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Water Forum



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During the opening of the Ministerial Conference, children from around the world voiced a Call for Action on water, sanitation and education

4TH WORLD WATER FORUM HIGHLIGHTS: TUESDAY, 21 MARCH 2006

On Tuesday, participants at the 4th World Water Forum addressed the theme of “Risk Management” in plenary and thematic sessions, heard a keynote address by Mario Molina, 1995 Chemistry Nobel Prize Laureate, and focused on the Asia-Pacific region. The Ministerial Conference convened in parallel with the Forum, with ministers and high-level officials from some 140 countries gathering in both closed and open sessions.

REGIONAL PRESENTATION

Cristóbal Jaime Jáquez, Director General of Mexico’s National Water Commission (CONAGUA), opened the Asia-Pacific regional presentation.

Noting that Asia is home to 60 percent of the world’s population and covers a vast area, Ryutaro Hashimoto, former Prime Minister of Japan and President of the 3rd Forum, said the region’s diversity has been an asset, rather than an obstacle, to finding solutions to water problems. He officially launched the Asia-Pacific Water Forum, established by ministers from the Asia-Pacific region.

Kim Huk Su, Executive Secretary of the Economic and Social Commission for Asia and the Pacific (UNESCAP), welcomed the establishment of the Asia-Pacific Water Forum, and highlighted UNESCAP’s two areas of priority action in the region: integrated water resources management (IWRM) and risk management. He stressed that Asia is the world’s most disaster-prone area, where 91 percent of all deaths resulting from natural disasters have taken place over the past century.

Geert van der Linden, Vice-President, Asian Development Bank (ADB), said water resources in Asia are increasingly better managed, noting that many countries have developed national water management strategies. He cited several ADB-funded

initiatives such as the establishment of the “Water for the Poor” Action Programme, Network of the Asian Water Basin Organizations and the Gender Water Partnership. Van der Linden also indicated that the ADB will double its water and sanitation investments by 2010. Emphasizing that “business as usual” will not achieve the Millennium Development Goals (MDGs), he stressed the need to focus on financing, reform and capacity building.

Datuk Keizrul Bin Abdullah, Global Water Partnership (GWP), presented on the Asia-Pacific Water Forum Initiative, identifying its three priorities: increasing investment in water and sanitation; reducing the vulnerability of human populations to water-related natural disasters; and conserving and restoring the land-water interface for improving water productivity.

Hafiz Uddin Ahmed, Bangladesh’s Minister of Water Resources, said the Asia-Pacific Forum should strive not only to achieve the MDGs, but should also provide 100 percent safe water access and sanitation coverage in the region and reduce the vulnerability of people to water-related disasters.

Abdulkhohir Nazirov, Tajikistan’s Minister of Land Reclamation and Water Resources, expressed delight that the UN has taken up the initiative of Tajik President Emomali Rahmonov, presented at the 3rd Forum, to launch the UN International “Water for Life” Decade (2005-2015). He reiterated Central



Kim Huk Su, Executive Secretary,
UNESCAP

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Asia's commitment to strengthening water cooperation in the region for the achievement of the MDGs.

Kay Kalim Kumaras, Ministry of Environment and Conservation of Papua New Guinea, delivered a message on behalf of Pacific Island participants at the 4th Forum, noting progress in water management and governance in the Pacific, and highlighted regional initiatives endorsed at the ministerial level such as the Pacific Islands Action Plan for Sustainable Water Management and the Joint Programme of Action on Water and Climate.

KEYNOTE ADDRESS

Mario Molina, 1995 Chemistry Nobel Prize Laureate, addressed the inter-relationship between global warming and the water cycle. Characterizing our atmosphere's relative thickness to that of an apple skin relative to an apple, he said the amount of available air is limited, and stressed that mankind can indeed impact it negatively.

Describing the greenhouse effect, Molina explained that the atmosphere retains some of the sun's energy that is radiated by the earth, acting as a blanket. He said natural levels of water vapor and carbon dioxide have always acted as greenhouse gases, which has been crucial to the evolution of life on earth, noting that without this natural greenhouse effect, the earth would be 33 degrees Celsius colder.

