

WATER at a CROSSROADS

Dialogue & Debate at the 5th World Water Forum | Istanbul 2009



ADAPTING TO
A NEW CLIMATE

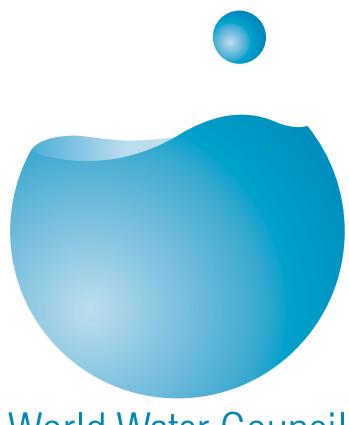
ENERGY AND FOOD
CRUNCH

BEYOND TOILETS AND
TARGETS

WATER FOR ECONOMIC
RECOVERY?



World Water Council



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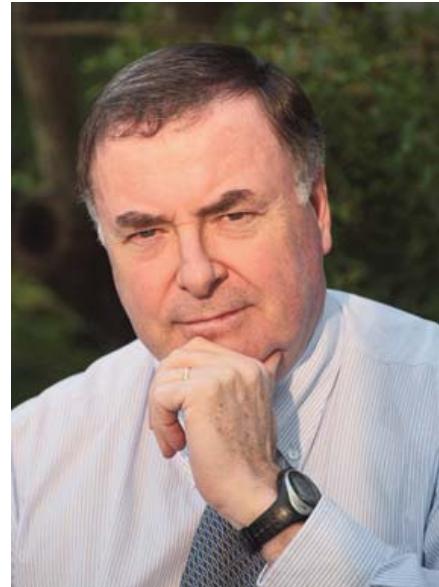
“**W**ater is life” is said in every language in the world. And yet, water is threatened today: rampant demographic growth, anarchic urbanisation, disturbed climate, pollution, etc. These threats are caused by humans and their erratic behaviour, which is water’s primary enemy.

We are, thus, confronted by a major challenge: the demand for water is ever-increasing and, at the same time, we must protect, value, stock and even re-use water resources. We must establish harmonious sharing of water between man and nature.

Sharing water is a difficult task and an essentially political responsibility, for the future of water depends not only on technological progress, but especially on political commitments.

Beyond the some 25,000 participants present at the Forum of Istanbul and all those throughout the world who, over the course of three years, contributed to its preparation, the active participation of numerous Heads of State and Government and hundreds of ministers, parliamentarians and mayors constitutes a major step for the cause of water. It marks the passage, within the international community, from hydro-technical to hydro-political.

Water demands the attention, respect and engagement of all the world’s leaders. For a long time to come, they will be solicited to increase the volume of available water to respond to the needs of global growth. For a long time to come, rivers, lakes and underground aquifers will be stretched a little further to quench the ever-increasing thirst of the planet.





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But to increase indefinitely the water supply is expensive, particularly in the actual context of climate evolution, economic crisis and increased energy costs. Increasing supply puts natural surroundings at risk when humans confuse a response to essential needs with the pillage of hydrological riches.

We can no longer accept to continue to spend more money on producing water that we then waste and dirty.

We must say it again loudly and clearly, as we did in Istanbul: The time of easy water is over.

Today, it is up to Humankind to build bridges, bridges that are as many sustainable, useful and federating solutions. Bridges that bring the shores of knowledge, law, money and governance closer together.

This is all possible if only political leaders and all of civil society mobilizes itself and speaks with one single voice that echoes throughout the world to ensure good quality water in the long term for future generations. And beyond theories and discourse, to concretely implement the right to access to water and sanitation as a right that is integral to respect for human dignity.

The 5th World Water Forum, by gathering intelligence, cultures and hearts, brought its stone to the edifice. It contributed to spreading these ideas and to bringing people together so that the house of water may be built in tolerance and solidarity.

With Turkey, with the entire international community, the World Water Council will continue to promote this cause.

Loïc Fauchon
President of the World Water Council





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A GROUNDBREAKING EVENT

For many reasons, 2009 will be a turning point in human history. At the dawn of a new era, the 5th World Water Forum marked the rise of a new paradigm, a turning from the production-oriented to the eco-oriented, where the whole is greater than the sum of its parts. The 5th World Water Forum was in many ways a groundbreaking event, featuring:

- Approximately 16 000 engaged participants and over 30 000 total participants including those in the Fair/Expo: representatives of national and local governments, UN agencies, intergovernmental organizations, civil society, academia, water operators, business & industry, indigenous groups, youth, and the media;
- Active participation of people from 182 countries;
- 1 300 political process participants: 165 delegations, 90 ministers and 19 undersecretaries, over 250 parliamentarians, over 300 mayors and local officials;
- 106 thematic sessions prepared by more than 400 organizations;
- 5 high level panels;
- 7 regional processes;
- 1000 press representatives producing 2000 international articles/features.



Opening of the Thematic Sessions.

The 5th World Water Forum succeeded in gauging the commitments of political leaders to take up action on water:

> Ministers adopted the Ministerial Statement. A Water Guide, was also drafted during the preparatory process to address the global challenges related to water within the context of sustainable development and global changes. It includes 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.

> A number of Mayors signed the Istanbul Water Consensus (IWC), a new compact for Local and Regional Authorities committed to adapting their water infrastructure and services to the emerging challenges they are facing, such as climate change, rapid urban growth, depletion and pollution of water resources or aging infrastructure. The 58 signatories of the IWC committed to prepare action plans to analyse and cope with these challenges. Ten major cities will continue to build on the momentum generated thus far on specific issues, in their special role as “champion cities” for the IWC.

> Parliamentarians agreed upon the establishment of a permanent international Parliamentary “Helpdesk” to aid political cooperation on water legislation and its implementation. It will serve to:

- *Coordinate: Guide responsibility for enacting water and sanitation laws;*
- *Showcase: Share best global practices and water-related legislation;*
- *Respond: Quickly answer urgent questions;*
- *Link: Unite all parties in a globally cooperative inter-Parliamentarian network.*

> Heads of State from a select number of countries launched a broad-based Appeal for Action, which seeks to promote water security, climate adaptability and international solidarity through a more strategic use of the world’s most precious resource, water.

Other important achievements included highlighting key issues on the global water agenda that require a multi-stakeholder response. These were addressed through a number of High Level Panels:

> Environment Ministers and leaders from intergovernmental organisations, local government and civil society, representing different perspectives, expressed their common desire for the climate and water families to work more closely together. A Ministerial Action Plan will carry the Forum’s messages on water and climate change into the UNFCCC process and COP-15 discussions.

> In light of the recent financial crisis, decision-makers on the High Level Panel on Finance provided options on how to increase the overall funding for the water sector, at a time of increasing social, economic and environmental challenges. The panel recommended that investment in water infrastructure



World Water Development Report Launch.

be included in the fiscal stimulus packages currently being developed to address the economic crisis.

> The High-Level Expert Panel on Water and Disaster identified six specific priorities and 40 action guidelines to prevent, prepare for, manage and recover from water-related disasters. These are presented in Water and Disaster, the report of the Panel that was launched and debated at the Forum. Panellists called on the governments of all nations to endorse and adopt those measures immediately.

> The Forum brought together representatives from the water, agriculture and energy sectors to reflect upon humankind's rising demands for food and energy, which are depleting our water supplies. Recognising the underdeveloped understanding of the water, food and energy nexus, panellists expressed their desire to continue working with the World Water Council to develop further guidance for more coordinated management in this domain.

> The 3rd UN World Water Development Report, released during the Forum week, made it clear that targets to provide access to safe sanitation are not being met. Panellists set out the daunting challenges of megacities and pollution in industrialized areas and coastal zones. They urged development agencies to move beyond the traditional paradigm of water-borne sewage and flush toilets to explore creative approaches that employ diverse, appropriate technology and policies.

Hundreds of organisations and thousands of participants joined the conversation around the six leading themes of the Forum:

> Participants at the 5th World Water Forum concluded that good adaptation measures for climate change and disasters are critical. To do so, more work is needed to continue to dovetail efforts before crises arise. A clear

message emerged that water is the medium through which climate change acts. Participants recommended working on "hotspots" and channelling the 5th World Water Forum outcomes into the UNFCCC CoP15 process, as well as other international processes.



Opening of the Thematic Sessions.

> Forum participants agreed that river basin organizations offer a vehicle through which a range of partners can work together. They recommended that IWRM be practiced at different scales to be helpful in allocating water appropriately. Strong action was recommended to follow-up with the implementation of IWRM.

> A wide majority of stakeholders reaffirmed support for the right to water and sanitation and supported further efforts for its implementation. Participants defined 10 priority issues for catalyzing institutional change and policies. 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.



Children's Forum...

> Forum participants recognised that financing needs for the water sector are still enormous and remain a major constraint for further development. They agreed that funds need to be allocated where they can have the biggest impact and require support from both the public and private sector. Participants also recognised that although a higher priority for

water should still be requested in national budgets, increased efficiency and greater innovation can actually reduce financing needs.

> With a view to strengthening science and education, participants drafted guiding principles for water education, knowledge and capacity development. Both youth and network 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.





Willem-Alexander of the Netherlands, Prince of Orange and Crown Prince Naruhito of Japan at the opening Ceremony.

Seven Regional Preparatory Processes, culminating in panel presentations and other activities at the 5th World Water Forum, provided rich contributions to both the political and thematic outcomes of the Forum. These processes were important catalysts for mobilizing stakeholders, promoting cooperation and impacting political decision-making in their regions. Organisers and parti-

cipants committed to organize regional preparatory fora in the future to support continued progress on water issues in local contexts.

Despite the general economic crisis, the attendance of the 5th World Water Forum in record numbers clearly showed how water issues are gaining political momentum. In the near future, it will

be even more important to open up dialogues and bring stakeholders together to compare notes, learn from each other and agree upon a common way forward. ■



ADAPTING TO

A large, textured iceberg floats in dark blue water under a cloudy sky. The iceberg is light blue with white veins and has a rough, crystalline surface. The background shows more icebergs and a horizon line under a cloudy sky.



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CLIMATE CHANGE: THE TIME IS NOW

Rising global temperatures are changing our climate and affecting our water. The signs are all there—extreme weather events, rising sea levels, increasing floods, melting glaciers and severe droughts throughout the world.

“We are all responsible,” Loïc Fauchon, President of the World Water Council, told participants attending the 5th World Water Forum. “Responsible for the current climate changes, responsible for the tensions which reduce the availability of freshwater that is indispensable to the survival of humanity.”

