implementation, and ensure their effective enforcement,
- c) Prevent corruption and increase integrity in implementing water-related policies, plans and practices,
- d) Ensure transparency in decision making processes,
- e) Strengthen public participation from all water stakeholders.

**14.** We will support scientific research, education, development and adoption of new technologies and broadening of technological choices in the field of water and promote their utilization towards sustainable use and management of water resources and to increase the adaptive capacities and resiliency of societies. We will make efforts to promote international cooperation in the development, application and diffusion, including dissemination of technologies, practices and processes in water issues, as well as in scientific, technological, socio-economic and other research, towards improving universal access to water and sanitation.

**15.** We acknowledge the discussions within the UN system regarding human rights and access to safe drinking water and sanitation. We recognize that access to safe drinking water and sanitation is a basic human need.

**16.** We will take, as appropriate, concrete and tangible steps to improve and promote cooperation on sustainable use and protection of transboundary water resources through coordinated action of riparian states, in conformity with existing agreements and/or other relevant arrangements, taking into account the interests of all riparian states concerned. We will work to strengthen existing institutions and develop new ones, as appropriate and if needed, and implement instruments for improved management of transboundary waters.

**17.** We invite international organizations and institutions to support international efforts to enhance the dissemination of experiences and sharing of best practices on sustainable water resources rehabilitation, protection, conservation, management and utilization.

**18.** We strive to prioritize water and sanitation in national development plans and strategies; develop local and national/regional water management plans; allocate adequate budgetary resources to water management and sanitation service provision; to lead donor coordination processes, and create an enabling environment for water and sanitation investments. We strive to mobilize resources from all sources, including public and private.

**19.** We will promote effective use of financial resources from all sources, including encouraging international financial institutions, development partners and beneficiary countries to increase support for water management, water supply and sanitation. We also will resolve to support more effective and diversified support, credit and financial management systems that are easily accessible and affordable.

**20.** Acknowledging that new and adequate resources are needed to achieve the MDGs, we call upon the international community, development partners and private sources of financing to invest resources to complement the efforts made by developing countries and countries with economies in transition, to develop sustainable water resources management and to build the infrastructure base for a sustained socio-economic growth, especially in Africa and least developed countries.

**21.** We acknowledge the need of fair, equitable and sustainable cost recovery strategies and we will therefore promote and implement realistic and sustainable financing strategies for the water sector, especially water supply, good water quality and sanitation sectors. We acknowledge that exclusively economic approaches and tools cannot capture all social and environmental aspects in cost recovery. Financing strategies should be based on a best possible use and mix of tariffs for all forms of water services, taxes and transfers to cover needs related to infrastructure development and extension, operation and maintenance.

**22.** We finally acknowledge that water is a cross-cutting issue. Thus, we will communicate our message to those outside of the water sector including the highest political levels. We will make our best efforts to follow this issue in order to develop innovative governance, integrated water policy management, legal frameworks, cross-sectoral policies, financing mechanisms and technologies in combination with capacity development.

Therefore, we the Ministers and Heads of Delegations, present at the 5th World Water Forum Ministerial Conference share the view to:

- (A)** Convey the results of the 5th World Water Forum Ministerial Process to relevant international and regional processes,
- (B)** Challenge ourselves and call upon all stakeholders to take into account this Ministerial Statement and its recommendations to be incorporated, as appropriate, into our national policies related to water resources management and services and link these results to the 6th World Water Forum, and take note of the Istanbul Water Guide and its recommendations.
- (C)** Continue to work together with Parliaments and Local Authorities, to address water and sanitation issues in a mutual fashion,

Finally, the Ministers and Heads of Delegations present at the 5th World Water Forum Ministerial Conference would like to:

- (D)** Thank the Government of Turkey, Istanbul Metropolitan Municipality and the World Water Council for their organization of the 5th World Water Forum and the Ministerial Conference.
- (E)** Note with appreciation the participation of National Governments, Regional and International Organizations and stakeholder groups in the Ministerial, Regional and Thematic Processes of the 5th World Water Forum. ■



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**ISTANBUL  
WATER GUIDE**

# ISTANBUL WATER GUIDE

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## BACKGROUND

**1** The Ministerial Declarations of the past World Water Fora have been important contributions in laying down the world's priorities concerning water resources and services. Yet, water-related problems still persist, and are even becoming more significant as a result of global changes affecting, in particular, the economy, the demography and the state of natural resources. There is thus a need to accelerate action by all actors to make progress towards creating a water-safe environment for the world's citizens.

**2** The goal of the Istanbul Water Guide is to go beyond those statements and create an agenda for action by national governments in partnership with stakeholders to address the critical areas of water resources management, governance and finance.

**3** The Istanbul Water Guide represents recommendations from experts from throughout the world and is not intended to be a binding document for governments but has two major objectives:

- *To help and guide governments to adjust their priorities and actions plans according to the difficulties they face; and*
- *To inform relevant intergovernmental processes of the results of the 5th World Water Forum Ministerial Process.*

**4** In the context of this 5th World Water Forum Ministerial Process, the term "Global Changes" is referred to as including, but not limited to population growth, migration, urbanization, climate change and land-use, consumption and economic changes, and therefore increasing pressures on natural resources and ecosystems.

**5** The Istanbul Water Guide is configured to "mirror" the Thematic Programme of the 5th World Water Forum to make the connection between the technical side of the Forum and the political, "Bridging Divides for Water", the over-arching theme of the 5th World Water Forum. Contributions were made directly by the Thematic, Topic and Regional Coordinators of the 5th World Water Forum and other significant international meetings and Regional Summits and consolidated into a single text which outlines the issues the world is facing with regards to water and sanitation as well as objectives to address those issues.

## THE PROBLEM

**6** The world is facing changes at a faster rate than ever seen before. These changes such as population growth, migration, urbanization, land-use changes and climate variability/change will drive the way in which water resources need to be managed in the future. They also call for concrete contributions from water policies and actions to help the world cope with these changes. While climate change has been the most talked about topic, other changes taking place will likely affect water resources and services and their management to a much greater

degree. The population of the planet is estimated to increase by 50%, meaning 3 billion additional inhabitants, by 2050. More than half of the world's population now lives in cities, and this increasing urbanization is set to continue. Population will continue to increase as will rural-urban migration, adding difficulty to reach the agreed Millennium Development Goals (MDGs) on access to water and sanitation and increasing pollution at the same time. The demand, and probably prices, of natural resources and energy will increase as the planet's inhabitants grow in number and consumption increases. Humans are altering global systems at a rate not previously experienced. These drivers, and the constraints that limit the ability to adapt to them, affect the developed and developing world in different ways.

**7** Critical issues have recently been the focus of politicians and media alike. Oil prices, food prices, global economic turbulence and water-related disasters feature high on the list. What the world is not talking about is how these are related to, impact on and are affected by water. There is an inextricable link between all of these issues and water yet the connection is not being made at a higher level, which endangers not only water resources and ecosystems, but humans and their livelihoods as well. It is not well understood within political arenas that water resources are among the important factors that drive the current changes, affecting nations as well as local communities. This adds to the already high impact of polluted water affecting billions of people as well as ecosystems. With the onset of global changes, the world must confront these issues urgently so as not to let both lives and economic well-being slip through our fingers.

<sup>1</sup> This Istanbul Water Guide was prepared through a series of Preparatory Committee Meetings (PrepComs) with the attendance of representatives of national governments as well as major and stakeholder groups and the Thematic and Regional Coordinators of the 5th World Water Forum. This document is based on the broad views of the participants of the PrepCom series and the outcomes and recommendations of a number of technical and political meetings, such as symposia, conferences, summits and regional water fora held until early 2009 (see list in Annex I).

8 These messages have to be taken to those outside of the "water box", which include the highest political levels. The cross-cutting nature of the water sector makes it an important resource for other interests. Often, decisions affecting water are not in the hands of water professionals but in the hands of decision makers in related sectors. The water sector must help inform these decision makers in order for them to make more sound choices about how they utilize water in their activities.

9 Throughout history, water actions have been societies' main activity to adapt to changes in climate and nature. They have been the means by which decision makers create ways to avoid social disruption and violence under the shock of events with too much or too little water. The 5th World Water Forum offers the opportunity to help create a framework for assisting nations and communities to mitigate for and adapt to those global changes in a sustainable way. The situation has already been critical for decades, but

national and local governments are not prepared for the changes that will occur, potentially making a worse situation. Let us set the agenda now while we have the opportunity.

## THEME I: Global Changes and Risk Management

### Element I: The Role of Water in Adapting to Climate Change

10 **Think outside the "water box".** Climate change/variability affects not only the hydrological cycle, but areas that are closely related to water, forest and land. An integrated approach to adapt to these changes through better management of space, land and water as media for mitigation, adaptation and disaster preparedness and to ensure food security, energy security, economic development, environmental protection and equity is required. Water is more affected by food, energy and other policies than by water policies themselves. It is recommended that the water community finds ways to help politicians and experts of other sectors to understand these broadened perspectives and their implications for policies. It is also recommended that national governments, including ministries of agriculture, forestry, interior, public works, industry, finance, energy, health, education and other sectors "outside the water box", take

into consideration the impacts of their policy choices on the hydrological cycle that affects rural, populated and urban areas. The strategic impact assessment is a tool that can add value with thinking "outside the water box" for the development of high level policies and identification of hot spots.

11 **Develop national and/or sub-national water-related adaptation strategies.** National and sub-national strategies need to be developed for adaptation to climate change/variability taking into account international adaptation programmes. These need to be integrated in existing and national IWRM plans and strategies. Assessments of needed infrastructure for adaptation should be carried out and then required infrastructure planned and financed. Adequate approaches, such as climate-friendly small-scale technologies, besides large-scale infrastructure should be taken into consideration, not only because of potential impacts, but also the long time frame for construction. Water can

be seen not only as part of the problem, but part of the solution with regards to climate change. Groundwater carries a buffering capacity against climate change; therefore sustainable groundwater management, desalination and wastewater treatment should be part of the national strategies. Hydropower development and inland navigation needs to be revisited and developed as an adaptation measure. Non-structural adaptation measures such as spatial planning, ecosystem protection, social concerns, communication, awareness-raising and risk management plans are essential. Support rural areas as they are the foundation of agriculture and are extremely sensitive to global changes. Projections of climate change impacts should be developed at a smaller scale and localized to provide relevant information to policy makers and water managers responsible for major urban areas. The importance of collection and dissemination of climate and hydrological information is stressed.

**12 Apply the IWRM approach to address adaptation to climate change.**

The impact of climate change on the water cycle should be assessed and communicated. Capacity development to support better management of water resources at all levels, national, regional and local, including river basin organizations (RBOs) should be supported to build resilience to climate change. Application of the IWRM approach will balance social and economic impacts, minimise environmental impacts and preserve ecosystems.

**13 Identify the countries and communities that are most vulnerable to the hydrological impacts of climate change.**

Areas identified by the IPCC as most vulnerable to the impacts of climate change include the least developed countries and small island developing States (SIDS), low lying densely populated coastal areas, areas affected by glacier melt, and arid areas with fragile populations, economies and environments. International efforts to identify "hot spots" and make accessible operational tools to further identify areas and groups that are at highest risks from the hydrological impacts of climate change should be scaled up. Strategic Environmental Assessments can help identifying vulnerable locations and systems, to be followed by factoring in climate proofing into water resources management and water services.

**14 Design infrastructure projects to better manage hydrologic variability, including the likely effects of climate change.**

Infrastructure projects should anticipate the likely affects of climate change as well as hydrological variations. Infrastructure should be redesigned and re-engineered as necessary to withstand extreme events and to perform under changed circumstances.

**15 Develop long-term scenarios and strategies for action in all planning activities.**

To cope with the impacts of increasing climate variability and climate change on water and livelihoods,

including the uncertainties, a longer-term horizon is required for community development and involvement and large infrastructural investments, beyond the planning horizon adopted by the Millennium Development Goals (2015).

**16 Incorporate climate change assessments in National Plans related to water.**

At the national level, integrate an assessment of climate change impacts into National Water Plans and create adaptation measures in line with those impacts for sustainable water security in social, environmental and economic needs.

**17 Close the financial gap for adaptation.**

While it is a nation's responsibility to finance their national water management programmes, climate change may add additional challenges within the overall development/sustainability agenda, resulting in the need of additional external financial resources for developing countries to implement adaptation measures. While recognizing that several financial initiatives are being launched recently on mitigation and adaptation, the additional needs cannot be met with the present (inter)national adaptation funding instruments alone.



**Element 2: Water-related Migration, Changing Land Uses, Human Settlements and Water**

**18 Improve the knowledge base on the change of water-related population dynamics.**

As the window for identifying appropriate adaptation pathways to global changes narrows, it is imperative to address how changing climatic and environmental conditions affect individual and group decisions to migrate. Assemble data and relevant scientific information on the subject is pertinent in order to develop strategies to manage migration. Understand the dynamics of agricultural development

that is related to population dynamics especially between rural areas and urban areas in developing countries.

**19 Strengthen institutions and policies, which bolster resilience in populations.**

Policies are needed, which strengthen resilience, systematically reduce incentives that drive environmental degradation, improve livelihood opportunities and provide enhanced risk management capacity. These policies should include input from all major groups/stakeholders and address cultural and gender concerns as to strengthen civil society and major group roles.

**20 Increase awareness about the impact of environmental degradation.**

Knowledge about degradation of water resources and climate change can guide governments, migrants, and potential migrants to take necessary precautions for the safety of populations.

**21 Develop sound monitoring systems.**

Take stock of and improve existing monitoring systems and develop new and innovative ones.

**22 Improve legal frameworks.**

Include environmentally induced migrants, environmentally displaced people and internally displaced populations due to water related effects within international legal instruments. Improve the existing international legal instruments to protect the rights of displaced individuals and/or communities.

**23 Provide adequate humanitarian response.**

Environmental changes and armed conflict may result in substantial human movements, which will require adequate humanitarian efforts to avoid escalating tensions. Natural disasters and armed conflict will displace large numbers of people temporarily, while the steady and continuous impact of climatic stressors will permanently displace many more people over an extended period. In the face of environmental stress, assistance must

be in place to prevent crisis and maintain peace among resource-stressed and possibly poverty stricken groups on the move as well as assess impacts of sanitation and waste creation of those migrating and address them.



### Element 3: Managing Risks and Disasters

**24 Assess the risks and possible consequences of water-related disasters.** Water-related natural disasters, namely droughts and floods, are the primary killers, and heavily affect millions of people, especially among the poorest. These disasters are serious impediments to sustainable development and poverty reduction. Huge economic losses can also be ascribed to water-related disasters, including massive impacts to infrastructure, shelter, health and food production. The influence of climate variability/change with the likely increased frequency of droughts and floods will increase the vulnerability of populations. Demographic changes, urbanization, migration and lack of adequate infrastructure are also putting higher numbers of people at risk than ever before. Therefore, assessment of the risks and possible negative consequences of water-related disasters encountered by global changes

should be comprehensively studied and understood.

**25 Integrate water-related Disaster Risk Reduction into national development plans and finance.** Within this remark, it must be recognized that adaptation to climate change must take on a high priority for national governments while establishing national and local goals targets for water-related Disaster Risk Reduction. International and regional strategies and action plans also need afforded priority, especially in cases of transboundary risks. Public and private investment in infrastructure, non-structural measures and human resources are needed with safety of populations as a priority.

**26 Increase preparedness level of afflicted populations.** Through the use of raising public awareness, increasing the human capacities of nations, from local to national levels, to confront water-related disasters, the strengthening and development of early warning systems considering vulnerable areas and groups of people, and the creation preparedness indices, to make nations more prepared to confront water-related disasters.

**27 Institute risk management plans/measures.** Shift from crisis management to risk management.

Assist rural areas and cities in instituting structural and non-structural risk management plans/measures to reduce damage from water-related disasters. National governments should ensure that urban centres develop and enforce appropriate spatial planning and bylaws that reduce risks of water-related disasters that take into account the various impacts on different major groups.

**28 Protect the access to drinking water and sanitation services during and after disaster and in situations of armed conflict and occupation.** All parties to the conflict must respect International Humanitarian Law protecting objects that are indispensable to the survival of civilian population, such as drinking water installations and supplies and irrigation works. Humanitarian response to the civilian population in general, to women and children, elderly, refugees, sick and wounded in particular must be granted aiming at re-establishing or upgrading drinking water and sanitation installations and supplies disrupted by the disasters or the direct or indirect effects of armed conflict and/or occupation. Combine measures and efforts to prevent any appearance and spread of water-related diseases.

## THEME II: Advancing Human Development and the Millennium Development Goals (MDGs)

### Element 1: Ensuring Water, Sanitation and Hygiene for All

**29 Develop national and sub-national plans of action.** Each country should develop national and sub-national plans of action, along with appropriate policies, outlining the

necessary actions in order to expand access to water and sanitation. Such plans need to include aspects related to appropriate sanitation technologies, wastewater collection and treatment and be tailored to the economic, social and environmental conditions and needs. The plans need to specify short-

medium- and long-term targets and timelines, going beyond the MDG and Johannesburg Programme of Implementation targets. National and sub-national plans should take into account preservation of all ecosystem services. The requirements of underserved urban and rural populations,



residents of arid and semi-arid areas and informal settlements, should be addressed appropriately in the development of these plans, while incorporating indigenous knowledge, women's and children's knowledge and needs and give specific attention to vulnerable groups. Priority should be given to schools, health centres, public centres and emergency preparedness. Identify one accountable institution to take clear leadership of the national sanitation portfolio and establish one coordinating body with specific responsibility for sanitation and hygiene that would work in conjunction with the health and education sectors.

**30 Improve monitoring of access to sanitation and water.** Monitoring, based on data provided by national governments, of access to safe and clean water and sanitation is essential. Existing WHO-UNICEF Joint Monitoring Programmes should be further supported and expanded to include additional indicators, including gender and age-segregated data, such as connection to sewerage networks and wastewater treatment, to measure global progress towards meeting the internationally agreed upon goals on water and sanitation. Develop monitoring of the quality of water, the continuity of water supply, hand washing programmes and segregated sanitation facilities in schools and health centres. At national level, analyse the discrepancies between the various national datasets describing the types of access to water and sanitation in order to strengthen the base and the monitoring of national policies.

**31 Build cross-cutting local, regional and international partnerships.** Increase the efforts and means of governments (local, regional and national), water operators, civil society, NGOs, water users and the private sector to partner together to assume and share the costs, risks, results and impacts of investment in water,

sanitation and hygiene. Strengthen local water services through Water Operators Partnerships (WOPs). Establish regional, North-South, South-South North-South-South partnerships to build capacity, exchange best practices, transfer knowledge, strengthen local cooperation and finance projects.

**32 Mobilise resources for water, sanitation and hygiene.** Develop sustainable financing strategies to enable implementation of national and sub-national action plans for water and sanitation. National governments are responsible for defining appropriate budgetary allocations to water, sanitation and hygiene. Authorities responsible for delivering water and sanitation services should implement sustainable cost recovery through a mix of tariffs, taxes and transfers, including Official Development Assistance. Contributions from international financing institutions and development partners should respond to demands expressed by recipient countries.

**33 Build capacity in water, sanitation and hygiene.** Mobilise more technical resources and build institutional, technical, managerial and planning capacity at all levels, but especially at the local level.

**34 Use appropriate, acceptable and economically available technology.** With the full participation of communities, design, implement and evaluate sustainable technical solutions to water and sanitation problems using appropriate, innovative, and economically available as well as indigenous technologies.

**35 Raise awareness on sanitation and hygiene.** Inform both the public and decision makers on the benefits of water, sanitation and hygiene to the economy, health and the environment and make them aware of the sense of urgency of the issue. Promote and make available sustainable, affordable and appropriate technologies to the

poor and disadvantaged. Use modern approaches such as community-led total sanitation, marketing for behaviour change, educational programs to change behaviour towards water, sanitation and hygiene. In addition, using such strategic processes as Poverty Reduction Strategy Papers, raise the profile of water, sanitation and hygiene so development agencies take more robust action towards meeting the needs of those without these services.

**36 Consider the full impact of sanitation on health, environment and the economy.** Better take into consideration the sanitary, environmental and economic benefits of improved sanitation, in both developing and developed countries. The International Year of Sanitation 2008 has raised awareness about the direct relation between poor or lack of sanitation and slow progress against health targets, environmental degradation, low productivity and economic activities.

**37 Improve Integrated Sanitation Management.** Recognise wastewater as a resource and develop its use, whenever and wherever appropriate and properly controlled. Wastewater may be used for irrigation and solids, suitably treated, may be used as fertilisers and for energy production from biomass and heat. Integrated Sanitation Management should be considered as part of IWRM.



## Element 2: Water for Energy, Energy for Water

**38 Improve the knowledge of the water-energy nexus.** There is too little thought and planning being introduced to the water-energy nexus in most parts of the world, especially developing countries. With fluctuating costs, rapid decisions have to be made about how these two sectors will be interrelated. It is therefore important to develop a good understanding of the water-energy nexus at the local, national,

regional and international levels as both water and energy actions place at the global level all the way down to individual communities where water and energy choices take place on the ground. Wide participation from relevant stakeholders is necessary from both sectors to include users and user associations, professional associations, business and the private sector, regulators, governments, NGOs, scientists, the academic community and workers and trade unions, farmers' organizations and civil society.

**39 Enhance the coordination of water and energy policies.** Water and energy policies are rarely well coordinated. Increasingly, agencies are taking a boarder approach to the impacts of water on energy policy and vice-versa. Far better coordination is required to establish markets and investment conditions and regulatory mechanisms, which optimize water and energy use and re use.

**40 Conduct national water energy-food sustainability assessments.** Not enough is known about how water, energy and food are inter-related and even less about how new trends and climate change will impact the use of both resources. It is important to conduct national water and energy resource sustainability assessments considering agriculture and poverty aspects and through these define sustainable water and energy resources at regional, national and sub-national levels.

**41 Changes in energy prices should be addressed in all aspects of water management.** Energy costs will directly impact water pumping and transportation costs, which may have consequences on water access, especially by the world's poorest populations. Sustainable compensation mechanisms by national, regional and local governments need to be designed well in advance, changes in design may need to be considered and experiences need to be shared among

countries and water institutions in order to reduce these impacts. In addition to compensation, options for investing in water conservation, energy efficient pumping and transport mechanisms should be considered.

**42 Use efficient and appropriate technologies in both water and energy sectors.** There is an extraordinary amount of technological innovation that seeks to reduce interrelated energy and water footprints in the delivery of these essential services. Increasing efficiency in energy use in the water sector, irrigation and desalination in particular, and water use in the energy sector is crucial for reducing the footprints of both sectors on the other.

**43 Invest in sustainable and socially responsible hydropower and water storage.** There is an acute lack of infrastructure in some parts of the world for hydropower and storage. Investments in small- and large-scale infrastructure need to be made to make energy production cleaner and greener while at the same time take into consideration the possible advantages these structures have for water-related disaster mitigation, inland transportation, agriculture, poverty eradication and other uses. Application and development should be encouraged, as hydropower is an effective adaptation measure in the context of climate change. Due concern to minimize social and environmental impacts of hydropower should also be given.

**44 Enhance inland waterborne transport.** Inland waterborne transport is a model of transport that is more energy efficient. It is necessary to promote navigational use of water-courses in view of energy conservation, efficient energy utilisation and climate change mitigation, which contributes to improvement of the water-energy nexus.

**45 Conduct more research to better evaluate impacts of biofuels on water resources.**

Biofuels may play a significant role during the 21st Century. Impact assessments, risk and benefit studies on the production and use of biofuels will contribute to optimize water use taking into account aspects of quality, quantity and food production.



### Element 3: Water and Food for Ending Poverty and Hunger

**46 Introduce policies to promote the "more crop per drop".** Increasing the prevailing low yields - in both rain-fed and irrigated crop land - has the largest effect on the reduction of water use per kilogram of produced food. The increase in water use efficiency/productivity is mainly caused by reduction of evaporation from the soil, due to better cover of the plants and the resulting increased interception. Higher food prices will incentivize producing higher yields. Poor farmers generally achieve low yields due to lack of resources and technology, and will especially benefit from support to improve yield per unit of water.

**47 Promote small-, medium- and large-scale agricultural development projects.** Governments should promote development of small-, medium- and large-scale, affordable and sustainable infrastructure and other agricultural projects suited to the intended beneficiaries and pay due attention to market access, water cost recovery issues in agriculture, resilience to and managing risks of natural disasters, especially by small-scale farmers, and the possible effects of climate change.

**48 Scale-up the modernization of irrigation and drainage systems.** Development and modernization of irrigation and drainage system schemes in the broad sense (technical, managerial, financial and environmental) will be required at a large-scale to achieve the

required increase in food production, eradication of poverty and hunger and protection of the environment. Water can then be saved for other uses or money saved to further develop the source of water. Irrigation is not the only means of providing water for agriculture so that more focus on improving rain-fed agriculture and rain-water harvesting is also needed.

#### **49 Strengthen and support water-related institutions and associations.**

Governments, especially in emerging economies and least developed countries, accelerate the adoption of participatory management of irrigation/drainage infrastructure, the formation of professionally oriented farmer/water user organizations, enhance legal systems and support financially irrigation/drainage administration. Strengthen the transfer and dissemination of irrigation/drainage technological and management skills from professional experts in governments and international organizations to the farmers' irrigation/drainage management organizations;

**50 Understand the changes in nutrition and diets in the context of supply and demand.** With the increase in the standard of living, caloric intake in emerging countries rises along with the type of food consumed. This has a direct affect on water used in the production of meat and dairy products and crops, which contribute most to the change in diets, are sometimes water intensive. Understanding these trends, especially the importance of livestock, will help develop with the conservation, re-use and allocation of water resources.

**51 Re-engage in the reduction of food losses "from field to fork".** Food losses along the production-consumption chain are considerable and equivalent to a great waste of water resources mobilized at field level. This represents by far the greatest losses in water in agriculture and animal husbandry. Developing programmes

to reduce these losses on the demand side of the food chain would generate a significant diminution of the water footprint per capita and would probably as well facilitate access to food by the poorest yet should not take pressure off the efforts to improve system efficiency and efficient use of water in cities, businesses, power generation and agriculture.



### **Element 4: Multiple Use and Functions of Water Services**

**52 Acknowledge the wide-spread practice of multiple uses and functions in water systems.** Historically people, communities, and water managers have been using man-made delivery systems or natural water systems deliberately for more than a single use. In many rural and urban areas, domestic water networks are used for small-scale productive activities. Similarly, irrigation systems are often de facto providing large amounts of water within their command areas that facilitate access to water for many other uses through recharge of surface streams and groundwater. Lastly aquatic systems (wetlands including rice-based systems) provide many critical productive and ecosystem services to nearby populations. Under appropriate stakeholder management processes, the practice of multiple uses and functions can prove to be sustainable and very efficient for the community.

**53 Recognize the multiple benefits of multiple uses and functions of water services including for the most vulnerable users.** Multiple use systems can provide the more vulnerable users with low cost services for domestic water, water for agriculture (irrigation, rain fed), homestead, garden, water for cattle, habitats for fish and other aquatic resources and rural enterprise water supplies. The same infrastructure may be used for these services as well as for hydroelectric power and, in some cases, to aid inland waterway navigation.

Multiple use systems consider also support important cultural values and functions that are essential for local well-being and livelihoods and might provide ecological benefits which include flood control, groundwater recharge, water harvesting, water purification and biodiversity conservation. Diversification of water sources and of productive activities is instrumental in increasing local community resilience and management to global shocks and risks that may result from climate or market crisis.

**54 Recognise the interrelationship between multiple uses, the functions of water services and integrated water resources management.** Multiple use practices are an inherent element of the Integrated Water Resource Management (IWRM) approach, which should be strengthened. Management agencies of large irrigation systems are often the only water services providers, notably during dry periods. Sound governance of these systems should be ensured to encompass the principles of IWRM and to recognize the needs of all stakeholders.

**55 Capitalize on the sustainability of multi-services water management.** Multi-service water management provides the opportunity to increase the sustainability of water system management by sharing the operational costs and benefits among several uses and users. All water-use sectors need to be taken into consideration. The challenge is to move away from a sector-silo approach to water system management and administration. Service oriented management needs to take a broader approach in order to encompass all realms including sustainable cost recovery, subsidies and to work in an integrated way to develop and manage community water resources at the local level. It should encompass social aspects, women's and men's priorities and ecosystem services.

**56 Develop country visions and promote local strategies.** All stakeholders at the national level should develop a consistent vision of multiple use and functions of water, including domestic, agricultural, ecosystem and industrial, with a thorough analysis of opportunities and constraints. This vision and these decisions should be

reviewed continually in the light of changing circumstances. Local governments should be empowered to overcome sectoral boundaries by integrating elements of long-term technical, financial and cost sharing, and institutional support packages according to the agreed multiple water use needs. Municipalities and cities,

irrigation and other water use agencies should consolidate and conserve their water services to achieve integration and coordination of groundwater, surface water, rainwater, wastewater, recycled water and other sources of water supply for urban and rural areas.

## THEME III: Managing and Protecting Water Resources and their Supply Systems to Meet Human and Environmental Needs

### Element I: Basin management and transboundary water cooperation

**57 Prepare adaptive strategies.** As potential climate and other global changes increase, they will put at risk food and energy production, social and economic welfare, public health that will require adaptive strategies to manage water resources, both surface and groundwater, equitably in light of the agreed principles of international law. There is also currently a weakness of legal, political and institutional infrastructure that is capable of dealing with the international complexities of transboundary water resources which are related to issues such as national sovereignty, security, water rights, population, economy, culture and ecosystems.

**58 Improve understanding and strengthen cooperation in the transboundary context.** Optimal utilization and effective protection of the transboundary surface and ground water resources are only possible if riparian states cooperate in line with internationally agreed principles. Transboundary water resources present an opportunity for collaboration rather

than a source of conflict and a constraint for development. Nevertheless, there exists wide diversity of political, social, economic, cultural and environmental challenges to confront in addition to those arising from hydrological factors. Thus, in order to harness sustainable benefits of transboundary water resources for all riparian countries, joint efforts need to be made. However, this necessitates first the willingness to cooperate which can only come out through extensive dialogue, mutual trust and understanding among riparian states.

**59 Improve the legal and institutional framework of transboundary waters.** In the last 50 years, over 200 bilateral and multilateral agreements have been signed on the use of transboundary water resources. There are several regional and international conventions in force related to transboundary waters. They often form part of cooperative endeavours and a basis for the definition of principles and responsibilities that are considered in international law. National laws should be established or improved to reflect these principles with regards to transboundary waters, where appropriate, in terms of information

and data exchange and management and use of transboundary water resources.

**60 Increase the number of river and lake basin and groundwater organizations, their strength and capacity.** Where river and lake basin, coastal, marine and groundwater institutions or organizations do not exist, they are encouraged to be established, especially in the cases of transboundary river basins and aquifers. River basin organizations promote cooperation, mutual understanding and confidence building, as well as improve coordination and exchange of data and information, set up fact-finding procedures and support implementation of joint programmes and projects. Where river basin organizations do exist, to strengthen their capacity to confront the complexities of changing circumstances, including global changes.

**61 Nations are encouraged to seek fair, equitable and win-win solutions in negotiations over transboundary water.** All parties are not equal in strength, yet are in equal need to address water-related issues for their human and environmental needs. The solution for sustainable and integrated water

management is to pursue equity, economic efficiency and environmental sustainability where all parties win, including stakeholders.

**62 Develop harmonized integrated water management plans.** Water resources ought to be managed at the basin level with a holistic approach considering their availability and the competing demands, including the demands of ecosystems. Equitable, reasonable and optimal utilization and protection of transboundary water resources as well as protection from water-related disasters with assessment and management of flood risks and accidental pollution is only possible in this way. Development of long-term management plans at the basin level are imperative for reflecting the position and needs of all major stakeholders of a river basin, including the preparation of contingency plans for mitigating effects of accidental pollution. Riparian states should harmonize both their water supply and water demand management plans for the purpose of making the best possible use of water resources and sustainable water cycle management within the interest of all riparian countries taking into account Principle 2 of the Rio Declaration on Environment and Development.

**63 Support the implementation of Integrated Water Resources Management process.** Support the implementation of integrated water resources management into national and sub-national policies on water resources management as well as the management of surface and groundwater basins. Critically analyze cases of IWRM to share lessons and encourage replication of good practices. Ensure stakeholder participation in local river basin processes and IWRM partnerships. Representation of local governments should be included in local river basin processes and IWRM organizations. Cooperation and the inclusion of principles of sustainable development and IWRM help promote synergy

and stability at the national and sub-national levels. Promote IWRM at the basin level, wherever appropriate, and clearly define the roles and responsibilities of coordinating and coordinated sides.

**64 Take into account the interests of stakeholders.** In order to manage basins and build sustainable and equitable agreements when negotiating over water issues, it is very important to include all stakeholders and ensure a participatory process. Stakeholder inclusion can reduce the risk of future disputes.

**65 Promote cross-border monitoring and data exchange.** Through the sharing of technical knowledge and data and information exchange and coupled with joint monitoring/data collection schemes, nations can work closer together, build relationships and improve understanding between one another.

**66 Share infrastructure and their benefits, and jointly finance.** To increase the cooperation of nations on one another and find more benefits that sometimes may not be readily apparent, governments should pursue, sharing benefits, jointly financing projects, seeking also third party-international financing and sharing infrastructure to meet basic human needs and create other benefits such as energy production, irrigation and transportation.

**67 Encourage research, education and training on transboundary water cooperation.** Education on water resources, especially transboundary waters, is lacking among water managers, decision makers and other stakeholders. Increased opportunities for such training should be provided at different scales, from local to international. Develop joint research projects to improve collaboration and understanding.

**Element 2: Planning to ensure adequate water resources and storage infrastructure to meet human and environmental needs**

**68 Encourage a holistic approach within a sustainable development framework.** Decisions to build infrastructure should be made on the basis of an assessment of the full range of options available to meet specific needs, based on the principles and approach of IWRM. Storage types have to be adapted to their purposes in size, from small- to large-scale, and type (water harvesting, small dams, large dams, desalination, and surface and ground-water management). Recognize the value of soil, groundwater, surface water, wetlands, snowpack and food stocks as storage.

**69 Develop frameworks and approaches to determine and prioritize needs.** The biggest difficulty of decision makers is to arbitrate between often competing needs. Take into consideration spatial planning, protection of natural resources and ecosystems, social priorities, particularly protecting and improving human health, and adaptation to climate change when determining water needs. Supporting developing countries in their choices by taking account of their unique situations and learning from the experiences of their peers would be very helpful.

**70 Expand storage and integrate downstream infrastructure in developing countries.** In many regions of the world, storage infrastructure for surface water and natural and artificial recharge of groundwater is lagging behind and therefore putting at risk the populations that depend on water for irrigation as well as protecting them from floods. In particular the needs of Africa must be addressed in the context of lack of infrastructure. This expansion is justified by storage infrastructure's contributions to economic and social development, but must be

carried out without compromising environmental integrity, social justice and international law.