Molina highlighted that atmospheric levels of carbon dioxide have risen dramatically over the past century due to the use of fossil fuels. Levels of methane and nitrous oxide show a similar increase, resulting from land-use changes and agricultural intensification. He said these trends show a striking correlation with the observed rise in temperature, emphasizing that 2005 was the warmest year in the past 100 years. Noting that this correlation is not necessarily causal, he highlighted studies by the Intergovernmental Panel on Climate Change (IPCC). He said the IPCC's Third Assessment Report presented new and strong evidence that the warming observed in the past 50 years is attributable to human activities.

Molina underscored the dramatic impacts of climate change on the water cycle, noting feedback mechanisms that will stimulate temperature increase, including through a decreased reflection of solar energy due to the melting of glaciers, and increased cloud cover that will exacerbate the greenhouse effect. Noting that the complex relationships in the water cycle are still poorly understood, he predicted that the water cycle will intensify,



Mario Molina, 1995 Chemistry Nobel Prize Laureate

causing extreme weather events such as hurricanes and increasing the frequency and severity of droughts and floods.

Arguing that it is up to governments to take action, he said scientists' role is to provide the necessary scientific information. He suggested that precautions should be taken based on probability scenarios. Highlighting the significant probability that if no action is taken, the average temperature will have risen by eight degrees Celsius by 2100, he identified this as an intolerable risk. He said increasing temperatures pose a threat to ecosystems and human health, including through the increased impact of air pollution. Molina called for a culture of change with respect to energy and water management, which he said is only possible if all stakeholders commit to increased cooperation.

INTRODUCTION TO THE FRAMEWORK THEME

WMO PRESENTATION: Michel Jarraud, Secretary-General of the UN World Meteorological Organization (WMO), noted that most natural disasters are meteorologically induced and emphasized the importance of risk management that focuses on preparedness rather than response. Jarraud said developing countries must address the challenges of installing warning systems, proposing that relief funds be funneled toward preparatory and relief measures in the most vulnerable areas.

USACE PRESENTATION: Carl Strock, Commander of the US Army Corps of Engineers (USACE), highlighted recent disasters including the Indian Ocean Tsunami and Hurricane Katrina, saying they reinforced the notion of a global community. He emphasized that all countries can be affected and said that lessons learned can be applied globally.

He addressed collaboration with the US Department of Defense, Federal Emergency Management Agency, National Oceanic and Atmospheric Administration, as well as internationally, stressing the importance of teamwork and partnerships. He described collaborative contributions such as fixing New Orleans' levy breaches, as well as contributions by the USACE, including temporary housing and debris removal.

Noting that the structure of the USACE helped to ensure a swift response, Strock addressed lessons learned, including the unsuccessful aspects of the relief effort, such as ineffective communication among federal, state, and local authorities. He stressed the need for: a national digital database that highlights risk areas; pre-positioned response experts outside the impact area; a holistic and integrated response; and better communication of the risks to the population in order to provide best control and protection.



Carl Strock, Commander of the US Army Corps of Engineers

THEMATIC SESSIONS

GLOBAL CLIMATE CHANGE AND URBAN FLOOD

MITIGATION: Miguel Guevara, Mexico's Secretariat for the Environment and Natural Resources, introduced the session on partnership building at the community level.

Showcasing a film on the benefits of a project on constructing sand dams in Kenya, Jeroen Aerts, Free University of Amsterdam, explained that this local project is community-based, participative, and integrates climate change concerns.

Dolores Hipolito, Philippines' Department of Public Works and Highways, presented on non-structural disaster prevention measures in Camiguin, Philippines. She explained that community participation in disaster prevention measures ensures peoples' awareness, acceptance and mobilization.

Guevara introduced members of Consultative Councils for Sustainable Development, comprised of civil society representatives that meet to advance solutions for environmental problems. Members speaking on behalf of academic, social, business, and non-governmental sectors highlighted various environmental concerns in each of the five Mexican ecological regions, and stressed the importance of civil society's participation in policy-making.