According to the 4th Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), the links between water and climate change are undeniable, with water predicted to be the primary medium through which early climate change impacts will be felt by people, ecosystems and economies. Moreover, these climate change impacts will compound other

existing pressures on water resources, such as population growth, land-use change and changes in consumption patterns.

“We are all responsible--responsible for the current climate changes, responsible for the tensions which reduce the availability of freshwater that is indispensable to the survival of humanity.”

Loïc Fauchon, President of the World Water Council.

In Istanbul, climate change was evoked in every theme at the Forum, from how it will impact the achievement of the MDGs, to how management, governance and financing strategies should deal with its effects or how emerging technologies might help anticipate consequences. To prepare for climate change and withstand the shocks of a changing planet, the world will need to adapt and put more resilient water management systems in place. Where energy production and use stand at the centre of climate change mitigation, water abstraction and use will be key to adapting to climate change. Climate adaptation thus translates, to a large extent, into water adaptation.

When the international community gathers in Copenhagen in December 2009 to formulate a new global climate deal, adaptation and the role of water should form a central part of the agenda. This was one of the main recommendations emanating from the 5th World Water Forum.

Bridging the mitigation-adaptation divide

While much of the climate change discussion has typically been centred on mitigation measures, i.e. reduction of greenhouse gas emissions, particularly through reducing energy use and switching to cleaner energy sources, now, the international community is increasingly turning its attention to adaptation measures.

“While there is scientific consensus that we need to prevent emissions of greenhouse gases,” said Lindiwe Benedicta Hendricks, South Africa’s Minister of Water Affairs and Forestry, during the High-Level Panel on Climate Change, “we have to do both, mitigation and adaptation, to respond to the challenges.” Hendricks and many others stressed that mitigation does not have to come at the expense of adaptation, or vice versa; they are, in fact, two sides of the same coin.



"Preparedness is needed for a new and dynamic climate, instead of the climate we're used to," added Mark Smith, Head of IUCN's Water Programme and a World Water Council Governor. "Because of the expected impacts of climate change on water, adaptation of the way water is managed and the infrastructure used to store and drain water and deliver water services is a high priority."

Areas more vulnerable to the impacts of climate change—such as small islands, arid zones, low-lying, densely populated coasts and river deltas, and mountain areas affected by glacier melt—should be identified and protected. "It is important to focus on these hotspots," noted Henk van Schaik of the Co-operative Programme on Water and Climate (CPWC) and Coordinator of the 5th World Water Forum's climate change topic. "These areas should be the priority areas for national, regional and international adaptation policies and investments."

Indeed, nearly all of the Forum's seven regional processes highlighted climate change as a priority issue for their region, and one that needs to be discussed in the context of regional specificities. In addition to focusing on climate change in each of the regional



© Photo: Angela Lewin

reports and sessions, a panel dialogue on regional perspectives on water, adaptation and climate offered the opportunity to compare and contrast climate change issues and approaches between each of the regions, which, in the end, fit together like puzzle pieces to form a global picture of climate change challenges in the world.

Show me the money!

But what sources of funding can be utilised to implement adaptation measures, especially considering the current global financial crisis? This question was raised in discussions throughout the Forum.

According to studies by the secretariat of the United Nations Framework Convention on Climate Change (UNFCCC) and others, the additional investment and financial flows needed to adapt to climate change are likely to amount to tens of billions of dollars annually for the coming decades. Some estimate that adaptation costs could be as much as US\$530 billion from now until 2030. At present, the Global Environmental Facility (GEF) offers the largest source of funding—about US\$180 million for adaptation projects. The World Bank is also establishing a climate investment fund in which donors have recently pledged over US\$6 billion.

“Inaction is not an option.

Do not wait for things to happen, act now while preparing for an uncertain future. Leaders in the water domain and decision makers outside it must work together to address adaptation.”

*William Cosgrove,
former president of the World Water Council
and current Content Coordinator
of the Third World Water Development Report (WWDR-3).*

But even if funding becomes available, some participants asked how these lending institutions and government aid programmes will ensure that the adaptation funds are used most effectively. How should these funds be channeled so that they can reach those most in need? Which proposals are most likely to generate an adequate and predictable flow of funds?

Generating Political Momentum

In light of so much uncertainty, it is often difficult to convince decision-makers to act. “Inaction is not an option,” stressed William Cosgrove, a former president of the World Water Council and current Content Coordinator of the recently launched Third World Water Development Report (WWDR-3).

“Do not wait for things to happen, act now while preparing for an uncertain future. Leaders in the water domain and decision makers outside it must work together to address adaptation.”

If the 5th World Water Forum is any indication, decision-makers, are, indeed, aware of the importance of climate change on the international agenda. Politicians at every level addressed climate change during the Forum. Heads of State specifically identified climate change as a force to contend with and called urgently for adaptation strategies. Ministers developed their body of work around the overarching theme of “Global Changes”, including climate change. Local and regional authorities called on national governments to anticipate climate change-related effects into the design of infrastructure at the local level.

Parliamentarians called on developed countries to reduce their production of greenhouse gases and encouraged linking water to climate through the Conference of the Parties (COP) process.

Government representatives taking part in a ministerial roundtable discussion at the Forum on bridging the water and climate agendas also came to agreement on the increasing importance of adaptation. In order for countries to become more “climate proof”, they highlighted the need to further enhance scientific knowledge, cooperation, monitoring and early warning capacities.



Lindiwe Benedicta Hendricks, South Africa’s Minister of Water Affairs and Forestry.

They emphasized that governments should work to identify and establish new financing mechanisms for adaptation so that vulnerable communities, especially in developing countries, will have the resources and support they need to protect themselves from the worst impacts of climate change.

“Water plays a crucial role in adaptation,” concluded Tineke Huizinga, Deputy Minister for Transport and Water of the Netherlands and co-chair of the ministerial roundtable on water and climate change. “Without cross-sectoral cooperation, we won’t be able to meet our goals for the future. The water community needs to speak with one voice and agree on putting adaptation on national agendas at Copenhagen.”



Tineke Huizinga, Deputy Minister for Transport and Water of the Netherlands.

From Istanbul to Copenhagen

A major opportunity for the water and climate communities to come together will be at the UN Climate Change Conference in Copenhagen in December 2009. It is here that the water and adaptation issue can and should be raised, according to a general consensus reached at the 5th World Water Forum in Istanbul. “Adaptation must be an integral part of the global deal that will succeed the Kyoto Protocol,” emphasized Ger Bergkamp, Director General of the World Water Council. “The time has come to integrate the adaptation and mitigation agendas. A coordinated focus on water will bridge the old climate change divides, empower people to reduce their vulnerability, and strengthen national resilience both now and during the tumultuous years ahead.” ■

“Without cross-sectoral cooperation, we won’t be able to meet our goals for the future.

The water community needs to speak with one voice and agree on putting adaptation on national agendas at Copenhagen.”

Tineke Huizinga, Deputy Minister for Transport and Water of the Netherlands.



High-Level Panel on Water and Climate Change.

Perspectives on Water and Climate Change Adaptation - New Publication Series.

CPWC has coordinated the production of 16 papers on Water and Climate Change Adaptation, produced together with the World Water Council, IUCN and IWA.

The perspectives offer various thematic, geographical and sectoral points of view on water and climate change adaptation. All Perspective Papers, together with the “Introduction, Summary and Key Messages” document, can be found in English, Spanish and French at: <http://www.waterandclimate.org/index.php?id=5thWorldWaterForumpublications810>

In addition to these 17 digital documents, a synthesis document, “Towards a Framework for Climate Proofing”, is also available in printed form.





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BEFORE DISASTERS STRIKE

Natural disasters can happen anywhere, at any time - from the Indian Ocean tsunami in 2004 to Hurricane Katrina in 2005, from massive floods in Europe and earthquakes in China to Australia's worst drought in 100 years.

Even as participants gathered at the 5th World Water Forum in Istanbul, an earthquake off the small island nation of Tonga triggered a tsunami in the South Pacific. Fortunately, there were no reports of injuries or coastal damage, but inhabitants of a crowded urban area outside Jakarta, Indonesia, were not so lucky when heavy rains caused a large dam to burst at 2:00 AM less than one week after the Forum. Every year, hundreds of millions of people are affected by natural disasters, causing fatalities and billions of dollars worth of damage. In 2008 alone, 321 disasters

killed more than 235,000 people and cost US\$181 billion, according to reports released at the 5th World Water Forum.

Unfortunately, the trend shows no signs of slowing down. Hydro-meteorological disasters, contrary to geological ones, have become ever more devastating in recent decades. And it is not unreasonable to conclude that an increasingly crowded planet and climate change are the culprits of this escalation. The toll in lives and livelihoods will only worsen if the issue is not brought to the forefront of the global agenda.



During the 5th World Water Forum, stakeholders in the Asia-Pacific region were instrumental in calling attention to these issues, as well they should. This region suffers most from water-related disasters, accounting for half the world's fatalities between 1980 and 2006 and 90% of the affected populations. In a special focus session at the Forum, the Ministry of Water Resources of the People's Republic of China and its partners provided advice on emergency strategies to deal not only with extensive damage incurred to infrastructures during mega-disasters, but also the secondary threats of repairing those structures without causing further harm. At the other end of the spectrum, the Spanish Ministry of Environment and Rural and Marine Affairs and its partners shared their valuable experiences on how to cope with the lack of water using drought risk management strategies.

Reducing the risks

"Disasters strike just when you have forgotten about them," said Japanese Crown Prince Naruhito, who delivered the keynote address at the 5th World Water Forum's High-Level Expert Panel on Water and Disasters. "That is why prevention measures are so important: we must act before disasters strike."

"We must act before disasters strike."

Japanese Crown Prince Naruhito

As pointed out during the 5th World Water Form's sessions and panels, technology and the exchange of reliable data, especially hydrological and climatic data, are key to reducing and preventing loss from water-related disasters. This can range from high-tech, region-wide early warning systems and flood forecasting models to relatively simple, innovative low-cost

structural measures, such as the traditional Japanese "soda mattress" method--a natural system of tree branches and rocks woven together to protect against riverbank erosion in the Mekong River.

Disaster prevention starts with local measures, stressed many participants. An important ingredient of those local solutions, too often overlooked, is recognizing that human activity often increases vulnerability, while nature itself is vital to reducing the impacts. In fact, natural buffer areas such as lakes, wetlands and forests can actually act as shields to help protect from floods and to store precious resources.

Whether through conservation or cutting-edge modern technology, disaster management requires an integrated approach that involves stakeholders and different cross-sections of society. One of the major messages emerging from discussions at the Forum argued that cooperation through a "trialogue" of government, society and science is crucial to manage water-related disasters better and to bridge technical and capacity divides, especially in developing countries. In fact, when improvements in structural and management systems

are coupled with public awareness and enhanced legal frameworks and funding, the results can be impressive.