**71 Integrate social and ecological sustainability.** Within the framework of IWRM, social and ecological sustainability should be integrated into storage infrastructure projects with a particular focus on building overall water resilience from the local level to regional river basin scales. This will require a holistic approach concentrating on water to sustain economic sectors such as energy, agriculture, industry and water supply systems, as well as water to sustain other ecosystem services such as carbon sinks and biodiversity for water flow regulation, which are key for water partitioning and long-term human well-being.



### Element 3: Preserving natural ecosystems

**72 Promote ecological corridors and networks.** In view of global changes including climate change, it is critical to strengthen the resilience of ecosystems for change by reducing and/or undoing their fragmentation, by promoting ecological corridors such as wetlands and forests, and by sustainable water cycle management and sharing their economic and social benefits.

**73 Consider the impacts of water infrastructure on ecosystems and take mitigation measures, if needed.** Growth of population and the resulting new infrastructure for production of food and hydropower, navigation and flood protection will have impacts on ecosystems and the natural environment. Take appropriate measures to mitigate any potential negative impacts.

**74 Value ecosystem services and integrate ecosystems into planning and decision making of development projects.** Plan and incorporate the integration of ecosystem management goals in other sectors, in the context of

sustainable development, such as sustainable forest and wetland management, including the non-market value of ecosystems.

**75 Use ecosystems as a buffer to climate change.** Consider the uncertainty climate change may bring to the ecosystem's functioning and acknowledge the value of ecosystems to reduce the risk of non-linear changes, hazards, and the exacerbation of poverty.

**76 Mitigate the degradation of ecosystems and their services.** Create the necessary enabling institutional and social environment for achieving reversal of the degradation of ecosystems while meeting the increasing demands for their services. Cooperate with the forest and land management experts working with international initiatives and organizations with a view to jointly enhance forest and wetland services, in particular the water-related services from forests.

**77 Support programs for biodiversity, water body restoration and ecosystem enhancement.** Actions to protect and rehabilitate ecosystems and natural hydraulic processes are a strong element of adapting to climate change, reducing water-related disaster risks, and balancing population pressures.

**78 Preserve surface and subsurface environmental flows.** Adherence to environmental flows is the obligatory priority vector of surface water use; therefore ecological flows should be given appropriate importance in the strategy of transboundary and national basins' water use as well as in annual planning. Conduct comprehensive inventory studies on environmental flow needs as a large majority of freshwater ecosystems have not been assessed and then establish, implement and enforce standards on limitations to the reduction or alteration of flows.



### Element 4: Managing and protecting surface, ground, rainwater and soil

**79 Integrate water quality management.** Integrate water quality management in order to protect all water resources from all pollutant sources and pressures.

**80 Understand groundwater rights, laws and policies and develop new ones, with regulation and enforcement, where there are gaps.** Such information, including social forces and incentives that drive present-day water management practices, will help in the formulation of policies and incentives to stimulate socially-and environmentally-sound groundwater management practices. This is particularly relevant in those situations where aquifers cross boundaries and is therefore important to promote cooperation for the management of water resources. Many groundwater resources across the globe do not have laws and policies that govern them either because of a lack of institutional capacity or scientific knowledge.

**81 Develop policies and institutions to protect and to integrate the management of aquatic ecosystems.** Manage basins not just with a view towards surface waters, but to integrate each basin's surface, ground, rainwater and soil into management practices taking a holistic approach with a view towards sustainable utilization and environmental protection. All four sources are inter-related and affect one another, so they need to be appropriately addressed in cross- sectoral policies governing water management practices.

**82 Incorporate ecological approaches into urban water management.** Such an approach is instrumental in searching for more sustainable solutions that are increasingly characterized by local approaches with reduced environmental flows that avoid large imports of water, energy and materials, exports of pollution and that minimize ecological

disruption. Examples include rainwater harvesting, reducing unaccounted for water, wastewater reclamation and reuse, which reduce both the need for importation of high-quality water and the discharge of pollution into receiving waters, and can reduce infrastructure costs.

**83 Upscale good practices in small and medium-scale water resources**

**management.** Promote, disseminate and upscale successful examples of small and medium-scale water resources management on the national, regional and global scales.

**84 Afford more attention to rainwater.** Include rainwater management in national water management plans, where possible, that support social and economic development outcomes and referencing its utility to

increase supply in agriculture and water security in the context of changing rainfall patterns associated with climate change. Builds skills and capacity to share knowledge on rainwater management strategies among all water users.

## THEME IV: Governance and Management

### Element 1: The Right to Water and Sanitation for Improved Access

**85 Review and revise national laws and policies to reflect the principles of the right to water and sanitation.** Review and revise all relevant national laws and policies relating to water supply and sanitation, water resource management, public health, land use, irrigation and related areas to reflect the principles of the right to water and sanitation to ensure progressively access to sufficient, safe and affordable water for personal and domestic uses, educational institution or health centre, as well as access to culturally acceptable, safe and adequate sanitation within each household.

**86 Promote access to water and sanitation.** At the global level, work to mobilize resources from all sources to ensure basic access to clean and safe water and sanitation for all within the shortest possible time.

**87 Establish clear roles, responsibilities and coordination mechanisms to settle disputes.** Ensure that there is a clear allocation of responsibility between relevant government actors responsible for water and sanitation and ensure that there are effective,

independent and easily accessible complaints mechanisms to address denials of, or interferences with, any citizen's right to water and sanitation.

**88 Promote information and training available to all.** Require that all water and sanitation authorities provide all relevant information in an accessible form to the people, including on their rights and duties, and that people are given an opportunity to participate in decision-making affecting their rights. Training, as necessary and requested, should be provided for the representatives of marginalized and vulnerable groups in order to ensure that they can participate on an equal footing with other groups and advocate for their rights.



### Element 2: Water institutions and water reforms

**89 Carry out policy, legal and regulatory reform.** Reform is an essential condition for sustainable and effective change. Governments should ensure that a supportive environment exists for sustained efforts in all sectors related to water and should clearly define the roles, rights, and responsibilities of all actors and promote cross-cutting

coordination and policy development. Special attention should be given to defining policies that incorporate the specific needs of and opportunities for the poor, as expressed by them, for enhancing living standards through access to water supply and safe, gender-sensitive sanitation, irrigation and to ensuring that water allocations are sustainable within hydrological limits in accordance with the principles of IWRM. Reform efforts should come from all stakeholders, both the high political level as well as from the grassroots level while thinking "outside of the box".

**90 Couple institutional reform with capacity development.** Reform should include capacity building, the introduction of more appropriate management systems, and more effective institutional coordination between all players, especially at the basin level. This is particularly the case among government agencies, but there is also a need to build better links between government, the private sector, civil society, and community-level organizations.

**91 Improve the relationship between national and local water institutions at the basin level.** Strengthen coordination between national, basin

and local water institutions to create a balance in the oversight and management of these institutions. Harmonize actions between the national and local levels to facilitate effective and efficient management at both levels in order to maximize resources. Incorporate a multi-sectoral approach when necessary. Promote public-private-partnerships, as appropriate. Utilize civil society and the scientific community to enhance these partnerships.

**92 Recognize the role of small-scale water providers.** Small scale water providers, water boards, farmers associations and communities play a large role in extending water supply delivery to poor communities and farmers in urban, peri-urban and rural areas. Facilitate regulatory and monitoring mechanisms for these providers. Ensure affordability and that the poor and low income people are not paying excessive prices for water.

**93 Strengthen and support decentralization efforts.** Empower local and basin-level institutions by strengthening and carrying out decentralization from central governments according to basic recognized principles, as water services are best provided at the local level while having a connection with the national level through coordinated activities. Before decentralization is carried out at a local level, research in order to comprehend the local context under which the reforms will take place and to avoid unexpected and bad consequences. Central governments should create an enabling environment for decentralized institutions to ensure that they have financial, technical, legal and human capacities for effective local management, including coping with rapid urban expansion, poverty and global changes. Strengthen existing local institutions and where local institutions do not exist, establish them while incorporating civil society, user groups, water professionals and other stakeholders in their functioning.

**94 Institutionalize pollution prevention.** Provide clear and enforceable regulations at the government level to prevent pollution of water resources by agricultural, industrial or domestic waste. Similarly, Mayors can rely on the regulators to prevent pollution by agriculture, industries or domestic waste from the city itself.

**95 Recognise the need for clear and sustainable allocation of water for different uses and effective regulation of its application.** Governments at the appropriate level need to allocate the use of water between its many uses and users, having respect to the sustainability of ecosystems, societies and economies. This requires attention to the levels of sustainable abstraction from the natural resource. The application of these allocation decisions and laws and regulations need to be appropriate, enforceable and enforced. This requires appropriately empowered, resourced and informed regulators.

**96 Create effective regulation, monitoring and enforcement.** Ensure effective regulation and monitoring of service provision relating to compliance with access targets, tariff structures, service and performance standards of water resource use, including prevention of pollution and limits on abstraction. Informal service provision should be regulated at least in relation to quality and price of service. Establish enforcement mechanisms where necessary to aid with compliance.

### Element 3: Ethics, Transparency and Empowerment of Stakeholders

**97 Engage with a wide range of stakeholders.** In order to achieve sustainable, resilient and effective policies and practices, all stakeholders including governments and representatives of all major groups have to collaborate to reach

decisions that relate to water management in the broadest sense. Participatory procedure, including development of indicators, dissemination of information and monitoring, have to ensure input from all stakeholders in disseminating processes, resolving conflicts of interest, lead to equity and in general involve the voice of civil society.

**98 Promote transparency and prevent corruption.** In all aspects of related to the management of water, support fully transparent processes of decision-making. Open water-related institutions, information and processes to transparency. Prevent corruption in the water sector through transparency, good governance, public accountability and access to justice.

**99 Incorporate good governance into water management policies and practices.** Include participation, equality, accountability, from both development partner and recipient nation, transparency, the rule of law and consensus-based decision-making in the governance structure of water resources management.

**100 Promote a water ethic.** Encourage a "water ethic" in policies of water management where there is, for humans, equity in the accessibility to water for future generations.



### Element 4: Optimizing Public and Private Roles in Water Services

**101 Improve public sector providers/utilities.** Increase the efficiency and reach of public sector providers, rural and urban, through capacity building, cooperation between water operators through partnerships and increased financial and technical resources. Develop, support and expand the public sector water providers and authorities through rational investments. Decentralize the ability to raise funds to the



local levels and strengthen decentralized cooperation so as not to depend on purely government finances where applicable.

**102 Facilitate the choice of the best service providers, regardless of sector.** Utilize all available providers in order to achieve coverage for all under the supervision of government or public water authorities. Stakeholder involvement in these processes keeps both public and private providers accountable to the greater public.

**103 Clearly define and formalize roles.** For all actors, delineate roles of water, sanitation and agricultural services provision and then formalize these roles into contracts, otherwise known as "contractualization", which is

the establishment of an agreement with clear targets, mutual commitments and clear differentiation of respective roles, duties and responsibilities between the authority and each of its operators, public or private.

**104 Raise awareness about and promote public and private roles and public-private and public-public partnerships.** Lack of knowledge and understanding of public and private provision of services has hindered the provision of those services themselves. Efforts must be made to raise awareness about the benefits of the roles of the public and private sector provision of water and sanitation services as well as how public-private partnerships carry out these activities.

**105 Strengthen the capacity and efficiency of public authorities.** Public communities should carry out competitive tendering of projects in a transparent, inclusive manner, perform progressive assessments to chart changes over time between operators in order to monitor compliance with standards and regulations, and create benchmarks to compare operator performance with other operators taking into consideration contextual differences. When the possibility of private sector participation of water services occurs, conduct socio-political assessments to determine the feasibility of such a change in provider and take necessary measures to eliminate corrupt practices.

## THEME V: Finance

### Element 1: Sustainable Financing in the Water Sector

**106 Urgently increase and better-target investments and finance to bridge the gap in financing.** The financial needs of the sector, from water and sanitation, irrigation networks, river basin management, flood risk management, hydropower, wastewater management, rehabilitation of polluted and/or degraded water sources, reservoirs and aquatic systems, data collection and climate change adaptation, are enormous and increasing. Investments in the water sector are crucial to meet the broader MDG targets of reducing poverty, hunger, child and maternal mortality, and the incidence of major diseases, to improve environmental sustainability and realize economic benefits. In spite of recent year's efforts to increase the amount of financing for the sector, the gap between needs and actual investments is actually widening while there

are considerable potential benefits that are still untapped. National governments, local authorities, development partners and international financial institutions need to act urgently, not only to increase the finance for the sector but also to improve the targeting and effectiveness of the financing and to create an enabling environment.

**107 Mobilize political will with sound economic and social arguments.** Facilitate a better understanding of the water/poverty eradication/economic growth nexus for decision makers and political leaders. The water sector is fundamental to the poverty reduction, economic development and environmental sustainability agendas; yet it only manages to attract a fraction of the financing that is needed. Improving decision makers' and political leaders' understanding of the economic, social, health, and environmental benefits of investing in water will encourage the flow of sustainable financing.

**108 Ensure operational capacity by coupling "soft" investment and "hard" investment.** Investment in infrastructure needs also investment in institutional frameworks and development and the human capacity to manage, operate and maintain the infrastructure, and vice versa. There is a need to build the technical, financial and managerial and planning capacity of sector stakeholders at all levels, especially local, in order to ensure successful operational outcomes.

**109 Strategic financial planning is a means to establish consensus and build a sustainable cost recovery strategy.** An approach to address the challenges is through strategic financial planning for the water sector. Such plans establish realistic policy objectives regarding access to water and sanitation services that are affordable to public budgets and households. They consider ways of mobilising more financial resources, reducing excessive demand,

and improving the cost-effective use of resources. Strategic financial planning helps to reach consensus on policy choices and the way they can be achieved. Such planning processes should engage all relevant stakeholders. This can lead to a more rational use of existing financial resources and facilitate access to additional ones.

**110 Diversify the sources of finance to bridge the gap in financing.** The water sector's capital expenditure requirements are enormous. No single source of finance is large enough to meet its financing needs in the short to medium term. In addition to optimizing the financing from tariffs, taxes and transfers, access to debt and equity financing, from international financing institutions, commercial sources and from domestic financial and capital markets, can be used to bridge the financing gap for capital investments.

**111 Facilitate sub-sovereign access to financial markets.** Governments need to allocate adequate resources to the sub-sovereign level, especially smaller and poorer towns, to finance a critical mass of basic local infrastructure services including water supply and sanitation. These allocations can leverage additional sources of financing from development partner agencies and lending institutions. Such payments/transfers should be made more predictable, performance-based and better targeted. Governments and financial institutions should also help local authorities and smaller communities to access national and international capital markets and enable better flows and coordination of existing finances. Increase the efforts for both functional and fiscal decentralization and private sector involvement, where suitable and in the context of an appropriate regulatory framework.

**112 Increase Official Development Assistance (ODA) to capacity development and project preparation.** Development partners and Multilateral Financing Institutions should increase

Official Development Assistance to build institutions to prepare for infrastructure projects and build the capacity of water operators to be better prepared to attract new financial resources. Also, improve the modalities for national governments and ODA investment in infrastructure and capacity development of regional importance.



## Element 2: Cost Recovery Strategies as a Tool for a Sustainable Water Sector

**113 Adopt fair and equitable cost recovery strategies.** Achieve fairness between all categories of water users while promoting universal access to water and sanitation services. Ensure financial resources by appropriate cost recovery mechanisms for good quality service, maintenance, infrastructure, social objectives and investment as needed. Such changes cannot be made without appropriate institutional and technical reforms to carry out cost recovery reform and to enable cost recovery. Stakeholder participation is crucial in order to achieve consensus and a smooth transition.

**114 Encourage sustainable cost recovery.** The public authorities responsible for providing water services should develop sustainable long-term cost recovery policies, anticipating all future cash-flow needs of the service and to support new investments by combining revenues from tariffs that are affordable to each categories of user with the budgetary resources from taxes and transfers that are predictable enough to allow investment. Sustainable cost recovery includes investment and operating costs as well as the cost of maintaining existing infrastructure. Include environmental costs of water services provision in cost recovery for maximum efficiency. Also create pro-poor incentives or alternative cost recovery mechanisms according to domestic circumstances to ensure

affordability as seen by these users.

**115 Empower local authorities in implementing sustainable cost recovery systems.** Where local authorities are responsible for service provision, national governments must provide them the necessary authority to implement appropriate and sustainable cost recovery systems, through tariffs, budget subsidies, consistent with international obligations under the World Trade Organization and respective agreements. They should be predictable in order to allow for investment, while ensuring affordability for all through subsidies and/or cross-subsidies that makes access to water affordable for each category of water-user.

**116 Match cost recovery strategies with sustainable development objectives.** Cost recovery strategies should reflect sustainable development objectives. Ensure that tariffs are perceived as responding to principles of fairness, equity and sustainability, access to and consumption of adequate levels of services remain affordable for each category of user, poor and low income level people in particular, and cost recovery policies do not restrict access to water and sanitation services. Review and analyze water and sanitation cost recovery policies according to their implementation in a realistic manner considering peculiarities of poor and low-income people.



## Element 3: Pro-poor Financing Policies and Strategies

**117 Promote innovative pro-poor financing policies and strategies.** Promote such initiatives as microfinance, output- and outcome-based aid, the financing of local private sector providers and sharing the costs between the public and private sectors, for connecting the unserved. Subsidizing the initial connection charges is often more effective for increasing access

than subsidizing recurrent consumption costs. Improve investment environments by establishing more effective and diverse credit and financial management systems that are accessible and affordable to the poor.

**118 Recognize the role of small-scale water and sanitation suppliers.**

Small-scale private water and sanitation suppliers provide water for many

marginalized and poor areas where public networked water systems do not reach. It is important to recognize their role and the gap they fill while also defining their role, increasing their regulation and their capacity as well as their financing to utilize their unique niche markets while ensuring affordable prices and their capacity.

**119 Facilitate technology transfer and the generation of additional financial resources.** Incorporate the

principle of common, but differentiated responsibilities in this regard.

**120 Reaffirm, in a period of global financial and economic crisis, the importance of governments' continuous support to the water sector.**

Recognize that investments in water infrastructure should be duly considered for inclusion in national economic stimulus packages. This could also include the promotion of internationally coordinated financial instruments.

## THEME VI: Education, Knowledge and Capacity Development

### Element I: Education, Knowledge and Capacity Development

**121 Share information and knowledge.** Free access to scientific literature for professionals and researchers in developing countries should become an increasingly important factor in reducing the knowledge gap that now exists between the North and the South. Decision-makers should adopt policies and set incentives for their organizations to overcome hurdles of communication, lack of data and skills training, to improve knowledge and know-how and remove limits on the private sector to engage in information and communication services. Development partners should provide more fellowships dedicated to e-learning.

**122 Educate all water users and decision makers.** Concerted global action should be taken to educate and enhance the knowledge of water, sanitation, ecosystems, water production technology and water-related issues to all water users, but especially to decision makers at national and local levels, both in and outside of the water

sector, and those that are marginalized by society yet have important roles to play in water resources management. Everyone needs opportunities to access education on water resources such as non-traditional and vocational training. Strengthen the role of the media in this regard. The concepts of virtual water and water footprints are powerful communication tools. They should be further developed and used to influence decision makers in governments and the private sector so that the impacts on water scarce regions are taken into account in trade, agriculture and industry policies. These concepts should also be used to educate consumers about the impacts of consumption of food and other commodities on water resources. It is also necessary to give attention to providing water education to children on the conversation of water.

**123 Build on existing local knowledge.** Local actors are at the front line as they are the first in addressing local problems. They hold valuable knowledge and experience and this still too often goes unrecognized. Their knowledge and experience, as well as technology, should

be identified and reviewed -decision makers need to learn from these stakeholders and apply the lessons learned, such that they use local capacity and knowledge, work with local reformers, build capacity of local institutions and civil society, and apply the subsidiary principle to empower the local actors. A balanced combination is called for to incorporate top-down (often larger scale) and bottom-up (often smaller-scale) approaches and procedures.

**124 Build learning networks.** Networks are also becoming very helpful to disseminate and share informal knowledge, identify common problems, build attitudes and confidence, and generate new knowledge. South-South and North-South triangular cooperation and networks provide platforms to share lessons and adapt them from one place to another. In addition to these horizontal networks of peers, the need is growing for "vertical" connectivity from networks through which local stakeholders can access global networks and knowledge.

**125 Promote integrated approaches.** Multi-disciplinary problem-based learning and demand-driven research agendas should be promoted to overcome the lack of capacity to tackle with global challenges. Educational and other knowledge institutions should play active roles in multi-stakeholder partnerships for water resources management. This will allow more effective problem solving and better sharing of traditional and formal knowledge.

**126 Create "learning" organizations.** The best organizations in public administration are "learning" organizations, just as knowledge-driven corporations in the private sector tend to be the more successful businesses. They allow themselves to change in response to new challenges and to new knowledge.



## Element 2: Water Science and Technology - Appropriate and Innovative Solutions

**127 Combine advanced technology with capacity development.** While it is necessary to be innovative and create new technologies, and especially information technologies, that are cutting edge, this should be combined with the use of indigenous knowledge. Sophisticated technology can only work if it is accompanied with capacity development. Sustained operations, maintenance and skills training must coincide with the use of high-tech solutions. Raising awareness is the first step, however, in making urban water managers, farmers and other water professionals aware technology that is available to them. Considering the cost of energy and food, this is especially true for the use of irrigation technology.

**128 Promote national, regional and international cooperation.** While some technologies are local in nature

others can be utilized in any part of the world. International cooperation should be promoted in not only the transfer of technology between countries, but also in the access to data related to technology.

**129 Broaden technological choices.** The range of technology choices for agricultural, domestic and industrial consumption must be broadened to include the improvement of current technologies and overcome limitations, for instance desalination, water harvesting, water reuse and recycling and risk management and disaster preparedness as well as the development of innovative, low-cost technical approaches, such as local household technologies, that can be implemented in poor communities. Where possible, appropriate technologies and their responsible use should be given precedence. How technology and technological options can be used by communities and the participation of those communities in the planning process should always be taken into consideration.

**130 Support and promote global water science programmes.** In order to understand complex interactions between the hydrological cycle, associated biogeochemical cycles and the global drivers, scientific research in these areas needs to be intensified and extended. It is of particular importance to build relevant capacities in developing countries and have the local research community participate in relevant global research programmes. The role of international water education institutions is extremely important in this regard. Appropriate scholarship programmes for developing countries need to be developed and implemented.

**131 Promote science and technology in tertiary education.** In order to properly advance scientific and technological solutions to water resources problems, quality educational opportunities need to be in place in order to attract students to pursue

careers in areas where such advances are made. Such opportunities and participation in such programs should be encouraged at the national and local levels.



## Element 3: Professional Associations and Networks

**132 Support regional and national and professional associations.** Where national and professional associations exist, for governments to give further support to achieve goals and mandates, especially in Africa. Where no national associations exist, to partner with international professional associations to support the formation of nascent national associations.

**133 Carry out human resources assessment.** It is not currently clear how many people are working in water around in the world, how are their living and working conditions and, where and what are the precise needs of the sector. An urgent requirement is for a periodic assessment of the state of the sector's human resources in order to globally monitor the state of the "professional infrastructure" and help develop a high performance workplace whereby workers have access to the skills required of their jobs, including social priorities.

**134 Strengthen umbrella bodies.** Numerous professional associations and networks exist without a strong, developed umbrella body with the aim of facilitating stronger synergies between these associations and networks.

**135 Engage professional associations in policy and investment.** Professional associations including trade unions, farmers associations, business associations, chambers of engineers provide a wealth of knowledge and expertise on various issues related to water, depending on their central focus, from

the local. These associations and networks can be more involved and engaged in capacity building, at the earliest of stages of

implementation, to influence policy and investments related to their expertise.

**136 Promote governments and professional associations working together to develop human resources.**

Professional associations and networks offer a large amount of sectoral and career knowledge that can prove useful to the development of human resources in the water sector. These associations, in partnership with national and local governments, should promote training and education related to careers in water resources management. Water Operators Partnerships (WOPS) and private educational institutions can assist with these initiatives. Concentrated efforts should be to involve farmers, to gender mainstream human resource policies and practices and encourage professional career opportunities for women and young professionals. With youth being the future, young professionals' associations need to be encouraged, supported, guided and promoted throughout the world. Moreover, help technical people to understand social priorities.

**137 Create better links between sectors.** Coupled with the strengthening of professional associations, it is also essential to create better links with those associations and government, the private sector, civil society, community-level organizations and other stakeholders.

**138 Involve professional associations in national commissions.** Using the experience of international professional associations, governments should invite representatives from these associations to serve in a standing capacity on national science, research and development commissions in order to link effectively research to policy developments.

**Element 4: Access to data**

**139 Invest in data.** The collection, analysis and compatibility of critical data and information should not be regarded as an expenditure, but as a creditable investment, often financed by tax payers, with high-quality future returns. In particular, the number of basic hydrological stations in many countries is inadequate to satisfy even the minimum needs and yet National Hydrological Services have seen the budgetary allocations for hydrological services systematically cut. National governments should take urgent measures, when appropriate, directed at reversing the growing decline of these networks and should increase support for operational hydrological and relevant meteorological observation networks. This is especially crucial in developing countries.

**140 Understand and assess vulnerability.** A better understanding of the impacts of global changes, including climate change and variability, on water resources and their availability and quality for multiple uses is necessary in order to prepare the required response strategies. Resources should be provided and efforts intensified to improve information and data collection at first and promote research regarding the potential impacts of climate variability and change on freshwater resources in river basins. Activities should include new investments in observations and measurements, capacity building, operation and maintenance of existing monitoring systems, including the redevelopment and upgrading of the existing hydrological networks.

**141 Support from international organizations and development partners.** The international development partner community should support comprehensive projects to improve data collection, including improvement of hydrological networks, data mana-

gement and dissemination, which constitute the foundation of all IWRM processes. The United Nations, the World Bank and other international agencies and development partners should assist countries with comprehensive projects, in order to improve their data collection networks and build the knowledge and information bases that are needed to develop and manage water resources in a sustainable manner.

**142 Include monitoring and assessment in data collection.** Simple data collection is not enough and monitoring and assessing the data for trends is necessary for proper adaptation and mitigation measures of water-related problems, floods and droughts in particular. Urgent issues requiring an influx of data collection, monitoring and assessment include climate change, sanitation, access to water, water-related disasters, groundwater and the interface between groundwater and surface water. Assessment should be carried out at local, basin, regional, national and global levels and include a peer review process for performance for those who ascribe to the idea. Reliability, consistency and compatibility of data coming from different sources ought to be ensured.

**143 Promote international and interstate data exchange and cooperation between countries.** For a better understanding of the hydrological cycle under the changing climate, international data exchange should be encouraged. International and national policies should be reviewed and efforts needs to be directed in order to facilitate the international exchange of hydrological and related data and products, so that regional and global studies of freshwater resources and climate change and variability can be conducted and useful results produced for the benefit of mankind.

**144 Strengthen the use of data in decision making.** The role of the water manager is essential to water security in that it includes proposing a

comprehensive range of options to meet the desired societal objectives and needs for water security. Data in the hands of water managers enhances their capacity to develop practical solutions. At the same time, decision makers should be sensitized to the importance of data so that quality data can influence policy decisions.



## Element 5: Water and Culture

**145 Ensure cultural diversity.** Incorporating traditional and local knowledge about the use, management and conservation of water in water policies, reforms and scientific research will make actions on the ground more sustainable, effective and engaging for those who carry out the work. Through adopting processes and strategies that recognize traditional and local knowledge, and crediting ownership of those to specific cultural groups, this can ensure the viability of cultures and ecosystems.

**146 Recognize, integrate and promote cultural diversities and technologies in water management.** Through recognizing the value of diverse cultural practices and technologies in water management, integrating these practices and technologies with scientific knowledge and developing guidelines and recommendations for incorporating them into water management, strategies and policies can better achieve sustainable water management.

**147 Embed cultural diversity in water governance.** Both national and local governments should create an enabling environment through appropriate reforms of water policy and legislation in such a way that customary law, informal water use practices and cultural diversity are formally recognized and accommodated. Through analyzing water policies and laws to see where gaps are between the modern and traditional, reforming water management

organizations' structures to reflect cultural diversity, establishing national-local partnerships to monitor changes promoting cultural diversity, and understanding, respecting and documenting effective traditional water management adaptation strategies, more resource sustainability will exist and help in realizing the Millennium Development Goals.

**148 Evaluate the relationship between cultural diversity, biodiversity and water resource management.** Recognizing marked decline in cultural and biodiversity, governments and development financial institutions should add to their social and environmental safeguards an explicit concern for cultural diversity and therefore should evaluate the inter-linkages between cultural diversity, biodiversity and water resource management at the project specific, local, national, regional and global levels.

**149 Protect water and its cultural value.** Sacred water sites exist in every nation on every continent. There is the need to identify and then protect these sacred sites. In addition, water's cultural importance is also reflected through songs, stories, designs, dance, music, sports, festivals and multimedia, which should not only be protected as well, but should also celebrate water.

**150 Improve the institutional framework of water and culture.** Inclusion of cultural diversity in water projects and programmes can increase understanding and collaboration and facilitate their implementation. In carrying out transparent participatory decision-making processes, taking into consideration the United Nations' guiding principles, cultural diversity aspects should be respected. ■

## MINISTERIAL PROCESS Ministerial Conference Discussion Paper

### ANNEX I: CONTRIBUTING DOCUMENTS

Alicante Declaration: The Global Importance of Ground Water

Beppu Policy Brief 2007 (1<sup>st</sup> Asia-Pacific Water Summit)

Brisbane Declaration: Environmental Flows are Essential for Freshwater Ecosystem Health and Human Well-being

Civil Society Statement - AfricaSan + 5

Commission on Sustainable Development - Thirteenth Session: Freshwater management: policy options and possible actions to expedite implementation

Dushanbe Declaration on Water-related Disaster Reduction

eThekweni Declaration (AfricaSan Conference on Sanitation and Hygiene)

Financing Water for All: Report on the World Panel on Financing Water Infrastructure

First African Water Week: Summary of Proceeding and Outcomes

Geneva Conventions

Global Corruption Report 2008: Corruption in the Water Sector

Hashimoto Action Plan

International Symposium: Water for a Changing World - Enhancing Local Knowledge and Capacity

Lisbon Congress and Kampala Conference: International Association of Hydrogeologists (IAH)

Manual on the Right to Water and Sanitation (COHRE)

Marseille Statement (UNESCO Symposium on Frontiers in Urban Water Management)

Message from Beppu (1<sup>st</sup> Asia-Pacific Water Summit)

Paris-2007 Statement (UNESCO International Symposium on New Directions in Urban Water Management)

Previous World Water Fora Declarations

Sharm El-Sheikh Commitments for Accelerating the Achievement of Water and Sanitation Goals in Africa

Third International Conference on Managing Shared Aquifer Resources in Africa

Third United Nations World Water Development Report (WWDR-3)

Up to and Beyond 2015: Emerging Issues and Future Challenges for the International Water and Sanitation Agenda

Water for a Sustainable Europe - Our Vision for 2030





Outcomes of the  
**5th World Water Forum**  
Istanbul 2009



# MINISTERIAL ROUNDTABLES

1. REDUCING THE IMPACTS OF WATER-RELATED DISASTERS
2. BRIDGING THE WATER AND CLIMATE AGENDAS
3. FINANCING WATER INFRASTRUCTURE AND SERVICES
4. SUSTAINABLE MANAGEMENT OF COASTAL STRIPS
5. SANITATION: KEEPING THE MOMENTUM AFTER  
THE INTERNATIONAL YEAR OF SANITATION;  
CAN RIGHT TO WATER AND SANITATION HELP?
6. WATER FOR ENERGY-ENERGY FOR WATER
7. MAKING WATER A TOOL FOR DEVELOPMENT IN AFRICA
8. WATER FOR FOOD AND POVERTY ERADICATION



# I. REDUCING THE IMPACTS OF WATER-RELATED DISASTERS

<b>Co-Chairs:</b>	Japan, Portugal
<b>Lead Countries and support organisations:</b>	China, Cuba, Indonesia, Japan, Portugal, South Korea, Spain, UNISDR, UNCCD.
<b>Facilitators</b>	<i>Floods:</i> UN-ISDR (International Strategy for Disaster Reduction) <i>Droughts:</i> UN-CCD (UN Convention to Combat Desertification)
<b>Other Governments and International organisations:</b>	Angola, Cambodia, Cyprus, Djibouti, Ecuador, Honduras, Hungary, Iran, Iraq, Jamaica, Jordan, Kenya, Myanmar, Malaysia, Mongolia, Oman, Peru, Panama, Romania, Samoa, Saudi Arabia, Sri Lanka, Syria, Tajikistan, Thailand, Tunisia, Turkey, UNISDR, UNCCD, UNHCR, UNESCO, UNSGAB
<b>Other participants and organizations:</b>	Swiss Re, World Water Council

This roundtable focused on two types of water-related disasters: (i) floods: disasters caused by too much water; (ii) droughts: disasters caused by too little water. For convenience, the report is split in two following this structure.

## Main Issues and Highlights

*Regarding disasters caused by too much water: floods tropical storms, storm surges, tsunamis, debris flow etc*

The proposals of the High-Level Expert Panel on Water and Disaster were presented to the participants. The Panel prepared a concrete Action Plan under the auspices of the UNSGAB (UN Secretary General Advisory Board on Water and Sanitation) which is proposed to be implemented in the coming years.

It was stressed that disasters caused by too much water constitute an increasing part of natural disaster damages on human lives and economic activities.

It was also mentioned that these disasters are not only natural but influenced by human activities in many cases. Indeed climate change, urbanization, environmental degradation and population growth contribute to the worsening of their impacts.

The situation is likely to become even more severe in the future: global changes are projected to increase the number and severity of water-related disasters. This calls for enhanced protection of vulnerable populations located especially in small island states and developing countries.

*Regarding disasters caused by too little water: droughts,*

Droughts are disasters that can occur in many climatic zones. Widespread droughts cause serious threat to human life, environment as well as economies of the affected areas. As one of the global challenges, these disasters require common solutions and transboundary cooperation among countries, since they do not recognize political boundaries.

It was also referred by the Ministers attending this roundtable that a change in the approach to these phenomena is needed, so that countries start to be more pro-active and to develop more risk prevention actions when tackling these events.

Since there is a lack of information regarding drought issues worldwide, it was mentioned that it is urgent to mobilize resources for data promotion and collection in this area, namely through the creation of national, regional and international observatories.

## Recommendations and Proposals for Follow-up

The following recommendations for follow-up were agreed upon at the Roundtable:

### *Generic recommendations*

- Risk reduction and mitigation strategies should be integrated into national development and financial plans. In addition to mitigation measures, climate change adaptation measures should be implemented.
- The national legal frameworks on water-related disasters should be clarified so that the responsibilities and roles of the stakeholders can be clearly identified.
- International cooperation on risk management associated with water-related disasters should be enhanced.
- Measures to increase public awareness should be taken and training programmes should be developed and implemented. Best practices and science-based knowledge should be exchanged among the countries. Information sharing is also important for decision-making process.
- Utilizing a combination of existing and emerging technologies to cope with water-related disasters should be promoted.