Guevara then introduced representatives from academic institutions within the Consultative Councils to describe their views on ecological management. The six panelists discussed, *inter alia*: challenges of maintaining continuity within water policy; pollution and overexploitation of groundwater; and the need to strengthen environmental policy and analyze environmental problems at the local scale.

Ricardo Troncoso-Gaytá, University of Baja California, presented on the analysis and foresight of climatic scenarios on the Pacific side of Baja California. He described various phenomena affecting climatic scenarios in the region such as El Niño and tropical deforestation.

Mikio Ishiwatari, Japanese International Cooperation Agency, cited response to the Kobe earthquake as an example of community-based disaster management in

Japan, which showed that the local community is best suited for protecting its members from natural disasters.

Rocío Córdoba, IUCN, stressed the importance of mobilizing vulnerable local communities and of short-, medium- and long-term hydrological participative planning.

Antonio Díaz de León, Mexico's Ministry of Environment and Natural Resources, urged the Mexican federal government to be more open to learning from local communities.

In the ensuing discussion, participants inquired, *inter alia*, about cooperation between and scope of Sustainable Development Consultative Councils and Watershed Councils as well as the extent of indigenous participation.



Ricardo Troncoso-Gaytá, University of Baja California

HURRICANE KATRINA AND OTHER MAJOR WATER-RELATED DISASTERS: Lessons learned for managing risk:

Chair Jerome Delli Priscoli, USACE, introduced the session.

Melanie Schultz van Haegen, the Netherlands Vice-Minister of Transport, Public Works and Water Management, highlighted the country's 800 years of experience in risk management. Noting that 60 percent of the Netherlands lies beneath sea level and recalling a disastrous flood in 1953, she described the Delta Works, a large system of dams with movable storm surge barriers, and the new national policy that allows rivers to flood periodically. She further highlighted: major public awareness campaigns; technological solutions such as floating homes and greenhouses; international partnerships; and the need for citizens' involvement. Noting that flood management is a never-ending challenge without an ideal solution, she encouraged international cooperation.

Hideaki Oda, Japan Water Forum (JWF), said the number of people affected by floods is increasing rapidly due to climate change combined with population growth and urbanization. Noting that risks are often predictable, he favored early warning systems and public awareness rather than making excessive investments.

Addressing lessons learned in the aftermath of Hurricane Katrina, Steven Stockton, USACE, described severe damage to the City of New Orleans, US, which totaled US\$ 100 billion, displaced 1.5 million people, and took 1420 lives. He highlighted rehabilitation efforts in the city, including water drainage, and detailed the extended struggle in bringing about a hurricane protection system. He further noted: that Hurricane Katrina exceeded the system design standard; flaws in its design; and the loss of coastal wetlands that could have mitigated impact. Stockton called for "forensic engineering" to analyze the faults in the system, prioritization, and planning ahead. He stressed the critical role of protection systems, IWRM, citizen participation and better communication, and highlighted activities including armoring of levies and coastal wetland restoration.

During a panel discussion, Suresh Yavalkar, International Strategy for Disaster Reduction, described local action in response to the 2004 Indian Ocean Tsunami. Stressing the importance of preparedness and mitigation plans, he called for increased planning, education and information dissemination. Underscoring the important role of NGOs, he noted a tsunami resource center established by his organization with international support.

François Guerquin, Marseille Water Supply Company, said people cannot prepare themselves for all disasters. He described his company's efforts to provide services during humanitarian



Melanie Schultz van Haegen, Vice-Minister of Transport, Public Works and Water Management, Netherlands

crises and described its contribution to rehabilitation activities in Sri Lanka following the Indian Ocean Tsunami.

SUSTAINABILITY OF WATER AND SANITATION SERVICES IN THE CONTEXT OF DISASTER RISK REDUCTION: A contribution towards the implementation of the Hyogo Framework for Action 2005-2015:

Session Chair Sálvano Briceño, Director of the UN International Strategy for Disaster Reduction Inter-Agency Secretariat, introduced the “Hyogo Framework for Action: 2005-2015,” adopted at the 2005 World Conference on Disaster Reduction to help countries develop strategies for natural disaster risk management.