As reported in one of the Forum's sessions, effective preparative measures saved an estimated 650,000 ships and 4.15 million people from the disastrous effects of typhoons in 2008.

High-level commitment required

Given the increasing frequency of hydro-meteorological disasters, participants strongly urged governments to integrate water-related disaster relief into national development and financial plans. They also actively promoted cooperation and data sharing among countries to prevent further losses that result from these natural tragedies.

Those calls were transformed into recommendations emanating from the Ministerial Roundtable on the subject, chaired by Japan and Portugal and moderated by two UN bodies - International Strategy for Disaster Reduction and the Convention to Combat Desertification (see text box). But the ministers even went a step further by highlighting the need to integrate risk reduction strategies into climate change adaptation plans and to clarify everyone's roles and responsibilities.



Keynote Address of Japanese Crown Prince Naruhito.



Abdullah Gül, President, Republic of Turkey and Han Seung-Soo, Prime Minister of South Korea.

Several countries also pledged to develop a specific action plan to address the issue of drought prevention and management.

"We need to recognize that technical solutions are not enough to face global water challenges," said Loïc Fauchon, President of the World Water Council. "We also need to recognize that many actors at the local level have developed capacities to improve preparedness and response to disasters. These actors need to be better integrated in the local, regional and national plans."

"We need to recognize that technical solutions are not enough to face global water challenges"

Loïc Fauchon,
President of the World Water Council.

During the High Level Expert Panel on Water and Disaster, Margareta Wahlström, UN Assistant Secretary-General for Disaster Risk Reduction, noted that her agency had received 90 country reports on disaster risk to date and that major areas of progress

include political support and capacity development in disaster preparedness and response. On the other hand, major weaknesses still persist in addressing the root causes of disasters, such as land use and poverty.

Plan of action

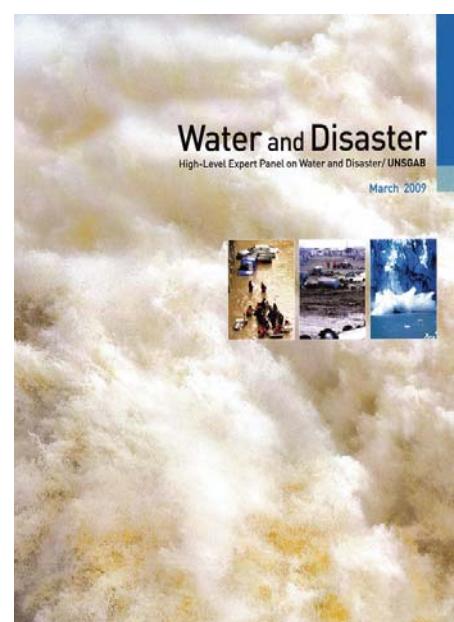
The Hashimoto Action Plan launched at the 4th World Water Forum of Mexico in 2006 mentions the issue of water and disasters in its priorities. To stimulate the implementation of the Hyogo Framework for Action--a global blueprint to substantially reduce disaster losses by 2015--the UN Secretary-General's Advisory Board on Water and Sanitation (UNSGAB) established a High Level Expert Panel on Water and Disasters. This panel prepared and launched a specific Action Plan on Water and Disaster during the 5th World Water Forum (available for downloading from www.waterforum.jp/eng/HLEP/doc/Water_and_Disaster.pdf).

The plan calls on UN agencies, regional bodies, national governments and local authorities to:

- *Mobilize and take action before disaster strikes;*

- *Provide early diagnosis, information, warning, and evacuation alert systems;*
- *Integrate the reduction of disaster risk and climate change into development planning;*
- *Improve disaster response;*
- *Provide safe water and sanitation following disasters;*
- *Employ cross-cutting initiatives to share water information across organizations, governments and regions.*

To implement these priorities, the report sets out 40 concrete actions at the local, national, regional and global levels for reducing the loss of life and livelihoods. For example, the Panel proposes that national governments develop people-centered warning systems and data collection tools linked to existing widespread communication systems, such as cell phone networks. It also calls for the establishment of a global code of conduct for post-disaster provision of water and sanitation to guide and coordinate organizations in their actions. Reaching beyond the water box, it also suggests that development banks convene regional seminars on how effective disaster planning can contribute to economic growth.



The High-Level Expert Panel on Water and Disasters proposes that national governments develop people-centered warning systems and data collection tools linked to existing widespread communication systems, such as cell phone networks.

“We were asked to come up with concrete measures to anticipate, prevent and react to disasters,” said Jerome Delli Priscoli, a senior advisor on international water issues with the US Army Corps of Engineers and an Alternate Governor of the World Water Council. “This is a new kind of model, one that is tangible and helps people understand what’s happening so they can react.”

Many of the recommendations in the Action Plan, related to disasters involving both too much and too little water, were espoused by the ministers

participating in the roundtable discussion. The Action Plan itself will be presented to the UN Secretary-General and to international agencies that work on natural disaster issues.

“I believe we have the most useful updated guidelines for tackling water-related disasters,” said Han Seung-soo, Prime Minister of South Korea and Founding Chair of the Expert Panel. “My hope is that the action plan will build bridges in global efforts in management of water-related disasters.” ■

MINISTERIAL COMMITMENTS ON WATER-RELATED DISASTERS	SOME MINISTERIAL ROUNDTABLE RECOMMENDATIONS
<ul style="list-style-type: none"> > We resolve to work 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 non-structural measures, both for water resources and access to water and sanitation, and building capacity at all levels. > We resolve to take necessary post-disaster mitigation and rehabilitation measures for affected people and hydrological systems. > We still strive to improve water-related monitoring systems and ensure that useful information is made freely available to all concerned populations. 	<ul style="list-style-type: none"> > 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. > National legal frameworks on water-related disasters should be clarified so that the responsibilities and roles of he stakeholders can be identified. > International cooperation on risks associated with water-related disasters should be enhanced. > Measures should be taken in order to increase public awareness and training programmes should be developed and implemented. Best practices and experiences based on scientific knowledge should be exchanged among countries. Information sharing for decision-making processes and utilizing a combination of existing and emerging technologies to cope with water-related disasters should be promoted.

5. DÜNYA SU FORUMU
İSTANBUL 2009



FARKLILIKLARIN
SUDA
YAKINLASMASI





High Level Panel on Water, Food and Energy.

THE WATER, FOOD AND ENERGY NEXUS: BREAKING NEW GROUND



Discussions during the 5th World Water Forum focused on “water and energy” and “water and food” issues in parallel. Nonetheless, participants in both domains drew the same conclusion: More integrated policies and a further focus on multi-functional uses of water are needed to address the increasing competition for water from the agriculture and energy sectors. Speakers emphasized that the inter-linkage between water, food and energy could be turned into a win-win situation, rather than a competitive one.



Alexandre Müller, Assistant Director General, Food and Agriculture Organisation of the UN and Ger Bergkamp, Director General, World Water Council.

A minimum of 2,500 litres of water is needed to feed a person for one day, which is the same amount used to produce just one litre of bio-fuel.

Mohammed Ait-Kadi, President of the General Council of Agricultural Development in Morocco.

Recognition of this interconnection was also emphasized in regional discussions at the 5th World Water Forum, for example, in the “Message of Foz do Iguassu”, a product of the preparatory process for the Americas, which called for ”the multiple use of water on an efficient and rational basis.”

The production and supply of food and energy are increasingly inter-linked, and both depend on a vulnerable resource: water. Against the backdrop of wildly fluctuating energy and food prices and mounting concern over pressure on renewable natural resources, speakers and participants at the 5th World Water Forum began to clarify the interdependencies between water, food and energy and to define the contours of a new vision around the production and supply of food and energy, within water boundaries.

Undeniably, participants were striving not to remain inside the “water box.”

Food (and Energy) for Thought

“We have a patchwork of information available. From this we need to develop a more coherent view on the interactions between water and energy and water and food,” said Ger Bergkamp, Director General of the World Water Council during the High Level Expert Panel on Water, Food and Energy. “Once we map out the relationships, we can see the challenges and start to move towards solutions.”

At the very least, we already know that, often, the same people lack both access to energy and to water services and subsist on less than US\$1.25 a day, according to the Third World Water Development Report. So far, global agricultural food production has kept pace with population growth, or nearly. However, 900 million people remain undernourished, rural migrants are leaving farms for cities, and by 2030, the demand for food crops in developing countries will have increased by 67%, further straining already overtaxed water resources.

WWF-Turkey CEO Filiz Demirayak said it is time to change our perception of water and water use practices considerably. We are facing an ecological credit crunch. “The level of urgency to take action on water issues is at the critical stage. According to WWF’s Living Planet Index, we have already exceeded natural resources’ reproductive capacity by 30%,” she said.

A Focus on Farming

With agriculture constituting 70% of total water use, rising food prices could spark the beginning of strategies for better resource management. Anders Berntell, Executive Director of the Stockholm International Water Institute, noted that when there is competition for a resource, the first step is to manage demand. He challenged participants to address water efficiency in agricultural production and to reduce inefficiency in the entire food chain, as 50% of food is wasted between farm and fork. To do so will require closer examination of water footprints, in addition to international trade patterns.

But farmers might not be that interested in more crop per drop; they are more concerned about income per drop. “This is about livelihoods,” commented Rodney Cooke, Director of the Technical Advisory Division for the International Fund for Agriculture (IFAD). “We have learned that farmers must be at the centre of water management initiatives. Farmers are the gatekeepers of our natural resources.”

However, farmers can spur rural development only if they have access to credit and markets. “In Africa, there is a strong need for investment in agriculture, which is linked to investment in water mobilization,” stated Aly Abou-Sabaa, Director of the Agriculture and Agro-industry Department for the African Development Bank.

Of course, the water-food-energy nexus could not be discussed without evoking bio-fuels. Energy crops are currently providing farmers with new opportunities to improve their livelihoods, but are sometimes perceived as draining precious resources away from food production. Alexander Müller, Assistant Director General, Food and Agriculture Organization of the UN, said it is “absolutely necessary” to manage the links between energy and food production. He pointed out that a minimum of 2,500 litres of water is needed to feed a person for one day, which is the same amount used to produce just one litre of bio-fuel. Some argued that striking a balance between bio-energy and food production is possible using smarter technology within a framework of sustainable development, while others dismissed the possibility of reconciling the two.