### *Specific to floods*

- Implementation of the Action Plan of the High-Level Expert Panel on Water and Disaster was strongly supported by the participating governments.
- A policy framework for water-related disaster risk reduction should be developed in the context of Integrated Water Resources Management (IWRM), through strengthening comprehensive structural and non-structural measures.
- Since the impacts of water-related disasters could be severed due to socioeconomic and climate changes in the future, disaster preparedness and risk management should be prioritized.
- Disaster forecasting measures, early warning systems and emergency response mechanisms should be developed and strengthened.
- Maintenance of key water infrastructures and living environmental conditions during and after disasters should be improved.

### *Specific to droughts*

- Drought management plans with specific measures should be elaborated in an urgent manner. Water scarcity is a major issue that has to be tackled jointly with drought planning management.
- Innovative technologies on wastewater re-use and desalination should be promoted as alternative water resources.
- Specific early warning systems should be developed.
- Climate change adaptation and preparedness strategies should be formulated and implemented. Necessary measures should be taken for enforcement of these plans and strategies.
- Participation and consensus among all stakeholders including central and local authorities, NGOs, academia should be established in order to realize drought management plans and strategies.
- Modernization of public water supply and irrigation systems should be implemented and in particular efficient water use and water saving technologies should be encouraged.
- The work developed by the High Level Panel on Water and Disasters must be followed up, now with a particular emphasis on drought issues.

## 2. BRIDGING THE WATER AND CLIMATE AGENDAS

<b>Co-Chairs:</b>	Bangladesh, The Netherlands
<b>Lead Countries and support organisations:</b>	Bangladesh, Mexico, The Netherlands, Collaborative Programme on Water and Climate (CPWC)
<b>Facilitators</b>	World Water Council
<b>Other Governments and International organisations:</b>	Argentina, Australia, Azerbaijan, Bangladesh, Belarus, Bolivia, Brunei Darussalam, Bulgaria, Czech Republic, Denmark, Ecuador, Finland, FYR of Macedonia, Georgia, Germany, Granada, Greece, India, Japan, Latvia, Lebanon, Lithuania, Maldives, Mauritius, Monaco, Morocco, Nepal, Russian Federation, Serbia, Slovenia, South Korea, Sweden, The Netherlands, Turkey, Ukraine, United Arab Emirates, United States, Uzbekistan
<b>Other participants/ organizations:</b>	Parliamentarians (France), Local Authorities (South Africa-Cape Town), European Commission, Global Environmental Facility, OECD, UNEP, UNFCCC, Global Water Partnership

### Main Issues and Highlights

The ministerial roundtable on “Bridging the water and climate agendas” started with the statements made by the Netherlands and Bangladesh as the co-chairs of the meeting. The Vice Minister of the Netherlands called upon the participants to express their views on (i) how to proceed on the important issue of climate change and adaptation, (ii) underlining the approach of adaptation, (iii) how to optimize and intensify this process of knowledge sharing, (iv) how they can influence negotiators in that process as effectively as possible and (v) how they can move forward from the 5th World Water Forum to the COP15.

Several interventions followed including those of USA, Denmark, Finland and India which received a positive welcome by the participants.

Denmark, as conveners of the COP15 of the UNFCCC, presented a list of 5 guiding principles for adaptation to climate change as the result of their Dialogue on Climate Change Adaptation for Land and Water Management. These principles call for a better integration of adaptation measures of land and water resources management in the broader frameworks of sustainable development, resilience building, governance improvements of institutions in charge of land and water, information sharing at all levels and innovative investment and financing.

The meeting continued with a lively discussion with the contribution of participating countries and organization representatives:

- All countries agreed that water plays a crucial role in our adaptation to climate change. The impacts of climate change will mostly be channeled through: agricultural production, water hazards and insecurity, rising sea levels, ecosystem alterations, human health all of them strongly related to water.
- All countries will be affected by climate change -although in different ways- and will face their own adaptation challenges. It can be understood that mitigation measures are prioritized in international meetings, but the critical issue of adaptation needs to be better recognized.
- Synergies between mitigation and adaptation measures exist (eg through forest and ecosystem protection). In the water domain, they should be identified and highlighted.
- Therefore there was a common feeling that a clear message from the water community to the climate community is urgently required and that close cooperation is needed between these communities to exchange knowledge and share experiences.

- The importance of ecosystem services and the relation to water is a crucial and should not be forgotten in the international agenda keeping in mind that land and water resources, essential to development and livelihoods, are particularly vulnerable to climate change.
  - There is a need to find out new ways for financing and mobilizing resources at all levels from local to the national but very much at global level. In this respect the role of local authorities was stressed especially due to their roles in land use planning and in influencing the efficient use of energy and water.
  - Climate change policies should be mainstreamed into national development plans and sectoral policies; such as water, energy and agriculture sectors. Only an integrated approach will provide successful win-win solutions and avoid negative cross-sectoral feedbacks of measures or non-action in one sector.
  - There was also a shared concern that adaptation to climate change was enough emphasized in the Ministerial Statement.
  - Public awareness should help catalyze action.
  - Adaptation measures are necessary at all levels: local, national and regional. Adaptation strategies must be mindful of the capacity of local authorities to enact these strategies.
  - The water family should find ways to better interact and cooperate with the climate community. It should send a clear prioritized message to the climate change community on the way to Copenhagen. It should also play a central role in developing further the framework for action on adaptation on the basis of the Bali Action Plan.
  - Developing countries need support for adapting to climate change and priority should be given to the most vulnerable ones. Tools for adaptation strategies should be improved. Capacity building and approaches to risk management and risk reduction are crucial.
  - The 15th Conference of the Parties to the U.N. Framework Convention on Climate Change in Copenhagen (COP15) and its preparatory meetings are important meetings where this message on the importance of adaptation and water should be disseminated. Other meetings such as WMO's upcoming World Climate Conference should also be targeted.
- Recommendations and Proposals for Follow-up**
- We must invest in science for policy and exchange experiences. Knowledge sharing at all levels, including local communities, is vital.

## 3. FINANCING WATER INFRASTRUCTURE AND SERVICES

<b>Co-Chairs:</b>	United States
<b>Facilitators</b>	United States
<b>Governments/International Organizations:</b>	Angola, Australia, Austria, Bahrain, Bangladesh, Bosnia and Herzegovina, Central African Republic, Croatia, Czech Republic, Djibouti, Estonia, Gabon, Hungary, Iran, Iraq, Jamaica, Kenya, Kosovo, Kyrgyzstan, Latvia, Lebanon, Luxembourg, Mali, Mauritania, Mauritius, Monaco, Mongolia, Morocco, Nepal, Norway, Poland, Romania, Saudi Arabia, Serbia, Thailand, The Philippines, Ukraine, Vietnam
<b>Other participants/organizations:</b>	City of Paris (Vice-Mayor), Parliamentarian (Honduras), Public Services International, European Investment Bank, OECD, World Bank, Aquafed/Business Action for Water, World Water Council

## Main Issues and Highlights

The focus of the discussion was concentrated on three main issues:

1. Implementing financial plans
2. Mobilizing capital and reducing risk
3. Developing bankable water projects

Although progress has been made much remains to be done and there is an urgent need to move to scale. This may require changes to fiscal policies to commit more of the central budget to water, matched by mobilizing funds from all other sources, accessing local liquidity and increasing support from Foundations and NGOs for community initiatives.

There was a general call to focus future work on financing towards sanitation and for rural areas where the MDGs are most off-track, and on wastewater treatment in transition countries where service coverage is already extensive.

Secondly, it was stressed by many that financing water should extend beyond water supply and sanitation and look at financing of integrated water resources management to ensure water resources are available to provide essential services, including environmental protection, as well as increasing the water efficiency of major water users such as industry and agriculture.

## Recommendations and Proposals for Follow-up

### 1. Implementing financial plans

The OECD presented an outline of its work on sustainable financial planning and on pricing water services. They highlighted the fundamental sources of all funds as Taxes, Tariffs and Transfers (described as the 3T's). These can be supplemented by debt recognising that loans have to be paid back from either taxes or tariffs. Financing plans help to determine the right mix of these sources, which can only be locally determined. The aim would be to achieve sustainable cost recovery that enables both cost recovery and affordability for the poor by using smart tariffs with rising pricing levels for increased consumption.

Participants gave examples of the progress that has been made on funding for urban Water Supply and Sanitation in the last few years. In particular, examples were provided from many countries of the use of innovative financing mechanisms to boost traditional sources of finance such as government budgets, loans and Official Development Assistance. These included inter alia the use of revolving funds, bonds, loan guarantees, output based aid, credit unions for the poor, earmarked funds for water, revenue from renting advertising space on water facilities, coupling sanitation to water supply financing, use of special funds for

IWRM, and the use of CSR for water. There were examples of innovative partnerships that linked banks with product suppliers to ensure that potential consumers had access to credit.

It was accepted that the preparation of Strategic Financial Plans is useful as a guide to investment, building consensus and reality on what can be done and developing predictable budgets. There was a demand for assistance for carrying out such planning.

### 2. Mobilizing capital and reducing risk

An introductory presentation was made by the Undersecretary of Finance of The Philippines. He stressed the importance of mitigating risk in order to attract finance. The participants recognized the need to blend financing from various sources not just to increase the pool of money but to mitigate risk and leverage additional funds. Funding can thus be a mix of government budgets, grants and ODA, private investment and micro-finance. The mix will depend on the purpose to ensure funds are used efficiently, for example scarce grant funds should be used strategically to leverage other funding.

Developing capacity was highlighted as essential at all levels with a focus on practical skills. Suggestions included training for workers (and improving their working conditions to retain them in the sector), training for municipal and local government officials and training for central government regulators. A key message was not to decentralize responsibilities unless adequate capacities and budgets are available to make it possible to carry out devolved responsibilities.

It was stressed that in financing, money is not everything. Governance reforms are needed to make the sector attractive for investment and to reduce risks. Examples of risk reduction strategies were given from several participants, for example reducing foreign exchange risk by using local currency borrowing from local banks backed by guarantees. Participants stressed that good governance can increase efficiency, lower cost, increase accountability and improve creditworthiness.

For the mobilization of capital considerable discussion focused on Partnerships. There was consensus that both Public-Private partnerships and Public-Public partnerships are necessary – although not sufficient. The public and private sectors are closely linked and the way in which they contribute will be locally determined based on concrete needs. The private sector can help public authorities to improve management, improve efficiencies and change the institutional culture as well as help raise finance. The majority of domestic water and sanitation services are provided by public authorities and public-public partnerships can help better performing authorities to help others. For example,

twinning programmes such as the Water Operators Partnership help practitioners learn from each other. It was suggested that publicly owned authorities should have autonomous management to reduce political interference and to improve efficiency, creditworthiness and accountability.

### 3. Bankable projects

The European Investment Bank gave a presentation to stimulate discussion and raised the issue of the present financial crisis and economic downturn. They called for continued prioritization of water investments.

There was some discussion of the crisis and although this made access to finance more difficult it was concluded that the water sector is well placed to weather the storm. It was agreed that reforms and improving the enabling environment must continue as well as capitalizing on the opportunities available. For example, water is a safe haven for funds and there is local liquidity available in many countries. Water

services are also included in stimulus packages. It was necessary to be well positioned, with solid institutions and bankable projects, to catch the future upturn.

With private investment stalled, IFIs have a key role to fill the gap for investment in water. IFIs have learned a lot from the past 15 years of Public Private Partnerships and of blending different sources of finance. It was stressed that countries need a long term relationship with development partners – and not just for a short project period. It was suggested that water should be treated as a special case by IFIs with favorable procedures, rates and repayment terms. Cross-financing from wealthier industry and agribusiness was also suggested. IFIs should help countries with project preparation to develop bankable projects and to listen to the voice of stakeholders, including trade unions, civil society and youth to ensure projects and programmes take account of local needs and realities.

## 4. SUSTAINABLE MANAGEMENT OF COASTAL AREAS

<b>Chair</b>	Spain
<b>Lead governments and support organisations:</b>	Spain, UNEP, UNIDO
<b>Facilitators</b>	Regional Activities Centre for Priority Actions, Programme of the Mediterranean Action Plan
<b>Other organizations and governments:</b>	Canada, Cuba, Cyprus, Djibouti, Finland, Georgia, Greece, Myanmar, Oman, Palestine, Portugal, RAMSAR Convention, Russian Federation, Samoa, Slovakia, Slovenia, Sweden, Tunisia, Turkey
<b>Other participants/ organizations:</b>	Business Major Group (Dow Solutions), NGO Major Group (FAN), Ramsar Convention, The Nature Conservancy, IUCN, UCLG, World Water Council

### Main Issues and Highlights

The discussion explored the following issues and recommendations:

- Given the transboundary character of coastal waters, the promotion of international cooperation and collaboration among the countries bordering the same sea, through regional arrangements and agreements;
- Specific resource management approaches and tools: Integrated Coastal Area and River basin Management (ICARM), relevant EU Directives, Integrated Coastal Zone Management (ICZM); Large Marine Ecosystem Approach
- The priority given to sustainable management of the coastal strips by water Ministers and managers;

- Water demand and pollution in coastal areas has been increasing steadily and how this will affect the management of water and water services in those areas;
- Some extreme cases of water shortage in coastal areas not only due to the uncontrolled coastal development but also due to natural conditions, as prolonged droughts;
- Legal and institutional frameworks dealing with coastal issues are present but the capacities and resources for implementation of legislation is lacking;
- Focusing on narrow coastal areas or strips rather than wider areas, should be the focus of sustainable management practices;
- There are several impacts of climate change on coastal areas, in particular sea level rise and decrease of rainfall. This situation may cause water scarcity and contribute, therefore, to increase the salt water intrusion in case of overexploitation of aquifers. The construction of more desalination plants and wastewater reuse could be the solutions;
- Coastal communities should focus on adaptation to climate change activities;
- Key issues to achieve integrated management of coastal areas and river basins could start with problem analysis at the national/global scale, then follow an area-oriented approach, work on the solutions top-down and bottom-up and create mechanisms to guarantee cohesion between the plans at different levels;
- In order to evaluate the challenges, both upstream and downstream situations should be taken into consideration;
- Regional approaches and cooperation should be used as much as possible to address sub-regional needs and national priorities; an example of national level activity is the UK “Marine Bill” programme, a holistic and integrated approach with the involvement of all relevant sectors and Ministers
- Integrated concepts need to be developed which have to be implemented through sectoral approaches;
- Enhance efficiency among international organizations and avoid duplications between regional bodies and institutions and to find a way to assist countries to implement their need according to all common goals; and.
- Sustainable land use is an important element to be considered during coastal and freshwater management.

## Recommendations and Proposals for Follow-up

- The advancement from Integrated Coastal Zone Management (ICZM) to Integrated Coastal Area and River basin Management (ICARM) is essential and requires the development of capacities in countries in order to carry out these processes; to achieve this it is in particular recommended to improve the synergies between international organizations active in the field of ICZM and IWRM
- The Large Marine Ecosystem approach (addressing productivity, fisheries, pollution/ ecosystem health, socio-economics and governance) has proven to be an efficient instrument for the sustainable management of transboundary coastal and marine waters
- Utilize existing technical knowledge and technology for water management and exchange experiences;
- Increase local involvement: bottom-up stakeholder action for better governance;
- Top-down: countries should adopt international legislation, such as Regional Seas protocols on land-based sources of marine pollution, because they provide a basic framework for national action;
- In the context of climate change, there is an urgent need to better understand the value of ecosystem services provided by coastal areas;
- Sub-regional initiatives and international cooperation should be promoted.
- In order to realize the Millennium Development Goals, watersheds and coastal areas cannot be managed in isolation
- Governments should explore new mechanisms for International Coastal Management

# 5.SANITATION: KEEPING THE MOMENTUM AFTER THE INTERNATIONAL YEAR OF SANITATION; CAN RIGHT TO WATER AND SANITATION HELP?

<b>Co-Chairs:</b>	Switzerland, Uruguay
<b>Lead governments and support organisations:</b>	Switzerland, Uruguay, UNSGAB
<b>Facilitators</b>	Swiss Federal Institute of Aquatic Science and Technology (Eawag-SANDEC) / WSCCC
<b>Other Governments and International Organizations:</b>	Argentina, Bolivia, Bulgaria, Burkina Faso, Chile, Ecuador, France, Germany, Indonesia, Laos, Madagascar, Mexico, Spain, The Netherlands, African Union Commission, European Commission, League of Arab States, UNDESA, UNICEF, UNSGAB, WHO
<b>Other participants/ organizations:</b>	Women in Europe for a Common Future, International Water Association, Aquafed, Suez Environment, Lyonnaise des Eaux, Institut Méditerranéen de l'Eau, World Water Council
<b>Observer</b>	Holy See

This Ministerial Roundtable was divided in two parts:

- > The first part examined how the conclusions of the International Year of Sanitation (IYS) are shared among Ministers and institutions represented;
- > The second part focused on the implementation of the right to water and sanitation.

All participants considered that this Ministerial Roundtable with such a large representation of high level political representatives, is an expression of the growing Interest that the right to access to drinking water and sanitation has raised since the 4th World Water Forum in Mexico.

## 1. Beyond the International Year of Sanitation (IYS)

The focus of the discussion was concentrated on two main issues:

- Examining how the conclusions of the IYS are shared among Ministers and institutions represented; and
- Discuss and agree on a series of priority actions to be promoted and implemented regarding sanitation.

## Main Issues and Highlights

- The IYS was successful to raise awareness, to increase the recognition of sanitation. Today the challenges are more obvious and better understood.
- The IYS made it obvious that investments into sanitation have not only a social but a direct economic benefit as well.
- There is a strong need for identifying and scaling-up of innovative pro-poor approaches. There is strong potential for small-scale providers and entrepreneurs to play a significant role in this scaling-up.
- The IYS highlighted the necessity to protect populations, economic development and the environment, managing wastewater (collection, treatment and reuse) and also to take into consideration solid waste and urban drainage.
- A focus on gender differences is of particular importance with regard to sanitation facilities.



- This sanitation crisis requires the design and implementation of strong national policies and financing plans for sanitation. Hygiene – with an emphasis on behavioural change – must be a key component of any sanitation strategy.
- The Right to Sanitation is crucial to advance the MDGs. It helps authorities to address issues of sanitation in a more comprehensive way, responsive to the needs of their citizens. Provision of access to sanitation is not a charitable act, but an internationally recognized duty of Governments.
- The ministers of the Roundtable are committed to keep up the momentum of the International Year of Sanitation.

#### *Recommendations and Proposals for Follow-up*

- The Governments present at this Roundtable are willing to mobilize additional resources, to address the delay in meeting MDG targets in sanitation. They will explore means to increase accountability.
- There is a need to adopt a pro-poor focus. This requires a drastically more active public health policy, focusing on behavioural change, enhancing demand, support the development of markets and on the promotion of appropriate technologies for the poor.
- Governments have to address the issues around sanitation in a more integral way. The potential of cooperation agreements (public-public, public-private) and of decentralized cooperation needs to be better explored.

## **2. Implementing the Right to Water and Sanitation**

#### *Main Issues and Highlights*

- A strong consensus that the Right to Water and Sanitation is crucial to advance the MDGs, not only target 10 of MDG 7 (access to water and sanitation), but also goals and targets related to living conditions in informal settlements (MDG 7), poverty reduction (MDG 1) and health, education and gender issues (MDGs 2 to 6).
- It helps authorities to address issues of water and sanitation in a more comprehensive way, responsive to the needs of their citizens. Provision of access to water and sanitation is not a charitable act, but an internationally recognized duty of Governments.
- There was strong consensus that the right to water is not adequately considered in the Ministerial Statement of the 5th World Water Forum. It was recommended to refer at least to the General Comment No. 15 of the UN

Committee on Economic, Social and Cultural Rights, which is the UN reference and generally agreed definition for the right to water and sanitation.

- A large majority of the participants recognize that access to water is a human right and expressed commitment to all necessary actions for the progressive implementation of this right.
- However, several countries referred to the UN Commission on Human Rights which is currently analyzing the implications of declaring the Right to Water and Sanitation as a Human Right and not merely as a socio-economic right. For most participants, it is preferable to wait for the outcomes of the report of the Independent Expert before moving forward.
- Several countries have already included this right in their national legislation. The participants call all the other countries to implement this right at the national and local level as soon as possible.

#### *Recommendations and Proposals for Follow-up*

- The participants at this roundtable proposed to annex these conclusions – as well as the conclusions of the other Roundtables – as an Annex to the Ministerial Statement of this Forum.

# 6. WATER FOR ENERGY-ENERGY FOR WATER

<b>Co-Chairs:</b>	France, Turkey
<b>Lead governments and support organisations:</b>	France, Norway, Turkey, International Hydropower Association (IHA)
<b>Facilitators</b>	Norway
<b>Other Governments and International Organizations:</b>	Afghanistan , Albania, Austria, Bosnia and Herzegovina, Brazil, Bulgaria, Burundi, Cambodia, Canada, Chile, Estonia, Guatemala, Holy See, IAEA, Iraq, Kosovo, Kuwait, Kyrgyzstan, Laos, Luxembourg, Mali, Morocco, Niger, Saudi Arabia, Singapore, Tajikistan, United Arab Emirates, Uruguay, Uzbekistan
<b>Other participants/ organizations:</b>	Business Major Group, Bahrain Parliamentarian, OSC, World Water Council

## Main Issues and Highlights

The focus of the discussion was concentrated on five main issues:

1. Role of the institutional framework to improve the coherence of policies
2. Relevant tools and principles for ensuring multiple and sustainable use of water
3. Awareness of the energy-water interactions
4. The role of hydropower in multi-purpose projects
5. Volatility of energy and water service prices

The representatives of Turkey, Afghanistan, Laos, Brazil, Kyrgyzstan, Kosovo, Bulgaria, Austria, Luxembourg, Bosnia Herzegovina, Tajikistan, Morocco, Iraq, Uzbekistan took the floor to introduce their institutional mechanisms for water and energy, their energy and water management policies, the situation of hydropower projects in their countries and the benefits and the challenges, as well as the good practices and experiences. Also involved in the discussion, the stakeholder groups provided inputs with regards to their roles and the importance of measuring sustainability, most notably in calling for support of the Sustainability Assessment Protocol of the International Hydropower Association.

The main conclusions from the discussion were:

- Water and energy issues are closely interlinked. This requires coordinated action and improved integration of policies between the two sectors in order to streamline such action.

- Water resources should be managed at the basin level (IWRM), and take into consideration multiple uses in different sectors and areas, such as irrigation, drinking water, hydropower, energy, ecosystems, etc.
- To achieve sustainability in the development of infrastructure projects by adopting a scientific approach.
- Enhancing institutional mechanisms and cross-sectoral coordination at the national level so as to maximize efficiency is also critical. The involvement of stakeholders in the coordination processes is important.
- The promotion of intergovernmental and transboundary cooperation is required to maximize the benefits of the water-energy nexus.

The following tools are necessary to achieve these policy goals

- Sustainability assessment tools and guidelines including environmental and social safeguards, environmental impact assessments and also strategic environmental assessments are useful tools for planning and policy formulations;
- Development of infrastructure and investment in renewable energy projects are needed;

- Renewable energy resources should be improved by taking into consideration climate change and fighting of poverty;

- The scientific research on the water footprint of energy needs to be developed;
- Since water is a scarce and limited resource, its efficient use should be promoted;

- Energy efficiency should be promoted
- Mechanisms should be developed in order to include civil society in decision-making processes
- Financial models for the maintenance, rehabilitation and upgrading of infrastructure should be improved
- Cross-sectoral cooperation at national level is needed

### Recommendations and Proposals for Follow-up

- Agree on mechanism (s) to develop better understanding of the water and energy nexus, and to select priorities to improve the coherence of water and energy policies;
- Call for a specific program on the interactions between water and energy;
- Call for closer interaction between World Water Forum and world energy fora;
- Call for a widely recognized tool for assessing the sustainability of hydropower as well as multipurpose water infrastructure projects;
- Propose actions to increase water security in case of volatile energy prices;
- Strengthen the links with existing international processes. Feed results from World Water Forum into other relevant processes.

## 7. MAKING WATER A TOOL FOR DEVELOPMENT IN AFRICA

<b>Chair</b>	South Africa
<b>Lead governments and support organisations:</b>	AfDB, AMCOW, Italy, Madagascar, South Africa
<b>Facilitators</b>	South Africa
<b>Other Governments and International Organizations:</b>	Algeria, Angola, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Ethiopia, Egypt, Lesotho, Libyan Arab Jamahiriya, Kenya, Mauritania, Mozambique, Namibia, Nigeria, Palestine, Uganda, Sudan, African Union Commission, FAO UN-Habitat, The World Bank
<b>Other participants/ zations:</b>	Business: Eskom Holdings Ltd., International Secretariat for Water, CSIR, World Water Council

### Main Issues and Highlights

Water security is a prerequisite for growth and development. Since the 4th World Water Forum, this issue was prioritized in several National Policy Agendas. A number of countries, including South Africa, have initiated national programmes and developed frameworks to assess more precisely the various ways water contributes to development. These analyses and initiatives have shaped a change in thinking and strategic planning around water issues. The objectives of the ministerial roundtable on “Making Water a Tool for Development in Africa” were to exchange

views among African countries and between African Countries and donors on the best ways to make water a tool for their development.

The roundtable started with the brief welcome and introduction of South Africa as the meeting’s facilitator. Representatives of African Union Commission, African Development Bank (AfDB) and the World Bank shared their experiences and observations on investment and financing the projects in Africa. Valuable inputs based on

experience were put forward, the investment requirements were highlighted. Namibia stressed the importance of groundwater as a source of sustainable water supply. In addition, the flood and disaster management strategies were brought to the attention of the participants by Mozambique and Algeria. Finally, Egypt stated the proposals on Water and Transboundary Management. In the second part of the meeting a lively discussion took place among participants.

The main issues and conclusions reached by the participants were as follows.

1. First of all, the participants recognized that several official declarations were adopted in the recent past on water-related issues in Africa. They stressed the urgent need for implementing the agreed commitments rather than for new ones. Particularly mentioned were (i) the Ethekweni Declaration and AfricaSan Plan, (ii) the Tunis Ministerial Declaration on accelerating Water Security for Africa's Socio-Economic Development, (iii) the Sirte Ministerial Declaration on Water for Agriculture and Energy in Africa and challenges of Climate Change, and (iv) the Sharm El-Sheikh Commitments and Plan of Action for accelerating achievement of Water and Sanitation goals. All these declarations produced in 2008 provide a solid framework for action in Africa. Most of the subsequent discussions focussed on the best ways to ensure this implementation.
2. Participants stressed that implementation requires effective monitoring mechanisms using a form of "peer review".
3. All Ministers agreed that water must be mainstreamed in all political agendas which should be achieved through the preparation of comprehensive National Water Strategies and Action Plans.
4. There is overall consciousness that the first priority for action is the achievement of the targets of the Millennium Development Goals (MDGs) and that this achievement requires:
  - the development of national and local capacities and the strengthening of instruments already in place;
  - the engagement of governments in multi-sectoral development planning and dialogues and in preparing investment plans and financing strategies that will combine resources from taxes, tariffs and transfers;
  - the removal of the current constraints on funding;
  - that Africa's infrastructure assets be expanded and the existing assets be protected to support economic growth and development,
  - significant scaling up of financial resources.

5. Partnership with developed countries must be pursued and enhanced despite the negative effects of the current world economic crisis. The participants welcomed the contributions from Italy as organiser of the 2009 G8 meeting and requested to resuscitate the G8 Evian Water Action plan.

Development Partners are encouraged to support implementation of the African Water Plan through existing mechanisms such as the African Water Facility and the Rural Water Supply and Sanitation initiatives. The African Development Bank (AfDB) committed to assist countries in financing the national water strategies and plans. Other development partners are expected to also come on board.

6. As stated by South Africa, "Water security is undoubtedly the key to unlocking the growth potential of Africa and is absolutely necessary for development, and indeed, given the vulnerability of Africa to the potential impacts of climate change, the danger of not managing our water resources, has the potential to retard development". In order to increase water security, four issues were highlighted:
  - Urgent attention should be paid to infrastructure at physical, economic and institutional levels.
  - A correct balance in terms of surface water, return flows, groundwater, rainwater harvesting, desalination and effluent re-use need to be ensured in the development of water policies and in water management.
  - Greater focus should be on gender mainstreaming with a particular reference to women and female children.
  - Transboundary water management need further development as an opportunity for regional cooperation.

### Recommendations and Proposals for Follow-up

The following proposals were identified by the participants :

- Monitoring implementation and in particular the required increase of water and sanitation budgets is highly required;
- Creating new partnerships/links with other intergovernmental processes; study with G8 countries the best way to resuscitate the Evian Water Action Plan;
- Mainstreaming of water in political and development agendas; development of national water action plans and of an African Action Plan;
- Scaling up the implementation of large-scale operations based on successful pilot projects.

# 8. WATER FOR FOOD AND POVERTY ERADICATION

<b>Chair</b>	Egypt
<b>Lead governments and support organisations:</b>	Egypt, FAO
<b>Facilitators</b>	FAO
<b>Other Governments and International Organizations:</b>	Afghanistan, Algeria, Belarus, Brazil, Burkina Faso, Burundi, Cape Verde, Cambodia, China, Ecuador, Ethiopia, Gambia, Libya, Malaysia, Mozambique, Namibia, Nepal, Niger, Nigeria, Saudi Arabia, Sudan, Syria, Tajikistan, Turkmenistan, Uganda, Uzbekistan, Venezuela
<b>Other participants/ organizations:</b>	African Union, IFAD, African Development Bank, Farmers Major Group, Youth Major Group, Business Major Group

## Main Issues and Highlights

This Ministerial Roundtable was moderated by Egypt and facilitated by FAO. The meeting opened with the presentation of FAO on the current global food situation and its relations with water. Tajikistan, Libya and Sudan explained the water and food relations in their own countries and called for international cooperation. In response to these calls, the African Development Bank emphasized the importance of infra-structural investments and their projections on the financial support they anticipate. Farmers and Youth Major Groups emphasized the significance of cooperation with different stakeholders both at national and international levels.

The main issues discussed during the roundtable can be summarized as follows:

- Water is only one of the inputs required for agricultural production. This important fact needs to be kept in mind by water managers and ministers.
- Agriculture consumes more water than any other sector. Yet water productivity and efficiency in agriculture in developing countries are still low due to the insufficient level of investments and the inadequate use of existing and innovative technologies.
- The recent food crisis and the high volatility of its prices, together with the growing competition for water in many countries increases the challenges faced by agriculture. In addition, the water demand for agriculture is governed by several factors outside the agricultural sector such as urbanization, diet changes and climate change.

- Other important threats are related to infrastructure and water management techniques: it is evident that there is a shortage of investment directed to agricultural water sector and the local water techniques and management systems are being weakened or forgotten while innovative techniques are not sufficiently promoted.
- Finally there is a lack of capacity, empowerment and participation of small-scale farmers who should be encouraged to use environmental friendly practices.

Participants also discussed priority measures to address these important challenges. There was general consensus on the following points:

- Water for agriculture is to be considered as one of the top priorities on the local and regional development agenda
- Water needs to be mobilized for multiple uses through diversified water sources (conventional and non-conventional water sources, local water harvesting, etc.). Each country should examine carefully its “water portfolio”.
- A number of measures classified as “hard measures” were first proposed to ensure greater water efficiency: adequate use of improved technologies, increased access to markets, increased use of fertilizers and quality seeds, value addition through agro-industries, enhanced and properly maintained infrastructure, improved rainfed agriculture.

- A series of other measures classified as “soft measures” were also emphasized to ensure “more crop per drop”: strengthened agricultural institutions and policies, enhanced South – South cooperation, active engagement of farmers’ organizations and more partnerships with them, information and data exchange, R&D on climate change impacts, education, capacity building, establishment of a legal framework with regards to environmental concerns.

### **Recommendations and Proposals for Follow-up**

The main recommendation expressed by the participants was the need for a greater mobilization of funds. In order to facilitate this mobilization it was proposed to:

- Call for national and international banks, multi and bi-lateral donors, and emergent donors to mobilize funds for upscaled investments.
- Encourage countries to allocate more resources from their national budgets to agriculture and water sector.
- Encourage private funding and/or public – private partnerships.

In order to increase the realization of the outcomes of this roundtable, it was proposed to convey the messages to two meetings: the Agriculture Ministers’ Meeting in April 2009 and the UN–CSD Meeting in May 2009. ■

# PARLIAMENTARIANS PROCESS: PROPOSALS EMERGING FROM “PARLIAMENTS FOR WATER”

1. Right to water and sanitation should be recognized as a human right.
2. Call for Parliamentarians to request their Parliaments to develop legislation that would recognize the right to water and sanitation as a human right. Furthermore, to develop legal mechanisms to facilitate the implementation of the right to water and sanitation. To work to ensure that the control of water stays in the hands of the public sector.
3. Call on Parliamentarians to ask their governments not to target water resources and infrastructure in times of conflict.
4. Promote and develop the idea of the World Water Parliament.
5. Call for the establishment of a fund within the national water budget of developed countries to provide 1% of that budget to developing and under-developed countries to be focused on water programs in the framework of the MDGs and ensuring accountability. Based on the specific desires of the nation, they could also establish programs where these exchanges are not only financial in nature, but can include technical assistance as well. That the countries that receive those will have complete sovereignty in the establishment and implementation of these programs. If a country wants to receive aid, it has to create a legal framework to correctly utilize the aid. Aid must be linked to capacity-building.
6. Call on Parliamentarians to:
  - Promote public and/or private investment for sustainable water projects and infrastructure
  - Allocate adequate budget resources to water and water-related issues
7. Encourage decentralization of the water sector to empower local and regional authorities
8. All developed countries emit carbon dioxide and should reduce the emissions. Establish a link with water issues and the Conference of the Parties (COP) process, especially before Copenhagen in December 2009.
9. Call on the protection of the environment and the reduction of pollution in the framework of sustainable development, especially in the case of waste.
10. Call on Parliamentarians to work on the issues of transboundary waters to avoid any conflict by establishing rules and guidelines that will help countries utilizing water resources in a sustainable manner.
11. Encourage the transfer of technology to those countries where the needs are most, especially in the case of desalination and wastewater re-use technology.
12. Increase the role of women and civil society in the decision-making of water resources management. Increase transparency and accountability through improved governance.
13. Call on the United Nations and other international organizations to help educate all citizens on water.

# PARLIAMENTARIANS CONFERENCE: WATER LEGISLATION HELPDESK

The Parliamentarians' Process of the 5th World Water Forum is expected to endorse the proposal of the creation of a legislative and policy Helpdesk on water issues for Parliaments and Parliamentarians.

## 1. Background and main issues

The strengthening of Parliaments is becoming an increasingly important part of governance work in international development, and many bilateral, multilateral, and non-governmental organisations are involved in increasing the capacities of Parliaments.

In practice, many Parliaments and Parliamentarians lack adequate capacity and resources to carry out their roles and responsibilities when it comes to water and water-related issues. As water is very important to States both at the national and sub-national level with regards to livelihoods, economic development, adaptation to global changes, including many other uses, a better prepared Parliamentary system to address challenges in water issues can help bring benefits to all.