Sálvano Briceño, Director of the UN International Strategy for Disaster Reduction Inter-Agency Secretariat

Hans Spruijt, UNICEF, presented on disaster relief in Ethiopia. Noting that Ethiopia receives the world’s highest level of per capita emergency relief and the lowest level of per capita development aid, he emphasized the need to shift from emergency relief approaches to developmental approaches in disaster-prone regions.

Alain Meyssonier, Director of the Marseille Water Supply Company, discussed risk analysis in the urban area of Marseille, France. Citing seismic risk and radioactive contamination of groundwater among prioritized risks, he highlighted rehabilitation of infrastructure and development of increased groundwater pumping capacity as risk reduction strategies.

Andrés Ruíz Morcillo, Director General, Commission for Drinking Water and Sewerage of Quintana Roo, presented on the disaster response to Hurricane Wilma in Cancun, Mexico, in 2005, noting that preparedness is essential since communications are often disabled during a hurricane.

In the ensuing panel discussion, Jean Luc Poncelet, Pan American Health Organization (PAHO), stressed the need for the global community to address prevention of emergency situations and called for political and financial mobilization, including at the 4th Forum.

Marcos Diaz, International Federation of the Red Cross and Red Crescent Societies, stressed the need to make local communities part of preparedness and relief actions.

Jocelyn Lance, European Commission, noted the need for: a minimum level of water and sanitation services during emergencies; cross-sectoral coordination; economic sustainability of environmental investments; review of regulatory frameworks; and new standards in the face of increasingly frequent disasters.

François Brikke, World Bank, elaborated on emergency preparedness, highlighting: education and training; the difference between disaster alert and action systems; and leadership in all sectors.

Participants further addressed: sanitation systems to improve the situation in the case of floods; the role of the private sector in disaster relief and mitigation; promotion of new water and disaster preparedness cultures; and coordination at the international level, including in the UN system.

GROUNDWATER AND RISK MANAGEMENT: Coping with water scarcity, climate change and emergency situations:

Koïchiro Matsuura, Director-General of UNESCO, noted that although 96 percent of all unfrozen freshwater on Earth is groundwater, it tends to be undervalued and its dynamics poorly understood.

Jabu Sindane, Director-General of South Africa’s Department of Water Affairs and Forestry, stated that groundwater can be a cost-effective and reliable source of water that can help meet the needs of the poor, especially women.

Ebele Okeke, Nigeria’s State Secretary of Water Resources, highlighted the outcomes of the meeting “Water Security and Hydrological Extremes: Towards Sustainable Development in Africa” held in Nigeria in February 2006.

Jac van der Gun, UNESCO International Groundwater Resources Assessment Centre, noted that groundwater serves many functions that are now at risk due to human pressures, climate change and disasters. He emphasized the need to identify risks and develop and implement risk management strategies and monitoring systems.

Presenting on local actions, Jeroen Aerts, Free University of Amsterdam, highlighted the positive impacts of a project in eastern Kenya in which more than 450 sand dams have been built with community members since 1995 to store water and mitigate drought.

Hu SungGi, World Economic Forum – Japan, highlighted that reinforcement of embankments, construction of dams and artificial ponds and increasing land absorption capacity are strategies that have been used to reduce the impact of extreme events in Japan, including typhoons.

Bhanu Neupane, UNESCO, described a UNESCO project that assesses the effects of the Indian Ocean Tsunami on coastal groundwater along the southeastern coast of India and evaluates solutions to deal with similar situations in the future. The project’s findings to date show, *inter alia*, that: the Tsunami has had significant impacts on coastal aquifers; reverse hydraulic gradients have resulted in seawater intrusion; and debris deposited on the soil surface has induced percolation of contaminants.