David Andrews, Senior Advisor to the President of the 63rd Session of the UN General Assembly on Food Policy and Sustainable Development, agreed that solutions do exist. “We must change the way we look at agriculture and move from a productionist view, which is narrow and works in silos, to a more holistic and ecological point of view,” he recommended.

Water Multi-Tasking

In addressing the interrelations between water and energy production, Richard Taylor, Executive Director of the International Hydropower Association, noted that “There is a vital role for hydropower within modern, smarter power systems, but not one technology is a panacea - cleaner energy technologies need to be better integrated for more sustainable solutions. Joined-up policy on water and energy is not as advanced as it should be, and sustainability assessment tools could assist in this matter.” He added that estimations of water footprints for all energy technologies are currently quite primitive and misleading.

He noted that the footprinting concept had gained popularity in a variety of sectors, but: “we are in the very early stages of understanding the water footprint in the energy sector, and there have been some quite irresponsible recent statements, which are far from having a sound scientific basis”. Taylor concluded by calling for governments and academia to advance understanding in this area.

“Water security is the gossamer that links the web of energy, food, environmental sustainability and human security”.

Mohammed Ait-Kadi, President of the General Council of Agricultural Development in Morocco.

A variety of concrete proposals were made to facilitate interactions within the water-food-energy nexus, from operating dams in ways that release river currents through energy turbines, but store the water in aquifers or floodplains, to using better metering and pricing structures to improve efficiency and lower demand across the food and energy sectors.

Others argued that one way to create greater cohesion among water, food and energy policies would be to deal with water and energy within the same ministry. “Countries need one national plan for energy and water,” stressed Milagros Couchoud Gregory, Director General for Spain’s National Meteorological Institute and a World Water Council Alternate Governor.



Anders Berntell, Executive Director, Stockholm International Water Institute and Filiz Demirayak, WWF-Turkey CEO.

The issue is not to take an energy view or an agricultural view, advised Mohammed Ait-Kadi President of the General Council of Agricultural Development of Morocco. “Water security is the gossamer that links the web of energy, food, environmental sustainability and human security,” he said.

Colin Chartres, Director General of the International Water Management Institute, has also observed this paradigm shift in a number of countries. “Water is no longer an issue [just] for engineers and scientists. It has become a more profound social and economic issue,” he noted.

Recognizing that the dialogue had only just begun, Ait-Kadi further called on the World Water Council to launch a multi-stakeholder platform to continue to discuss water, food and energy linkages and create recommendations on how to dovetail efforts. The resulting product could resemble the report drafted by the Intergovernmental Panel on Climate Change and assist high-level decision makers at the G8 or G20 in making sound policy choices. ■

MINISTERIAL COMMITMENTS

In the Ministerial Statement adopted during the 5th World Water Forum, Ministers agreed to take action:

- > “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.”

The *Istanbul Water Guide* annexed to the Ministerial Statement recognized that “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.” It also recognized the “multiple benefits of multiple uses and functions of water services, including for the most vulnerable users.”

While this sentiment was again echoed in the Ministerial Roundtable discussions, both on water for energy and on water for food, the participants of the discussion on Water and Energy agreed that mechanisms and priorities were needed to develop a better understanding of the water and energy nexus and to improve the coherence of water and energy policies. They called for a specific program on the interactions between water and energy and closer interaction between World Water Fora and other international processes, in particular with the World Energy Fora. They also encouraged the proposal of actions to increase water security in case of volatile energy prices.



Session Voltage and Volume: Can water and energy policies work hand in hand?

WATER FOOTPRINTS

A water footprint is a calculation of the water needed for the production of any product or service from start to finish. It takes:

- > 16 000 litres to produce 1 kilo of beef
- > 140 litres to produce 1 cup of coffee
- > 120 litres to produce 1 glass of wine
- > 23 000 litres to produce a leather bag
- > 900 litres to produce 1 kilo of corn
- > 3000 litres to produce 1 kilo of rice
- > 1000 litres to produce 1 litre of milk
- > 1350 litres to produce 1 kilo of wheat



© Photo: Water For People - Abraham Aruquipa.



World Water Council

Dialogue & Debate at the
5th World Water Forum
Istanbul 2009

2015 IS AROUND THE CORNER! ARE WE PREPARED?

According to the third World Water Development Report, the link between poverty and water is clear: the number of people living on less than US\$ 1.25 a day roughly coincides with the location and number of those without access to safe drinking water. A closer look at the numbers paints a devastating portrait of a humanitarian disaster. Nearly 1 billion people do not have guaranteed access to water and more than 2.6 billion are without basic sanitation.

In developing countries, 80% of health problems are linked to inadequate water and sanitation, claiming the lives of 5 million people per year, 1.8 million of whom are children. Over the past five years, diarrhea has killed more children than all the people lost in armed conflicts since World War II. In Africa alone, an estimated 5% of GDP is lost annually due to illness and death caused by dirty water and poor sanitation.

In 2000, building upon a decade of

major United Nations conferences and summits, world leaders adopted the United Nations' Millennium Declaration, which set out to reduce extreme poverty by establishing a series of time-bound targets known as the Millennium Development Goals (MDGs). Water and sanitation are central pillars, but beyond the specific water and sanitation targets, water is also instrumental in attaining other MDGs, from reducing poverty, hunger and child mortality, to improving school attendance, especially for girls.

Speakers and participants at the 5th World Water Forum acknowledged that meeting the water and sanitation targets is a precondition for making progress on all other Millennium Development Goals.

In the UN's 2008 MDG Report, Sha Zukang, Under-Secretary-General for Economic and Social Affairs, reported that since 1990, progress had been made and 1.6 billion people had gained access to safe drinking water. However, almost half the developing world's population still lives without improved sanitation. While the MDGs are critical in directing international efforts towards the same end goal, they have not yet brought us far enough to reach the desired targets before the 2015 deadline.

What Remedies in Sight?

Gro Harlem Brundtland, former Director General of the World Health Organization and Chair of the World Commission of Environment and Development, known as the "Brundtland Commission", observed that half of the world's hospital beds are occupied by children and adults suffering from water-related diseases. Speaking at the closing ceremony of the 5th World Water Forum, she noted: "This huge economic burden could be avoided but our progress is not promising. We need more efforts to energize policymakers and to work with all stakeholders in concerted action."

Many billions of dollars will be needed over the next six years to meet the MDG targets for safe drinking water and sanitation alone. "Financing is the key to achieving the MDGs", says Ben Braga, Director of the National Water Agency of Brazil and Vice-President of the World Water Council. "We must establish innovative financing mechanisms to allow the transfer of capital and technology from North to South," he urged. One such mechanism could be the establishment by the G8 or G20

of a global fund for water and health.

But money alone will not be enough. Political will, good governance, sound institutions and skilled labour will be needed at all levels to better health, encourage economic development, enable populations to regain human dignity, and reduce environmental impacts. Moreover, policy-making and planning must become more interlinked across health, agriculture, energy and water sectors. "We cannot



High Level Panel on Sanitation.

[continue to] think sectorally," said Pasquale Steduto, Chair of UN Water.

One way to support further achievement of the MDGs could be through the Global Framework for Action (GF4A) on water and sanitation. This initiative aims to facilitate concerted measures at national and international levels to improve national planning processes, enhance aid effectiveness, increase investments and tackle capacity constraints. It seeks to build mutual accountability between national governments and development partners to deliver results to the sector. Participants at the Forum called upon global leaders to firmly commit to the implementation of the Global Frame-

Half of the world's hospital beds are occupied by children and adults suffering from water-related diseases.

work. Critics, however, called the lack of progress on the initiative a failure of donor and developing country governments to provide the money and political will needed to move forward.

Sanitation is Lagging Behind

The 2008 International Year of Sanitation has helped to generate some progress on delivering on the sanitation target and has created further recognition of the importance of sanitation. However, at current rates of progress, the MDG water target will not be met in sub-Saharan Africa until the 22nd century! This is in many ways astounding, most remarkably because investing in sanitation makes sense. The World Health Organization estimates that a one-dollar investment in sanitation improvements can save anywhere from US\$3 to US\$34 in other expenses like medical costs, lost productivity and saved time. Yet, investment in sanitation rarely amounts to more than

0.3% of global GDP.

The Water Supply & Sanitation Collaborative Council (WSSCC) considers that the world could meet the MDG sanitation target with about US\$10 billion annually, using existing, proven approaches and technologies. To do so, however, will require a significant change in the prominence given to sanitation. According to Jon Lane, WSSCC Executive Director: “The next challenge for sanitation is for all stakeholders to work to turn sanitation from a minor, neglected, subsidy-driven, charitable activity into a major, prominent, demand-driven, vibrant market-driven human activity.”

However, sanitation is not only a

“... Sanitation [should be turned] from a minor, neglected, subsidy-driven, charitable activity into a major, prominent, demand-driven, vibrant market-driven human activity.”

Jon Lane, WSSCC



© Photo: Angela Savin

question of latrines. It is also very much a matter of urban planning, treatment facilities in mega-cities and preservation of coastal zones, as argued during the High Level Expert Panel on Sanitation. Regardless of scale, Guy Fradin, Chief Executive Officer, French Agence de l'Eau Seine-Normandie, and a Governor of the World Water Council concurs: "We must continue to make sanitation sexy to mobilize political will. To do this, we must continue to talk about the benefits of sanitation for dignity, human health and the environment," he said.

During the Forum, a special session focused on sanitation, health and dignity, and their implications for gender equity. Women and girls traditionally bear the water and sanitation burden. They are responsible for fetching and storing water and caring for family members who fall ill due to water-related diseases. This and the lack of sanitation facilities keep many girls out of school and subjects them to violence. Participants made several recommendations to improve gender equity in the water sector, including increased investment in sanitation. Also, the collection of gender disaggregated data to measure the real gender-specific impact of water and sanitation in projects and programmes would contribute to improving the situation. In addition, participants urged for greater involvement of women in decision-making roles, which would naturally result in the development of more gender-friendly national policies.

Is the glass half-full or half-empty?

"Achieving and sustaining the higher levels of water security needed to meet the MDGs will be made more difficult by the many emerging challenges," said Letitia Obeng, Chair, Global Water Partnership. "Water is too precious a resource to be left unmanaged. Its power needs to be harnessed and its

potential channelled in the right direction, supporting development objectives." While achieving the MDGs is a noble objective, some participants remarked that when reached, the MDGs will only have helped out half of those in need. "Indeed, some progress has been made on the MDGs," said Pascal Steduto. "Post-2015, at least another half of the world population will need safe drinking water and sanitation." That moment will come before we realise it. ■

"Post-2015, at least another half of the world population will need safe drinking water and sanitation."

Pasquale Steduto, UN Water.