## 2. Major actions required

Parliamentarians play a key role in mobilizing resources and holding governments accountable for their commitments.

The strengthening of Parliaments by enhancing knowledge and understanding on various issues and by building an informed Parliamentary community, as well as establishing and supporting a Parliamentary networks, is a major objective.

To better enhance Parliamentarians' capacity to fulfill their roles and responsibilities, a Water Legislation Helpdesk will specifically, but not exclusively, focus on:

- a. - Supporting Parliamentary information on key legislative and policy issues related to water and,
  - Assisting and supporting Parliamentarians in their role to:
    - Discuss and passing all water and water-related laws and legislation.
    - Examine and approving government taxes and spending.
    - Hold the Government accountable for its policies and actions.
    - Ratify treaties.
- b. - Establishing wider linkages amongst Parliaments and/or Parliamentarians to share information and learn from the experiences of more developed legislatures.

Such links can be particularly helpful on a regional basis, where similarities in basic conditions make the exchange of different approaches especially insightful for mutual learning.

## 3. Potential contributions from Parliaments and Parliamentarians

The Water Legislation Helpdesk will draw from an extensive network of Parliaments and Parliamentarians around the world and will offer various knowledge and support services.

It aims to provide Parliaments and Parliamentarians a clearinghouse of expertise for:

- Sharing knowledge and experiences in all areas related to water legislation (recently introduced legislation, reports of Parliamentary water committees and information on national legislative activities, comparative experiences and best practices), services and governance;
- Providing Parliamentarians with background information on the most important water-related issues;
- Helping countries to develop their own legislation
- Enabling Parliamentarians to send questions to experts who have direct experience in establishing and reforming water legislation; and
- Linking Parliamentarians with one another through the Helpdesk network.

In order to provide a high-level service to users, Parliamentarians and Parliaments will be involved in the consultation for providing material for the Water Legislation Helpdesk, sharing their experiences and knowledge to create a foundation that their colleagues, across the globe, may utilize.

### Target Audience:

The Water Legislation Helpdesk is a free service operating as a Global "Community of Practice" on water legislation and all legislative activities related to water.

The Water Legislation Helpdesk will be accessible to all Parliaments and Parliamentarians interested in water issues from developing to developed countries. ■







Outcomes of the  
**5th World Water Forum**  
Istanbul 2009



**ISTANBUL  
WATER  
CONSENSUS**

# ISTANBUL WATER CONSENSUS

## FOR LOCAL AND REGIONAL AUTHORITIES

**A**s Mayors and local/regional elected representatives from different parts of the world, meeting in Istanbul in March 2009, we participate in this **ISTANBUL WATER CONSENSUS** to develop water management strategies in the face of global changes.

On the occasion of the Fourth World Water Forum in Mexico, the Local Government Declaration on Water of 21 March 2006 expressed the awareness and responsibility of local and regional leaders concerning water and sanitation and called on national governments for a more effective partnership.

We build on previous commitments and express our readiness to take leadership in advancing integrated water management approaches to ‘bridge divides for water’ and strengthen the resilience of our cities and regions to cope with rising external pressures and contribute to our overall sustainable development.

# PART I - LOCAL AND REGIONAL GOVERNMENTS' DECLARATION AND CALL FOR ACTION

## With this Consensus, we acknowledge that:

- Access to good quality water and sanitation is a basic right for all human beings and plays an essential role in life and livelihoods, the preservation of the health of the population and the fight against poverty<sup>1</sup>;
- Water is a public good and should therefore be under strict public control, independently of whether the services are delegated to the private sector or not;
- Sanitation is equally important as water supply and needs to be given due consideration on the political agenda of local, regional and national governments;
- The local level plays an increasingly important role in the provision of water and sanitation services;
- Rapid global changes such as population growth, economic development, migration and urbanisation, with over half of the world population now living in cities, are placing new strains on water resources and infrastructure and on the systems that supply water and sanitation services to our citizens, businesses, industries, and institutions. These rapid global changes are adding difficulties for the achievement of the Millennium Development Goals (MDGs) on water supply and sanitation<sup>2</sup>;
- Slums and informal settlements in and around cities are growing and poverty is increasingly an urban issue, requiring the linkage between access to water and sanitation and land tenure to be urgently addressed;
- Climate change will impact every aspect of the water cycle affecting our citizens: water scarcity will become more exacerbated, extreme events, such as floods and droughts, will increase, the sea level will rise, temperatures will increase, groundwater recharge, rainfall patterns and stream flow regimes will change;
- Water resources management, at the local and regional levels, can be a tool to adapt to global changes;
- The nature, extent and dynamics of water problems show commonalities and differences when comparing the situations in developing and developed countries. While insufficient or aging infrastructure is a challenge for both, financing, strengthening capacity and improving legal frameworks are core concerns particularly in developing countries;
- A new and consistent approach is needed to cope with the demand for water at local and regional levels and to assure mitigation and adaptation measures to face these global changes. Equitable, optimal and sustainable management of water resources and services demands an integrated approach, coordinated action and the sharing of responsibilities by the various tiers of government;
- Sanitation needs to be embedded in overall local and regional planning, linked to other sectors such as drainage, potable water supply, wastewater and solid waste management, carried out - where applicable - through decentralized approaches, and supported by public education and awareness-raising campaigns to improve domestic hygiene.
- Local and regional planning and design needs to be more water-sensitive;
- The public utility/service operator plays a central role in the provision of water and sanitation services and the existing support mechanisms to improve their capacity and strengthen their operation are not sufficient;
- There are costs associated with the provision of quality water and sanitation services. However, access to water and sanitation in sufficient quantity, quality and continuity must be assured affordably and equitably in particular by adapting cost recovery for the poorest people;
- Water use in urban and rural areas is highly interdependent and local sustainable water management plays a crucial role in securing agricultural food production and the prevention of rural depopulation; local authorities must be aware of the importance of rural agriculture, which plays an important role in the provision of food to urban centers.

(1) We strongly support the initiative of the UN Human Rights Commission with regard to the right to water.

(2) The United Nations Millennium Development Goals, which propose to reduce by half the proportion of people without sustainable access to safe drinking water and improved sanitation by 2015, are of direct concern to local governments.

**Further, in support of our pledge of action as Mayors and local/regional elected representatives, we call on our national governments and on international institutions to:**

- Shift water security higher in national and international policy priorities, based on the principle that water resources must be allocated in a reasonable and equitable manner among all users to support inter-alia, social and health objectives, employment, economic activity, cultural and leisure development and healthy and pleasant environments;
- Speed up the implementation of commitments made on access to water and sanitation and the fight against poverty, particularly in developing countries, in order to achieve the objectives set out in the Johannesburg Plan of Implementation (JPOI) and the Millennium Development Goals (MDGs);
- Establish a dialogue to ensure that Local and Regional Authorities, through an effective transfer of competencies and means, have the legal authority, financial resources, institutional capacity and adequate human and technical skills to manage water supply and sanitation locally and regionally. Respecting the principle of subsidiarity, local governments, in consultation with all stakeholders, should have the option to choose between various management models;
- Involve Local and Regional Authorities in the definition and implementation of political strategies taken at the national and supra-national level for sustainable water management to improve access to water and sanitation and to prepare for climate change and other global changes, particularly in insular and coastal countries. These changes require new infrastructure projects to anticipate climate change-related effects into the design of water, sanitation, storm-water and other urban infrastructure;
- Develop innovative financing mechanisms and regulatory frameworks to facilitate access for local and regional governments to direct financing and increase financing for local water and sanitation infrastructure to address the needs of all people and especially the poor and for adaptation to global changes;
- Include investment in the water sector in their debt reduction operations, such as exchange of debt against water and sanitation investment;
- Put highest attention to the understanding and forecasting of future climate, demographic and other developments affecting the water cycle and management systems at national and regional levels, share the knowledge gained with local governments and help interpret these developments for their relevance at local level;
- Establish effective mechanisms to involve Local and Regional Authorities in the watershed management process;
- Take into more coordinated consideration the impacts of sectoral policy choices on the hydrological cycle that affects rural and urban areas as well as ecosystems;
- Support the international cooperation of Local and Regional Authorities for working towards the MDG targets on water and sanitation, especially through funded partnerships between local and regional governments of developed and developing countries and by allowing - where possible - the allocation of part of the revenues raised from users of water and sanitation services for this purpose.

## PART II - LOCAL AND REGIONAL AUTHORITIES' COMMITMENTS

Recognising the urgent need to develop effective strategies, cities and regions depend on appropriate legal, institutional and financial frameworks and availability of capacities, both technical and human. However, climate change, population growth, intensive urbanisation, rapid economic development and other pressures impact local water resources and systems faster than current political and social systems can respond to them.

Therefore, we, as Mayors and local/regional elected representatives, signing this **ISTANBUL WATER CONSENSUS** on behalf of our local/regional governments, express our clear political will to prepare for these challenges by undertaking now whatever is in our current scope of authority and capacities and pledge to do our utmost to contribute to improved water governance and steer our local policies and approaches towards increased sustainability in water management and hydraulic infrastructure development.

This commitment is taken with the expectation that national governments and international institutions will indeed recognise the indispensable role of local and regional governments in improving access and successful adaptation measures in the water sector and will initiate - in the near future - the political reforms that are required to make local and regional governments' efforts technically and legally feasible, fundable and effective.

In order to fulfil our commitment, we will use our political mandate to apply an integrated and participatory approach to sustainable water and sanitation management and initiate the following actions in our city or region based on the Guidelines in the Annex<sup>3</sup>:

- An *assessment* of the internal and external pressures on the local water resources and their aquatic biodiversity in order to identify the main challenges on their conservation;
- An *inventory* of local and regional government policies, strategies and plans that need to be adapted to cope with global challenges threatening local water resources and systems in the medium- and long-term;

- The development of a *dialogue with all stakeholders at the local/regional level* in order to create a shared vision between principal actors, to define local priorities and plans of action in the water sector;
- The definition of *objectives and measurable targets* specific to our jurisdiction and reflecting the commitment made to **Istanbul Water Consensus** and the establishment of a monitoring and reporting framework to increase accountability of our strategies and actions;
- The implementation of our action plans to achieve tangible improvements in our water and sanitation services and to increase local and regional resilience in the face of global changes.

We also pledge to report back and share the challenges and the progress of our cities in achieving the above actions at the occasion of the next World Water Forum in 2012.

## ANNEX: GUIDELINES FOR A PLAN OF LOCAL AND REGIONAL ACTION (To be tailored to the local context)

### Diagnosis

Local and Regional Authorities should develop an assessment of those challenges, which are most likely to impact their water resources and water and sanitation services, including the following, as applicable:

- Undertake an assessment, in cooperation with stakeholders, of likely demographic land-use changes and economic trends and the resulting demands on water resources and compare them with the predicted availability of water resources;
- Determine the population lacking access to safe drinking water and sanitation;
- Determine the population most vulnerable to water-related health impacts;
- Carry out a study on water and sanitation infrastructural needs, including rehabilitation, and their appropriate financing;
- Identify barriers to integrated management including sectoral pressures;
- Assemble the best available climate forecasts applicable to the hydrological factors that impact the city/local authority – from water source to sea;
- Assess the city's capacity to deliver water and sanitation services under major scenarios of climate and global changes.
- Determine other climate-related risks, potential benefits and uncertainties with respect to water management;
- Conduct a vulnerability assessment for pollution and water-related disasters;
- Assess, strengthen and implement regulatory frameworks and enhance institutional capacity;
- Determine the needs for water to support social, economic (both agricultural and industrial), institutional and environmental needs.

(3) See options for Diagnosis, Targets and Measures in the "Guidelines" section.

## Targets

Local and Regional Authorities should develop concrete and measurable targets that are tailored to their local circumstances, pursuant to their jurisdiction and on a fully voluntary basis.

Such targets could be, for example:

- Reduce the amount of physical water loss x % by year x.
- Increase water supply for human needs x % by year x.
- Increase water supply per capita to x liter per day by year x.
- Save x % of per capita domestic water consumption by year x.
- Achieve internationally recognized water quality standards by year x.
- Achieve x % collection and x % treatment of sewage by year x.
- Inspect x % of industrial wastewater outfalls every year.
- Ensure appropriate amount of water for ecosystems needs by year x.
- Reduce damages due to water-related disasters as % of national (and/or regional) GDP to less than 5% of GDP.

## Measures

To realize targets such as the ones listed above, the following measures might be considered:

- State-of-the-art water, sanitation and storm water management techniques to respond to urbanization and to the uncertainty and variability associated with global changes, taking water supply in rural areas also into account;
- Adoption of measures regarding spatial planning in order to prevent and combat the impact of global changes on the flood risk at the river basin level and on sea rise level;
- Diversification of sources of water supply to provide more flexibility for an indeterminate future, for example, via new storage facilities, sustainable groundwater extraction, water conservation and recycled water or desalination<sup>4</sup>;
- Introduction of regulatory measures for public participation in the decision-making regarding water management and financing at local/basin/regional levels thus improving water governance;
- Investment in sustainable infrastructure;
- Reduction of negative water-related health impacts to the urban population;

- Protection of the natural environment, especially important aquatic habitats, against cumulative impacts of urban development and climate change;
- Restriction of land-use to protect water resources and dependent biodiversity;
- Cooperation with industry and the business sectors to optimize water efficiency and reuse in processes and products and to limit, manage and control pollution;
- Preference to water management solutions that are economical and efficient such as rainwater harvesting and the recycling of purified wastewater;
- Development and implementation of structural and non-structural risk management plans/measures to reduce damage by water-related disasters.
- Development and implementation of plans for flood control, drainage improvements, drought, disaster response and preparation for sea level rise;
- Development and implementation of plans for the redesign and re-engineering of infrastructure, as necessary, to withstand extreme events or to perform under changed circumstances;
- Involvement of women and young people in the supply, management and maintenance of water resources and in risk reduction;
- Utilization of innovative and locally-adapted technologies for increased efficiency and coverage of water and sanitation systems;
- Provision of incentives for the transfer of education, training and technology in order to assure sustainable water management and economic development.

(4) The following local and regional governments requested to keep the reference to inter-basin water transfers: Generalitat Valenciana, Comunidad Autónoma de la Región de Murcia (Spain), Inter Mediterranean Committee of the Conference of Peripheral Maritime Regions (CIM-CPMR)

# CHAMPION CITIES FOR THE ISTANBUL WATER CONSENSUS

- Istanbul, Turkey
- Baguio, Philippines
- Brisbane, Australia
- Buenos Aires, Argentina
- Incheon, South Korea
- Lausanne, Switzerland
- Lyon, France
- Marseille, France
- Paris, France
- Rotterdam, The Netherlands
- Vienna, Austria

## 307 SIGNATORY CITIES AS OF 1 JULY 2009

Country	Cities
Argentina	Buenos Aires
Australia	Brisbane
Austria	Vienna
Benin	Abomey, Ouinhi
Bostwana	Mochudi
Brazil	Adamantina, Agudos, Altinópolis, Alvares Machado, Alvinlândia, Americana, Américo Brasiliense, Américo de Campos, Andradina, Anhembi, Anhumas, Aramina, Araraquara, Araras, Arco Iris, Arealva, Areiopolis, Ariranha, Artur Nogueira, Aspásia, Atibaia, Avai, Avanhandava, Avaré, Barão de Antonina, Barbosa, Bariri, Barra Bonita, Barretos, Bastos, Batatais, Bauru, Bebedouro, Bernardino de Campos, Bilac, Bocaina, Bofete, Boituva, Bom Jesus dos Perdões, Boraceia, Borborema, Borebi, Botucatu, Braúna, Brodowski, Brotas, Cabralia Paulista, Cafelândia, Campina do Monte Alegre, Campos Novos Paulista, Cândido Mota, Capela do Alto, Castilho, Cedral, Colina, Conchal, Conchas, Cristais Paulista, Cruzalia, Descalvado, Dois Corregos, Dourado, Dracena, Duartima, Dumont, Eldorado, Embaúba, Embu Guaçu, Estrela do Norte, Fernandópolis, Fernão, Florinea, Gabriel Monteiro, Gália, Gastão Vidigal, Gavião Peixoto, Guaiçara, Guapiaçu, Guaraci, Guararapes, Guariba, Guataparã, Herculândia, Hortolândia, Ibirá, Ibirarema, Ibitinga, Iepê, Igaraçu do Tietê, Ilhabela, Indaiaporã, Inúbia Paulista, Ipeúna, Iracemápolis, Irapuã, Itai, Itapetininga, Itapira, Itatiba, Itatinga, Itirapuã, Itobi, Itu, Ituverava, Jaboticabal, Jahu, Jandira, Jardinópolis, Jequara, Júlio Mesquita, Junqueirópolis, Lavinia, Leme, Lençóis Paulista, Lins, Lorena, Luiz Antônio, Lupercio, Lutécia, Macatuba, Mairiporã, Marília, Martinópolis, Matão, Mendonça, Miguelópolis, Mineiros do Tietê, Mira Estrela, Mirante do Paranapanema, Mogi Mirim, Mongaguá, Monteiro Lobato, Nantes, Narandiba, Neves Paulista, Nova Canaã Paulista, Nova Castilho, Nova Europa, Nova Odessa, Novo Horizonte, Oleo, Olimpia, Oriente, Orlandia, Oscar Bressane, Ouroeste, Pacaembu, Palmares Paulista, Panorama, Paraguacu Paulista, Pardinho, Paulistânia, Paulo de Faria, Pederneiras, Pereira Barreto, Piedade, Pindamonhangaba, Pinhalzinho, Piquete, Piracaia, Piracicaba, Pirangi, Pirassununga, Pompéia, Populina, Porto Ferreira, Pracinha, Pratânia, Presidente Alves, Presidente Bernardes, Presidente Epitácio, Presidente Venceslau, Promissão, Queiroz, Quintana, Rancharia, Regente Feijó, Reginópolis, Ribeirão Bonito, Ribeirão Branco, Ribeirão do Sul, Ribeirão Pires, Ribeirão Preto, Rifaina, Rio das Pedras, Rubineia, Sabino, Sagres, Sales Oliveira, Salto, Salto Grande, Sandovalina, Santa Adélia, Santa Bárbara d'Oeste, Santa Clara d'Oeste, Santa Cruz das Palmeiras, Santa Cruz do Rio Pardo, Santa Fe do Sul, Santa Lucia, Santa Maria da Serra, Santa Mercedes, Santa Rita Do Passa Quatro, Santa Rosa de Viterbo, Santa Salete, Santana de Parnaíba, Santo André, Santo Antônio do Aracanguá, Santo Expedito, São Bento do Sapucaí, São Caetano do Sul, São Jose da Bela Vista, São Jose do Rio Preto, São Sebastião, São Sebastião da Grama, São Paulo

Country	Cities
Brazil	Sarutaiá, Sertãozinho, Severinia, Sorocaba, Sud Mennucci, Sumare, Tabatinga, Taguai, Taiúva, Tambaú, Tapirai, Tapiratiba, Taquarituba, Tarumã, Tatui, Teodoro Sampaio, Terra Roxa, Timburi, Torre de Pedra, Trabiju, Tupã, Tupi Paulista, Turmalina, Ubatuba, Ubirajara, Uchoa, Urânia, Uru, Urupês, Valparaíso, Viradouro, Vista Alegre do alto, Votorantim, Votuporanga
Colombia	Antioquia
Croatia	Koprivnica
Ecuador	Guayaquil, Quito
France	Cergy-Pontoise, Houdan, Lyon, Marseille, Maxéville, Paris, Sceaux, Strasbourg
French Polynesia	Bora Bora
Germany	Berlin
Greece	Thessaloniki
Indonesia	Jakarta, Bogor
Italy	Piacenza
Jordan	Fuheis
Kenya	Kisumu, CC of Kipsigis
Republic of Korea	Incheon, Suwon
Mauritania	Nouakchott
Mexico	Cuernavaca, Mexico
Morocco	Chefchaouen, Kenitra, Settat, Sidi Boumehdi
Netherlands	Rotterdam
Palestine	Bethleem, Gaza
Philippines	Baguio
Senegal	Saint Louis
South Africa	Cape Town
Spain	Alcoy, Barcelona, Zaragoza
Switzerland	Lausanne
Tanzania	Bukoba, Geita, Muleba
Togo	Atakpamé, Lomé, Sokodé
Turkey	Denizli, Istanbul, Konya, Malatya, Sakarya
Uganda	Kampala, Kampala/Bugembe, Kampala/Kawempe

#### SUPPORT FROM OTHER ORGANIZATIONS / ASSOCIATIONS:

- Coastal Municipalities Water Utility, *Gaza*
- Forum Algérien de la Citoyenneté et de la Modernité, *Algeria*
- APN, *Algeria*
- COPPEM, *Italy*
- Commission inter-méditerranéenne de la conférence des régions périphériques maritimes
- Initiative du Bassin du Nil
- Federacion Colombiana de Municipios
- National Association of Portuguese Municipalities







Outcomes of the  
**5th World Water Forum**  
Istanbul 2009

THEMATIC  
OUTCOMES

# THEMATIC OUTCOMES

## Overarching messages

During the scores of discussions in over one hundred sessions, including special focus sessions and sessions on cross-cutting issues, some overall messages emerged:

- Water is a common denominator for many development issues and the key to successfully resolving those challenges.
- Because of the interrelatedness of water issues across so many different sectors, progress can only be achieved through an interdisciplinary approach, both at the international and national levels. There is therefore a need to reinforce the preliminary linkages made at the 5th World Water Forum and develop a truly “out of the box” approach.
- Global changes were a recurrent theme found throughout many of the Forum’s sessions. In particular, population growth, urbanisation, and climate change will increasingly cause compound pressures on water.
- Better management can be achieved through direct and free access to shared reliable information related to water quality and quantity. Moreover, the interpretation of water-related statistics is as important as their collection.
- Education, capacity development and financial support need to be enhanced in virtually every domain to support further progress. Women’s participation in decision-making should be encouraged, and education at all levels must be supported.
- Solutions must be sustainable and flexibly adapted to specific local or regional circumstances: no “one size fits all” approach can be applied to water management.
- Stakeholders need to be engaged through participatory processes in the earliest stages of water resource development strategies.
- Action is urgent! It is imperative to move forward on today’s water-related challenges and to create greater political action.

## From recommendations to commitments

The 5th World Water Forum thematic development process was based on defining key questions to which the water community must respond urgently and then on providing concrete answers to those questions. The identified results stem from an overwhelming number of discussions and materials in sessions, topic and thematic wrap-ups and high level panels. They are organised here into three categories:

- Commitments: actions put forth by their implementing institutions
- Initiatives: on-going or newly starting programmes that will be further pursued after the Forum
- Proposals: Strongest recommendations for action

Most of these issues were acknowledged in the Istanbul Water Guide (IWG), developed during the multi-stakeholder preparation of the Ministerial process. Therefore, references to the recommendations of the Istanbul Water Guide have been included whenever possible<sup>1</sup>.

# THEME I: GLOBAL CHALLENGES AND RISK MANAGEMENT

While climate change, disasters and migration are distinct in scope and challenges, joint reflection on these issues at the 5th World Water Forum concluded that good adaptation measures implemented for climate change and disasters will, in fact, assist in mitigating migration. One billion slum dwellers worldwide demonstrate that unsolved rural problems lead to urban problems. Therefore, more work is needed to continue to dovetail efforts before crises arise, despite disparities among these domains. In addition, the message that water is a key medium through which climate change acts and the work on “hotspots” and recommendations formulated at the 5th World Water Forum will be channeled into the UNFCCC CoP15 processes, as well as to other international processes.

## Commitments

**1.1** The Cooperative Programme on Water and Climate (CPWC), The World Conservation Union (IUCN) and the World Water Council (WWC) committed to further developing the analytical framework presented in the publication “Don’t stick your head in the sand” (2009), which encourages and defines priority action on climate adaptation. (IWG 13)

**1.2** Recognizing the crucial role of water as a cross-cutting issue for adaptation, members of the High Level Expert Panel on Climate Change and Adaptation committed to feed the work presented at the 5th World Water Forum on water and

climate into the UNFCCC/COP 15 negotiation process. (NB: Subsequently, UN-Water, together with the Global Public Policy Network on Water Management, Co-operative Programme on Water and Climate, World Water Council, IUCN and IWA recommended key elements and mechanisms to be included in the COP15 process and outcomes during the Bonn Climate Change Talks in June 2009. They also anticipate participating actively and promoting the outcomes of the Forum during the COP15 meeting in December 2009.) (IWG 11)

**1.3** The High Level Expert Panel on Climate Change and Adaptation committed to continuing its examination of the higher level risk for “Hotspots”, which include small islands, mountains, deltas, arid areas in developing countries with lesser capacity to cope. These areas are not recognized as stress areas within the current UNFCCC framework. (IWG 13)

**1.4** In their report, the High Level Expert Panel on Water and Disasters issued six urgent imperatives and outlined a set of 40 concrete proposals that the panel would pursue at the local, national and international levels ( [HYPERLINK "http://www.waterforum.jp/eng/HLEP/doc/Water\\_and\\_Disaster.pdf"](http://www.waterforum.jp/eng/HLEP/doc/Water_and_Disaster.pdf) [www.waterforum.jp/eng/HLEP/doc/Water\\_and\\_Disaster.pdf](http://www.waterforum.jp/eng/HLEP/doc/Water_and_Disaster.pdf)). This set of 40 proposals is meant to generate political attention and to catalyse change in funding and policies related to risk and losses from disasters, especially water-related disasters. The imperatives include the following:

(1) Linkages to the IWG are presented in the form : IWG XX, where XX refers to the number of the pertinent recommendation in the IWG.

- a. Galvanize and mobilize before disaster strikes
  - b. Prioritize systems to forecast, inform, alert and evacuate.
  - c. Incorporate disaster risk reduction and climate change adaptation as integral to development planning
  - d. Improve disaster response
  - e. Provide safe water and toilets quickly when disaster/conflict strikes
  - f. Special crosscutting Initiatives
- (IWG 16, 24-28)

### Initiatives

- 1.5 The International Water Association (IWA) will continue to develop the IWA Specialist Group on “Climate Change and Adaptation.” This Specialist Group will further identify and increase awareness on climate-related impacts on the water sector and management, stimulate adaptive actions in water management operations to enhance climate robustness and connect different communities involved in water utilities, water management and climate change research. (IWG 14)
- 1.6 Coordinated from its headquarters in Rotterdam, the programme “Connecting Delta Cities,” an alliance based on a partnership model between scientists and policy-makers in delta-region cities, will continue to expand. (IWG 11)

- 1.7 United Nations University Institute for Environment and Human Security (UNU-EHS) and UN Water Decade Program in Capacity Building (UNW-DPC) will jointly organize a capacity-building workshop to address the relevant and interconnecting issues between migration, environmental change, disaster and conflict, building upon the lessons learnt from the 5th World Water Forum thematic session on “Migration”. (IWG 18)

### Proposals

- 1.8 National coordination for adaptation must incorporate national water strategies and build local capacities on the ground. Coordinating national water strategies and building local capacities must be strengthened by legal frameworks and political action promoting cooperative strategies between land-use and water institutions. (IWG 11).
- 1.9 Governments must be moved to integrate climate change adaptation and water-related Disaster Risk Reduction (DRR) strategies into national development plans and financial planning policies immediately, recognizing that adaptation to increasing risks from climate change is the “highest” priority issue. (IWG 16, IWG 25).

## THEME 2: ADVANCING HUMAN DEVELOPMENT AND THE MILLENNIUM DEVELOPMENT GOALS (MDGS)

Regardless of whether or not the MDG’s are achieved, after 2015, the remaining half of the population lacking access to clean water and basic sanitation will still need to be served. At the 5th World Water Forum, the main impediments to reaching the MDGs were identified as a lack of effective management, investment, institutional capacity and political priority. One suggested instrument to ensure coverage for all school-aged children was the creation of a global convention to implement WASH in schools.

However, the necessity was also made clear to move away from increasing crisis management toward a process steered by more long-term development objectives, in which the challenges are recognized as all being interconnected. This will be especially important in harmonizing water use between energy production, food production and other uses, so that

these needs complement each other rather than compete against one another. The fundamental baseline associated with all development and environmental challenges is that by 2050, the world’s population will rise to over 9 billion people, and all will need water and sanitation.

### Commitments

- 2.1 The International Hydropower Association (IHA) will develop specific programmes to better coordinate water and energy discussions. The IHA will also seek other partners such as the World Water Council, the World Energy Council and the International Energy Agency in order to deepen the understanding and implications of the water-energy nexus. (IWG 38, 39)

**Initiatives**

**2.2** The International Hydropower Association will work towards integrating a widely recognised tool for assessing the sustainability of hydropower and of other multi-purpose water storage infrastructure. The Hydropower Sustainability Assessment Forum, which is an existing cross-party effort to formulate a sustainability assessment protocol for the hydropower sector, is already working towards fulfilling this need. (IWG 40)

**2.3** The Hydropower Sustainability Assessment Forum, the Roundtable for Sustainable Biofuels, and the Alliance for Water Stewardship must continued to be supported through increased support from policymakers, civil society and industry. Additional political buy-in, stakeholder engagement and provision of resources will ensure successful outcomes of these initiatives. (IWG 38)

**2.4** The World Water Council should continue to facilitate the work of the High Level Expert Panel on the Water, Food and Energy Nexus to assist in the coordination of policies between the sectors. (IWG 39, 51)

**Proposals**

**2.5** Harmonize WASH monitoring indicators between national and sub-national processes and improve wide-scale cooperation in the sector through NGO involvement. Current gaps in data provide insufficient understanding of impacts, in particular as related to gender specificities. This lack of information and of gender-segregated data will continue to affect the pace of reaching the MDGs. (IWG 30)

**2.6** In the concluding plenary session for Theme 2, speakers suggested the creation of a global convention to implement WASH in schools as one way to ensure coverage for all school-aged children.

**2.7** Pricing of water should consider water supply and distributions, wastewater collection, treatment and disposal operations. It should also involve “user pays” and “polluter pays” principles and account for the distribution of benefits along the water supply-chain. (IWG 36)

**2.8** The High Level Expert Panel on the Water, Food and Energy Nexus strongly supported advancing the emerging concept of water footprints as a method in promoting efficiency and incorporating it into the policy-arena. The water footprint concept was widely discussed and endorsed at the Forum. As the science of water footprints as applied to energy options still in its infancy, topic participants agreed to advance and intensify research in this area. (IWG 42, 51)

**2.9** Define and incorporate strategies for small-scale rural development into national planning processes by allocating

budgets as part of the global, regional and national development investment packages for rural market development. Targeted subsidies and financial packages, such as crop insurance, can also shield the vulnerable rural sector from shocks in the market. (IWG 47)

**2.10** Public investments should be used to develop pilot case studies of Multiple Use Service and Functions (MUSF). Successful lessons in MUSF show that incremental investments tend to be small. Thus, it is necessary to develop country visions and promote local strategies as ways to implement MUSF. (IWG 56, 53)

**2.11** The multiple social, economic and environmental benefits of the practice of MUSF needs to be raised at the political level, in order to gain a deeper understanding of its use and incite enhanced R&D on its costs and benefits at a country level. This includes acknowledging the current wide-spread practice of multiple uses in water systems; recognizing the value of multiple low cost services for the most vulnerable users, recognizing the inter-relationship between MUSF and IWRM and capitalizing on the sustainability of multi-service water agreements. (IWG 52–54).

**2.12** For accelerating MUSF, build upon Learning Alliances which can enable faster scale-up. By building upon partner knowledge and shared experiences. Learning Alliances are able to engage with information exchange based on partnership, technology and professional skills transfer. (IWG 56)

**2.13** Upon presenting the success of the 2008 International Year of Sanitation (IYS) during the High Level Expert Panel on Sanitation, the conveners of IYS proposed the creation of an International Task Force for Wastewater management. (IWG 36)

**2.14** The UN Secretary General Advisory Board (UNSGAB) proposed that the issue of human settlement discharges and their surrounding environments be a thematic focus for the next World Water Forum.

**2.15** The High Level Expert Panel on the Water, Food and Energy Nexus proposed that a report be prepared to highlight and analyse in depth the interconnections between water-food-energy through a multi-stakeholder approach, including such institutions as the World Trade Organisation. (IWG 51)

**2.16** The High Level Expert Panel on the Water, Food and Energy Nexus proposed that greater efforts be made in decreasing the water lost in the food chain. Reducing by half the food losses from field to fork would result in a reduction of total water use for food production and would increase efficiency by about 25%. (IWG 47)

# THEME 3: MANAGING AND PROTECTING WATER RESOURCES AND THEIR SUPPLY SYSTEMS TO MEET HUMAN AND ENVIRONMENTAL NEEDS

This theme perhaps offered the most fertile terrain for building bridges between polarized viewpoints: on transboundary issues, on storage issues, on infrastructure and environment, and between policy and implementation. Generally, it was agreed that river basin organizations offer a vehicle through which a range of partners can work together. In addition, a “Handbook on Integrated Water Resources Management in Basins” was presented, providing useful advice on how to improve governance of freshwater resources in basins. It was also recommended that IWRM needs to be practiced at different scales in order for it to be helpful in enabling Governments and all stakeholders to determine how to allocate water appropriately and which global solutions are most appropriate for any given situation. But most of all, these recommendations must lead to action.

## Proposals

**3.1** Encourage transboundary cooperation and sound basin management through legal frameworks established at a state-basin level and supported by international law. Transposing international treaties into national legal systems can aid in improving compliance of international water-treaties (IWG 58 and IWG 59)

**3.2** Partners in transboundary water basins must develop scenarios to understand the complex relationships of competing interests and sustainable use. Scenarios need to be based on clearly-defined basin management and investment plans. Scenarios should follow up on agreed priorities and conditions prior to testing pilots and promote cooperation through “benefit-trading” among main actors. Mechanisms in achieving hydro-solidarity should facilitate political interests and be able to identify the implementing organizations and effective evaluation of costs.

**3.3** Improve current IWRM approaches in order to enhance hydrosolidarity by:

- a. encouraging greater involvement in decision-making among direct stakeholders and indirect beneficiaries of river basin use;
- b. sharing information, and;
- c. defining management plans of shared boundaries in the medium- and long-term.

A universal set of IWRM indicators should also be developed to measure progress and establish a clear set of environmental priorities. (IWG 63)

**3.4** Improve understanding of groundwater at all levels, including transboundary aquifers, and their reactions to climate change.

**3.5** River Basin Organizations (RBOs) should take the lead on promoting water quantity and quality control at the basin level, while providing a platform for involvement and cooperation among transboundary rivers. Further development of RBOs must be governed by legal, institutional and financial frameworks that promote coordinated and sustainable use of transboundary river basins. RBOs should define the terms of water quality and maintenance; direct periodic assessments of existing infrastructure and improve efficiency and restoration upon demand. RBOs must also develop mechanisms for a balanced assessment based on a multi-participatory approach to decide upon cost-efficient alternatives for the protection of vulnerable groups.