Bhanu Neupane, UNESCO

Jan Šilar, Charles University of Prague, presented on a hydrogeological study in the Czech Republic, which found that groundwater with a long residence time and in deep basins can be tapped during emergency situations for safe drinking water.

In the ensuing discussion, participants agreed on: the need for better data and understanding of groundwater dynamics; the potential of groundwater to provide a safe water source in emergency situations; and the need to understand the relationship between surface and groundwater, in particular the spread of contamination between the two.

FLOOD MANAGEMENT: Wang Shucheng, China's

Minister of Water Resources, gave a keynote address on the Chinese management strategy to prevent flooding. Stating that flood management is a long-term challenge, he stressed the need for implementation of scientific flood management for "harmonious coexistence between man and nature," highlighting that flood control systems must be adaptable to socioeconomic development. He also described short-term objectives and tasks of flood prevention and management, including scientific and standardized management systems, and technology-based support systems.



Wang Shucheng, Minister of Water Resources, China

Zhang Zhitong, China's Office of State of Flood Control and Drought Relief Headquarters, reviewed China's goals for flood management and near-term targets, including establishing a scientific and standard management system and an advanced technical support system. On achievements, Zhitong noted improvements in legal frameworks, emergency plans for preventing floods and flood regulation, flood risk mapping, and institutional and capacity building.

Minoru Kuriki, Director of Japan's National Institute for Land and Infrastructure, described characteristics of rivers, conventional flood control techniques, integrated flood management, and new approaches used in Japan. He recommended changes in housing practices, the use of inundation control facilities, preparations for exact and smooth evacuations, and capacity building for effective relief, recovery and reconstruction.

Soontak Lee, Yeungnam University, described integrated flood management techniques in the Republic of Korea, including flood forecasting and warning, flood control, flood control assessment, flood hazard maps, and basin-wide comprehensive integrated flood management plans.

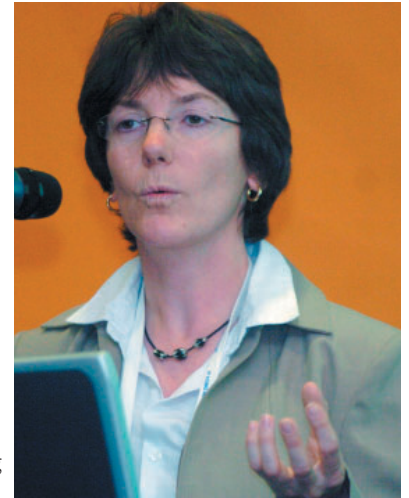
Stating that over one billion people live on flood plains, Aly Shady, President of the International Water Resources Association, stressed the need for flood protection preparations, including: forecasting; improving hydrological knowledge and data; devising plans and building protection; establishing shelters during times of flood; building institutional capacity; and carrying out restoration quickly and effectively to allow for the continuation of normal life.

During the ensuing discussion, Mahmoud Abu-Zied, Egypt's Minister of Water Resources and Irrigation, described flood management techniques and challenges in his country, noting that climate change-induced sea-level rise in the Mediterranean Sea threatens to flood the Nile delta. Benedito Braga, World Water Council (WWC), stressed the importance of engineering and infrastructure for flood control. Participants also discussed non-structural and integrated flood management solutions, rainfall patterns in Japan and flood management challenges.

ROLE OF DAMS AND RESERVOIRS IN INTEGRATED

FLOOD MANAGEMENT: Session Chair Luis Berga Casafont, President of the Spanish Committee on Large Dams, noted that the number of people affected by floods is increasing rapidly. He advocated a coordinated, integrated approach to mitigate the impact of floods through structural and non-structural measures, and said this approach must address forecasting and warning, legal regulation, land-use planning, ecosystem conservation and poverty alleviation. He said dams can play an important role in flood mitigation, if properly designed and maintained.

Stressing that flooding is a natural phenomenon, Ute Collier, WWF, said increased risk is mainly anthropogenic. She noted that dams that are not designed to accommodate larger floods pose a risk, and that dams inhibit the beneficial aspects of floods, such as sedimentation. As solutions, she identified: managing floods as part of IWRM; favoring non-structural measures; restoring river flows, floodplains and wetlands; controlling urban development; improving dam design and operation; and developing early warning systems.