Ben Braga, Director of the National Water Agency of Brazil and Vice-President of the World Water Council.



Guy Fradin, French Agence de l'eau Seine-Normandie and Klaus Töpfer, Forum Ambassador.

A CALL FOR ACTION

The 5th World Water Forum's political processes recognized the MDGs as a priority at every level.

- > The MDGs were explicitly mentioned in the Appeal of the Heads of States who met in Istanbul.
- > Ministers promised to "intensify our efforts to reach internationally agreed upon goals such as the MDGs." They also called for increased investments to reach the MDGs, especially in Africa.
- > Participants at the Ministerial round-table discussions on sanitation pledged to maintain the momentum generated by the International Year of Sanitation. They also committed to mobilize additional resources to address the delay in meeting the MDG sanitation target.
A strong consensus was reached that the Right to Water and Sanitation is crucial to advance a wide range of MDGs.
- > Local and regional authorities recognized the importance of making progress towards the MDG sanitation target in the Istanbul Water Consensus, where they acknowledged:
"Sanitation is equally important as water supply and needs to be given due consideration on the political agenda of local, regional and national governments."
- > Parliamentarians called for a new initiative in which 1% of the national water budgets of developed countries would be used for water and sanitation programmes to reach the MDGs in developing and under-developed countries.



**Halve, by 2015,
the proportion of the population
without sustainable access
to safe drinking water and
basic sanitation.**

-MDG7, Target 10



Session Keeping Sanitation High on the Agenda.





World Water Council

Dialogue & Debate at the
5th World Water Forum
Istanbul 2009

WEATHERING A “PERFECT STORM”

While its negative impact has been seismic, the global economic crisis has also created unprecedented opportunities for restructuring and reform, for those countries with the means and determination to seize them.

In the past, for example, the stock market crash at the beginning of the last century actually provoked greater investment in utilities such as water, since it was seen as an unmistakeable value due to its necessity. As Rahm Emanuel, US President Barack Obama's Chief of Staff, put it, "never waste a crisis."

The unfolding global financial and economic turmoil has combined with the food, energy and water crises to stir up an unprecedented "perfect storm" that is applying enormous pressure on developing economies, observed Jamal Saghir, Director of the Energy, Transport and Water Department at the World Bank, in a technical experts session focusing on the financial crisis and its

impact on the water sector during the 5th World Water Forum. "The water sector is under-funded and this could become worse," he added. "Public funding for infrastructure projects worldwide is constrained. And the water sector does not have a good track record of advocating its case with finance ministers. The situation with private investment flows is even worse."



Angel Gurria, Secretary-General of the OECD and Mehmet Simsek, Minister of Economy of Turkey.

“The water sector is under-funded and this could become worse.”

Jamal Saghir, World Bank

Spotlighting Financing at the Forum

In Istanbul, with 11 packed sessions dedicated to financing issues, a High-Level Expert Panel, a technical panel on the effects of the economic crisis on the water sector and a report released by the Organisation for Economic Co-operation and Development (OECD) on Overseas Development Assistance (ODA), financing and economic issues at the 5th World Water Forum were in the spotlight perhaps more than in any other Forum.

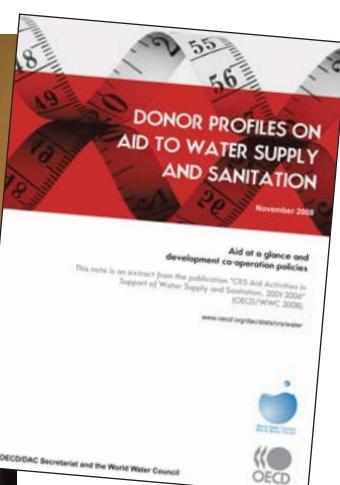
While financial resources are limited and banks and other financial institutions

are under stress, many observed, investing in water development has become even more critical, if only because the plight of those without access to water and sanitation is all the more devastating in difficult times. “During these times of financial crisis, we cannot lose sight of the fundamental economic importance of water for life and commerce,” said Julia Marton-Lefèvre, Director General of the International Union for Conservation of Nature (IUCN).

“Adequate financing is a major challenge for meeting the Millennium Development Goals (MDG) water and sanitation targets,” explained Sha Zukang, United Nations Under-Secretary-General for Economic and Social Affairs, in the High-Level Expert Panel discussion. “Yet, in the midst of the current global financial and economic crisis, it is as important as ever that we keep these priorities clearly in sight. Cutting budgets for water and sanitation would be a

“Adequate financing is a major challenge for meeting the Millennium Development Goals water and sanitation targets. Cutting budgets for water and sanitation would be a serious mistake.”

Jamal Saghir, World Bank



Launching of the ODA report.

“It is a moral imperative that we continue to provide investment in water.”

*Mehmet Simsek,
Minister of Economy of Turkey*

serious mistake. It would not only undermine the MDG progress thus far, for which water serves as a key factor to eradicate poverty, secure healthy lives and ensure environmental sustainability. It would also limit the resilience of vulnerable populations to deal with the economic downturn and its impacts.”

Indeed, representatives of the African Regional Process placed the issue of financing as one of their foremost concerns. An estimated US\$50 billion per year in investments will be needed to achieve the targets that have been set for improving access to drinking water and safe sanitation, agriculture, power generation and storage in Africa. Many developing economies are in an especially difficult position. “The poorest are the victims of the global shock,” said Katherine Sierra, Vice President for Sustainable Development at the World Bank.

The central concern is that “the severe global economic crisis which has impacted practically every country in the world has created a new and potentially devastating threat to the solutions we have been trying to put in place for so long,” warned Patrick Cairo, Executive Vice President, Strategy and Marketing, Suez Environnement North America, in another panel session. Concluded Mehmet Simsek, Minister of Economy of Turkey: “It is a moral imperative that we continue to provide investment in water.”

What Remedies?

In a few economies, water development has been recognized as a priority amid

the crisis. Angel Gurría, Secretary-General of the OECD argued in several sessions at the Forum that it is critical for countries putting together stimulus plans to include specific provisions for funding water projects. Such is the case in the EU, China, South Korea and the US, where the Obama Administration allocated over US\$10 billion of a total US\$800 billion to water-related projects at local and federal levels. Sierra agreed. “The challenge here is to get the biggest bang for the stimulus buck,” she said in the High-Level Expert Panel.

The water community must, now more than ever, keep the pressure high on political leaders who control national, regional and local budgets to increase or at least not to reduce allocations for water. Financing issues did catch the attention of political decision-makers at the 5th World Water Forum. Heads of State attending the Forum urged that the consequences of the recent economic and financial crisis be evaluated urgently. Both Ministers and Parliamentarians stressed that adequate budgets for water are essential. Ministers pledged not only to mobilize and increase resources from both public and private sources, in particular to achieve the MDGs, but also to ensure that they are used effectively. Finally, both Ministers and Local and Regional Authorities committed to promote and implement realistic, sustainable and innovative financing strategies for the water sector, recognizing that social and environmental aspects must also be part of the equation. Local and Regional Authorities went on to suggest that investment in the water sector be integrated into debt reduction operations, such as exchange of debt against water and sanitation investment. Parliamentarians also called for the establishment of a fund for development assistance, based on 1% of national water budgets.

While money might not be available tomorrow, a key task will be to keep

ongoing water infrastructure projects moving—at least through planning and preparation stages—even if they may not currently be bankable due to the crisis conditions. This will ensure that they can be initiated as soon as the crisis ebbs.

Another important priority: to increase efficiency of existing water and sanitation systems, both in investment and operations, to bring down costs. “Now is the time to look at the quality of access to water and sanitation,” urged Arjun Thapan, Director General of the Southeast Asia Department of the Asian Development Bank, during the High-Level Expert Panel. “We don’t know how long the crisis will last. In water and sanitation, we have made enormous gains in Asia in the last 6-10 years. These gains have to be sustained by focusing on governance and efficiency.” He maintained that these gains in efficiency would prove to finance ministers that the cause was a worthy investment.



Katherine Sierra, Vice President for Sustainable Development at the World Bank.

Public or Private Financing?

The public-vs-private debate remained highly charged at the 5th World Water Forum, inextricably linked to the wider political and moral argument over whether access to water is a human right and persistent worries about “commoditizing” water and the impact of putting a price on the provision of water services.

Rather than dwell on long-running disputes, Forum participants took a pragmatic approach by looking at practical steps to address the funding shortfall. Overall, Forum participants agreed that good and bad private service providers exist, as do good and bad public service providers. The right solution for a given circumstance exists somewhere along a continuum balancing the two. “In developing countries, there is now a diverse set of private actors and the debate has moved beyond ‘public vs. private’,” argued Gurría (OECD), which has extensively studied water pricing and financing. “It is now

about the conditions under which water services can be provided effectively and efficiently, whether by public, private or a combination of players.”

A recent study by the World Bank of 65 Public-Private Partnerships (PPPs) over the last 20 years indicated that in developing countries, private operators expanded coverage and increased operational efficiency. But direct investment from private sources was less than expected and the penetration of PPPs in the water sector remains low. “The debate about public versus private utility provision has matured substantially over the last decade, which was reflected in the very constructive session on public–private roles in utility service provision”, explained Paul Reiter, Executive Director of the International Water Association and a Governor of the World Water Council. “Part of this evolution in thinking is the acknowledgement that all public utilities, which make up more than 90% of



utilities worldwide, conduct their business through a combination of public and private resources. The question is therefore not a question about public versus private, akin to black or white, but rather a question of how utilities can and should optimize the mix of public and private resources in the “gray zone.”

A Bright Future Nonetheless?

Pricing can in fact be pro-poor, many participants in Istanbul maintained. When tariffs are low, Gurría noted, there is typically a heavy reliance on taxes to finance water, which is not sustainable over the long term and usually results in inefficient and poorly funded services. “We got it wrong when we talked about full cost recovery,” acknowledged Gurría in a session on pricing. “Now we say ‘sustainable cost recovery.’ Don’t put too much pressure on taxes; that’s not going to happen. Do as much as you can to cover costs with tariffs. It’s a sales job, a political job. It takes guts.”

“It was tough enough before; with a crisis, it is tougher. We have to try harder.”

Angel Gurría, OECD

Rather than having no access to water or limited access to low-quality water delivered by “sharks” that are out to gouge them, “the poor want, can and prefer to pay,” the head of the OECD concluded. “You cannot say that there is no social sensitivity in this analysis. This is about how we can make it possible for water to be available to those who don’t have it today - and how we can protect the most vulnerable.” When all the debates are over, that will be the true bottom line.



Paul Reiter, Executive Director of the International Water Association.