**3.6** Integrated water management must breach its financing gap through development of multi-year priority programs and investments that involve reliable instruments to measure progress. Finances can be generated by seeking transfers from specific sources such as the general budget, international aid and relevant economic sectors. Promoting the use of water-related charges or pricing in community service can also yield funding supplies. Mobilizing financial resources from different sectors can promote efficiency and participation through a collaborative approach to water use. (IWG 67)

**3.7** Ensure that adequate attention is given to groundwater issues in future World Water Fora.

**3.8** A bridge between decision makers and technicians must be built to transfer the goals of IWRM from theory to reality.

**3.9** Facts about failures should also be communicated in order to avoid making the same mistakes again.

# THEME 4: GOVERNANCE AND MANAGEMENT

A wide majority of stakeholders reaffirmed support for the right to water and sanitation, already extensively recognized by many States, and supported further efforts for its implementation. In addition, a better understanding of the complementary roles of public and private sectors was achieved, recognizing that specific circumstances call for specific solutions. Moreover, 10 priority issues for catalyzing institutional change and policies were identified. In an effort to address corruption issues, participants called for the creation of an international tribunal to address violations and launched an appeal to incorporate anti-corruption safeguards into project designs. The need for public participation as an essential component of good governance was also emphasized.

## Commitments

4.1 Transparency International (TI) and the Water Integrity Network (WIN), in partnership with the World Bank, committed to improve monitoring on water governance by performing 50 scans by the year 2015 to identify hot and cold spots in water-corruption. (IWG 98)

## Initiatives

4.2 The Water Integrity Network will develop a risk map, identifying potential for corruption. This project is a partnership between the private and public sector, employing a multi-stakeholder approach to understanding and tackling corruption in the water sector. (IWG 98)

## Proposals

4.3 Develop long-term plans that are consistent and stable with policy adjustments that address change. This involves establishing separate institutions for Policy, Regulation and Operation. Formal institutional restructuring must involve informal changes to the internal institutional culture in order to be effective.

4.4 Laws should anchor water in National Development planning processes and be linked to national budgets. Also, financing strategies must be included in water plans.

4.5 When establishing institutions in charge of safe re-use of treated waste water, include in their guidelines: (i) the formal recognition of wastewater as a source for irrigation, (ii) the development of standards for direct and indirect re-use, and (iii) the development of a framework for the management of wastewater for re-use considering water management, environmental pollution and food safety. (IWG 94)

4.6 Promote Water Safety Plans which provide the basis for managing risk for human consumption and assess existing ones to identify improvement requirements. Revisit the IWA Bonn Charter to consider principles for water management as a whole. (IWG 94)

4.7 Implementation of the Right to Water and Sanitation needs to be supported by legal frameworks at the national level, and legitimacy of its implementation needs to be entrusted to local authorities and governments. Laws must be supported by independent regulation to ensure adequate procedures for redress, also recognizing the legitimacy of village authorities to ensure protection of rights at the local level. (IWG 85, 87)

4.8 Build adaptive capacity during emergency events by empowering communities with information and duties that can increase responsiveness and practical action. (IWG 26)

4.9 Empower and educate citizens and inform them of the legal and democratic mechanisms available to challenge public decisions. (IWG 97)

4.10 Promote the institution of Ombudsman. (IWG 87)

# THEME 5: FINANCE

Through a series of panels, sessions and side events throughout the week, financing issues received great attention from Forum participants. Despite recognition that financing needs for the water sector are still enormous and remain a major constraint for further development, the discussions enabled a much better understanding of the fundamentals of the water economic and financial issues. It was agreed

that funds need to be allocated where they can have the biggest impact. By flexibly balancing “The 3 Ts: Tariffs, Taxes and Transfers”, the sector is consciously developing its vision of “sustainable cost recovery.” Although higher priority for water is still requested in national budgets, increased efficiency and greater innovation could actually reduce financing needs.

## Proposals

**5.1** To facilitate good governance and accountability in the provision of water services, policy-making, regulation and service provision must be separated. Providers need to be accountable to customers and regulators. Relations between service providers and regulators should be based on transparent and stable rules. Governments should establish clearer rules for setting and adjusting tariffs. Finally, regulators should move away from solely protecting customers from high tariffs, but should also ensure the ability to sustain services. (IWG 106, 96)

**5.2** To obtain credibility among served communities, regulation mechanisms must be enhanced to improve transparency. Reporting on performance through benchmarking and maintaining technical audits is particularly needed and is also a powerful tool to increase service quality. (IWG 96)

**5.3** To improve the enabling environment and efficiency of service providers, governments need to challenge the status quo and push for reforms, addressing governance issues, improving accountability and incentives, and reducing political interference. (IWG 101)

**5.4** To bring down sector risk and bridge the gap between demand and supply of funding, the pooling of grants with long term loans should be favoured, in addition to “basket funding” approaches. (IWG 110)

**5.5** To improve access to local commercial finance, partnerships between public utilities and small-scale service providers (SSSPs) should be brokered. This creates a momentary win-win solution where SSSPs can obtain

access to good quality water at a reasonable price, or manage metered standpipes on behalf of the utility. (IWG 118)

**5.6** To ensure that subsidies reach the poor, promote the use of Output-Based Aid (OBA) as a viable approach. (IWG 112, 117)

**5.7** Projects requesting assistance from Overseas Development Aid (ODA) need to focus on the long-term commercial and financial sustainability of the proposal instead of the up-front attention to the capital required. Activities that make a project investment-ready can increase the creditworthiness of the borrower. Providing credit-enhancements that mitigate risks in debt transactions can also deepen local capital markets and enable IFIs to carry out lending in local currencies using the proceeds of their bonds. (IWG 112, 116)

**5.8** Support microfinancing initiatives that can serve a critical role in generating funding for small-scale development of water and sanitation services for the poor. (IWG 110, 117)

**5.9** Facilitate consensus building on hard policy choices through Strategic Financial Planning (SFP), which provides a transparent and participatory framework for analysing financial needs and allows stakeholders to build common understanding. (IWG 109)

**5.10** To improve the performance of services, further develop and promote the use of Performance Indicators such as those internationally recognized of the ISO 24512 developed in 2007 for the management of drinking water utilities and water services. (IWG 96, 102)

# THEME 6: EDUCATION, KNOWLEDGE AND CAPACITY BUILDING

With a view to strengthening science and education, participants called for:

- Enhancing knowledge and capacity development within the water sector;
- Improving data gathering, sharing and dissemination mechanisms;
- Promoting knowledge-based integrated approaches and informed decision making in water resources management;
- Actively engaging professional associations and all stakeholders.

To accomplish these objectives, guiding principles for education, knowledge and capacity development were drafted. Both youth and professional associations were recognized as powerful agents for change in this domain, especially in the advent of new technologies that will improve interconnectedness in future water management strategies. Partners also committed to improve the organization and availability of water-related data, building upon existing systems.



**Commitments**

6.1 In order to develop an effective framework for problem-solving and research in WASH, the International Resource Center (IRC) proposed to stimulate greater collaboration through discussion groups on sector-learning initiatives, such as Learning Alliances (LA) and exploiting existing resource center networks. The IRC also committed to update its manual on LA's with the most recent experiences included along with other multi-stakeholder approaches. (IWG 124)

**Proposals**

6.2 Scale-up statistical capacity building and its funding in developing countries to remedy data availability and data quality. This can be done by promoting the application of the System of Environmental-Economic Accounting for Water (SEEA-Water), while more fully integrating social data and water quality. Involve the UN Committee of Experts on Environmental Accounting and Environmental Statistics (UNCEEAA) in this process. (IWG 139, 141)

6.3 To encourage collaboration and facilitate meaningful solutions to water disputes, establish a Global Water Centre, a rights-protective, open-access and neutral space. (IWG 143)

6.4 To facilitate access to water related data, improve the linkages and interconnections between hydrological and water quality databases at the local, national and international levels. (IWG 144)

6.5 To improve data collection, integration and dissemination, and to improve data quality, bring together hydrologists, economists, social scientists, statisticians etc., to develop processes that promote data sharing, the use of common standards and classifications as well as the establishment of best practices. (IWG 142)

6.6 Establish policies and procedures for the sharing of data and the development of metadata as well as quality assurance frameworks and, where appropriate, seek assistance from the international donor community for this. (IWG 143)

6.7 To improve acceptability of water-related policies and infrastructure, develop concepts and implementation tools for the right to information of the affected populations. (IWG 97, 99)

6.8 Improve the interactions between Professional Network associations and the mainstream "development" community through exchanges in learning, leadership development, sharing experiences and publishing exemplary studies. (IWG 137)

6.9 Better use cultural information to guide the development of standards and to identify local and general issues of access, social exclusion, and water rights. (IWG 147) ■



Outcomes of the  
5th World Water Forum  
Istanbul 2009

REGIONAL  
OUTCOMES

# REGIONAL OUTCOMES OF THE 5TH WORLD WATER FORUM

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## KEY MESSAGES FROM AFRICA

- There is a clear vision for achieving water security in Africa, and commitments at the Africa's highest political level are in place;
- A major scaling up of finance for expansion of Africa's water infrastructure (up to US\$50 billion per annum with a gap estimate of US\$30 billion per annum) is needed and this must begin soon in ways that deliver economic growth;
- A lot is known about financing of drinking water and sanitation but there is a need to extend knowledge to other water-related sectors, notably agriculture and energy;
- A comprehensive integrated approach should be pursued on infrastructure development to optimise multi purpose use with country and regional specificities acknowledged;
- There is a need for strong cooperation on transboundary water resources development as an opportunity for cementing regional integration;
- Governments must play the central role in pulling financing actions together.

The following captures some of the actions requiring immediate follow-up in the areas of: i) Governance and Management; ii) Meeting the MDGs; iii) Financing; and iv) Transboundary Water Resources Management, among others:

- a. Strengthening of AMCOW in its leadership role and establishment of a mechanism to peer-review water security actions taken by members;
- b. Defining an operational plan for implementing the high level political commitments on water security, and launching an Annual Report on progress of actions to Africa's Heads of State;
- c. Put adequate manpower in place to meet the MDGs, by instituting a capacity-building process for national agencies, local and community level actors;
- d. Development of a road-map to accelerating progress in drinking water and sanitation in Africa's fragile states, where the coverage gaps are greatest, under the aegis of AMCOW;
- e. Holding a meeting of African Water and Finance Ministers, together with development partners, to discuss and agree finance strategies, and returns to Government and society of water infrastructure investments;
- f. Implementation of the eThekweni commitment on financing sanitation (0.5% of GDP) by African Governments;
- g. Meeting agriculture investments under the Maputo public expenditure pledge (10% of national budget);
- h. Increasing the currently low level of local private sector involvement in the various sub-sectors;
- i. Facilitation of regional and basin level integration and knowledge management;
- j. Strengthening partnership with Development Partners;
- k. Development Partners to meet pledges and commitments, with greater clarity on disbursement instruments and replenishment of existing funds, and use of existing national and regional facilities.

## Sharm El Sheikh Commitments for Accelerating Achievement of Water and Sanitation Goals

We, the Heads of State and Government of the African Union, meeting at the 11th Ordinary Session of our Assembly in Sharm El-Sheikh, Arab Republic of Egypt, from 30 June to 1 July 2008,

Recognizing the importance of water and sanitation for social, economic and environmental development of our countries and Continent;

Reaffirming our commitment to the principles and objectives, stipulated in the Constitutive Act of the African Union aimed at promoting cooperation and integration between our countries in all fields with a view to raising the living standards of our peoples and the wellbeing of future generations;

Recognizing that water is and must remain a key to sustainable development in Africa, and that water supply and sanitation are prerequisites for Africa's human capital development;

Concerned that there is an underutilization and uneven sharing of water resources in Africa, and that remains a growing challenge in the achievement of food and energy securities;

Reaffirming our commitment to the African Water Vision 2025, the Sirte Declaration on Agriculture and Water in

Africa; the Declaration on Climate Change in Africa; and the Millennium Development Goal on water supply and sanitation;

Mindful that our Summit is taking place mid way to the 2015 water, sanitation and other MDGs targets and aware that not much progress has been made in Africa compared to the rest of the world to achieve the MDGs target, and that based on current trends, Africa needs to accelerate its efforts;

Welcoming the Declaration by the international community of 2008 as the year of action on the MDGs, and the Declaration by the United Nations of 2008 as the "International Year of Sanitation" which, for Africa, provides an opportunity for accelerating its regional action plans and implementation strategies by adopting concrete decisions at our Heads of State and Government Summit;

Aware of the need to make progress on the challenges of water and sanitation infrastructure financing, water conservation and equitable distribution, closing the sanitation gap, breaking the silence on sanitation and hygiene, adapting to climate change, integrated management of national and transboundary surface and ground water, investing in information, knowledge and monitoring and institutional development as well capacity building;

Aware also of the urgent need to develop our water and sanitation infrastructure and institutions in order to provide sufficient and sustainable quantity and quality for all types of services and provide acceptable level of protection from risks of water related disasters and impact of climate change as key for the transformation and socio-economic development, and for public health in Africa;

Recognizing the progress that the African Ministers' Council on Water (AMCOW) and other institutions and organizations and their development partners have made in the area of water resource management and in the provision of safe drinking water and adequate sanitation to the urban and rural populations of our countries albeit the inadequacies;

Welcoming the Ministerial Declaration and outcomes of the first Africa Water Week convened by AMCOW and hosted by the African Development Bank (AfDB) in Tunis, Tunisia from 26 to 28 March 2008; and further welcoming the eThekweni Declaration on Sanitation and its accompanying actions adopted in South Africa in February 2008, and the Africa-EU Statement on Sanitation of March 2008;

Acknowledging the work done by AMCOW in mobilizing action towards sustainable and integrated water resource management and in providing policy guidance for coordination of water resources management and for water supply and sanitation initiatives as well as the funding mechanisms put in place for these initiatives;

## **WE COMMIT OURSELVES TO:**

- (a) Increase our efforts to implement our past declarations related to water and sanitation;
- (b) Raise the profile of sanitation by addressing the gaps in the context of the 2008 eThekweni Ministerial Declaration on sanitation in Africa adopted by AMCOW;
- (c) Address issues pertaining to agricultural water use for food security as provided for in the Ministerial Declaration and outcomes of the first African Water Week. And particularly;
- (d) Develop and/or update national water management policies, regulatory frameworks, and programmes, and prepare national strategies and action plans for achieving the MDG targets for water and sanitation over the next seven (7) years;
- (e) Create conducive environment to enhance the effective engagement of local authorities and the private sector;
- (f) Ensure the equitable and sustainable use, as well as promote integrated management and development, of national and shared water resources in Africa;
- (g) Build institutional and human resources capacity at all levels including the decentralized local government level for programme implementation, enhance information and knowledge management as well as strengthen monitoring and evaluation;
- (h) Put in place adaptation measures to improve the resilience of our countries to the increasing threat of climate change and variability to our water resources and our capacity to meet the water and sanitation targets;
- (i) Significantly increase domestic financial resources allocated for implementing national and regional water and sanitation development activities and Call upon Ministers of water and finance to develop appropriate investment plans;
- (j) Develop local financial instruments and markets for investments in the water and sanitation sectors;
- (k) Mobilize increased donor and other financing for the water and sanitation initiatives including national projects and Rural Water and Sanitation Initiatives, the African Water Facility; Water for African Cities programme and the NEPAD Infrastructure Project Preparation Facility, as committed in the G8 Initiatives on water and sanitation;
- (l) Promote effective engagement of African civil society and public participation in water and sanitation activities and programmes;
- (m) Promote programming that addresses the role and interests of youth and women, given that the burden of poor water and sanitation falls disproportionately on women and children;
- (n) Strengthen AMCOW as a key regional mechanism, and other regional stakeholders, as relevant, for promoting cooperation on water and sanitation;
- (o) Strengthen AMCOW's initiative on sustainable management of water resources, to implement its roadmap for the African Groundwater Commission;
- (p) Strengthen partnership at all levels in our countries and between Regional Economic Communities as well as with the international development agencies and promote public-private partnerships with the view to fast tracking actions towards meeting the MDG on water and sanitation in our continent;
- (q) Request AMCOW to annually report on progress made in the implementation of our commitment on water and sanitation with support from regional partners, and to submit these reports for our consideration;
- (r) Call on African Ministers in charge of water and finance in collaboration with the African Development Bank and development partners, to hold a meeting of Ministers of Water and Finance to develop appropriate financing policies;
- (s) Request the Regional Economic Communities and the Rivers and Lake Basin Organizations to initiate regional dialogues on climate change and its impacts on the water sector with the aim of designing appropriate adaptation measures;
- (t) Call upon the G8 to reaffirm at its next Summit in Japan its commitment to fully implement the G8 initiatives on water in Africa, notably the 2003 Evian Plan on Water, to step up their engagement in the sanitation sector and to enter into a strengthened partnership with the AU Member States, through AMCOW, for achieving the Water and Sanitation MDGs.

*Done in Sharm El-Sheikh on 1 July, 2008*

## The eThekweni Declaration and AfricaSan Action Plan

We, the Ministers and Heads of Delegations responsible for sanitation and hygiene from 32 African countries, together with senior civil servants, local government officials, professionals from sector institutions, academia, civil society, development partners, and the private sector under the auspices of the African Ministers' Council on Water and Sanitation (AMCOW), and the other co-hosts of AfricaSan at the Second African Conference on Hygiene and Sanitation in Durban, South Africa, February 18–20, 2008:

- Recognizing that approximately 589 million people, more than 60% of Africa's population currently do not have access to safe sanitation;
- Mindful that an estimated 1 million Africans die every year from sanitation, hygiene and drinking water-related diseases, and that improving sanitation reduces disease burden and improves household and national economic development;
- Welcoming the International Year of Sanitation, 2008 which seeks to boost the importance of sanitation and draw attention to the fact that sanitation is critical to economic development and poverty reduction;
- Noting that the associated human, social, health, environmental and infrastructural costs of inadequate sanitation are a major economic burden on African economies;
- That an investment in sanitation positively impacts related development targets;
- Recognizing that sustainable access to sanitation is one of the Millennium Development Goal targets, and that many Governments have set their own goals for both sanitation and hygiene;
- Recognizing that AMCOW has committed itself to lead Africa towards achievement of the water and sanitation MDGs;

Do hereby pledge ourselves to the following "eThekweni commitments on sanitation":

1. To bring the messages, outcomes and commitments made at AfricaSan 2008 to the attention of the African Union at its 2008 Heads of State and Government Summit to raise the profile of sanitation and hygiene on the continent;
2. To support the leadership of AMCOW to track the implementation of the eThekweni Declaration and prepare a detailed report on progress in mid 2010, when AMCOW will provisionally host a follow up AfricaSan event;
3. To establish, review, update and adopt national sanitation and hygiene policies within 12 months of AfricaSan 2008; establish one national plan for accelerating progress to meet national sanitation goals and the MDGs by 2015, and take the necessary steps to ensure national sanitation programs are on track to meet these goals;
4. To increase the profile of sanitation and hygiene in Poverty Reduction Strategy Papers and other relevant strategy related processes;
5. To ensure that one, principal, accountable institution takes clear leadership of the national sanitation portfolio; establish one coordinating body with specific responsibility for sanitation and hygiene, involving all stakeholders, including but not limited to those responsible for finance, health, water, education, gender, and local government;
6. To establish specific public sector budget allocations for sanitation and hygiene programs. Our aspiration is that these allocations should be a minimum of 0.5% of GDP for sanitation and hygiene;
7. To use effective and sustainable approaches, such as household and community led initiatives, marketing for behaviour change, educational programs, and caring for the environment, which make a specific impact upon the poor, women, children, youth and the unserved;
8. To develop and implement sanitation information, monitoring systems and tools to track progress at local and national levels and to work with global and regional bodies to produce a regular regional report on Africa's sanitation status, the first of which to be published by mid-2010;
9. To recognize the gender and youth aspects of sanitation and hygiene, and involve women in all decision making levels so that policy, strategy and practice reflect gender sensitive approaches to sanitation and hygiene;
10. To build and strengthen capacity for sanitation and hygiene implementation, including research and development, and support knowledge exchange and partnership development;
11. To give special attention to countries or areas which are emerging from conflict or natural disasters;

We further call on:

1. Development banks, external support agencies and the private sector to increase their support to our efforts provide financial and technical assistance for sanitation and hygiene promotion and improve aid co-ordination in Africa;
2. The African Union to support AfricaSan 2008 and its follow up process, to recognize this Declaration and to provide leadership as well as practical support in operationalizing these commitments;
3. Regional and national actors to make use of the opportunities provided by the UN International Year of Sanitation 2008 to scale up efforts in sanitation and hygiene.

# Tunis Ministerial Declaration on Accelerating Water Security for Africa's Socio-Economic Development

## PART I: Water, A Key to Sustainable Development in Africa: Our Efforts and Achievements

1. **W**e, the ministers responsible for water in Africa and present at the First African Water Week, are convinced that ensuring water security through the equitable and sustainable management of water is and must remain the top development challenge for the foreseeable future for our continent. For Africa, it is imperative that we achieve by 2015 the Millennium Development Goals on water and sanitation and the other crucial and water-dependent goals on reducing poverty, hunger, child mortality, maternal mortality, and major diseases. The African Water Vision 2025 continues to provide a basis for our actions.

2. Over the last five years, our African Heads of State and Government have demonstrated great political commitment and leadership, which have made it possible for Africa's water crisis and policy challenges to be brought from the margins to the centre-stage of the regional development agenda. We recall that the Pan-African Implementation and Partnership Conference (Dec. 2003) was followed shortly after by the AU Heads of State and Government adopting the Sirte Declaration in January 2004, on the integration of AMCOW into the AU structures as a Specialized Technical Committee. At its summit in February 2008, the African Heads of State and Government decided that its July 2008 Summit should be devoted to Water and Sanitation.

3. At the sixth session of our Ministers Council on Water, AMCOW considered how best to accelerate action on the MDGs and targets on Water and Sanitation. We recognise that progress has been made but a lot needs to be done. We have also taken a number of enabling measures which include:

- (a) Adopting a comprehensive work programme to support actions for meeting the MDG targets on water and sanitation, establishing the AMCOW Trust Fund to facilitate the financing of MDG-related actions, the establishment of African Water Facility and launching of the Rural Water Supply & Sanitation Initiative;
- (b) Strengthening collaboration with civil society by formalizing relations with the African Civil Society Network on Water and Sanitation (ANEWS);
- (c) Strengthening collaboration with African River and Lake Basin Organizations (ANBO);

We have also forged close collaboration with the G-8, whose summits over the last five years have adopted

initiatives on water for Africa. We are cooperating with the European Union to implement the EU Water Initiative for Africa;

4. We have made some progress in moving sanitation from the margins to the centre stage of our continental development agenda through the support of a number of international partners dealing with sanitation. This has enabled us to make a comprehensive assessment of the challenges with regard to the sanitation target. We have therefore recently adopted eThekweni (Durban) Declaration on Sanitation in February 2008. We also welcome the African EU statement on Sanitation which commits the International Community to support our effort on Sanitation in Africa.

5. We instituted the African Water Week series to discuss opportunities and challenges of achieving water security for Africa's socioeconomic development in furtherance of AMCOW's mission.

6. We have at the first African Water Week deliberated on the following key themes: infrastructure platform for achieving water security; meeting the water and sanitation MDGs; financing infrastructure for water security; climate change and adaptation; addressing the environmental and social challenges and the institutional development and capacity building.

## PART II: Partnership for Regional and National Actions to Accelerate Water Security for Africa's Socio-Economic Development

7. Our Heads of State and Government join global leaders in reaffirming international commitments to the Global Partnership for Development set out in the Millennium Declaration, the Monterrey Consensus and the Johannesburg Plan of Implementation.

8. We highly appreciate the international support and solidarity extended to AMCOW and Africa for addressing the water and sanitation challenges. In order to meet the special needs of Africa, we call upon our governments, national and regional organisations, the international community, and development partners, to extend concrete, substantial and tangible support to the following quick impact actions:

- a. **Infrastructure platform for achieving water security**
  - (a) mobilise investments to attain the necessary water infrastructure platform, in order to overcome poverty and achieve needed economic growth and social well-being

- (b) facilitate trans-boundary infrastructure development
- (c) develop national plans and strategies for achieving water security
- (d) strengthen the information and knowledge base and monitoring capacity

## **b. Meeting the Water and Sanitation MDGs**

- (a) make best use of existing resources, and mobilizing financial and technical resources, from the public and private sectors, and users, for water and sanitation infrastructure as well as for building institutional, technical and managerial capacity at all levels;
- (b) prioritize and increase water and sanitation expenditures in national budgets;
- (c) increase, systematically, resources allocated to local governments for the implementation of water and sanitation projects;
- (d) develop appropriate monitoring and evaluation mechanisms for water supply and sanitation at local, basin, national and regional levels;
- (e) present development partners an “MDG Water and Sanitation Investment Plan for Africa” to reach the MDGs including the identification of the financial resources to be mobilised and gap expected of all development partners for endorsement by the G8 and MDG Summit;
- (f) request the AfDB and the Water and Sanitation Programme (Africa) to continue to undertake Country Sector Reviews, within the context of the Pan African mechanism, to update AMCOW on progress and bottlenecks in achieving the MDG targets;
- (g) establish peer review processes for monitoring water and sanitation performance for Members who ascribe to the idea.

## **c. Financing Infrastructure for Water Security Objectives**

- (a) place the development benefits of water use and sanitation infrastructure at the core of our finance strategies;
- (b) strengthen the case for water use and sanitation infrastructure in National Development Plans and Public Expenditure, and directing an increasing proportion of multilateral finance into infrastructure;
- (c) ensure the necessary African ownership, public control and legal frameworks to protect the public interests, particularly those of the poor and the vulnerable;
- (d) deepen our regional partnerships over water use infrastructure, co-operating over shared water resources, and looking for opportunities to invest in infrastructure of regional importance;
- (e) match our reporting on finance with the economic and social impacts that have been delivered.

## **d. Climate change and adaptation**

- (a) put in place adaptation measures to ensure

sustainable water security for the social, economic and environmental needs;

- (b) promote co-operation in the development of effective early warning systems for water-related disaster prevention and mitigation to reduce the negative impacts of climate change on economic development, food security and poverty eradication efforts;

- (c) encourage water use efficiency through appropriate measures such as demand management, reuse and other technological options to optimize on limited water availability.

## **e. Agricultural Water Use**

- (a) Re-engage in agricultural water use in Africa, including irrigation, drainage and rainwater harvesting.
- (b) support NEPAD in the implementation of a new Initiative for Agricultural Water in Africa (AgWA) that responds to pillar I of NEPAD’s Comprehensive Africa Agricultural Development Program (CAADP)
- (c) scale up investments to ensure a more reliable, broad based and sustained flow of funds, as well as supporting sectoral strategies and policies in the field of agricultural water.

## **f. Groundwater use**

- (a) harness local groundwater resources to improve livelihoods and managing risks associated with climate change;
- (b) institutionalise dialogue on groundwater management in Africa and implementing the Roadmap for the African Groundwater Commission.

## **g. Rainwater harvesting and Reuse**

- (a) Support the water harvesting strategies to complement implementation of the water related MDGs and for climate change adaptation in Africa
- (b) Support development and implementation of water reuse as part of water conservation strategy

## **h. Addressing the Environmental and Social Challenges**

- (a) balance social, environmental and economic components of water infrastructure development;
- (b) operationalize IWRM principles of optimizing water resources development for economic, social and environmental needs;

## **i. Capacity building and institutional development**

- (a) build institutional and human resources capacity at all levels for all actors in the water and sanitation sector
- (b) support the empowerment local government and build their capacity to implement decentralised programme implementation and management.

**9. We appeal to the international community to meet their commitments to increase investment for water resources development.**

### PART III: Key Messages and Suggested Decisions to the African Union Summit

10. We humbly request the AU Heads of State and Government to:

- (a) finalise the status of AMCOW as a Specialised Technical Committee of the Union;
- (b) make the African Water Facility and the Rural Water Supply and Sanitation Initiative constant agenda items in their deliberations and dialogue with international partners;
- (c) encourage member countries to urgently develop climate change adaptation strategies and mainstream in this in their water resources development;
- (d) endorse the eThekweni Declaration on Sanitation and its accompanying actions;
- (e) provide political support for the continued implementation of the Sirte Declaration on Agriculture and Water;
- (f) prioritize and increase the allocation of resources, through national plans, to water and sanitation in national budgets;
- (g) strengthen co-operation among riparian states for the mutual benefit of the parties.

### PART IV: Key Messages to the G8 Summit 2008 in Japan

11. We recall that at its recent Summits, the G8 had adopted a number of initiatives on Africa's water situation and invite the G8 2008 Summit in Japan to:

- (a) implement the respective G8 initiatives on water for Africa, notably the 2003 Evian Plan on Water, the G8-UK Initiative on Water (2006), the German G8 Initiative on Trans-boundary Waters (2007), the Kananaskis Action Plan;
- (b) support the implementation of the Durban Declaration on Sanitation as well as the key outcomes of the First African Water Week in pursuit of the MDGs and socio-economic development of Africa;
- (c) implementing measures for addressing the special needs of Africa on adaptation to climate change in view of the threats to Africa's water security;

(d) honour their commitments and assist in mobilising substantial resources for the African Water Facility.

### PART V: Other Matters

Second African Water Week 2009/2010

12. We reiterate our gratitude to the government of Kenya, UNEP, UN-HABITAT and UNESCO for having accepted to host the Second African Water Week 2009/10 which will take place in Nairobi Kenya.

Endorsement of Tunis Outcomes

13. We endorse the attached Tunis outcomes, conclusions and recommendations.

Appreciation

We extend our gratitude to the Government of the Republic of Tunisia for hosting the First African Water Week. We extend our profound appreciation to President Donald Kaberuka and Management of the African Development Bank for the firm commitment towards addressing Africa's critical water challenges and for continuous and substantial support to AMCOW. We highly appreciate the Bank's achievement in hosting and organising successfully the First Africa Water Week. We highly appreciate the solid support being given to AMCOW by the UN entities, particularly the United Nations Secretary General's Advisory Board on Water and its Chair, H.R.H Prince Willem-Alexander, Prince of Orange, and UN Water Africa;

- We applaud the support and contribution of our Development Co-operation Partners;
- We have benefited greatly from the continued co-operation with civil society groups and various international and regional water partnerships.

*Tunis 28 March 2008*

## Declaration of the Ministerial Conference on Water for Agriculture and Energy in Africa: The Challenges of Climate Change

We, the Ministers and Heads of the African States Delegations, meeting at the Conference on "Water for Agriculture and Energy in Africa: the Challenges of Climate Change" in Sirte, Great Socialist People's Libyan Arab Jamahiriya, from 15 to 17 December 2008;

Inspired by the Leader of the Great Revolution's vision for a strong Africa capable of facing global challenges in a world of great aggregation;

Reaffirming our commitment to the principles and objectives stipulated in the Constitutive Act of the African Union and its programme NEPAD, aimed at promoting cooperation and integration between our countries in all fields with a view to raising the living standards of our peoples and guarantee the well being of our future generations;

Reaffirming our commitment to the African Water Vision 2025 and to the achievement of the Millennium



Development Goals, specifically those related to water and to the eradication of poverty and hunger;

Recalling the commitment of Heads of State and government contained in the Maputo declaration of 2003 on Agriculture and Food Security in Africa, and in the Sirte declaration of 2004 on the challenges of implementing integrated and sustainable development on agriculture and water in Africa;

Recalling the African Union Declaration on Climate Change and Development in Africa of 2007;

Recalling the 2008 Ministerial Declaration and outcomes of the first Africa Water Week convened by the African Ministerial Council on Water (AMCOW) and hosted by the African Development Bank in Tunis;

Recalling the Paris Declaration of 2005 on International Aids;

Recalling the 2008 Declaration of the “High-Level Conference on World Food Security: the Challenges of Climate Change and Bioenergy”;

Recalling the 2008 11th African Union Summit on “Meeting the Millennium Development Goals on Water and Sanitation”;

Recalling the African Development Bank’s initiative to increase water storage in Africa by 1% over a six-year period in addition to reducing post-harvesting losses by 3% over the same period;

Recognizing that water is, and will remain, a key resource to economic, social and environmental development as well as to hunger and poverty eradication of Africa, and that water, sanitation and energy are prerequisites for the development of Africa’s human capital;

Recognizing the vulnerability of African economies and agricultural production systems to climate variability and climate change, and the challenges caused by environmental degradation;

Recognizing that the challenges faced by the continent concerning food security, achieving MDGs, increased energy demand, and combating climate change impact is greater than resources available to each individual country, and therefore require that the countries move jointly at sub-regional, regional and continental level;

Recognizing the important role played by family farms in agricultural production and natural resources management;

Concerned by the progressive decline of the continent’s agricultural productivity, increased negative impact of food import on commercial trade balance, vulnerability to food price shocks and low response capacities;

Concerned by the level of food insecurity and the implications of high and volatile food prices on the situation of the poor in Africa;

Concerned by the low level of the use of water and land potential in Africa;

Concerned by the current situation in Lake Chad, the resulting negative implications, and urgent need to intervene in order to avert human and environmental disaster;

Aware that the African agriculture has been under-funded for several decades and that water control projects for agriculture and energy have not been sufficiently developed;

Aware that accelerated investments in support to agricultural water development are needed to ensure agricultural growth, hunger and poverty eradication, foster socio-economic development, and increase employment;

Aware that enhanced agricultural productivity depends not only on improved water management, both in rainfed and irrigated agriculture, but also on the access and optimum use of other farm inputs, availability of services, access to markets and fair and stable prices for farm products;

Noting the progress made by the African Union and by establishment of its programme NEPAD, the on-going process of Africa’s economic integration and the need for building mechanisms of cooperation and partnership in the agriculture and energy sectors in the struggle to free the Continent from the scourge of under-development and continued marginalization in a global world economy;

Acknowledging the continuous support of the regional and international partners to the water, agriculture and energy sectors in Africa, and urging development partners to engage further in supporting agricultural water development in Africa;

Recognising that further efforts need to be made to develop an enabling environment conducive to accelerated investments in the water sector;

Welcoming the proposal by FAO to convene a World Summit of Heads of State and Government on Food Security in 2009, with the objective to secure broad consensus on the rapid and definitive eradication of hunger from the planet by ensuring greater coherence in the governance of world

food security and by finding USD 30 billion per year to invest in water and rural infrastructures and increase agricultural productivity in the developing world;

Determined to prioritize implementation of integrated water, agriculture and energy programmes to enhance sustainable development in Africa.