Ute Collier, WWF

Li Lifeng, WWF, addressed changes in China's flood management policy after the big 1998 Yangtze flood, including converting cultivated lands to wetlands and lakes. Presenting a local case study, he noted significant environmental, social and economic benefits, including increased food production, ecotourism and hydrological restoration.

Yosuke Tomizawa, Japanese Ministry of Land, Infrastructure and Transport, presented a case study on flood management in the Kitakami River basin, Japan. Noting that the basin's geological instability and large amounts of precipitation exacerbate soil erosion and floods, he said dams have proved to be an effective measure to protect the population.

Describing the flood history of the Segura River basin in Spain, Mario Urrea Mallebrera, Spanish Ministry of Environment, highlighted flood management measures, including the development of legislative and institutional frameworks. He noted positive experiences with infrastructure, such as dams and floodplain reservoirs, and concluded that planning requires public participation and financial resources.

Cheng Xiaotao, China Institute of Water Resources and Hydropower Research, said the construction of more than 100 large dams in the upper Yangtze River had resulted in increased flood durations and peak water levels, which, combined with urbanization and an increased level of economic development, has exacerbated the flood risk. He advocated: accepting a certain risk level; using the opportunities of flooding; and shifting from flood control to flood management, which he said calls for non-structural measures, long-term commitment, and a step-by-step approach that takes into account local conditions.

REDUCING HUMAN LOSS OF LIFE CAUSED BY WATER-RELATED DISASTERS, INCLUDING TSUNAMIS AND LANDSLIDES:

Kenji Suzuki, JWF, described the impacts of the 2004 Indian Ocean Tsunami, 2005 Hurricane Katrina, and 2006 landslide in the Philippines, hoping that in the future information sharing will reduce the number of casualties caused by natural disasters.

Pak Siswoko, Indonesia's Ministry of Public Works, noted the devastating effects of the December 2004 earthquake and tsunami disaster on the Province of Aceh's infrastructure, and highlighted the emergency, rehabilitation and reconstruction phases of the response effort.

Eknathrao Khadse, India's former Minister for Irrigation and Water Resources, emphasized the need for governments and NGOs to make comprehensive multi-hazard vulnerability risk assessments.

Suresh Yavalkar, Institute for Sustainable Development and Research (ISDR), highlighted the outcomes of a national workshop on tsunami rehabilitation, held in India in 2005, as a means to raise public awareness.

Girish Mahajan, ISDR, discussed water-related disasters in the recent past in India, including the Maharashtra flood.

Mahesh Shivankar, ISDR, highlighted the need for advanced climate studies.

Shigenori Asai, JWF, introduced "The Tsunami Challenge" project based in Sri Lanka, which seeks to disseminate tsunami disaster and disaster prevention information to civil society.

Noting "The Tsunami Challenge" project, Rei Asada, JWF, described "Two Faced Sea," a book concerning disaster prevention distributed at workshops and schools in Sri Lanka, and highlighted the importance of knowledge sharing.

Dolores Hipolito, Philippines Department of Public Works and Highways, described the Leyte Island landslide disaster and addressed the need for a community-based early warning system.

Ramesh Ananda Vaidya, Nepal's Ambassador to Japan, described Nepal's experience concerning water and disasters, focusing on how to develop a practical strategy for risk management.

Yoshiharu Ishikawa, Tokyo University of Agriculture and Technology, presented various projects aimed at preventing landslides, caused by sediment in Japan, and highlighted the establishment of a warning and evacuation system.

Ambassador Ole Moesby, Danish Ministry of Foreign Affairs, stressed that natural disasters will affect the poorest and undermine development efforts, and urged for improved community-based disaster management.



Rei Asada, Japan Water Forum

Panelists discussed: ways to reduce casualties; early warning systems; structural measures to risk management; ecosystem vitality as part of IWRM; and implementation of risk management at the local level.