The sector too must stress the far-reaching benefits of investment in water development. “This crisis represents an opportunity to put more investment into the water sector and provides the cross-cutting benefits in health, education and poverty alleviation,” explained Jeremias Paul, Undersecretary of Finance of the Philippines, in a panel discussion on the economic crisis. “The key problem essentially is that people who present water projects only do so from their sectoral perspective.”

The water community has to be more politically savvy, Gurría advised. He suggests that the water sector stress how investment would provide a “double dividend”: stimulus for ailing economies and incalculable social benefits for the poorest people. “Environment ministers and water people want to seduce the finance ministers. But you also want to get the Prime Ministers in there. The question is how to tell the right story. It was tough enough before; with a crisis, it is tougher. We have to try harder.” ■





World Water Council

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THE GOVERNANCE CHALLENGE

For an entire day at the 5th World Water Forum, Victor Ruffy, a longtime member of the Swiss Federal Assembly, presided over a conference that brought together more than 260 legislators from around 60 countries to discuss critical priorities in the water sector. Asked to explain the significance of the Parliamentarians' Process, Ruffy indicated that essential points were evoked in the keynote address delivered by William Cosgrove, former president of the World Water Council and Content Coordinator of the 3rd World Water Development Report. "It was all about changing mindsets," he remarked. "This was fundamental."

Indeed, if the global priority is to address water stress and all its related challenges, such as climate change, sanitation and public health, lawmakers and government leaders have to be convinced that it is time to act. Why? Simply because they are the people who actually have the power to drive change, implement policies and enforce the rules. In his speech, Cosgrove spelled out the critical reasons why nations must put water and its access

“With increasing water shortages, good governance more than ever is essential for water management.”

Koïchiro Matsuura, UNESCO.

and management at the very top of their political agendas. Detailing the pressures of population growth and the need to provide food, health and education to the world’s poorest people, Cosgrove stressed the need for coordinated action. “Make sure that when legislation is brought to you that there is consideration of what its impact will be on water,” he advised. “When the time comes for considering budgets, make sure they reflect those priorities.”

The key to success in addressing water stress is good governance. In the statement adopted in Istanbul, Ministers committed to improve governance at the national level through the promotion of water management reform and by engaging all stakeholders in decision-making processes. They also committed to strengthen the water sector laws and regulatory frameworks, prevent corruption, and increase transparency in decision-making processes, “With increasing water shortages, good governance more than ever is essential for water management,” declared Koïchiro Matsuura, Director-General of the United Nations Educational, Scientific and Cultural Organization (UNESCO) at the 5th World Water Forum’s opening plenary session.

In their statement, Ministers also acknowledged that good water governance is a challenge because “water is a cross-cutting issue.” They vowed to communicate the urgent need for action to the highest political levels. “We must have a follow-up,” Ruffy urged. “This would make politicians more credible. If there is no follow-up, it would be catastrophic.”

Ugandan legislator David Ebong agreed. “The biggest problem in Africa today is governance,” he said at the end of the parliamentarians meeting. “The political and technical issues and priorities are clear. But without governance, it all falls apart.” The water sector and parliamentarians have to be engaged together, Ebong concluded, because legislatures provide oversight of spending and implementation. “We are the glue that brings everything together.”

To help bolster good governance in the water sector, parliamentarians at the Forum agreed to create a “Water Legislation Helpdesk” to aid legislators across the globe with the development and implementation of water and sanitation legislation. By collating data and information and identifying



Mayors' meeting.

best practices—which mechanisms or policies have succeeded and which have failed—this facility would provide valuable advice to lawmakers on how to draft legislation or improve existing rules and regulations.

In Istanbul, more than 50 local and regional authorities also demonstrated their will to lead the way when they became the pilot signatories to the non-binding yet visionary Istanbul Water Consensus. This process was launched a year earlier and was personally guided by the Mayor of Istanbul, Mayor Kadir Topbas. By agreeing to the landmark set of commitments, these cities and regions, which typically have the on-the-ground expertise in managing water and sanitation systems, grasped “a unique opportunity to give original and concrete answers to our problems,” said Loïc Fauchon, President of the World Water Council, at the start of the conference of local and regional authorities. “Municipalities will take concrete measures that concern citizens.”

That cities and regions are taking the lead in implementing a comprehensive and sustainable water agenda underscores their critical frontline position. “Local and regional governments have a special responsibility,” said Maged Abu Ramadan, Mayor of Gaza and Chair, Association of Palestinian Local Authorities, at a session that brought together parliamentarians and local and regional

authorities. “They are the level of government that is closest to the people and most responsible to their needs.” Jean-Claude Gaudin, the Mayor of Marseilles, went on to observe that cities



Michelle Vauzelle, president of the regional council of Provence-Alpes-Côte-d'Azur and Jean-Claude Gaudin, Mayor of Marseilles.

and regions “are the foremost actors in addressing the lack and unequal distribution of water.”

“Local governments are capable of playing a lead role in bringing water to people,” Stephen Kabuye, the Mayor of Entebbe, added, explaining why his city was one of the first to sign the Consensus. “Local authorities collaborating in this network cannot actively work in isolation.

They need to strengthen each other by working together. Tangible and sustainable results can be achieved through cooperation at the local and regional levels.”

Mayors, local authorities and regions “are the pillars of water governance,”

Fauchon remarked. “Nothing to do with water can be done without going through the local and regional authorities.” He continued: “Rapid urbanization and the growth of cities are increasing

“The biggest problem in Africa today is governance. The political and technical issues and priorities are clear. But without governance, it all falls apart.”

David Ebong, Ugandan legislator.



Dialogue Local Authorities and Parliamentarians.

“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.”

Istanbul Declaration of Heads of States on Water.

the demand for clean water. Certain cities are potential sanitary bombs. We should be careful that they do not explode with disease and other damage. Our cities are the battlefields where this struggle will be won or lost.”

A number of signatories of the Consensus will serve as champions or role models for others, helping to recruit new subscribers by their example. “We will talk about best practices,” explained Reinaldo Bautista, the Mayor of Baguio City, at a press conference convened by the World Water Council. “We hope to share this, especially being the first in Southeast Asia.” Walter Kling, Administration Manager of the City of Vienna, said: “We are prepared to contribute and to promote the Istanbul Water Consensus. It is really the work we will do in the next three years that will prove what a champion city is.”

Cities and regions will have to collaborate with national governments and legislators to find fresh solutions to water stress and achieve good water governance. The Heads of State gathered at the Forum recognized that “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.” A trialogue

session between Ministers, Parliamentarians and Local and Regional Authorities attempted to bridge this divide at the Forum. Likewise, the risk management discussions at the Forum stressed the need for discussion, not only among different levels of government, but between government, the scientific community and civil society.

A major challenge for all political actors at every level will be to address the problem of corruption. Water is a high-risk sector for graft, according to Transparency International. The Water Governance Facility (WGF) of the United Nations Development Programme (UNDP) estimates that corrupt practices may siphon off as much as 30% from the public water sector budgets every year, translating into a US\$48 billion loss over the next decade. In a thematic session on the issue, Håkan Tropp, Director of the WGF and Chair of the Water Integrity Network (WIN) stated that corruption is the “missing link” in water governance. “This is an area we didn’t dare touch upon in the past. If we are going to get serious we have to understand that the water crisis is a governance crisis. We must address the issues of integrity and corruption in the sector.”

Adding escalating water stress to the ruinous effects of corruption, it becomes



Jasper M. Tumuhimbise, National Coordinator of the Anti Corruption Coalition Uganda (ACCU).



Parliaments for Water Meeting.

evident that corruption has forced policymakers to a critical crossroads. “Changes within the water sector to promote water integrity will go a long way to reduce corruption, but broader changes will be needed to enable and provide incentives to stakeholders,” explained Tropp.

A major priority must be to confront the special challenges that women face in dealing with poorly run water and sanitation systems and corrupt practices. “Women are over-represented among the poor, and their capacity to pay for water, their bargaining abilities and their capacity to negotiate corrupt water systems are highly dependent on power and gender relations in their cultures,” Caroline Toroitich of SNV Netherlands Development Organisation, Kenya, and a member of the Gender and Water Alliance, explained in one thematic session. “Even if women are not asked to pay extra, they are often subjected to sexual harassment or forced to provide sexual favours,” Toroitich added. “We must increase understanding on how powers of water control and access are gendered in legal and cultural ways.”

Clearly, the water governance challenge facing policymakers and government leaders at all levels is complex and multifaceted. It is not just a matter

of legislation or regulation. While policies matter, good governance will emerge if people demand it and fight for it-and if leaders respond. “People need to be empowered,” concluded Jasper M. Tumuhimbise, National Coordinator of the Anti Corruption Coalition Uganda (ACCU). After all, “water is a right.” ■

Corrupt practices may siphon off as much as 30% from the public water sector budgets every year, translating into a US\$48 billion loss over the next decade.



Ministerial Conference - closing.





World Water Council

Dialogue & Debate at the
5th World Water Forum
Istanbul 2009

BEYOND WATER WARS: PLEDGES FOR COOPERATION

There are more than 263 transboundary river basins around the world and hundreds of transboundary aquifers on which over 3 billion people depend. At the start of the session on transboundary waters to mark World Water Day, participants watched “One Water”, the award-winning documentary that celebrates water and the many ways in which it affects people’s lives. Filmed in 15 countries around the world, the film takes the audience to places where

water is plentiful and to other areas where it is in short supply. The message was clear: everyone must confront the challenge of water stress and scarcity together if lives, especially those of the poorest, are to be saved.

International solidarity is one of the most important ways of addressing the global water crisis. Cooperation must be comprehensive and coordinated. “Water cuts across all spheres of human life,” explained Koichiro

Matsuura, Director-General of the United Nations Educational, Scientific and Cultural Organization (UNESCO), in the opening plenary session, which was attended by several government leaders and senior representatives of international organizations. “It is only through an integrated approach involving all stakeholders across all sectors and disciplines—not just science, but also education, culture and communication—that we will find the solutions to the many water problems we face. The increasing worldwide pressures on

water in this time of unprecedented change demand a global response.”

Collaboration and solidarity must be the governing principles of all efforts to address the water challenge, agreed András Szöllösi-Nagy, Director of UNESCO’s Division of Water and Secretary of the International Hydrological Programme, speaking in a concluding thematic session. While this may be widely accepted, there are numerous obstacles to putting this ideal into practice, he observed. Among the impediments: lingering historical enmities and differences, financial limitations, the lack of technical and institutional capacity, and the absence of political will.



Yoshirō Mori, former Prime Minister of Japan and President of the APWF.

There are more than 263 transboundary river basins around the world and hundreds of transboundary aquifers on which over 3 billion people depend.