## WE COMMIT OURSELVES TO:

1. Adopt sound policies and associated institutional reforms in support to water development at the national, sub-regional, regional and continental levels in order to fully exploit the potentialities of both the agriculture and energy sectors;
2. Support NEPAD in accelerating the implementation of pillar I of its Comprehensive Africa Agricultural Development Program (CAADP) and carry out the new Agriculture Water Partnership (Agwa) to expedite the attainment of CAADP objectives toward the expansion of the area under sustainable land management and reliable water control;
3. Call upon states to accelerate the fulfilment of the commitments made in Maputo in 2003 on the allocation of 10% of our national budgets to boost agricultural production;
4. Adopt a comprehensive policy towards enhanced agricultural productivity that takes into account water, farm inputs, technical capacity, tenure, markets and a fair and conducive institutional environment in support to small farmers;
5. Call upon AMCOW to promote an integrated water resource management approach in the preparation of water resources policies and plans;
6. Adopt a pragmatic, demand-driven, participatory approach and stepwise framework for investment in water development in support to agriculture and energy which considers appropriate water control, improvement of existing water infrastructure and the development of large river basins;
7. Sensitize donors and development partners to support Africa in sustainable water development and management in agriculture and energy;
8. Invite development partners and institutions, like FAO, the African Development Bank, the Islamic Development Bank and others, to strengthen countries capacity in project development in order to accelerate investment in water for agriculture and energy;
9. Call-on the African Development Bank, Islamic Development Bank and the World Bank as well as the regional development banks in ensuring the financing of, inter alia, development projects in the field of water for agriculture and energy;
10. Request AMCOW, with the support of UN-Water Africa, to develop clear guidelines on the implementation on inter-basin water projects;
11. Support the Economic Commission for Africa and the African Regional Economic Organizations in their effort to enhance clean energy production in the continent, particularly in promoting the exploitation of the hydropower potential and in strengthening regional Power Pools;
12. Encourage bilateral and regional agreements on shared water resources and strengthen existing river and lake water basins organizations to promote sustainable water resources development and management in accordance with international law, including the agreements concluded among riparian States;
13. Encourage accelerated integration of the continent's power network, the development of water falls to provide electric power, and of small hydropower generation to speed up rural electrification;
14. Develop coherent policy framework for public-private partnerships that will attract increased private capital into agriculture, water and energy sectors;
15. Call upon the African Regional Economic Communities to develop and strengthen appropriate regional instruments on integrated water resources management and promote the strengthening of regional Centres of Excellence and networks for agriculture, hydropower generation, water management, climate change, desertification, drought, floods and environmental management;
16. Establish, with the support of FAO, an information system in the field of agricultural production for food security and the trading of commodities between markets and countries;
17. Undertake necessary national and regional capacity development efforts as an integral component of each national investment plan which should focus on the optimization of water resources use in support to enhanced food and energy security and poverty alleviation while underpinning the need to protect the environment;
18. Create high level executive bodies to address the integration of resources at the national and regional levels in Africa;
19. Foster and strengthen cooperation between National Meteorological and Hydrological Services, Regional Climate Centres, Regional Economic Organizations, the African Center of Meteorological Applications for Development, research centers and other institutions on matters of climate variability and climate change to develop aid decision tools;
20. Enhance Early Warning Systems at national and regional level and their establishment where they do not exist as well as their coordination at continental level in order to minimize the negative impact of drought, desertification, floods and pests;
21. Foster research and development in renewable energy and agriculture in Africa to increase resilience and adaptation to climate change;
22. Harmonize climate change adaptation strategies, national and regional development policies, programmes and

activities, with the United Nations Framework Convention on Climate Change and the United Nations Convention to Combat Desertification;

**23.** Call upon the Lake Chad Basin Committee member states to double their efforts and appeal to donors and development partners to provide immediate assistance toward saving Lake Chad and its basin from the looming human and environmental disaster;

**24.** Call upon the AU Commission to design a road map and a mechanism to monitor and evaluate the implementation of this declaration, in close collaboration with FAO, the African Development Bank, the Economic Commission for Africa, NEPAD and the Libyan Arab Jamahiriya.

*December 2008*

## Message from Lusaka

The Southern Africa Stakeholders Consultation Meeting towards Africa's participation at the 5th World Water Forum was held at the COMESA Conference Centre, Lusaka, Zambia on 10 - 13 December 2008. The Stakeholders Consultations were held back-to-back with the AU (SARO)-ECA (SRO-SA)-AfDB Seminar on "Water and Sanitation in Southern Africa Development Community (SADC):

Innovative Approaches for Resource Mobilization and Policy Implementation". The event brought together sixty one delegates and participants from the water and sanitation sector in SADC, including representatives from Government departments responsible for water supply and sanitation in the fifteen SADC countries, the private sector, civil society and community based organizations, media representatives, representatives of inter-governmental organizations including SADC, the African Union Commission and the UN organizations.

Delegates at the seminar took note of the following situation of the region with respect to water and sanitation:

- Only 40% of the fifteen SADC countries are on track to meet the MDG target on water supply;
- 13% of the SADC countries are on track to meet the MDG target on sanitation;
- 33% of the SADC countries are not likely to meet any of the twin targets on improved water supply sources and safe sanitation;
- The participants took note of the SADC Regional Programme on Water Supply and Sanitation which outlines the measures for the attainment of the MDG targets on water and sanitation in Southern Africa.

In view of the foregoing, the following recommendations were adopted at the conclusion of the deliberations:

- 1.** Financial assistance from the G8 countries is needed in the SADC Member States as well as the alignment of resources with existing gaps in national budget processes. Funding water and sanitation should receive higher priority because of the potential impact it has on food production, improved health and the attainment of other MDGs.
- 2.** SADC Member States should place greater emphasis on sanitation by establishing water supply and sanitation

departments where they do not exist and direct substantial resources to capacity building at all levels and infrastructure development.

- 3.** There is need for Peer Learning and experience sharing on water and sanitation management among member countries and need to promote water and sanitation and hygiene (WASH) programmes in schools.
- 4.** There is need for creation of a database for credible regional and national water and sanitation data in SADC and national situation analysis and reality checks to stimulate better planning, resources mobilization and to recommit efforts towards the achievement of the MDG targets.
- 5.** There is need to promote water and sanitation as a basic human right to all citizens, and to ensure the sustainability of water and sanitation services delivery through mandatory budgetary allocations and innovative funding mechanisms.
- 6.** The strategic importance of water and sanitation as a development resource need to be recognized and adequate resources allocated to the management of this important resource.
- 7.** Preparedness, information sharing skills and action plans on adaptation to climate change need to be promoted.
- 8.** Put in place legislation and harmonize policies to enhance the smooth implementation of water and sanitation programmes.
- 9.** Methodologies for more effective community participation and indigenous private sector participation and development need to be promoted.
- 10.** Promote partnerships for the mobilization of resources with commitment and accountability for actions among all stakeholders to accelerate the implementation of the Sharm El-Sheikh Declaration, the achievement of the MDGs on Water and Sanitation and the African Water Vision 2025.

*Lusaka 13 December 2008*

## Message from Accra

Fifty regional water and sanitation actors from East, Central, North and West Africa met in Accra from 12 – 14th January 2009 to provide input into the regional preparations towards Africa's participation in the 5th World Water Forum. The wide representation included public water-related agencies, regional economic commissions and water basin authorities, civil society and academia. After 3 days of useful interaction, and providing input into the Regional Paper, participants prepared the following message for AMCOW and the global water community that will assemble in Istanbul:

We participants in the Accra Regional Consultation for Stakeholder Input into Africa Regional Paper for the 5th World Water Forum:

- Aware that access to water and sanitation is a right for the people of Africa;
- Recognizing that putting into immediate action the provisions of the Africa Water Vision 2025 is a basic requirement for minimizing Africa's water crisis and for achieving water security towards socio-economic development;
- Recognizing that various political commitments made by the Heads of State and Ministers responsible for water resources need to be urgently translated into action in order to achieve the water and sanitation-related MDGs and also ensure sustainable management of water resources in Africa;
- Aware of initiatives and tools that have been developed, such as the African Water Facility and AMCOW, to accelerate the achievement of the goals of the Africa Water Vision 2025;
- Aware that the 5th World Water Forum provides a platform and an opportunity for Africa to present its concerns, challenges and plans on achieving water security to the attention of the world, especially to our partners and other interested stakeholders;

Recommend that for the continent to make progress with respect to the above, action need to be taken on the following:

- (a) All efforts should be made to achieve the water and sanitation MDGs using among others partnership of public, private and donor institutions and advocacy to encourage our governments to give this issue the highest priority;
- (b) Urgent attention is required to accurately predict the actual impacts of climate change and variation, which will serve as a basis to determine and strengthen sustainable adaptation strategies and early warning systems, including local actions;
- (c) New initiatives are urgently required to supplement ongoing efforts to bridge the financial gap in order to

provide the relevant water and sanitation infrastructure and facilities in order to achieve the MDGs and respond to future requirements;

- (d) To ensure sustainable management of Africa's transboundary waters, sub-regional economic institutions and other relevant bodies should implement action plans, to accelerate and expand the coverage of institutional arrangements for managing transboundary surface and ground waters in Africa;
- (e) Capacity building at all levels should be accelerated to support the efficient and effective use of resources and generation of knowledge to provide solutions to the water problems of Africa;
- (f) Urgent attention should be paid to the expansion and strengthening of monitoring and evaluation systems and processes to accurately assess performance related to achieving the water and sanitation MDGs and other targets based on the Africa Water Vision 2025;

We participants in the Regional Consultation for Stakeholder Input into Africa Regional Paper:

- Noting that in order for Africa to successfully participate in the WWF 5 and for AMCOW to effectively lead in the implementation of actions beyond the Forum, on the basis of the Africa Water Vision 2025;

Call on the Chairman of AMCOW to:

- (a) Forward the report of the WWF 5 to all Ministers responsible for water resources in Africa requesting them to also inform their respective Council of Ministers/ Cabinets as a way of soliciting and ensuring political support and commitment;
- (b) As a matter of urgency, finalise the establishment of the AMCOW Secretariat as soon as possible.

*Accra, 14 January 2009*

# KEY MESSAGES FROM THE AMERICAS

Global changes are having a significant impact on water resources not only worldwide but also in the Americas region. Demographic growth, urban migration, the increased demand for drinking water and sanitation services, urban floods and the occurrence of extreme events, in particular in SIDS, are contributing factors that increase the level of vulnerability of the region with regard to water quality and quantity. They need to be adequately addressed when adopting effective measures and policies of water management.

Water is not only considered as a human need but also as a resource which significantly contributes to both social and economic development across the region. Water management fosters national, regional and local development and helps promote investment, growth and poverty alleviation.

The regional process led to the conclusion that all countries of the Americas need to manage their water resources in an efficient and effective manner to guarantee that regional economic growth and development will occur without being affected by water scarcity and uneven distribution.

In a joint effort, government officials, water users, practitioners and members of academia, representatives of civil society, NGOs and financial and development institutions contributed their experience and suggested policy options that address water management adaptation strategies for global changes. Their recommendations are summarized as follows:

## Globalization

- Promote processes for the regional harmonization of policies for the conservation and sustainable use of water resources.
- Promote incremental transfer of technology and horizontal cooperation activities between countries of the region.
- Foster the formulation of national policies on integrated water resources management and the revision of national water laws.
- Promote the construction of new hydroelectric facilities of distinct magnitudes, with the application of adequate technologies to reduce environmental and social impacts.
- Promote actions to reduce the environmental impacts of mining and intensive agriculture on water resources.

## Population evolution, migrations and urbanization

- Foster the preparation and implementation of national plans for integrated water resources management (IWRM), in coordination with land-use plans.
- Take measures to reduce the effects of uncontrolled urban and suburban growth.
- Ensure in each country access to safe water (quantity, quality, continuity, reliability and accessible cost) and sanitation services.
- Promote the management of water demand, via incentives

for conservation, efficiency of use and adequate waste management systems.

- Renew drinking water supply and drainage infrastructure systems, which, in several countries, are nearly outdated.
- Improve the operational efficiency of water supply and sanitation service providers, assuring their financial sustainability.
- Strengthen mechanisms and instances for meaningful stakeholder participation in decision making processes related to water.

## Land use changes

- Establish policies for land-use planning (territorial ordainment) which will ensure the sustainability of natural resources.
- Implement national land-use plans that clearly account for the nexus between land use and water resources management.
- Establish economic instruments to promote forestation and reforestation, in conformity with national and international legislation.
- Apply measures for the recovery of degraded areas.

## Climate change

- Approach risks related to water – such as floods, droughts, tropical storms, erosion and contamination – through an integrated approach to water resource policies and management.
- Incorporate climate change into water resources management policies.
- Consider, in risk management activities, three components: i) risk knowledge; ii) identification and implementation of structural and non-structural measures to reduce risks, and iii) “risk sharing”, involving all sectors of the population.
- Promote research activities to assess the different components of the hydrologic cycle, both at the national and transboundary levels.
- Strengthen and implement vulnerability studies and adaptation measures.
- Improve capacities for the forecasting and assessment of risks for extreme events and the formulation of mitigation measures.
- Integrate national emergency systems with those related to climate change and water resources management.
- Promote the reinforcement of legal and institutional frameworks on water and climate change, according to the provisions of the United Nations Framework Convention on Climate Change.
- Support coordinating mechanisms at the regional level for the development of common strategies for adaptation to climate change impacts.
- Develop and share awareness and education programs related to the problem of climate change and its associated impacts.

This message was sent to the 5th World Water Forum from the participants in the Water Forum of the Americas in Iguassu Falls, Brazil. The Water Forum of the Americas was the culmination of the Americas Regional Process in preparation for the 5th Forum. The event included more than 250 people from different sectors of water management throughout the Americas. Participants included Ministers of State, Governors, Mayors, Parliamentarians, international organizations, academics, the private and public sectors, non-governmental organizations and river basin committees. Participants included the Ministers of Environment from Brazil and Turkey.

The following recommendations were produced during interactive sessions involving all the participants:

- Promote social inclusion and the eradication of poverty through universal access to water supply and sanitation as well as through the productive use of water, by means of the usage of hydroelectric power, irrigation for food production, transportation, tourism and recreation, within a sustainable development context.
- Institutional strengthening of management bodies and promotion of internal and external integration of water resources policies with other sectoral policies.
- Incorporate the principle of common but differentiated responsibilities in water resources management, and the need for technology transfer and additional financial resources, in particular in strategies to face climate change.
- Because of the transversality principle, water management must be at the core of public policy in all three phases: planning, implementation, and control.
- Within specificities of each region, one should consider the multiple use of water on an efficient and rational basis, incorporating environmental conservation, protection and reclamation as necessary actions toward the improvement of water availability.
- Water sustainability requires good regulation and economic incentives.
- Promote agreements on the management of transboundary aquifers and basins.
- Decentralized, participative and integrated management of water resources with local stakeholders and indigenous and traditional communities, taking into account a gender perspective.
- We need to promote cleaner production by making investments in applied research, technological development and capacity development.
- The challenge of water management in small islands (SIDS) and the wider Caribbean region must be recognized and receive special attention due to their vulnerability to global climate changes.
- Support capacity development to help cope with the impacts of climate change.
- Need to raise awareness about water with training and education for everybody at different socio-economic levels, connecting people with the basin where they interact.

# KEY MESSAGES FROM THE ARAB/MENA REGION

## Global Changes and Risk Management

- The fragile water situation in the region is more sensitive to climate change which may cause far-reaching economic, social and environmental effects.
- Adequate information is needed for attracting political attention and building public support to adaptive measures.
- Climate change should increase the urgency for more sustainable water policy and investment choices.
- Political focus on climate change offers new opportunities to improve overall results of water management.
- Urgent steps are needed towards developing a regional preparedness policy to adapt to extremes water events.
- Climate change adaptation measures have to be aligned into water policy reforms. Need to first understand the intended water services and how they are delivered and use of modern technologies such as remote sensing to determine indicators of change.
- Develop quantitative local (country scale or regional scale) baseline data on selected climate variables to define today's baseline and change rates.
- Use the results from the Arab LDAS (Land Data Assimilation System) or similar downscaled climate models to quantitatively demonstrate in selected countries or regions the expected changes in climate variables to be expected due to climate change.
- Water should be kept out of political conflict dynamics to avoid putting innocent people under disastrous situations.
- International community has responsibility to protect national water resources and water infrastructure in occupied territories.
- Political backup to regional organizations (governmental and nongovernmental) to mobilize the international community to intervene and enforce international conventions to secure access to safe and sufficient water under occupation and in conflict areas.

## Advancing Human Development and the Millennium Development Goals

- Scale up investments, and improve institutions and water technology to achieve the MDG's for water supply and sanitation.
- Move to stronger partnership with the civil society and put greater emphasis on sustained economic growth and social equity.
- Encourage national and subregional monitoring and evaluation (M&E) programs for enhancing the achievement of the water MDGs.
- Expand social integration over the region, where wealthy countries and development banks contribute to an Arab Water MDG Fund that can finance achieving the Water MDGs in the less-fortunate Arab countries.
- Since available water resources will never be sufficient for food self-sufficiency, virtual water represented by imported food will remain a factor to close the gap between supply and demand.
- Increase of imported food prices reemphasized the role of irrigation in food security.
- Various economic policy instruments and improved cropping and irrigation practices are needed to reduce water consumption in irrigation.
- Nonconventional water resources will have a growing role in closing the water- supply-demand gap, social and environmental effects.
- Adequate information is needed for attracting political attention and building public support to adaptive measures.
- Climate change should increase the urgency for more sustainable water policy and investment choices.
- Political focus on climate change offers new opportunities to improve overall results of water management.
- Urgent steps are needed towards developing a regional preparedness policy to adapt to extremes water events.
- Climate change adaptation measures have to be aligned into water policy reforms. Need to first understand the intended water services and how they are delivered and use of modern technologies such as remote sensing to determine indicators of change.
- Develop quantitative local (country scale or regional scale) baseline data on selected climate variables to define today's baseline and change rates.
- Use the results from the Arab LDAS11 (or similar downscaled climate models) to quantitatively demonstrate in selected countries or regions the expected changes in climate variables to be expected due to climate change.
- Sustain the political support to reforms in the water sector and cease the opportunities of global challenges (food, climatic change, etc.) to take hard policy decisions.
- Encourage involvement of all stakeholders in water planning and decision making.
- Institutionalize anticorruption and transparency mechanisms through effective and efficient institutions

- Support the independence of regulatory bodies and create mutual accountability between stakeholders in the water sector.

## Managing and Protecting Water Resources and their Supply Systems to Meet Human and Environmental Needs

- A properly conceived framework of cooperation leads to a "win-win" situation in managing shared water resources.
- Crafting sustainable agreements, using customary international law offers "no harm" solutions.
- Joint work between water scientists, institutions and practitioners in riparian countries creates a common knowledge base and opens opportunities for cooperation.
- National IWRM plans need to be set, implemented and monitored country-wise and across the region.
- Water demand management should be encouraged at practice and policy levels.
- Enforcing and updating policies and laws related to pollution control, water resources protection and conservation of ecosystems as national strategic targets to be implemented at the local level.
- Desalination and wastewater reuse provide the options for meeting future water demands, principally for domestic consumption.

## Governance and Management

- Address power relations and interests as part of the determinant of the water policy cycle.
- Improve water governance as a priority to improve water management and to address the scarcity challenge.
- Promote decentralization of water management in urban and agricultural water management.
- Sustain the political support to reforms in the water sector and cease the opportunities of global challenges (food, climatic change, etc.) to take hard policy decisions.
- Encourage involvement of all stakeholders in water planning and decision making.
- Institutionalize anticorruption and transparency mechanisms through effective and efficient institutions
- Support the independence of regulatory bodies and create mutual accountability between stakeholders in the water sector.

## Finance

- Encourage all forms of economic incentives to promote efficient use of water in urban and rural agriculture without compromising social equity.
- Cost recovery is necessary for water use efficiency and financial sustainability without compromising the principle of water as a "public good."
- Improve the enabling environment to scale up private-

- sector participation in water investments and management.
- Charging for water services should not impact the least able to pay and vulnerable groups most.
- Engage International and regional financing agencies and the Arab Funds to finance water-sector development and reform.

### **Education, Knowledge and Capacity-Building**

- Recognize the balance between knowledge, capacity development and infrastructure to achieve the most appropriate water-governance strategy.

- Set strategic plans to respond to human resources and financial needs of institutions in the water sector.
- Encourage and support the (Arab Water Academy) AWA as an innovative regional capacity-development facility which creatively combines Water Sciences, Water Business Management and Water Governance Thinking.
- Encourage networking between research centers and universities in the Arab region and between the region and international centers of excellence to enhance knowledge and capacity-building.

## KEY MESSAGES FROM ASIA/PACIFIC

The Asia-Pacific region has taken on water security challenges head on. In December 2007, 10 Heads of Government and 32 ministers convened in Beppu, Japan at the 1st APWS. Under the chairmanship of former Prime Minister of Japan, Mr. Yoshiro Mori, participants of the Summit deliberated during two days on the critical water issues for the region: water financing and capacity development, water-related disaster management, water for development and ecosystems, among others and issued sweeping recommendations and messages to help steer the course for the region's water challenges.

### **Water Financing and Capacity Development**

- Define policies that target the specific needs and opportunities of the poor for enhancing human security through improved water security.
- Broaden the range of technology and management choices to include the development of innovative, low-cost technical choices that can be implemented in poor communities.
- Establish more effective and diverse credit and financial management systems that are accessible and affordable to the poor; and develop regulatory regimes that encourage investments by the private sector, and especially by local small-scale entrepreneurs.
- Carry out reforms that include capacity building, introduction of more appropriate management systems, and more effective institutional coordination between all players.

### **Water-related Disaster Management**

- Integrate water-related Disaster Risk Reduction (DRR) into national development plans, recognizing adaptation to climate change as a highest priority issue.

- Recognize the importance of IWRM for water-related DRR and the need to strengthen comprehensive structural and non-structural measures.
- Establish national and local goals/targets for water-related DRR, taking the impacts of climate change into Consideration.
- Develop preparedness indices for water-related DRR.
- Develop water-related disaster warning systems, human capacities and transparent data-sharing.
- Promote and develop integrated transboundary river basin management.
- Develop disaster communication culture.

### **Water for Development and Ecosystems**

- Implement good governance at all levels in catchment and islands.
- Adopt practical tools to improve economic, social and environmental outcomes of water management.
- Re-invent and invest in agricultural water management to raise the productivity of water and decrease the environmental footprint of agricultural production.
- Protect and restore urban environments.
- Prepare for climate change impacts on water availability and adopt mitigation and adaptation strategies that provide benefits now.

### **Guiding Principles to Accelerate Progress**

- Decentralization with empowerment.
- Partnership approach between local authorities, civil society (NGOs and community-based groups) and different service providers (public and private).
- Capacity development and water awareness and education as an important area of investment.
- Building knowledge platforms and supporting initiatives



to accelerate progress.

- Building a culture of openness among stakeholders of the region that is transparent, collaborative and relevant.
- Integrating gender as a social and economic issue.

### Key Recommendations for the Way Forward

- Create a platform of scientific information to support decision-making;
- Create a platform for knowledge coordination, knowledge

- sharing, and knowledge management at the regional and national levels to increase access to important information, skills, and other support services, in order to improve capacities and efficiencies among implementers of water management programs and services;
- Create a platform for a set of sector-level collective monitoring systems at the regional and national levels.

## Message from Beppu

We, the leaders of the Asia-Pacific, coming from all sectors of our societies and countries, meeting at the historic inaugural Asia-Pacific Water Summit, in the beautiful city of Beppu, in the hospitable Oita Prefecture of Japan, do hereby agree to:

Recognise the people's right to safe drinking water and basic sanitation as a basic human right and a fundamental aspect of human security;

Reduce by half the number of people who do not have access to safe drinking water by 2015 and aim to reduce that number to zero by 2025;

Reduce by half number of people who do not have access to basic sanitation in our region by 2015 and aim to reduce that number to zero by 2025, through the adoption of new and innovative sanitation systems that are not as water reliant as current methods;

Accord the highest priority to water and sanitation in our economic and development plans and agendas and to increase substantially our allocation of resources to the water and sanitation sectors;

Improve governance, efficiency, transparency and equity in all aspects related to the management of water, particularly as it impacts on poor communities. We recognise that while women are particularly vulnerable, they are also resilient and entrepreneurial, hence, should be empowered in all water-related activities;

Take urgent and effective action to prevent and reduce the risks of flood, drought and other water-related disasters and to bring timely relief and assistance to their victims;

Support the region's vulnerable small island states in their efforts to protect lives and livelihoods from the impacts of climate change;

Exhort the Bali Conference to take into account the relationship between water and climate change, such as the melting of snowcaps and glaciers in the Himalayas and rising sea levels, which are already having an impact on some countries in the region;

Establish concrete goals for the 2008 Toyako G8 Summit to:

- Acommit to support the developing countries to achieve their MDG targets on water and sanitation, and
- take immediate action to support adaptation to climate change by developing countries;

Empower a high-level coordinating mechanism in our cabinets and where possible, appoint a minister in charge of water to ensure that all issues related to water and sanitation would be dealt with in a holistic manner;

Respect and strengthen the region's rich history of water-centered community development, including the rehabilitation of urban waterways and protecting the environmental integrity of rural watersheds, and;

Work together with other like-minded institutions, entities and individuals in order to achieve our collective vision of water security in the Asia-Pacific region.

We will support the Policy Brief as prepared by the Asia-Pacific Water Forum family.

We encourage all governments to make all efforts to implement its recommendations.

We have the will and courage to realise our vision.

### NOTE:

*This Message from Beppu was unanimously endorsed by the participants of the 1st Asia-Pacific Water Summit, which was held in Beppu, Japan, on 3-4th, December 2007, attended by ten Heads of State and Government, 31 Ministers, and representatives from over 36 Asia-Pacific countries and regions.*

# KEY MESSAGES FROM EUROPE

The European Regional Process was dedicated to eight main themes on water in Europe: Future of Water – Water Vision for Europe; Climate Change and Adaptation, Water – Energy and Climate; Water Scarcity and Droughts; Sanitation; Basin Management and Transboundary Cooperation; Water Research; and Finance. Each of these themes generated a number of key messages which are listed in the chapters of the European Regional Document. While most of these are theme specific, the following ingredients appeared again and again in the chapter recommendations:

- Cooperation between sectors, stakeholders, countries and regions: Europe needs greater cooperation at all levels.
- Incentives for more efficient and sustainable use of water resources: Part of the answer lies in raising public awareness – people need to understand why and how they should contribute; part lies in targeted financial incentives, such as appropriate taxes and tariffs; and part lies in well defined legal and regulatory instruments.
- Better information to support decision-making at all levels – from the policy maker to the person turning on the kitchen tap. Water research and data needs to be accessible, understandable and relevant to the needs and concerns of its users.
- New, more holistic ways of thinking about water challenges. This means, for example, shifting:
  - from a focus on climate change mitigation to an integrated approach that involves mitigation and adaptation actions;
  - from a focus on managing surface water supplies to managing demand and applying smart supply solutions that consider the quality and quantities of water required for different uses and the range of water resources available;
  - from end-of-the-pipe, one-size-fits-all sanitation to context specific solutions that are sustainable and resource efficient; and
  - from ad hoc approaches to urban water management to more coherent and far-sighted ones that take into account changes in demographics and climate.
- Education and training for the next generation of water professionals.

In the European Regional Process, furthermore, a number of tools to achieve more water aware societies (on all levels) were identified:

- Footprinting, scenarios and voluntary schemes for standard setting and labelling can “translate” data and make it accessible/understandable.

- Regional, national and local level water partnerships can serve as neutral platforms for debate and knowledge sharing.
- Networks that bridge divides between public and private, between researchers and policymakers, between government and civil society, and between the water sector and other sectors – finance, energy, agriculture, etc. – can foster the kinds of collaboration that are critical to addressing water challenges.
- Awareness-raising campaigns such as the International Year of Sanitation can unite people behind common goals and provide momentum for actions.
- Outreach to media and other opinion-shaping organisations can educate citizens and signal priority issues to policy makers.
- Champions and “water leaders” can serve as role models – providing good examples of sustainable water management – and help communicate best practices.

## **Water for a sustainable Europe – Our vision for 2030**

1. We treat water as our common heritage with an economic, social, environmental and cultural value for our societies. Water is not a commodity like any other one – it’s a fragile resource which can not be replaced and we protect and preserve it for future generations to sustain our societies, our economies and the environment. Water sustainability is crucial for us.
2. Water is an essential human need and we recognize the access to basic water supply and sanitation as a human right. The people in Europe have universal access to safe, modern and affordable water and sanitation services. At the same time we are able to satisfy the other human water needs – for businesses, industry, agriculture and recreation and have achieved a balance with needs of the environment also with regard to sustain biodiversity. We can rely on essential ecosystem services from our healthy rivers, lakes, coastal waters and wetlands and our people can also enjoy high quality rivers, lakes and coastal waters for ecologic and recreational purposes.
3. We manage our water resources sustainable within river basins across political boundaries including transboundary waters and we apply an integrated adaptive water management approach. All the stakeholders including all inhabitants in the basin participate actively in the management decision process. We apply a preventive approach which integrates quality and quantity as well as surface water, groundwater and coastal waters. We have

adopted and implemented ambitious legislation such as the Water Framework Directive and other related legislation and made other policy areas such as agriculture, regional, industrial, trade, transport and energy policy “water sensitive”.

4. We have achieved a true “water democracy” where we apply the principles of transparency, integrity, solidarity and equity and where all people and stakeholders are aware of their rights and responsibilities. Our well informed people use their freedom of choice wisely - what they drink and how they use water – and use their opportunity to participate actively in the governance of water management and services. The people have a say in the quality and organization of their services and our services are efficient and sensitive to environmental and social needs.
5. We have jointly achieved a culture where water resources are not wasted, spoiled or overused. We have actively pushed a paradigm shift from supply driven water management to an integrated supply and demand driven approach as well as from an end of pipe to a preventive approach. We are able to satisfy most of our needs with water resources within the same river basin.
6. We have achieved a change of mindset, attitude and practices through raising water awareness and the application of appropriate instruments and incentives. Proven sustainable water practices, pricing and charging policies, transparency about water footprints of individual, industrial, agricultural and local authorities’ practices and of products have been useful instruments in achieving a modern water efficient society.
7. Water services have a price. We pay for services and for the uses and our pricing policies are guided by transparency, sustainability, efficiency as well as a social and environmental approach. We use water pricing and other economic instruments to achieve sustainable water use.
8. We are coping with the challenges of climate change as well as with the natural phenomena such as floods and droughts as we are continuously improving our adaptive, integrated management approach and we adapted our infrastructure and practices. Our infrastructure is planned, constructed, operated and maintained in an efficient and environmental and social acceptable manner based on a long term perspective.
9. We apply appropriate technologies and have thereby continuously improved our water efficiency and minimized pollution to a level which is negligible with regard to human and environmental health. Communities, agriculture and industry enjoy the economic and social benefits of a high level of water productivity by applying recycling technologies, closed production cycles and efficient irrigation techniques and other technologies. We promote and conduct research and development to continuously improve our know how on adaptive integrated management and innovative technological solutions and have achieved a fast track to bring those technologies to the markets.
10. Europe is a responsible partner in the world that actively promotes and supports the achievement of sustainable water management and universal access to water supply and sanitation in all countries. We have understood that sustainable water management is key to peace and security and to eradicate poverty and have made water a priority of our foreign and development policy. Our trade and economic policies have integrated water issues and we have significantly reduced our global water footprint to a level that is sustainable.

## KEY MESSAGES FROM IN AND AROUND TURKEY

### Global Changes & Risk Management

- Change is being observed in precipitation patterns in the Anatolian Region due to the effects of global warming. In recent years, a decrease in snowfall has also been recorded and snows have been seen to melt earlier. A series of studies is needed to assess the records of meteorological events and determine the water resources available. Adaptation strategies, including early warning systems for extreme events, need to be implemented. Biodiversity conservation needs to be emphasized in the context of national and global sustainable development efforts.