EMPOWERMENT AND DEMOCRATIZATION MULTI-STAKEHOLDER PANEL:

Chair Julia Carabias Lillo, National Autonomous University of Mexico (UNAM), introduced this multi-stakeholder panel session, the results of which will be discussed at the 4th Forum ministerial roundtables on Wednesday, 22 March, and integrated as a distinct element in the Forum's final report. The panel reflected on nine case studies of empowerment and democratization that resulted in concrete and substantial local change.



Julia Carabias Lillo, National Autonomous University of Mexico

Reporting on two preparatory workshops, Adriana Allen, University College London, highlighted that a common feature in all nine case studies is that the process is not linear but iterative. She identified lessons learned, including the importance of: building on existing processes; thinking "beyond the water box"; generating multiple technical and political capacities; and building co-responsibility. As key messages, she outlined, *inter alia*: that empowerment and democratization are demand-driven processes; the need to understand local and social dynamics; the need for dialogue and networking; the importance of scaling up and of an enabling and enduring environment; and linking social and institutional change. Allen said that as these processes mature, they start to scale up and have impacts on policy, but stressed that allowing adequate time is essential. She also noted that although empowerment and democratization are two sides of the same coin, they are not always linked.

Margaret Catley-Carson, GWP, noted that an enabling environment is required to foster democratization and empowerment but stressed that the operators who have the ability to create an enabling environment often do not know how to do so. Shafqat Kakakhel, UNEP, stated that creating an enabling environment is a key role for governments and international organizations.

Noting that water access cannot be separated from economics, and that the poor suffer most when water service delivery fails, Catley-Carson urged the separation of discussions regarding the need for financing and privatization.

Pedro Arrojo, New Water Culture Foundation, stated that water is an ethical issue that cannot be addressed in the market because its value extends beyond an economic value. He stated that human beings have a right to a healthy ecosystem and that water is needed for the sustainability of ecosystems.

On political mobilization, Kakakhel noted that democratization does not ensure empowerment. Barbara Frost, Water Aid, noted

that while models of engagement have been discussed at length, there has been little discussion regarding politics and political will. Ger Bergkamp, IUCN, argued that local communities need



Ger Bergkamp, IUCN

to build capacity to engage in political negotiations and processes. Mariela García, Institute of Research and Development in Water Supply, Sanitation and Conservation of Water Resources, described processes in Colombia in which communities undertook self-diagnoses regarding water and sanitation needs and then developed community centers to exchange knowledge.

Catley-Carson asked whether successes in the case studies depended on the involvement of an animator or agents external to the community, noting that extensive training of animators will be needed if their presence is a requirement for success.

INTERGENERATIONAL DIALOGUE: Henk van Norden, UNICEF, chaired the session on the intergenerational dialogue, lamenting that 400 million children worldwide still do not have access to safe drinking water.

Hashimoto noted his personal involvement in water issues so as to avoid passing on problems to his grandchildren. He encouraged the young participants to present their actions with courage.

Donna Goodman, UNICEF, introduced the local actions on water, sanitation and hygiene in schools, presented by youth representatives from Japan, Kenya, Lao, Mexico, and the US.

Noting that health and social development are directly dependent on proper water management, Asfaw Dingamo, Ethiopia's Minister of Water Resources, said that much remains to be done to reach the water-related MDG targets in his country.

Abdul Mohammed, Malawi's Minister of Irrigation and Water Development, drew attention to the African Children's preparatory workshop for the 4th Forum held in his country's capital.

Javier Bolaños, State Commission on Water and the Environment in the State of Morelos, highlighted annual

children's environment summits in Mexico, urging children who participated at the 4th Forum to share their experiences.

Ede Ijjasz, World Bank, said that children represent half of the world's population, but that at the current rate of water-related deaths, six million will not make it to their fifth birthday. He said the 2006 World Development Report focuses on children and youth, and noted the Bank's US\$ 25 million investment in local projects on water, sanitation and energy, many of which are designed for and by children.