However, the Heads of State attending the 5th World Water Forum specifically reaffirmed their 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 neighbors.” The Ministers, likewise, committed to taking “concrete and tangible steps to improve and promote cooperation on sustainable use and protection of transboundary water resources”, including sharing data and implementing instruments for improved management.

The overarching theme of the 5th World Water Forum was “Bridging Divides for Water”, a clear call for the water community and all stakeholders to come together to take action. The consensus expected among participants in Istanbul was that cooperation and transboundary solutions were essential, but results fell somewhat short of expectations. Moreover, new challenges appeared. In discussions, it was evident that the recent food and energy crises have exacerbated tensions between the hydroelectric and agricultural sectors, the economic impacts of which created an even greater schism between upstream and downstream users.

However, progress has been made on transboundary cooperation during the 4th and 5th World Water Fora, in that many official statements and representatives of the global water users community have recognized the need for increased cooperation and have supported efforts through programs such as UNESCO’s “From Potential Conflict to Cooperation Potentail”, the US Agricultural Resources Model, the International Network of Basin Organisations’ Associated Programme, Twinbasin, and the European Water

Initiative. Despite the support lent by these programmes at the global scale, policy statements have not been converted into actions on the ground. For example, the 1997 UN Convention on non-navigation uses of waterways has still not obtained enough support for its ratification, including from leading G8 member states,

although France did announce its pledge to ratify the treaty at the 5th World Water Forum.

Sibylle Vermont, Vice Chair of the United Nations Economic Commission for Europe’s Convention on the Protection and Use of Transboundary Watercourses and international Lakes noted that the 1997 UN Convention fosters cooperation because it obliges signatories to enter into bilateral and multilateral negotiations and establish joint bodies.



José Luis Luege Tamargo, Director General of Mexico’s National Water Commission.

The result of these discussions emphasized the need to move more towards actions through the implementation of policies. Participants also agreed that international law could be reinforced by developing together practical positions and definitions of responsibilities, criteria, obligations and cost-sharing strategies. It was felt that future actions must:

- *Recognize that the onset of global changes will require adaptive strategies to be put in place;*
- *Promote the strengthening and reproduction of existing cooperation and basin organizations and build their capacities;*
- *Encourage the flexibility of legal and institutional frameworks both at the global and regional level in order to deal with changes and*
- *Increase education and training on basin management and transboundary cooperation.*

At the Forum, participants identified priority regions that urgently require improvements in transboundary management mechanisms. These include the Nile River Basin, which is shared among 10 African countries; the Jordan River; the Aral Sea basin; the Senegal River; and the Juba and Shabelle Rivers between Somalia and Ethiopia. In many cases, though the nations involved may not be at war, distrust or conflict has prevented cooperation over shared water resources.



András Szöllősi-Nagy, Director of UNESCO's Division of Water and Secretary of the International Hydrological Programme.

Water should be an instrument of peace—a means to achieve human security rather than a source of discord. Water professionals thus have a responsibility to be promoters and leaders of the transformation of transboundary waters into zones of peace. The development of regional basin information and monitoring systems, in addition to training, public participation and awareness-raising activities, are just a few tools available to them to turn this goal into reality. ■

Water should be an instrument of peace - a means to achieve human security rather than a source of discord.



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World Water Council

Dialogue & Debate at the
5th World Water Forum
Istanbul 2009



THE RIGHT DEBATE

“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.”

Ministerial Statement, 5th World Water Forum, Istanbul, 2009.

The ministerial statement issued at the 5th World Water Forum and the vigorous debate that it produced form a step forward in forging a global consensus on the right to water and sanitation. Many Forum participants, however, were disappointed that the ministerial statement issued in Istanbul did not explicitly recognize the right to water and sanitation. “The ministerial declaration seems to go back in time and go back on commitments on the right of water,” argued Sara Ahmed, Chairperson of the Gender and Water Alliance, in a statement at the closing plenary. “It is the role of governments to protect their people and those most at risk. Many countries have enshrined the right [to water] in their constitutions and we commend them for doing so. But the human right to water has been less well implemented. The right to water and sanitation is a fundamental human right.”

The main debate, however, actually concerned the distinction between water as a human right or as a social and economic right, the latter concept already widely accepted by a majority of countries. As a result, many officials preferred to defer taking a definitive position on the matter until the UN Committee on Human Rights produces its commissioned report, thoroughly evaluating all the implications involved. Indeed, the UN Human Rights Council last year adopted by consensus a resolution sponsored by Germany, Spain and more than 40 other nations calling for the appointment of an independent expert on human rights obligations related to the access to safe drinking water and sanitation.

The debates in Istanbul underscored that more and more people are recognizing the moral imperative of providing access to water and sanitation to everyone. “The right to water is an essential element of human dignity,” Loïc Fauchon, President of the World Water Council, repeated on several

occasions during the Forum. “Dignity is not negotiable.” In his address at the opening ceremony, Abdullah Gül, the President of Turkey, declared that “water is the most fundamental element and is essential to our survival. Without water, we cannot fight poverty, hunger

or disease. Water does not only mean life; it means civilization.” Jean-Louis Borloo, the French Minister for Ecology, Energy and Sustainable Development, stated plainly during a ministerial roundtable: “Water is the right to life.”



Sara Ahmed, Chairperson of the Gender and Water Alliance.



Loïc Fauchon, President of the World Water Council.



Abdullah Gül, the President of Turkey.



Jean-Louis Borloo, the French Minister for Ecology, Energy and Sustainable Development.

“The right to water is an essential element of human dignity. Dignity is not negotiable.”

Loïc Fauchon, World Water Council.

The concept of the right to water - what it includes, what it doesn’t include - was initially elaborated in a report released at the 4th World Water Forum, following extensive stakeholder consultations (*Right to Water: From Concept to Implementation*, World Water Council 2006). This document enabled further awareness-raising among political decision-makers. But it was just the beginning. Discussions at the 5th Forum went beyond the

“Water is the most fundamental element and is essential to our survival... Water does not only mean life; it means civilization.”

President Abdullah Gül, Turkey.



Virginia Roaf, Researcher and Consultant at the Centre on Housing Rights and Evictions.

preliminary dialogue to emphasize the need for implementation and the right to sanitation.

Building upon its debut at the 4th World Water Forum in Mexico, As Virginia Roaf, Researcher and Consultant at the Centre on Housing Rights and Evictions, pointed out in a panel session, maintained that the 5th World Water Forum was “the first time the right to water and sanitation has had

such significant time dedicated to it.” She also noted that more than 30 countries already recognize the right to water and sanitation—some, like Uruguay, in their constitutions—and many international conventions and resolutions make reference to the right to access. In addition, some governments, like France in 2006, have enshrined the right to water and sanitation in their national legislation, accompanied by tariff measures to ease the burden on poorer households.

The growing international consensus was evident in both the ministerial and parliamentary sessions when, country by country, government representatives and legislators delivered often impassioned statements declaring their support for recognizing the access to water as a basic human right. Political leaders from the Americas were among those who most actively argued the point. Renee Orellana, Bolivia’s Minister of Water and the Environment, was one of the more strenuous supporters. Meanwhile, José Luis Genta, the Director for National Water and Sanitation in Uruguay’s Ministry of Housing, Land Planning and Environment, proposed the drafting of a global water pact and strongly supported the principle that water is a public good.

If the Ministerial Statement fell short of expectations, the Ministerial round-table discussions came a long way in addressing the issue. There were strong views among ministers that the right to water was not adequately considered in the Ministerial Statement of the 5th World Water Forum and that General Comment No. 15 of the UN Committee on Economic, Social and Cultural

Rights should take precedence.

In addition, a majority of participants recognized the access to water as a human right and expressed commitment to all necessary actions for the progressive implementation of it. They also acknowledged that the Right to Water and Sanitation is crucial for advancing the MDGs.

Consider, too, the significance of the parliamentarians’ declaration that the “Right to water and sanitation should be recognized as a human right.” Or moreover, the Istanbul Water Consensus, signed by over 60 local and regional elected representatives during the Forum. The champion cities and regions that supported the document acknowledged 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.” Signatories also asserted that “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.”

Indeed, while the right-to-water debate remained vigorous, participants in Istanbul generally adopted a more pragmatic or practical approach. Especially in view of the current dire global economic conditions, it is critically important not to let any divisions over words impede real action in addressing the immediate priority of providing water and sanitation to the over 1 billion people in the world currently lacking access. Stakeholders involved in the Forum’s “governance” theme concluded that legislation in itself is not sufficient. Implementation is, in fact, the key to making a difference and should be the focus of attention.

“Access to good quality water and sanitation is a basic right for all human beings.”

Istanbul Water Consensus for Local and Regional Authorities.

The water community should concentrate on the priorities at hand, Ania Grobicki, Executive Secretary of the Global Water Partnership, advised at one thematic session. “We need to focus on institutional change and institution building, policy change, and the regulatory frameworks that need to be put in place.”

“Proponents of the right to water,” said Natalie Erard, a Swiss Foreign Ministry human rights specialist, “should ask ourselves what we can bring back home to turn reflection into action. We need sound mechanisms to implement this right. We need good governance and frameworks so we can use the best practices of stakeholders. It may seem like it will take a long time, but we are moving step by step. We need to be very practical and innovative in using all the tools that we have.” ■



Ministerial Conference.

FROM MEXICO CITY TO ISTANBUL: PROGRESS ON THE

> September 2006:

The Summit of the Non-Aligned Movement in Havana, attended by ministers from 116 developing countries officially supports the right to water approach.

> November 2006:

At the First Summit of Africa-South America held in Abuja (Nigeria), the Heads of State declare “We shall promote the right of our citizens to have access to clean and safe water and sanitation within our respective jurisdictions.”

> November 2006:

The UK officially recognizes the human right to water.

> December 2006:

The French Parliament votes a law stating that “each individual has the right of access to safe water for drinking and personal hygiene in conditions that are economically acceptable to all.” (Law on water and aquatic environments).

> March 2007:

In a speech given by Dutch Minister for Development Cooperation on the occasion of World Water Day, the Netherlands recognizes the human right to water.



RIGHT TO WATER

> December 2007:

In the Beppu Declaration, the representatives of 36 States of the Asia-Pacific region state that they recognize "the people's right to safe drinking water and basic sanitation as a basic human right and a fundamental aspect of dignity."

> March 2008:

The UN Council on Human Rights adopts a resolution requesting a new study on the implementation of right to drinking water and sanitation. This resolution was supported by 47 countries.

> October 2008:

Ecuador's new Constitution includes the right to water and sanitation.