In addition, sectoral adaptation strategies ought to be improved and/or developed. (Message of the meeting on Snow Hydrology, Erzurum)

- Improved risk management studies should be incorporated into adaptation strategies to achieve various insurance options. (Messages of the meetings on Snow Hydrology, Erzurum and Groundwater and Drought, Konya)
- The maximum amount of water storage is highly recommended. Moreover, possibilities of inter-basin water transfer should be considered. (Message of the meeting on Irrigation and Drainage, Adana)

- Local impacts of global climate change should be well identified, and short, medium and long-term hazard and mitigation scenarios should be developed accordingly. The impact of climate change in areas like water and agriculture should be examined within the context of these scenarios. Related policies should be carried out by a single national entity and supported by the local operational and institutional stakeholders. Meanwhile, priority should be attached to widespread public participation and training in order to increase awareness about the protection of nature, water and energy. (Messages of the meetings on: Water Management and Drought, Ankara; Floods, Edirne; Lake Hydrology, Van and Groundwater and Drought, Konya)
- A systematic water quality and quantity data collection (monitoring) network should be implemented. Time, location, flow rate and water quality data are the priority values to be included simultaneously in the system. Arrangements should be made for data storage, data processing and dissemination (easy access). Statistical evaluation of collected data, modeling and Geographical Information Systems (GIS) techniques should be used as tools to support decision-making. Finally, special emphasis should be given to research and development activities, and adaptation to global climate change should be considered by all sectors in their system planning. (Messages of the meetings on Groundwater and Drought, Konya, and Water Basin Pollution, Izmir)
- Although floods have negative effects, their benefits may be harnessed in some areas, such as the creation of arable land and the contribution which they make to the cleaning of the riverbed. In view of the need for further studies on the subject, universities, NGOs, governmental organizations, professional chambers and the public should be encouraged to collaborate. (Message of the meeting on Floods, Edirne)
- Efficient and effective irrigation practices need to be scaled up in order to conserve water. The provision of agricultural services should be based not only on theoretical background, but also on how they are used in practice. Since modern irrigation methods are rarely used due to the economic constraints faced by farmers, better surface irrigation practices need to be considered and applied by farmers during a transition period. In addition, a national soil survey should be executed. (Message of the meeting on Irrigation and Salinity, Şanlıurfa)
- Legal arrangements should be made in order to define the hierarchy, competencies and responsibilities of the related institutions regarding climate change and its adverse effects. (Message of the meeting on Lake Hydrology, Van)
- The prevention of migration needs to be emphasized. Agriculture and agro-industry can be regarded as important sectors in mitigating migration by providing various employment possibilities. Within this framework, farmers should be trained under the coordination of all related sectors, and a bridge should be formed between farmers and research institutes. In view of the characteristics of the region (high and mountainous areas), winter tourism is proposed as another potential source of employment. (Message of the meeting on Snow Hydrology, Erzurum)
- Migration may also be prevented by providing sufficient and satisfactory revenues to farmers. (Messages of the meetings on Snow Hydrology, Erzurum, and Water Management and Drought, Ankara)
- Land-use planning is essential to ensure that land is allocated according to its quality. Land registration processes should be established in the short term. (Message of the meeting on Water Management and Drought, Ankara)
- Institutional coordination should be developed in land use planning and implementation with a view to ensuring sustainability. Universities and public institutions should coordinate to develop projects which satisfy human needs. The public should be informed about non-structural precautions and planned actions against possible dangers. The local media should emphasise the importance of sustainability and raise sensitivity about institutional coordination and collaboration. Everything should be done to ensure that the proper policies are implemented without exception. (Message of the meeting on Floods/Inundation/Landslides, Samsun)
- There is an urgent need to develop efficient disaster and risk management strategies. Risky areas should be identified and contingency plans coupled with early warning systems should be established. The public should be informed about contingency actions. (Messages of the meetings on Snow Hydrology, Erzurum, and Inundation/Landslides/Protection of River Beds, Trabzon)
- Scenarios need to be generated to predict the damage that may be caused by disasters. Strategies should be adopted for coping with the effects of disasters in such a way as to protect natural life, the environment and historical structures. (Message of the meeting on Snow Hydrology, Erzurum) I
- Institutional coordination is needed to establish contingency plans backed by modern engineering, design and application experiences like early warning systems, GIS technologies and/or mathematical models and expert systems. Moreover, cooperation among administrations and institutions must be strengthened and current laws and regulations enforced. Public awareness should be raised on the effects of natural disasters. Since the northern Turkey has a humid climate, flooding is one of the most common problems. In order to overcome this problem, priority should be attached to the establishment of early warning systems and the development of risk management maps. (Messages of the meetings on Floods, Edirne and Inundation/Landslides/Protection of River Beds, Trabzon)
- All policies and precautions related to air-water-soil should be decided jointly by all the stakeholders. Policies must be enforced without exception. Among these, drought management is an important component of

disaster mitigation plans. Developing strategies for effective drought management is crucial for sustainable development and environmental welfare. Another policy for disaster management is to establish proactive strategies. (Message of the meeting on Ground-water and Drought, Konya)

- Scientific tools fitting the specifications of the Middle East Region need to be developed and modified in order to evaluate and mitigate the effects of climate change. The need was expressed for the creation of a network among the neighbouring countries in the region in order to ensure the sustainable utilization of water resources and share climate-related data. On the basis of the scientific studies, the network could give guidance to the decision-makers. (Message of Middle East Meeting, Amman)
- The issues of climate change, population growth, industrialization, urbanization and deforestation are placing huge stress on the water resources of Central Asia. Melting of glaciers in the mountainous areas of Central Asia due to global warming results in floods in the rivers and lakes. This may cause an increase in the amount of water in the Amudarya and to a lesser extent in some tributaries of the Syrdarya and Zarafshan. Understanding the effects of climate change is crucial for developing regional and national adaptation strategies. Integrated water management and water storage are important components in that respect. (Message of Central Asia Meeting, Bishkek)
- CO<sub>2</sub> emissions should be decreased by using renewable energy, especially hydro-energy. The re-use of treated wastewater and the utilization of modern irrigation techniques are essential for water conservation. Furthermore, public awareness should be raised. Hydro-meteorological data and information should be derived continuously and systematically. Monitoring and measurement networks need to be improved to this end. Regional solutions are required to address regional problems such as the aridity of the Aral Sea. (Message of Central Asia Meeting, Bishkek)
- A call was made for the generation of different regional climate change scenarios reflecting different levels of effects (high, medium and low). The participants also stressed that these scenarios should be supported by proper weather observations and a database. Coordination and cooperation should be enhanced among state institutions and universities. Since the re-networking of measurement and observation stations is costly, topologically similar pilot regions can be used and their results can be transferred to ungauged parts of basins. There is a clear need to establish climate change-specific measurement and observation systems. There also exists a need for additional information on the respective roles of human impacts (inappropriate river channel maintenance, land-use changes within the river basin, etc.) and climate change impacts in the increased frequency of floods. (Message of Eastern Europe Meeting, Skopje)
- Climate change is a global issue which has adverse effects on both poor and rich countries. Whilst the rich countries are releasing a substantial part of the greenhouse gases, the emissions of the developing countries are increasing continuously as they demonstrate rapid economic growth. The effects of climate change speed up groundwater exploitation, and so the water tables of aquifers are likely to go on falling. Climate change mitigation and adaptation measures for surface water and groundwater resources management are essential to ensure sustainability. Similarly, the availability of water in transboundary river basins is also affected by the climate change and is a subject for transboundary cooperation. A common and reliable database should be set up which includes all sorts of data related to water quality and quantity, and the scientists and experts concerned should have direct and free access to it. Moreover, the interpretation of water-related statistics is as important as their collection. Statistical models for the reliability of hydrological cycle models should be utilized together with the climate models. Groundwater reservoirs will play an important role by providing a means of storing of flood water to be used during dry periods. (Message of Mediterranean Meeting, Nicosia)
- The quality and quantity of fresh water flowing to the marine environment are decreasing significantly, with adverse effects on coastal and marine ecosystems. Meteorological models should be used to evaluate uncertainties. Sectoral policies and plans for mitigating the effects of climate change ought to be revised or developed. (Message of Mediterranean Meeting, Nicosia)
- Drought is one of the main driving forces of migration. One of the main reasons for insufficient water supply is inadequate hydraulic structures, primarily reservoirs, and lack of investment. Economic development, and especially equitable income distribution in a country, is important to prevent migration. (Message of Mediterranean Meeting, Nicosia)
- The available land-use maps need to be further developed. Relevant databases should be improved in order to facilitate decision-making. In order to achieve efficient land-use and sustainable water policies, it is important to define the roles and responsibilities of the various stakeholders in decision-making processes. Even though policies are well formulated, they cannot always be fully implemented, especially in transition countries, due to lack of capacity and financial resources. Climate change has been affecting water availability and land-use adversely. Therefore, proper water and land management methodologies should be ensured in order to increase the income levels of local communities. Coordination and collaboration among land-use and water policy makers must be achieved. (Message of Mediterranean Meeting, Nicosia)

- Proposed disaster mitigation measures:
  - Shift from a state scale and reactive approach (emergency/crises management) to a regional scale and pro-active approach (basin management, monitoring, forecasting, contingency plans);
  - Raise the awareness of public on the need for disaster mitigation;
  - Mobilize support through partnerships;
  - Expand disaster mitigation activities within societies;
  - Advocate for legislation and government actions;
  - Encourage and support efforts to incorporate disaster mitigation into community decision making. (Message of Eastern Europe Meeting)

### Advancing Human Development and the MDGs

- Human beings have the right to reach safe drinking water and sanitation. Therefore, emphasis should be placed on the supply of safe drinking water and sanitation. To this end, water infrastructures should be improved and water treatment plants should be controlled in an effective manner. (Message of the meeting on Water Usage/Treatment/Re-use, Bursa)
- Of the eight Millennium Development Goals, Goal 3 calls for the empowerment of women and the promotion of gender equality. It sets specific targets for eliminating gender disparity. The advancement of women is in turn critical for achieving the goals. Therefore, women's participation in decision-making should be encouraged, and education at all levels must be supported. (Message of the meetings on Water Usage/Treatment/Re-use, Bursa)
- Halving by 2015 the proportion of people without sustainable access to safe drinking water and basic sanitation is one of the targets of the MDGs. Water conservation and protection of water resources have a critical role to play in achieving this goal. Efforts to save and re-use water should therefore be promoted. Environmental factors and local conditions should be considered in the preparation of water-related projects. The re-use of treated wastewater in a controlled manner should be encouraged to decrease water demand. Desalination could be considered as an emerging alternative method of water abstraction. (Message of the meeting on Water Usage/Treatment/Re-use, Bursa)
- The conservation of water quality is as important as the protection of water quantity. Since waterborne diseases are still one of main threats to human health, the construction of wastewater collection and storm water drainage networks is very important. It is recommended that sewer and storm water drainage systems should be separated in order to construct and operate wastewater treatment plants. (Message of the meeting on Water Usage/Treatment/Re-use, Bursa)
- Wastewater treatment plants are one of the most important instruments for protecting water resources. Every effort should be made to plan, design, construct, operate and maintain them. Existing wastewater treatment plants should be upgraded in compliance with the current legislation. Wastewater treatment sludge should be treated and disposed of in accordance with the principles of sustainability. The possibility of benefiting economically from the sludge should be investigated via Research & Development studies. (Message of the meeting on Water Usage/Treatment/Re-use, Bursa)
- Privatization appears as a solution at the first glance; however, financing remains the main challenge. There is a considerable difference between the water and sanitation services provided in rural and urban areas in the Middle East. In some regions, the majority of the population does not have access to adequate water supply and sanitation. Because of the lack of adequate sanitation services, sewage flows directly into streams, rivers, lakes and wetlands, affecting coastal and marine ecosystems, fouling the environment and threaten the health of millions of children. The re-use of treated wastewater is recommended especially in arid regions. (Message of Middle East Meeting, Amman)
- Farmers should be trained in modern and more efficient irrigation systems. Pilot projects need to be developed, and capacity building at all levels should be considered. Public-Private Partnership should be promoted in the implementation of irrigation projects. (Message of Middle East Meeting, Amman)
- The EU Water Framework Directive provides an adequate and exemplary legal framework for sustainable water management. (Message of Balkans Meeting, Sarajevo)
- Financial resources need to be mobilized for existing and future plans and programs for drinking water supply, wastewater collection, treatment and re-use and agricultural needs. In the same meeting, it was pointed out that sanitation and wastewater treatment are important to improve the quality of life. Research on the re-use of wastewater needs to be emphasized for saving water. Insufficiently maintained water distribution systems and illegal water utilization are two important barriers to water conservation. Moreover, industry must be encouraged to use treated wastewater instead of groundwater and other water resources. A strong legal framework is needed for water management. However, laws and legislation will not be enough by themselves; monitoring and enforcement by the relevant authorities is equally crucial. EU standards could be helpful in addressing water-related problems. The concept of integrated river basin management should be used to manage water resources in a sustainable manner. In order to provide adequate water services and make necessary investments, full cost recovery financing systems are essential in principle. In water management, in addition to existing finance models, the Public-Private Partnership (PPP) model is worth considering. (Message of Balkans Meeting, Sarajevo)

- There is a need to raise public awareness on the importance of saving water. The real meaning of the term “right to water”, the costs of services and individual responsibilities should be identified clearly. (Message of Balkans Meeting, Sarajevo)
- Turkey has one-eighth of the world’s overall geothermal potential. The majority of this potential has relatively low enthalpy, but still is used for heating purposes. Studies are under way to examine the possibility of using this energy in a cost-effective manner as a wind power resource. Since geothermal power requires no fuel, it is therefore emissions-free and insusceptible to fluctuations in fuel costs. Geothermal energy is also considered as a form of renewable energy. Research & Development work needs to be carried out on geothermal reservoirs to improve their utility. Moreover, geothermal research needs to be spread to each thermal field throughout Turkey. The extraction, usage, protection, treatment and re-injection of water require centralization to ensure better control and monitoring. Since the demand for geothermal water is increasing rapidly, it is necessary to determine the capacity accurately through drillings and other geophysical research methods, with the aim of sustainable utilization. (Message of the meeting on Thermal and Mineral Waters, Afyonkarahisar)

### **Managing and Protecting Water Resources and their Supply Systems to Meet Human and Environmental Needs**

- The balance between utilization and protection should be considered at the level of basin management as stated in the Water Framework Directive. (Message of the meeting on Water and Energy, Artvin)
- To protect water resources and reduce water pollution, appropriate integrated basin management strategies need to be implemented. Fulfilment of these strategies necessitates coordination of the related institutions. The legal framework needs to be applied, and the necessary infrastructure completed. Effective management of water resources should be considered in conjunction with the social and environmental aspects of water. (Message of the meeting on Water Usage/Treatment/Re-use, Bursa)
- It is essential to rehabilitate the water distribution networks and run the systems with minimum loss and leakages. A stringent control mechanism should be developed for the utilization of groundwater resources. (Messages of the meetings on Water Usage/Treatment/Re-use, Bursa, and Water Basin Pollution, Izmir)
- The allocation of the energy structures in river basins is a subtle problem. Therefore, it is important, when designing and planning such energy structures, to abide by the principles of integrated basin management and sustainable development in order to achieve a balance between utilization and protection. Public objections are to be minimized by promoting public participation during the investment and operation periods. Public benefit may also be achieved through the sharing of revenues. The Çoruh basin is a typical example of such a dispute. A management strategy similar to the Southeast Anatolian Project (GAP) should be developed in the Çoruh Basin. (Message of the meeting on Water and Energy, Artvin)
- Flood management on transboundary waters should be improved in coordination with the other riparian countries. Reliable collection, exchange and evaluation of data should be encouraged. A good relationship between the riparian countries is the most important precondition for this. Although technical experts can agree on the sustainable utilization of transboundary waters, decision makers and politicians must also have a desire to carry out these mutually acceptable strategies. The River Maritsa/Evros/Meric is a typical example of a transboundary river system shared by three countries. (Message of the meeting on Floods, Edirne)
- Groundwater resources should be used with utmost care. There is a high risk of groundwater contamination in karstic areas due to the structural characteristics of the soil. Therefore, in such sensitive areas, the best ways of making use of the water must be determined with care, and land use maps should be revised in consideration of the karstic terrain. There is a need for qualified technical personnel in such areas if the water is to be protected against pollution. People living in karstic basins should be well informed on the sensitivity of these areas to contamination. (Message of the meeting on Karstic Hydrology, Antalya)
- Wetland management should be participatory, and intersectoral water use should be well identified. Management plans should be sustainable and applicable. The related laws and regulations should be reviewed, and new arrangements made, bearing in mind the problems which occur in practice. It is important to raise public awareness about the benefits of protecting the wetlands. Wetland management plans have to cover the entire basin which includes the wetlands. Wetlands should be included in the water budget of the basins. General water quality and discharge standards should be defined and additional water quality standards should be drawn up for all wetlands which take into account the assimilation capacity of the recipient environment and endemic species. Agricultural activities around the wetlands must include crop patterns that do not require much water. The survival of wetlands has to become a primary concern of society and of all organizations and institutions. (Message of the meeting on Wetlands, Kayseri)
- A pollution inventory of Lake Van should be prepared and the sources of pollution should be determined. This work should be backed by long-term projections. Municipalities should lead these efforts. More hydro-

- meteorological stations are required in the Lake Van Basin to cope with coastal erosion problems. (Message of the meeting on Lake Hydrology, Van)
- Training activities and international joint studies should be conducted to improve irrigation and drainage methods. Care should be taken when using low-quality drainage water for agricultural purposes, and the quality and quantity of the water should be controlled and monitored. With a view to improving environmental awareness and protection, the roles, authorities and responsibilities of the institutions concerned should be clarified and a legal infrastructure should be put in place. (Message of the meeting on Irrigation and Drainage, Adana)
  - There is a need to develop low-cost irrigation technologies, such as land levelling, simple water diversion structures, and improvements in scheduling and rotational irrigation, sprinkler irrigation, drainage infrastructure and water harvesting. (Message of the meeting on Irrigation and Drainage, Adana)
  - More dams and regulators are required in order to store and save more water resources that would enable the transfer of water from one basin to another. New projects must be initiated for groundwater dams, rainwater harvesting and re-use of treated wastewater. Existing facilities are insufficient to supply an adequate amount of water. Therefore, sustainable water resources management should be achieved through a holistic approach which takes into account legal, technological, educational and cultural aspects. (Message of the meeting on Water Management and Drought, Ankara)
  - Legal and administrative arrangements for water protection and usage should be made effective. The Gediz Basin is once case where adequate financing and administrative incentives are crucial for realizing this goal. The development and expansion of organic agricultural activities should be encouraged to minimize pollution. Even in the traditional agricultural activities, control, certification and consultancy services should be strengthened. The adoption of technical solutions should be backed by incentives and sanctions. An integrated river basin management model should be adapted in a participatory spirit in accordance with the socio-economic structure of the region. (Message of the meeting on Water Basin Pollution, Izmir)
  - Projects related to the protection of the wetlands have to be conducted at the level of the entire basin, including all water structures. Water allocation should be well planned so that necessary precautions can be taken especially during long dry periods. Rational water use and the modification of existing crop patterns can be considered as options to cope with extreme climatic conditions. The sustainability of the wetlands in the region must be one of the main agenda items in water resources development plans and all stakeholders should act accordingly. (Message of the meeting on Wetlands, Kayseri)
  - Re-use of wastewater should be encouraged at regional level subject to strict quality control of the treated water. (Message of the meeting on Water Usage/Treatment/Reuse, Bursa)
  - The Central Asia region is relatively rich in water resources. Most of them are transboundary rivers. For the last 16 years, transboundary cooperation has made it possible to avoid any serious conflict in the region concerning water delivery among different states and zones, even in previous years of scarcity or flooding. Nevertheless, the existing cooperation among the countries of the region needs to be improved further. Although the political will generally exists, lack of understanding and confidence at the technical level is the main barrier to enhanced cooperation. By building dialogues at different levels, it may be possible to merge different views and positions. Exchange of reliable data and information is crucial. Furthermore, international mechanisms should work coherently to strengthen and advance transboundary cooperation. (Message of Central Asia Meeting, Bishkek)
  - Policies on water allocation in different sectors (energy, irrigation and environment) require strengthening of the provisions of the legal and institutional framework for the purposes of better management. Similarly, it would be useful to consider financial tools that would provide for the sharing of benefits, expenses and compensation for damage. This calls for comprehensive basin development plans with stronger participation of all riparian countries based on Integrated Water Resources Management (IWRM) principles. The promotion of regional and sectoral dialogues in the context of agreements among member countries is essential, if different sectoral and country priorities for water use are to be reconciled with the interests of society and nature. (Message of Central Asia Meeting, Bishkek)
  - The Chu and Talas Rivers, both comparatively small rivers, are a good example of effective bilateral cooperation in Central Asia. The cooperation agreement on the utilization of the waters of the two rivers signed in 2000 could even be applied to the larger Aral Sea Basin. (Message of Central Asia Meeting, Bishkek)
  - The Chu-Talas experience can be taken as an example, particularly for small transboundary rivers. Effective cooperation should be developed and enhanced among the riparian states in order to utilize transboundary water resources in an equitable, rational and sustainable manner. Integrated water management plans could be developed at the basin level. However, the sustainable and effective management of water resources at national level should be the main priority. All stakeholders should be included in this process. (Message of Central Asia Meeting, Bishkek)
  - The need for reform of water resources management and governance in Central Asia was emphasised. The contents and phases of the reform, can be outlined as follows, with particular emphasis on the decentralization aspect:



- Sustainable water resources management at the transboundary level (Aral Sea basin, agreements, strengthening of organizations at the regional/basin level, ecosystem demands, economic tools like cost benefit analysis, information exchange, water demand and limitation);
- Decentralization of water resources management in line with economic reforms, mostly in agriculture sector, requiring tools and instruments for all concerned (states, sectors and stakeholders) and instruments of good governance such as institutions, and the legal and regulatory framework (development and harmonization);
- Economic tools (the part of the state and the boundaries of its responsibility; financial mechanisms for water conservation and resource protection such as tariffs, subsidies, privileged loans and incentives);
- Technical and technological aspects (hydrometrics, automation, water allocation tools);
- Environmental needs (pollution control, ecological releases, and protection zones), and
- Capacity building (equipment, training, field trips). (Message of Central Asia Meeting, Bishkek)
- There is a need to improve joint efforts and actions in response to water issues in the region based on IWRM principles. The management of the water resources in any basin must be taken into account socio-economic, environmental and technical factors in a comprehensive manner. Water-related information should be disseminated to the related stakeholders. Water should be seen as a source of cooperation among the riparian countries rather than a cause of contention and distrust. Confidence-building efforts among the countries in the region can be improved through the exchange of hydrological data and by sharing water experiences. Joint training and technical assistance programmes and cross-border projects can be developed to enhance regional cooperation further. The effects of climate change and environmental pollution have to be taken into account in the conservation of the water resources in the region. (Message of Black Sea Meeting,
- In order to ensure the quality and quantity of water in the Black Sea region, joint database projects should be encouraged among the various states. Collaboration among the hydro-meteorology and water institutions of the different countries should be improved. Furthermore, environmental, hydrological, geological and topographical data and information should be collected and shared in a reliable and extensive manner. Integrated river basin planning and management needs to be achieved so as to minimize the negative environmental effects of water utilization in the domestic, agricultural, industrial and energy sectors. Due to the climate change, floods and droughts are the main problems of the region. Possible solutions to these problems include increasing the capacity of existing reservoirs and the transfer of water between basins, when possible. Efforts need to be exerted to ensure that modern technology is used in water management. “Drip irrigation” in agriculture could serve as one example. Last but not least, municipal solid waste disposal sites are another important problem that poses a significant risk to river water quality in the region. Solid waste disposal needs to be managed properly. (Message of Black Sea Meeting, Istanbul)
- Sustainable, equitable and rational transboundary river basin management should be achieved through the participation of all riparian countries. Effective collaboration among the riparian states could protect land from floods, drought and erosion, and ensure better water pollution control. Satisfactory quality and sufficient quantity of water should be the ultimate objectives of policy-makers seeking to satisfy basic human needs as well as to reduce health risks, develop tourism and recreation activities and make sure that ecosystems function well. GIS and early warning systems should be developed through cooperation among the countries in the region. Integrated models (including climate and hydrology) should be developed and operated to represent and capture climate change conditions at the country and inter-state levels. (Message of Eastern Europe Meeting, Skopje)
- Attention should be paid to the following issues in integrated water resources management:
  - Utilization of modern technologies;
  - Ensuring a common understanding and achieving compromise among water users and sectors;
  - Re-assessment of available water and land resources;
  - Better financing;
  - Improving water-related legislation and avoiding gaps and duplications;
  - Increasing public awareness and involvement of stakeholders in decision making, and
  - Prevention of corruption. (Message of Eastern Europe Meeting, Skopje)
- Conjunctive use of surface and groundwater should be optimized. The amount of water used for domestic, agricultural and industrial purposes and water quality are the main factors in water pricing. Rational water pricing should be achieved. The value, cost and price of water needs to be assessed within the context of climate change, changes in land use, population growth and migration from rural areas to urban areas. Political and legislative issues related to the effect of environmental/ecological issues on water utilization should be kept in mind. Floods and droughts should be considered in IWRM plans. Emergency preparedness plans and early warning systems should be developed for the prevention and mitigation of water-related disasters. (Message of Mediterranean Meeting, Nicosia)
- Because of population growth and the increase in demand for water, new water infrastructure and networks should

be established. For example, open channel irrigation systems cause a significant increase in consumption, as they lead to high evaporation. Therefore, closed conduit systems should be designed and implemented for irrigation purposes. The materials used in water structures should also be durable and strong enough to cope with natural disasters. The maintenance and viability of networks has to be provided for within long term plans. Existing technologies should be improved and better methods should be used to protect water quality. Water contamination and inadequate wastewater treatment plants are important problems to be addressed. Since monitoring and control systems for water quality parameters are not always adequate, the related legislation should be examined and improved. Public awareness about water conservation should be raised and appropriate water pricing policies should be prepared. Extreme precipitation is the main concern of urban areas. However, storm water may be considered a potential freshwater resource. The utilization of treated wastewater for domestic use requires advanced treatment technologies. (Messages of Mediterranean Meeting, Nicosia; Black Sea Meeting, Istanbul)

- The preparation of land-use plans is one of the most important factors in the allocation of water resources to meet human needs and the requirements of the ecosystem. In this context, the amounts of water required for domestic, agricultural and industrial use should be identified carefully. (However, it is hard to determine adequate ecosystem water requirements). Adequate water quality is important not only for human health, but also for the conservation of ecosystems. Ecosystem components should be identified in order to determine the quantity and quality of water required for the functioning of the ecosystem. (Message of Balkans Meeting, Sarajevo)
- It is considered costly to pay attention to integration and sustainability. The role of education and the socio-economic and environment dimensions of water management are frequently ignored. In order to integrate the ecological planning of land and water resources, the ecological status of the resources needs to be determined in advance. For the purposes of integrated management, technical, economical and ecological studies should be carried out together. Ecosystems are somehow affected by all activities that take place in river basins. During the planning process, all actors should take the protection of ecosystems into consideration. In most countries of the region, relevant legislation is in place, but when it comes to implementation, there are big gaps. In order to introduce the ecosystem approach, reference may be made to the EU Water Framework Directive. As a result of the meeting, the two most important environmental issues related to water in the Black Sea Region were found to be eutrophication and invasion of species in the water media. (Message of Black Sea Meeting, Istanbul)
- Sustainable utilization of land and water resources must

be ensured. In order to protect water resources, irrigation should be made more efficiently and water-saving measures should be improved. There is a close connection between land and water resources. Accordingly, soil conservation and water management should be handled together. Supply and demand management should not be separated from one another. The “Polluter pays” principle should be put into effect. Water and land use activities should be optimized taking into account the principles of sustainability. Implementing agricultural and land-use practices such as afforestation that increase the water retention capacity of the soil would be an effective solution in the Black Sea region. Since the rehabilitation of polluted groundwater and soil is challenging and quite costly, precautionary measures should be implemented where necessary. Storm water run-off and discharges must be taken into account when designing infrastructure. The region is suitable for creating underground reservoirs to increase water availability and supply. (Message of Black Sea Meeting, Istanbul)

- Raising public awareness and participation, promoting education about land and water resources management, ensuring the implementation of policies on access to safe drinking water and emphasizing the interconnection between water quality deterioration and human health in water management are all important issues to be considered by decision makers. The geographical characteristics of the region should be taken into consideration in land and water management (If the region is prone to landslides, this may hinder accessibility to wells, resulting in instability of hydraulic structures) Moreover, in view of both meteorological conditions and human-induced activities, soil erosion is a major problem in the region. Therefore, precautionary upstream measures should be taken during the construction of dams and reservoirs to cope with siltation problems. (Message of Black Sea Meeting, Istanbul)

### **Governance and Management**

- Existing laws and regulations should be applied thoroughly. (Message of all the meetings)
- It is important to establish coordination and mutual understanding between farmers, irrigation associations and water suppliers. (Message of the meeting on Irrigation and Drainage, Adana)
- With a view to improving environmental awareness and the protection of nature, the roles, authorities and responsibilities of the institutions concerned should be clarified. Legislation should be prepared taking into consideration the interests of all stakeholders. (Message of the meeting on Irrigation and Drainage, Adana)
- Cooperation needs to be established among universities, private enterprises and the government. Technology

production and transfer should be achieved. (Messages of the meetings on Thermal and Mineral Waters, Afyonkarahisar; and Floods/Inundation/Landslides, Samsun)

- Farmers and irrigation organizations should cooperate on problems concerning irrigation. Ensuring maximum attendance of farmers at training programmes may be an appropriate way to address irrigation problems. The irrigation-related problems on the Harran Plain are quite similar to those prevailing in the other agricultural regions of Turkey. (Message of the meeting on Irrigation and Salinity, Şanlıurfa)
- The efficiency of irrigation associations need to be improved. (Message of the meeting on Irrigation and Drainage, Adana)
- Caution is to be exercised in the engagement of the private sector in small-scale hydropower structures, and public participation in decision making processes is to be encouraged. The public must be considered as one of the governing actors in the process. (Message of the meeting on Water and Energy, Artvin)
- PPP seems to be a more appropriate model than privatization. While taking into consideration the needs and requirements of local authorities, central authorities should maintain their role in planning, policy making, administrative and legislative work. Furthermore, good governance and international best practice ought to be promoted. (Message of Middle East Meeting, Amman)
- Water scarcity and drought are becoming increasingly important issues in the Middle East. Political, financial, technical and capacity constraints need to be overcome in order to ensure the availability of water resources in the region. Cooperation and joint projects should be promoted wherever possible, in addition to the application of new technologies. The “Right to Water” is an issue which needs to be elaborated more in international fora. Technology transfer and capacity building is an important issue for the region. (Message of Middle East Meeting, Amman)

### Financing

- In irrigation networks, water use should be priced in consideration of equity principles. (Message of the meeting on Water Basin Pollution, Izmir)
- Technological advances cannot be fully applied in the country due to economic constraints.
- Available funds should be allocated in accordance with the priority water issues.
- Recourse to international sources of finance is resulting in more expensive investments.
- Privatization may be proposed as one of the tools to facilitate drinking water supply and distribution. However, this may lead to an increase in sales prices and cause disputes. (Message of the meeting on Water Usage/

Treatment and Re-use, Bursa)

- The allocation of water to the private sector for energy production is another emerging issue in the energy policies of states. This item, like the above, should be handled and implemented with utmost care. (Message of the meeting on Water and Energy, Artvin)
- A tailor-made lending system needs to be elaborated and tested. Accordingly, the private sector should be introduced through both debt and equity. Privatization has failed in some cases in the developing countries in the absence of any regulation on water management. Projects with a financially high rate of return, such as non revenue, should be given priority. (Message of Middle East Meeting, Amman)
- Well prepared master plans and feasibility reports play a crucial role in financing. The master plans are also helpful for defining the water allocation among different sectors (agriculture, energy etc.). Projects ranked as high priority by investors should seek funding and financing. (Message of Black Sea Meeting, Istanbul)

### Education, Knowledge and Capacity Development

- Press and media are the most important tools for public awareness on water saving and protection against pollution. (Messages of the meetings on Water Usage/Treatment/Reuse, Bursa; Groundwater and Drought, Konya, and Water Basin Pollution, Izmir)
- Water saving efforts should be promoted among farmers by training them on suitable crop patterns versus. Water demand. (Message of the meeting on Groundwater)
- Recent agricultural technologies should be encouraged and incentives should be provided to the users. (Message of the meeting on Irrigation and Salinity, Şanlıurfa)
- Municipalities and local authorities should be more actively engaged in technological developments and improvements related to water and sanitation issues. (Message of the meeting on Irrigation and Salinity, Şanlıurfa)
- Historical hydraulic structures should be documented through a chronological survey. This information should be integrated into GIS and registered by related offices. Common principles should be adopted among all institutions involved with historical hydraulic structures. All stakeholders (photographers, architects, archaeologists, art historians and engineers) should work together. Local governments may organize meetings with the participation of inhabitants. Public awareness should be raised on related studies and the principles adopted. In the preparation of water supply projects for cities, the necessary measures should be taken to protect historical water infrastructures. The study of such infrastructure should be introduced into the curricula of academic institutions. The importance of Historical Hydraulic Structures should be underlined in textbooks as well as in popular books written in a simple

and effective manner. (Message of the meeting on Historical Water Structures, Izmir)

- Integrated training programs should be developed at the regional level. Furthermore, public awareness and concern should be created on water issues. It is also essential to involve NGOs and attract media attention. (Messages of Central Asia Meeting, Bishkek, and Mediterranean Meeting, Nicosia)
- Joint and reliable hydraulic and hydrological databases should be established and information should be exchanged on standards. Technological innovations should be followed regularly. Partnerships can be developed for capacity building. New models and techniques should be applied in order to utilize water resources in the most sustainable manner. Regional cooperation should be strengthened, particularly in the Aral Sea Basin. (Message of Central Asia Meeting, Bishkek)
- Training on the conservation and re-use of water should be initiated at all levels. Basic information on the concepts of conservation and the re-use of water should be introduced into primary education curricula. Secondary school curricula should include not only theoretical knowledge on water issues, but also practical experience of them through experiments and site visits. In the universities, novel methods of water conservation and re-use, the optimization of available resources and capacity building should be encouraged through specific

programs. Public awareness on water issues should become a part of public education through dedicated workshops and cultural events. Decision and policy-makers should work in collaboration with technical experts in the preparation of regulations and legislation on water. Communication between technicians and politicians should be strengthened in the region. (Message of Mediterranean Meeting, Nicosia)

- Cases of successful implementation and success stories related to historical water works (policies and techniques) should be presented for the alliance of the civilizations. It is proposed that an inventory study of historical water works should be conducted with possible financial support from different organizations. Historical water works should be preserved for future generations. The watersheds of historical reservoirs should be preserved from the adverse effects of human interference (roads, settlements, deforestation etc.). In developing water policies, alliances of neighbors should be considered and well evaluated in addition to the physical parameters of the basins. Considering that water connects people and establishes an environment for civilizations, it is anticipated that the outcome of the roundtable discussions will contribute to the global project of the Alliance of Civilizations, a UN initiative.

## KEY MESSAGES FROM THE MEDITERRANEAN

- Regional cooperation is an essential and indispensable tool (Mediterranean Strategy for Water) as adopted during the last Ministerial Conference.
- Adaptation to Climate change is necessary, mitigation alone is not enough.
- Water demand management is required to face current and future water scarcity issues.
- Renewed water policies should be strengthened, mainly legislation and regulation. Several other key issues must be addressed: capacity building, information exchange,

public awareness, stakeholder participation and education, and new water culture.

- Realistic cost recovery is a crucial tool for financing water services, which will increase available funds for investing in the sector.
- These issues are aggravated in Coastal Development due to: higher population density, future growth perspectives, tourism consequences, territorial unbalance, greater resource scarcity, effects to coastal wetlands and increased risk before extreme phenomena.

### The Mediterranean Message

The Mediterranean Region approaches the Forum with renewed political commitment for sustainable water management through the recently adopted Ministerial Declaration at the Euro-Mediterranean Ministerial Conference on Water, 22 December 2008, at the Dead Sea, Jordan. The Ministerial Conference decided to elaborate a new Strategy for Water in the Mediterranean consolidating and using already existing relevant initiatives and to implement concrete projects in line with the demand of the populations.

It is hoped that the Strategy will enhance cooperation and coordination on water among countries and between stakeholders, enact needed reforms and promote tangible measures.

The following recommendations were produced during two preparatory interactive sessions (Tunis, 15 January 2009 and Beirut, 2-7 February 2009) and finalised at the Mediterranean Regional Meeting carried out within the

5th World Water Forum, 19 March 2009, involving overall more than 700 participants. These recommendations would also constitute strong basis for the preparation of the Strategy and the identification of concrete projects:

- We emphasise that prerequisite to sustainable management and allocation of water is peace, international security and justice, respect of human rights including gender equity, safeguarding of public health, eradication of the root causes of conflicts, poverty and social exclusion. Water and the solution of problems related to it should be viewed as an agent and means to enhance cooperation between countries and key stakeholders in approaching sustainable development.
- Improvement of water governance should include appropriate legal and regulatory tools; efficient and capacitated institutional management and enforcement bodies.; balance between central and decentralized planning and operational management; development of IWRM in the framework of watershed; meaningful and consensus oriented stakeholder involvement, including Parliamentarians, and reaching also to “out-of-the-box” partners as well as the general public, family and women as end-users. Integration of water policies with other sectoral policies, continuity, coherence, transparency and accountability are cardinal qualities of good water governance. Feedback mechanisms to monitor and assess the enforcement and effectiveness of measures taken should be built in. Water governance should be closely linked and supported by relevant projects. Recruitment and training of appropriate technical personnel of national and peripheral water agencies is critical.
- Increasing litoralization and tourism exacerbate pressures on water resources and infrastructures of coastal areas. The problem should be addressed by further enhancing synergies between IWRM policies with those of ICZM, including the new Mediterranean ICZM Protocol, the EU ICZM Recommendations and the new Marine Strategy Directive . This synergy could be extended to Strategic Environmental Assessment (SEA) and other management instruments. Synergies should be strengthened both at governance and technical application level and could result in significantly reducing the costs.
- Climate change presents an additional major pressure in the region, which surpasses and aggravates the existing serious water scarcity and drought problems, requests further elaboration and urgent implementation of mitigation and adaptation measures applying also the prevention and precautionary principles in order to address increasing uncertainties. Adaptation should be central to all levels and functions of governance, address the water-energy nexus and other complex cross-cutting aspects including the virtual water. Particular emphasis should be given to water efficiency throughout the water supply and use cycle. There should be a balanced use of appropriate reservoirs (such as dams, hill lakes), non conventional water resources (re-use of properly treated wastewater, desalination, capture of sub-marine freshwater, etc) and other necessary multi-annual regulatory and supply methods and infrastructures in order to address the needs of human societies and ecosystems. Climate change data should be produced and followed at regional level. Appropriate operational plans, projects and robust institutions should be in place to effectively manage increasing risks.
- Ground water is an increasingly important and vulnerable resource in the region that requires particular protection and eventual recharge as well as appropriate tools for its monitoring and management.
- Sight of the Millennium Development Goals referring to access to drinking water and sanitation must not be lost as these are prerequisites for good public health and human dignity. Every effort should be made to mobilize the necessary resources to facilitate these targets as a priority.
- Water demand management is a valid and needed approach for the Mediterranean region. “No regret” solutions should be based on water efficiency measures. In agriculture in particular, industry and the domestic sector, there is room for substantial improvements in water efficiency, which should be encouraged using appropriate tools. The latter should include an efficiency regional target based on sound economic and social analysis. For reallocations between the uses, an integrated approach to demand management is needed tackling the challenges of consumerism and explosive increase of population in parts of the region. In the agricultural sector, the recourse to non conventional water resources in particular properly treated wastewater, should be developed, in parallel to major reforms, including more rational production and trade policies.
- The investment needs of the water sector in the Mediterranean are significant. National resources as well as bilateral and multilateral funding are needed, demonstrating also North-South solidarity in the region. Financing of the sector will require the right mix of resources from all three main sources (taxes, tariffs and transfers) and a persistent effort for sustainable financing strategies. Realistic cost recovery is an indispensable tool for financing water services, in particular water supply and sanitation. Water is a public good and access to minimum quantity of safe water is a human right closely

linked to human dignity. Therefore, tariffs should be differentiated reflecting local conditions and affordability considerations, particularly for the less privileged part of the society. Economic, fiscal as well as legal issues related to non-conventional water resources should be addressed in a systematic and forward looking way.