> November 2008:

The UN Council on Human Rights appoints Mrs. Catarina de Albuquerque as the Independent Expert on human rights.

> November 2008:

The eight SACOSAN member States (India, Afghanistan, Bangladesh, Bhutan, Maldives, Nepal, Pakistan and Sri Lanka) reaffirm the right to water and sanitation in the Delhi Declaration.

> January 2009:

The new Bolivian Constitution, adopted by popular referendum, explicitly guarantees the right to water and sanitation.

"We need sound mechanisms to implement this right."

*Natalie Erard,
Swiss Foreign Ministry*



JULY - SEPTEMBER, 1989

Aral Sea.



OCTOBER 5, 2008



UNLOCKING THE DATA TREASURE CHEST

Reliable weather and water data provides a backbone to any water management decision, whether it is to open or close sluice gates or to switch on the sprinklers. Despite the importance of dependable data, the past decades have witnessed a global decline in the coverage and reliability of systems for collecting *in situ* hydrological data. At the same time, it has become clear

that for data to be even more valuable, institutions need to cooperate and coordinate their activities so that data and information can be turned into services that can help users. To do so requires a common integrated data and information system that includes indicators, statistics and accounts. How can such a system be created and maintained?



Wrap Up Session Theme 6 - Richard Meganck, Lidia Brito & Kalanithy Vairavamoorthy.

“In today’s globalized world, everyone is either upstream or downstream of everyone else, and we are all suffering from a lack of data. Where there is a lack of data, there are local and global consequences.”

Arthur Askew, President of the International Association of Hydrological Sciences.

During the 5th World Water Forum, speakers and participants zoomed in on this issue and asked themselves: How can we unlock the data treasure chest? Data addressing any aspect of freshwater are of great potential value and should be collected and stored with great care--as if in a treasure chest. But today, the treasure chest is only partially filled because of the difficulty of obtaining the needed data. Furthermore, the treasure chest is often locked because of data ownership issues, the cost of collecting or accessing data, and in some cases because of sensitive national security or sovereignty issues.

The aim of including this topic on the Forum’s agenda for the first time was to raise awareness of the importance of having an adequate database for effective management and decision making, to build common understanding,

trigger cooperation, encourage improved practices, and foster political commitment.

“In today’s globalized world, everyone is either upstream or downstream of everyone else, and we are all suffering from a lack of data,” explained Arthur Askew, current President of the International Association of Hydrological Sciences, and a Governor of the World Water Council. “Where there is a lack of data, there are local and global consequences.”

Referring to data as “the poor cousin” in the water sector, Askew sounded a note of optimism. There is growing recognition that investment in the collection, analysis and storage of water-related data is more important today than ever before, as many regions of the world are facing water shortages or increased potential for droughts and floods brought on by climate change.

András Szöllösi-Nagy, Director of the Division of Water and Secretary of

UNESCO's International Hydrological Programme (IHP) and a Governor of the World Water Council, noted that today, we have 30% less data about Africa's hydrology than we did 20 years ago. At the same time, "from data to knowledge and wisdom is a long road", he noted. "No sustainable decisions can be made without data."

For example, in the High Level Panel that explored the nexus between water, energy and food, several participants agreed that it is important to work with farmers on achieving more efficient water management. However, successful collaboration will depend on getting better flows of data in real time. Similarly, the High Level Expert Panel on Water and Disasters stressed the importance of data and transparent data-sharing in optimizing the effectiveness of early-warning systems, thus, saving more lives.

Ricardo Martínez of the National Water Commission of Mexico commented that every day, decisions are being made with less and less data. Martínez noted that more resources should be allocated to the local level where the data has to be collected. He called for a paradigm shift in this regard and pointed to the critical lack of integration across levels of data collection and use.

"We need an integrated framework if we are to have a holistic approach towards [transforming] data into information. This should also include information about economic variables," Martínez recommended. "We need to build bridges between the water sector and the economic, social and environment sectors."

In a report¹ launched at the 5th World Water Forum, IBM drew attention to today's data drought, noting that "every aspect of the hydrological cycle is in critical need of purposeful data collection and analysis. Until that goal is achieved, management of fresh and oceanic water systems

will continue to be inefficient and uncoordinated."

The IBM report quoted Water Resource Management Expert Doug Miell: "You can't manage what you can't measure. We need all kinds of data collection, including real time, because it is a lack of credible, available and viable data that is holding us back."

However, there are still many barriers to data availability to overcome, especially recognition from decision makers that data collection is important enough to be supported institutionally and through adequate funding. Despite growing acceptance of the importance of accurate, reliable water-related data as the bedrock of informed decision making, funding is typically poorly recognized in national budgets. Askew pointed to a common false belief that spending money on long-term collection of water data is unnecessary.

"We need 20 to 30 years of data before we understand the basic nature of a body of water; but the hydrological regime is changing and nothing is stable, so we cannot stop measuring," he said. "We need long records if we are going to make good estimates of the future probability of floods or drought." Investing in water records can, thus, truly contribute to maintaining the data treasure chest, helping to address directly future water challenges.

■

"Every aspect of the hydrological cycle is in critical need of purposeful data collection and analysis. Until that goal is achieved, management of fresh and oceanic water systems will continue to be inefficient and uncoordinated".

A Global Innovation Outlook Report: Water, IBM.



¹ *A Global Innovation Outlook Report: Water, 16 March 2009,* www.ibm.com/imb/gio/water.html

POLITICAL COMMITMENTS ON DATA

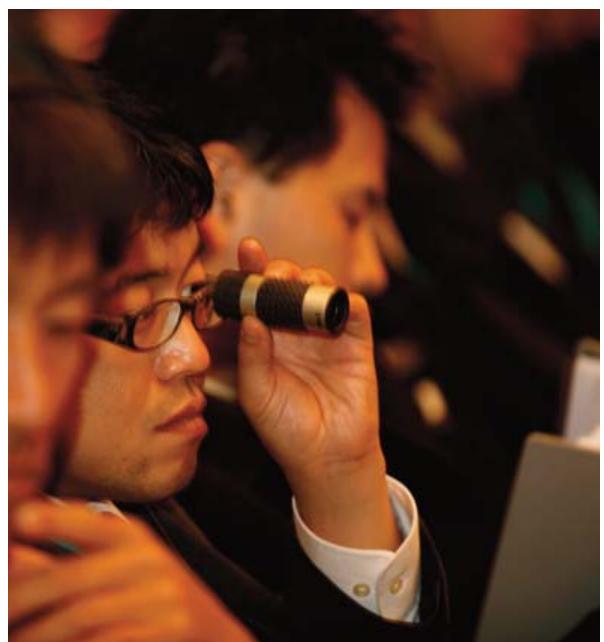
- > The Istanbul Water Guide, annexed to the Ministerial Statement, recognized the need to invest in data. “The collection, analysis and compatibility of critical data and information should not be regarded as an expenditure, but as a creditable investment, often financed by taxpayers, with high-quality returns.”
- > Ministers also called on the international development partner community to support projects to improve data collection, which they recognized as “the foundation of all Integrated Water Resource Management processes.” They also recognized the need to:
 - Monitor and assess data to identify trends;
 - Promote international and interstate data exchange and cooperation between countries, and;
 - Strengthen the use of data in decision making.
- > Parliamentarians who gathered at the Forum also recognized the importance of access and sharing of data, calling for the World Water Council to create a permanent international parliamentary helpdesk to facilitate political cooperation on water legislation and its implementation, based on sound knowledge. Data collection, management and sharing are critical to monitor progress in this area.

TECHNOLOGY OFFERS INNOVATIVE SOLUTIONS FOR THE 21ST CENTURY

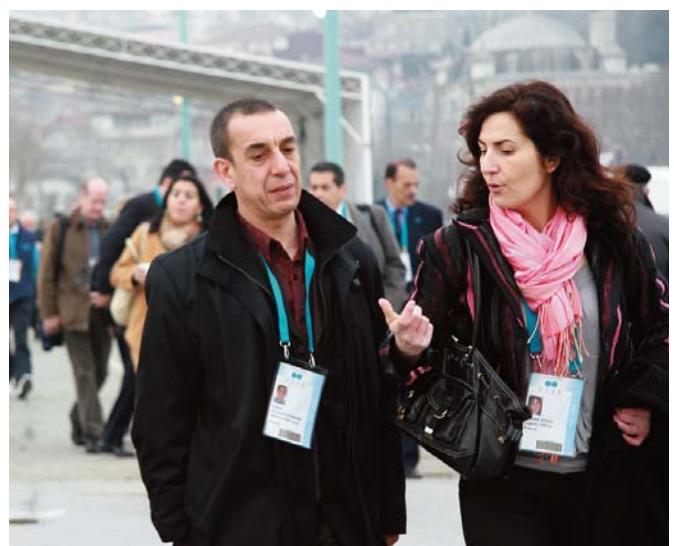
- > Computers could help monitor water, such as installing smart meters to limit lawn watering to evening hours, or using sensors to detect leaks in pipes. Software solutions already exist to help us fully understand a resource such as a river basin by visualizing, interpreting and analyzing a wide range of data in a single representation known as a single earth model.
- > In discussing how science and innovation can help address future water issues, particularly in developing countries, Kalanithy Vairavamoorthy, Chair of Water Engineering, University of Birmingham and Chair, UNESCO IHE Institute for Water Education, said new technologies could help data-scarce countries.
- > “By embracing new developments in technology, we will be able to generate optimal water management solutions and strategies that are robust, adaptable and sustainable under future global change pressures,” he said. “We need more imaginative and powerful ways to harness the potential of technology. For example, in developing countries, using SMS to text local data could help [unlock] the data treasure chest.”
- > In fact, the data treasure chest is already being unlocked. Google Earth’s Integrated Water Model will create a community space for people to post data about issues such as local pollution and water quality. “People will do the groundwork and post a pin on a Google map,” explained Vairavamoorthy. “This will inform decision making by investors, for example. It will also force water companies to become more transparent. Water losses and leakages will be exposed, resulting in pressure from the general public to operate a better system.”







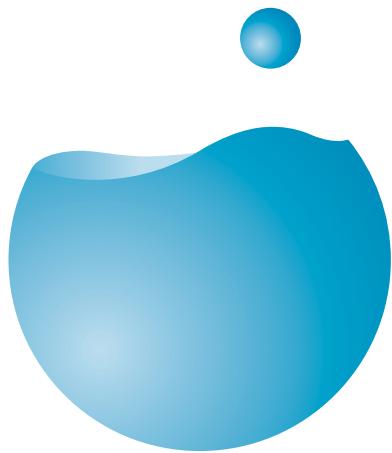












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