- Protecting and safeguarding functioning of natural ecosystems is a key condition for good quality water as well as for ensuring and enhancing the necessary goods and services they provide, including ecological ones, and a thriving biodiversity. A qualitative regional target should be defined.
- Water is a key component of formal, non-formal and informal Education for Sustainable Development (ESD), which should be promoted within and outside the schooling system addressing all ages and groups of end-users, as a tool for setting solid foundations for the needed new culture of water. Higher education in the region should creatively respond to the new water challenges and introduce and/or adapt accordingly curricula addressing both innovative scientific-technological approaches and socio economic-water governance needs.
- Research in all aspects of water should be supported as a means to achieve the necessary development and address the climate change and other emerging pressures. Cleaner production by making investments in applied research, technological development, full use and rehabilitation of traditional knowledge and techniques, appropriate training, capacity building and transfer of appropriate technology should be enhanced.
- Reliable and comparable data and monitoring (also employing appropriate indicators) as well as free flow of and access to reliable information and sharing of data are important for the support of sound policies and solutions of water problems that frequently go beyond the means of one country. There is a need to improve national data collecting systems in coherence with international standards and support sharing of good practices through regional initiatives involving authorities and stakeholders.
- Media need to play a more systematic and constructive role in communication, raising public awareness on water issues.
- Proper information combined with adequate means and operational mobilization are necessary for ensuring preparedness of the population for minimization of damage and effective response to floods, droughts, forest fires and other natural or manmade disasters related to water.
- International agreements for management of transboundary water bodies including aquifers should be promoted and relevant international Conventions (e.g. UN Watercourses Convention) and other treaties should be ratified since they provide a useful framework for "hydro-diplomacy".

## Declaration of the Euro-Mediterranean Ministerial Conference on Water

Adopted, together with its annexes, by Ministers and Heads of Delegations participating in the Euro-Mediterranean Conference on Water held in Jordan on 22 December 2008,

We, the Participants,

Recalling,

- i. The Algiers Declaration (1990) and the Mediterranean Water Charter (Rome, 1992), underlining that water can positively contribute to cooperation among countries;
- ii. The Euro-Mediterranean Summit of Barcelona (27-28 November 1995) recognizing that water supply together with suitable management and development of resources are priority issues for all Mediterranean partners and that cooperation should be developed in these areas, as appropriate;
- iii. The Declaration of the Euro-Mediterranean Ministerial in Turin, 1999, that reached an agreement on an Action Plan on Local Water Management and entrusted the

Euro-Mediterranean Water Directors with the task of orienting, following up and assessing the implementation of the Action Plan;

Noting,

- i. The United Nations Conference on Environment and Development (Rio, 1992), the Millennium Development Goals (2000) indicating specific targets in the field of water by 2015, the World Summit on Sustainable Development (Johannesburg, 2002) and actions taken under the Mediterranean Component of the EU Water Initiative (2003);
- ii. the Strategy for Sustainable Development in the Mediterranean and in particular its priority on "Improving integrated water resource and water demand management"

adopted by the Parties to the Barcelona Convention in Slovenia (Portoroz, 2005) and supported by Euro-Mediterranean Partners during the 10th anniversary of the Barcelona Process;

- iii. the United Nations Framework Convention on Climate Change and the Intergovernmental Panel on Climate Change fourth assessment report, adopted in November 2007, as well as the United Nations Convention on Combating Desertification and its “10-year strategic plan and framework to enhance the implementation of the Convention (2008-2018); the United Nations Convention on the Non-Navigational Uses of International Watercourses (1997);
- iv. The decision taken during the 15th Conference of State Parties to the Barcelona Convention in Almeria, 2008, to “strengthen cooperation and seek synergies with initiatives pursuing similar environmental objectives”;

Highlighting,

The conclusions of the Paris Summit for the Mediterranean (13 July 2008), and in particular its reference mentioning that the Euro-Med Ministerial conference in Jordan in 2008 will define a Mediterranean water strategy, promoting conservation of water resources, diversifying water provision resources and efficient and sustainable use of water and the decision of launching the initiative of de pollution of the Mediterranean built upon the Horizon 2020 programme, as adopted by the Euro-Mediterranean Ministers of Environment in Cairo (2006).

Welcome favourably the representatives of civil society

Underline the importance of the results of effective cooperation in the field of water between Euro-Mediterranean partners in order to efficiently meet the challenges facing the countries of the region and to empower them with the tools to address these challenges and encourage further strengthening of this effective cooperation in particular in the fields of Integrated Water Resource Management, water supply, sanitation and transboundary freshwater resources, within the context of sustainable development, thus promoting equitable access and adequate supplies of water;

Recognize the enhanced cooperation between the EU and its Mediterranean partners, through the Barcelona Process: Union for the Mediterranean, the Instrument for Pre-Accession and the European Neighbourhood Policy, and commit themselves to work together to implement the bilateral agreements, the Action Plans agreed in the ENP framework and other forms of co-operation, in order to promote sustainable development in the region;

Stress:

- i. the degradation of resources both from a quality and quantity point of view;
- ii. the necessity to design and implement strategies and plans to achieve sustainable water resources management through integrated approaches comprising all kinds of water and all its uses ;
- iii. the growing gaps between water consumption and availability of resources, in particular in the light of the priority given to supply side policies;
- iv. that the widening of such gaps, without a coordinated action, is likely to be worsened by the effects of climate change, economic development and demographic growth;
- v. that water supply measures (traditional or alternatives) might be considered once the projected impact of water savings prove insufficient;
- vi. the imbalances in access to water supply and sanitation, bearing in mind that equal access contributes to poverty eradication, the improvement of health, economic development, hygiene, sustainable land use development, education, protection of the environment and of ecosystems;
- vii. the need to prepare a comprehensive and detailed assessment of water resources in the Mediterranean and of management policies and based on homogeneous and coherent information;
- viii. the necessity to promote the development of science-based technologies that will provide inter alia for efficiency in water use and supply measures;

### **I. A Strategy for Water in the Mediterranean Focused on the Needs of Populations and Future Challenges**

- 1. Taking note of the different challenges evoked, the Ministers agree to define the Long Term Strategy for Water in the Mediterranean, as decided by the Heads of State and Government. This coordinated and integrated Strategy, will:
  - i. tackle problems that go beyond the means of any one country, organisation or initiative, in particular those related to the impact of climate change and environmental needs, that call for a coordinated approach and increased cooperation;
  - ii. build on integrated approaches, taking into consideration every kind of water, the needs of different users, by means of integrated management at basin level, as a tool to allow countries in the Mediterranean to respond to these challenges collectively and individually;
  - iii. include two main goals: conservation of water quality including the prevention of further deterioration of water resources and the balance between the quantity of water used and the quantity of water available including mitigating and preventing the consequences of droughts and water scarcity;

- iv. include both measurable qualitative and quantitative objectives, as part of a voluntary commitment to achieve these goals;
- v. consider the most appropriate instruments to reach the objectives of the Strategy, with a view to achieve economic growth, social prosperity, equitable access and adequate supplies of water, and environmental protection, notably through improved efficiency of all water uses, appropriate governance arrangements, legislation and institutional arrangements, effective national and local planning, innovative financial mechanisms, tariff policies, standards, labels, alternative solutions, keeping in mind the differences in national situations and the need to increase the citizen's awareness by promoting the wide participation of civil society aiming at building the culture of water;
- vi. develop and exploit for the benefit of all, scientific, technical and technological tools in these fields.

2. Based on these principles, Ministers approve the guidelines for the Strategy for water in the Mediterranean as defined in Annex 1 to this Declaration together with its elaboration calendar;

## **2. An Efficient and Shared Elaboration and Follow Up Mechanism**

- 3. Ministers decide to work more closely together in order to define, in a shared and balanced framework, the Strategy;
- 4. Ministers underline the need to work closely both at a regional and national level with other Ministers concerned by water issues;
- 5. Ministers task a Water Expert Group, composed of government designated representatives of national authorities in charge of water policy of Euro-Mediterranean countries having the capacity to take decisions (e.g. water directors) and the European Commission to elaborate further the Strategy for Water in the Mediterranean as well as to assist its implementation and follow-up, in line with the guidelines described in Annex 1;
- 6. Ministers agree to work to ensure the provision of appropriate financial resources and technical support to elaborate and implement the Strategy;
- 7. Ministers invite funding institutions to coordinate at regional and national level, in order to support the elaboration and the implementation of the Strategy;
- 8. Ministers call on all stakeholders, including parliaments and the EMPA, to contribute, where appropriate in a coordinated manner, to the development of the new Strategy as well as to support appropriate means for its implementation;
- 9. Ministers encourage further strengthening of effective cooperation in particular in the fields of Integrated Water Resources Management and Water Supply and Sanitation and reaffirm the importance of elaborating and implementing, through participatory processes, effective national and local IWRM based on realistic financing strategies;
- 10. Ministers reaffirm the importance of data, information

and statistics on water, based on internationally agreed definitions and methods, structured within information systems, for analysis and decision making and insist on the need to dispose of national and regional systems that contribute to the definition, implementation and follow-up of the Strategy;

- 11. Ministers hence call for strengthening the coordination of existing Euro-Mediterranean initiatives and networks on information and expertise, policy planning and monitoring as well as capacity building so as to increase synergies between ongoing activities; in particular, exchange of information will be implemented through voluntary approaches, keeping in mind the objective of seeking comparability, consistency and avoiding duplication of work ;
- 12. Ministers underline the importance of exchange of good practices, including through EU, Mediterranean, and other relevant programmes.

## **3. Launching of the Elaboration of the Strategy for Water in the Mediterranean**

- 13. Ministers consider the technical work prepared by the Euro-Mediterranean Water Directors as a contribution to the success of the Conference;
- 14. Ministers welcome the contribution of civil society in the field of best practices as well as the projects and partnerships developed in line with its principles and presented in the margins of the Conference;
- 15. Ministers encourage a swift implementation of partnerships in order to implement concrete projects in line with the guidelines of the future Strategy and with a strong sense of co-ownership by the concerned populations and underscore the importance of the active participation of civil society, local and regional authorities and the private sector in the implementation of these partnerships;
- 16. Ministers suggest to adopt the Strategy for water in the Mediterranean by the next Barcelona Process: Union for the Mediterranean summit scheduled in 2010; this Strategy will be subsequently developed in a related Action Plan and will be regularly reviewed;
- 17. Ministers propose to hold the 4th Euro-Med Ministerial Conference on water in the first half of 2010;
- 18. Ministers invite the Mediterranean Commission for Sustainable Development to consider such Strategy as a possible contribution to the "Improving integrated water resource and water demand management" priority of the Mediterranean Strategy for Sustainable Development;
- 19. Ministers invite the Foreign Affairs Ministers to take note of these conclusions and look forward to their presentation to the next Environment ministerial conference and, because of the issues at stake, to the Agriculture Ministerial Conference.
- 20. Ministers thank the Jordanian Government for hosting the 3rd Euro-Mediterranean Conference on Water co-chaired with the French EU Presidency and Arab Republic of Egypt as co-chairs of the Barcelona Process: Union for the Mediterranean.



**ANNEX I****Guidelines for the development of the  
Strategy for Water in the Mediterranean**

1. The strategy aims at tackling the main challenges in the field of water in the Mediterranean region, notably by fostering effective cooperation between Euro-Mediterranean partners within the context of sustainable development;
2. It will be based on:
  - a. the lessons learnt from the implementation of the Turin Action Plan, the Mediterranean Component of the EU Water Initiative for the achievement of the MDG and WSSD targets, and from the “integrated water management and water demand” priority of the Mediterranean Strategy for Sustainable Development bearing in mind that the Mediterranean Commission for sustainable development shall be consulted;
  - b. The work and experience of regional, national and local institutions dealing and supporting efficient water uses and aiming at improved quality of water for human consumption, to serve economic development, social equity and prosperity and environmental protection, to promote better management of water demand and an efficient allocation of water resources in the different activities;
  - c. The lessons learnt from best practices on water resources management;
3. The Strategy will address in particular the challenges of growing water demand and impact of climate change, keeping in mind the need for equity considerations and preparing a list identifying the countries most affected by climate change in the Euro-Mediterranean region; it shall aim at reintegrating or maintaining the balance between supply and demand, consumption and availability, firstly as regards agricultural uses (as agriculture is the main water consumer in the region), and taking into account the ecosystems’ needs;
4. The strategy should take into account governance reforms;
5. The Strategy will be translated into policies, initiatives and actions that should give high priority to improved demand management encouraging water efficiency and the mobilization of water supply measures (traditional or alternatives including wastewater reuse, desalination, rainwater harvesting), once the projected impacts of water saving measures prove insufficient, and encouraging benefit sharing through transboundary water management.
6. The Strategy will cover the following areas:
  - a. Advancing on effective water governance for integrated water resources management and water supply and sanitation awareness, technical and capacity building and coordination within administrative units and among stakeholders;
  - b. Addressing water and climate change, through adaptation measures together with mitigation with emphasis, inter alia, on management of droughts and floods, mitigation of water scarcity effects and combat desertification;
  - c. Optimizing water financing, water valuation and appropriate instruments, with emphasis on innovative mechanisms;
  - d. Water demand management and efficiency and nonconventional water resources.
7. The strategy will include both qualitative and quantitative objectives, as part of a voluntary approach, in particular a quantified objective for water savings at regional level;
8. The strategy will include an Action Plan, specifying the modalities through which these objectives will be achieved for the related years;
9. The strategy will draw upon existing initiatives and partnerships, in accordance with its principles;
10. The strategy will aim at developing a coherent system and efficient synergies between the existing initiatives in order to assess priorities both at a regional and national level ; enhanced coordination of financial resources at a national, regional, and international level shall be sought;
11. The elaboration, implementation and follow up of the Strategy will be assisted by the strengthened collaboration between existing organisations, institutions and initiatives on water related MDGs and IWRM targets;
12. To ensure definition and implementation of the Strategy, water related information will be structured at a regional level, based on existing thematic contributions;
13. Strengthening the coordination and synergies between the existing Mediterranean initiatives and networks on information and expertise should contribute further to the elaboration, implementation and follow-up of the Strategy by:
  - a. facilitating the development of national information systems, national documentation centres and related training activities;
  - b. developing, at regional and national level, within the context of existing initiatives and governance mechanisms, exchange systems inter alia on : (I) water related information and monitoring, (II) documentary data, (III) professional training (IV) prospective analysis, (V) research, know-how and technology;

14. Ministers agree to entrust the Euro-Med Water Expert Group with the following tasks and according to the below modalities:

- a. Under the political guidance of the Euro-Mediterranean Ministers responsible for Water, the Water Expert Group will:
  - i. carry out the tasks defined by the Ministerial Declaration on Water agreed in Jordan on 22 December 2008 including through the provision of technical inputs for ministerial meetings;
  - ii. endeavour to provide technical input to water related initiatives and processes in the region including recommendations to enhance effectiveness, coordination and complementarity of all key water related activities.
  - iii. develop a draft annual work-plan along the lines of the calendar and tasks defined by the Ministerial Declaration on Water agreed in Jordan on 22 December 2008;
- b. The Water Expert Group is co-chaired, when possible, according to the co-presidency rules of the Barcelona Process: Union for the Mediterranean.
- c. Representatives from local authorities, civil society including the private sector and other stakeholders dealing with water management, as well as international and regional organizations, funding institutions, donors and other bodies may be invited to the meetings of the Water Expert Group as observers.
- d. The Water Expert Group works on the basis of co-operation and open exchange of views. Decisions should be taken only on the basis of consensus.
- e. The Water Expert Group meets at least once a year.
- f. The working languages of the Water Expert Group will be coherent with the Barcelona Process: Union for the Mediterranean.
- g. Each participant of the Water Expert Group on Water Issue is expected to support his involvement in the Group's work with his own resources. If funding becomes available, participation in the Group's work (e.g. attendance at meetings, etc) may be supported.
- h. Where appropriate, a Secretariat facilitating the tasks of the Water Expert Group will be set up and will act in coherence with the Barcelona Process: Union for the Mediterranean

15. The calendar for the elaboration of the strategy must be coherent with the calendars of related initiatives and programmes. The calendar is the following:

- a. Water Expert Group's contribution produced during its annual meetings, including two meetings before the end of 2009;
- b. Adoption of the Strategy: Ministerial Conference on Water of 2010 in order to be submitted to the Barcelona Process: Union for the Mediterranean summit.
- c. Developing strengthened coordination of the existing Mediterranean networks of information and expertise

on water, including first discussions in early 2009 covering inter alia water information, policy planning and monitoring, capacity development and sharing of expertise and the development of partnerships as from 2009.

## ANNEX 2

### Water Projects

In the framework of the ministerial declaration adopted during the Conference on Water held in Jordan on 22 December 2008, the Ministers and Heads of Delegations wish to incorporate the continuation of their work into the ethos of the Paris Summit by the swift implementation of concrete and visible projects on the ground, helping to resolve the severe problems caused by the degradation of water quality and quantity and by the growing gap between resource availability and the increased needs and demands of the farming, domestic, industrial, tourist and environmental sectors.

They take note with satisfaction that the implementation of the Process has already enabled a number of water projects to be identified, with these projects in line with the Paris Declaration for the Mediterranean and relating to the following priority concerns:

1. Adaptation to climate change
2. Balance between supply and demand
3. Conservation and rehabilitation of natural environments
4. Depollution of the Mediterranean
5. Technologies and efficient use of water

Taking note of a first, indicative list of projects identified as examples and proposed by France, Jordan, Greece, Spain, The Netherlands, Egypt and Turkey, they ask all the partners to put forward the projects that they want to carry out so that they can be considered by the process.

They wish future projects to be in line with the guiding principles of the Future Strategy for Water in the Mediterranean and its accompanying action plan and consistent with ongoing processes, policies and programmes to learn lessons from replicable completed projects and emphasize the importance of multicountry projects. In addition, these projects could contribute to specific activities such as training, technology transfer, awareness and capacity building.

They call for mobilizing urgently additional funding for the implementation of the projects, in conformity with the Paris Declaration.

## GROUP OF 77

**MUSCAT DECLARATION ON WATER****adopted by the First Ministerial Forum on Water of the Group of 77****Muscat, Sultanate of Oman****23-25 February 2009**

We, the Ministers in charge of water resources of the Member States of the Group of 77, met on the occasion of the first G77 Ministerial Forum on Water held in Muscat, Sultanate of Oman from 23 to 25 February 2009 and agreed on the following conclusions and recommendations:

1. The vital importance of water to sustain habitat and species' survival and human existence was recognized. The key importance of water resources and sanitation in achieving progress in all fronts of development in the South was reiterated as well as the fact that improving and promoting easy access to water and sanitation production, irrigation and hydro-energy production will lead to tremendous progress in the eradication of poverty and food insecurity, in accordance with the Millennium Development Goals (MDGs) and Integrated Water Resources Management (IWRM).
2. Despite the great number of the institutions addressing the issues of water management and projects for access to water, progress in reaching the goals to halve the number of people without access to safe drinking water and adequate sanitation is slow and uneven.
3. The main challenges namely the lack of capacity, finance and political will to implement the decisions and other actions recommended by numerous conferences and meetings were stressed. We reiterate that knowledge skills and technologies exist for managing water resources and providing water services for all in support of development.
4. Stress the importance of strengthening the networking of research and development institutions on water as well as data information, equipped by new technology in national and regional information centres on water resources which received unanimous support.
5. There is a need for countries of the South to explore new ways and means among themselves in order to tackle basic needs in terms of water resources. There is also a vital need to be active both in management and development of water resources and infrastructures in order to increase access to and effective use of safe drinking water and food security to developing countries' populations.
6. Encourage developing countries to work together to strengthen strategic partnerships so as to contribute to the sharing of knowledge, innovation and transfer of technology for better access to improved water resources and sanitation. Special efforts must be made to build and sustain scientific capacity both at the individual and institutional levels; additional resources and partnerships are necessary to bring science based solutions to critical water challenges and social and economic needs and to secure water for developing countries. As part of the follow-up action, a number of steps should be pursued in terms of exchange of scientific and technological know-how among developing countries that could facilitate the sharing of information on science and technology in promoting water resources data, including:
  - Knowledge of managing shared water resources;
  - Enhancing capacities of Member States in negotiation skills and providing technical advisory services in the field;
  - Promoting exchange of experiences, best practice and lessons learnt in implementing projects dealing with water resources, sanitation and environment management;
  - Aligning research programme with regional and national priorities and emerging issues;
  - Enhancing hydrologic and meteorological data collection capabilities and developing new data to improve assessments;
  - Supporting research that improves fundamental scientific understanding of water resources management and sanitation;
  - Identifying new sources of funding with capacities to scale up available resources and exchange of expertise;
  - Identifying new approaches for additional funding for capacity-building and infrastructures for water resources, irrigation and sanitation;
  - Providing a searchable interactive database of scientists, centres and services to facilitate and encourage information sharing and cooperation among partners;

- Promoting innovative technologies to address the negative impacts of water related disasters such as floods, droughts, cyclones, desertification, deterioration of river watersheds and the intrusion of sea water into the non-saline groundwater in coastal areas resulting from the rise of the sea surface caused by climate change and global warming;
7. Stress the need to take necessary actions, using science based programmes to provide clean water and improved sanitation to communities and households, including:
    - Improvements in water treatment, reticulation, use and re-use, taking into account, where applicable, traditional methods and knowledge;
    - Integrated water resources management approaches for sustainable use, including protection of groundwater resources, in addition to minimizing impact of pesticides and fertilizer use and industrial pollution;
    - Innovative methods of harvesting, storing and recycling, including innovation to reduce costs of desalination, treatment and recycling of agricultural, industrial and waste water, as well as technologies for new and renewable sources of energy, hydro, solar, and wind were widely welcomed;
    - Effective sanitation processes and effective use of primary, secondary and tertiary education on water and sanitation received overwhelming support.
  8. Recognize the importance and tremendous potential that biotechnology and related irrigation hydropower industries offer for poverty eradication, technological progress, industrial development and health improvement.
  9. Stress the importance to respond to public and ethical concerns in the application of some aspects of biotechnology and therefore, public awareness, regulations and legislation on biosafety are of great importance.
  10. Agree to identify a networking of institutions and individuals who have made significant progress in the field of biotechnology, particularly in medical, agricultural, forestry, animal, fisheries, marine and environmental biotechnology.
  11. Stress the importance to create a comprehensive water data and information centre among developing countries.
  12. Encourage the adoption of international conventions to deal with cooperation on transboundary water sharing and conflict resolutions.
  13. Call on the United Nations system to play an important role in the exchange of scientific and technological research in the field of water resources.
  14. Acknowledge the tremendous progress and breakthrough made by some developing countries in vital areas of water management, water supply and sanitation as well as in dams, irrigation, hydro-energy and measures to alleviate the risks of climate change. We emphasize the need to learn from one another and share best practices and experiences among countries of the South.
  15. Welcome the successful experiences registered through South-South cooperation mechanisms in some countries in Asia, Africa and Latin America and the Caribbean and stressed the need to replicate these performances and achievements in other developing countries.
  16. Encourage member countries to work together to strengthen strategic partnerships between countries of the South so as to contribute to the sharing of knowledge, innovation and transfer of technology for better access to safe water and sanitation.
  17. Emphasize the importance and the supportive role of the United Nations system, particularly UNDP, FAO, UNESCO, UNIDO, WMO, WHO, UNEP, other United Nations Institutions, the regional Commissions and financial institutions in promoting cooperation in the exchange of scientific and technological know-how in sourcing, efficient management, preservation and sustainable use of water in developing countries. We express our appreciation to the role of other cooperating partners and stress the need to increase the capacity of these institutions to enhance their role in improving access to safe water for basic needs in developing countries.
  18. Stress the fact that water is vital to sustain habitat and species' survival and human existence depends on safe and reliable water supply. In this context, we emphasize the key importance of water resources and sanitation in achieving progress in all fronts of development in the South and reiterate the fact that improving and promoting easy access to water and sanitation will lead to tremendous progress in the eradication of poverty and strengthen efficient management, preservation and sustainable use of water in developing countries including the achievement of the following:
    - Adoption of a policy of self-reliance for financing water projects and exert efforts to obtain financing for water projects from lending agencies, capital markets and grants;
    - Construction of dams in developing countries proved its

efficiency in alleviating drought and floods impacts. Therefore, capacity-building and financial support are strongly recommended for that purpose;

- Development and strengthening of human and institutional capacities for effective water management and service delivery and provide technical assistance through expertise to the member countries that need it;
- Development of irrigation and transfer of low-cost technologies for safe water supply and treatment, in accordance with countries' needs;
- Acceleration of the provision of technical and financial assistance to member countries in preparing nationally owned integrated water resources management and water efficiency plans according to their needs;
- Enhancement of cooperation among riparian states taking into account their respective interest, through bilateral and multilateral arrangements;
- Support of more effective water demand and water resource management across all sectors, especially in the agricultural sector for food security and rural development, livelihood, security and poverty eradication;
- Exchange of experience on the application of good governance, water resources legislations, institutional reforms, transparency, and water ethics;
- Establishment of, within the Trust Fund for Science and Technology, a mechanism for South-South cooperation in the field of water;
- Establishment of a G-77 achievement award in the field of water;
- Sharing of South-South experiences on gender initiatives in water management;
- Sharing of South-South experiences and knowledge on institutional and legal reforms, harmonization of policy and regulatory frameworks, decentralization and water rights;
- Promotion of sub-regional, regional and international South-South partnerships including civil society, community groups, the private sector and academia;
- Enhancement of the dialogue mechanisms on water and sanitation under the UN framework, to encourage developed countries to address the concern of developing countries in meeting the requirements of the MDGs such as transfer of technology and other related issues;
- Promotion of groundwater sustainability in the developing world regions by using new technologies for artificial recharge;

- Desalinization is a strategic option for many developing countries and focusing on research in this field is essential to reduce its cost and to enable member countries to expand the use of this technology;

- Call for enforcing international laws so that water facilities and infrastructures are not targeted during wars and conflicts;

19. Stress the importance of food security, as well as the area under irrigation in developing countries which should be increased, including acceleration and modernization of existing irrigation by South-South sharing of experiences and knowledge on the basis of low cost, water saving, crop yield increasing and knowledge relating to intensification and diversification and conjunctive use of surface and groundwater.

20. Agree to meet on an annual basis, as deemed necessary, in order to exchange views on strengthening South-South initiatives to improve their endeavors in water in relation to environment, livelihoods and poverty eradication. In this context, we welcome the generous offer by the Islamic Republic of Iran to host the next Ministerial Forum on Water. We convey the outcome of this Forum to the 5th World Water Forum to be held from 15 to 22 March 2009 in Istanbul, Turkey and to call on participants to take into account the conclusions and recommendations of this G-77 Ministerial Forum.

21. Express our sincere appreciation to the Sultanate of Oman for the warm welcome and generous hospitality extended to all participants. We express also our appreciation for the achievements made by the Sultanate of Oman in the field of water resources development and management.



Outcomes of the  
**5th World Water Forum**  
Istanbul 2009



**CHILDREN'S  
DECLARATION**

# 3<sup>RD</sup> CHILDREN'S WORLD WATER FORUM DECLARATION

**14 March 2009**

**Made on the occasion of the 5th World Water Forum,  
Istanbul, TURKEY**

Participating children agreed on the following issues as priorities for future action.

**Protecting the quality and quantity of water resources**

- Water must be protected and used consciously. There are different phases about this. Firstly people should be educated.
- We can build filters to clean water.
- Industrial waste should not be thrown into water resources.
- The technology involved in the use of purifying and collecting water should be improved.
- Underground water should be researched more and its usage should be limited.
- Filtering the chemicals released from factories would save water. People should be kept aware of the situation.
- The infrastructure of old cities must be improved.

### **Protecting the environment**

- The production of dams should be decreased.
- Deforestation can be stopped.
- Action should be taken in order to decrease global warming. For example; Drive less, use public transformation, recycle, reuse, decrease the usage of substances that cause greenhouse effect and focus on the other sources of energy such as wind and solar and increase the usage of substantial energy. Think about the future, not just the present.
- Wells cause damage in agricultural fields. The wells should be made more responsibly.

### **Finding new sources of water**

- Systems should be created to collect rainwater. Use that in our toilets and we won't have to purify it and waste the rainwater.
- Without water recycling, plants and animals will be affected.
- Highways and the roads that each country has can contain drains and when rain falls the water will go to the drains and water can be distributed to the houses.
- Agricultural technologies must be developed and increased, for example drop system.

### **Rights, solidarity and cooperation**

- Every individual must have the right to access to clean water.
- Some countries in the world should not keep the water to themselves totally and share it. There should be an international framework on the division of water.
- Funds relating to the subject should be increased so the technology can be improved and transferred within nations.
- Building of an international independent and non-governmental framework (for example U.N.) for water problems.

### **Children's role**

- We have to publicize that we don't have much water in the world and we should pay attention to children's projects. Advertise children's projects.
- We should hold national children forums.
- Children should be taken into consideration because children's ideas are not taken seriously. Children should be given authority to conduct projects. Government and local authorities keep their egos down. There may be international funds to support children's ideas and projects.

Like all the other points, the final point below about water prices was discussed amongst children who tried to reach a final consensus on this issue to include it in the declaration. This was not possible, so it was decided to portray it as a small discussion in the end when the children were reading their declaration out loud, to show that it is acceptable to have different opinions on a certain topic, and it is important to share it freely. The question is:

Should water prices in developed countries be increased in order to supply water to non-developed countries?



Outcomes of the  
**5th World Water Forum**  
Istanbul 2009



**YOUTH  
DECLARATION**

# YOUTH DECLARATION

**5<sup>th</sup> World Water Forum  
4<sup>th</sup> Youth Forum**

**16-22 March 2009**

**T**his declaration reflects the views of the young people participating in the World Water Youth Forum 2009. Coming from over 25 countries we gathered in Istanbul in order to share our ideas and to propose actions. In this declaration we will present both our recommendations to other actors at this Forum as well as the actions that we - the youth - will undertake ourselves. To support such actions we will create the Youth Water Council.



Young people have a vital role to play in solving the water-related problems addressed here at the WWF and have the ability to bridge divides. Therefore **youth should be involved in decision-making and governance.**

We believe that **education is crucial** in solving water-related problems and should therefore be seen as a cross-cutting theme. All actors present at this Forum should work to increase all methods of water education.

We recognize the work of all actors at this Forum – however we also observe that progress in solving water-related problems is often slow and difficult. We therefore urge everyone to **step up action and involve youth in all efforts.**

## **GLOBAL CHANGES AND RISK MANAGEMENT**

The effects of climate change are already felt in many parts of the world, therefore adaptation strategies and disaster warning systems should be further developed immediately.

It is equally important to focus on mitigation and the potential role of water in this respect.

The water issue and the results of this Forum should be taken to the UNFCCC conference in December 2009 in Copenhagen.

## **ADVANCING HUMAN DEVELOPMENT AND THE MDGs**

Access to clean, affordable, secure and readily available water should be considered a human right and be defined as such in national legislation.

Communities should be educated on water and sanitation issues, in which youth can play an important role

Energy policies should focus on transparency and maintaining water sustainability.

## **MANAGING AND PROTECTING WATER RESOURCES AND THEIR SUPPLY SYSTEMS TO MEET HUMAN AND ENVIRONMENTAL NEEDS**

Current problems highlight the ineffectiveness of present water resource management and protection. Governments should use the principle of ‘sharing benefits and responsibilities’ in international water issues.

National legislation on transboundary water resources should be harmonized and within countries administrative divisions could be reorganized according to river catchment areas.

Youth and NGOs should contribute to cross-country communication and be encouraged to come up with innovative ideas and technologies. Youth can create an internet-based platform to share information.

## **GOVERNANCE AND MANAGEMENT**

Good governance cannot exist without public participation. All stakeholders should work together in the framework of Integrated Water Resource Management. Youth should be encouraged to participate in parliamentary elections and should be given an increased number of positions in government.

Governance and management needs to take account of ethical frameworks and common principles, as well as cultural or religious differences.

## FINANCE

The water sector should not suffer from decreased investments and youth should not be the victim of the financial crisis. All stakeholders including youth should have a voice to hold financial bodies accountable.

Governments should construct the necessary mechanisms to provide accessible basic drinking water to all, regardless of their ability to pay for it.

## EDUCATION, KNOWLEDGE AND CAPACITY BUILDING

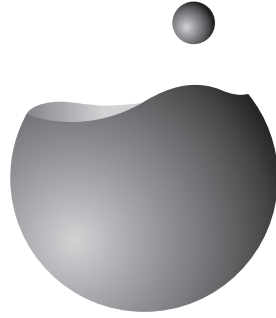
Support for and investment in all kinds of water-related education is critical.

Youth should be engaged in decision-making processes related to their education.

Education programmes in schools should be more innovative and proactive, as well as sensitive to gender and current social challenges.

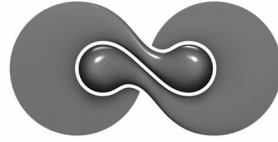
Education on water should not be limited to being an educational subject but should play a key part in our daily lives.





World Water Council

**5th WORLD WATER FORUM**  
İ S T A N B U L 2 0 0 9



BRIDGING  
DIVIDES  
FOR WATER



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