Yukiko Kada, JWF, highlighted exchanges between children in developed and developing countries.

Ingvar Andersson, Swedish International Development Cooperation Agency, urged children to "raise their voice and claim their rights" to clean water, sanitation and education.

Throughout the dialogue, children raised the following questions: why children in developing countries must sacrifice education in order to fetch water; what actions are going to be taken to address the dire statistics; how children's proposals will be incorporated into the 4th Forum follow-up process; and how many children's projects are being supported worldwide.



A child delegate from Kenya

The adult panelists, representing governments of Malawi, Ethiopia, Japan, and Mexico, as well as UNEP, UNICEF and the World Bank, pledged their support to children's actions on water. A young representative from Africa called for support to the Children and Youth Alliance for Water and Sanitation launched at the 3rd Forum.

MINISTERIAL CONFERENCE

OPENING STATEMENTS: José Luis Luege Tamargo, Mexico's Secretary of Environment and Natural Resources, welcomed ministers and high-level officials, noting that over 140 delegations and 70 ministers were in attendance. Underscoring the obligation to offer access to safe and clean water to all citizens, he said access to water is linked to improving quality of life and health and stressed the importance of focusing particularly on the local level. He emphasized the need for greater capacity and certainty for access to financing and investment. Stating that "forests are the factories of water," he also stressed the importance of ecosystem protection.

Noting that lack of access to water is a major source of death and disease in the world, Loïc Fauchon, WWC President, urged the 4th Forum to affirm the right to water. He said women and children walking long ways to find water is no longer acceptable, and recalled that we bear a decisive responsibility to address this reality.



Donna Goodman, UNICEF

Fauchon announced the launch of WWC's "Water for Schools" Initiative, which seeks to provide access to water in one thousand schools in ten countries in the hope that the effort will be multiplied and in a few years no school in the world will lack water. He also announced the creation of schools for training higher-level technicians, and underscored the importance of knowledge transfer. He highlighted that the 4th Forum has been characterized by open debate and respectful dialogue, and announced that all initiatives and proposals resulting from the Forum will be compiled in a report.

Fauchon further drew attention to governance issues, saying incoherent management that prioritizes the wrong sectors is often to blame. He called for doing away with macroeconomic considerations and structural adjustment plans that poor countries cannot afford, warning that "unless we act now, we're dooming humankind."

Ryutaro Hashimoto, Chair of the UN Advisory Board on Water and Sanitation and former Prime Minister of Japan, gave a keynote address on financing for local water projects, focusing on actions proposed in the Board's Compendium of Actions. He said the Compendium sets out actions that key actors should take to remove obstacles and bottlenecks in achieving the internationally agreed water and sanitation targets, with a focus on: financing; water operators partnerships; sanitation; monitoring and reporting; IWRM; and water and disasters.

He said the Board identified the readjustment of financing frameworks for water services and capacity building to allow breakthroughs to happen in water and sanitation as the Board's overarching aims. He stressed that national governments have a major responsibility to enable operators to deliver on their responsibilities and emphasized that the international community must provide incentives and support in a more consistent and coherent fashion. He highlighted the importance of financing local communities.

Noting that financial resources are available, Hashimoto stressed the need for stronger capacity at the national and local levels to attract funding and said governments and utilities need to devise and apply more equitable tariff systems.

He also called for: increased dialogue among donors, recipients and other stakeholders; capacity building; use of water operators partnerships; and an increased focus on sanitation issues, including support for the proposal to make 2008 the International Year of Sanitation. Hashimoto also noted proposals for: strengthening monitoring and reporting; IWRM, including country updates on progress in its implementation and water



Loïc Fauchon, President, World Water Council

efficiency plans; and disaster forecasting and mitigation.

MINISTERIAL DIALOGUE: Many countries supported the actions proposed by Hashimoto, including on increasing dialogue, funding and sanitation.

On financing, some developing countries urged donors to meet their Official Development Assistance (ODA) commitments and to focus more of this funding on financing water and sanitation work. Others called for greater support from international financial institutions for water and sanitation projects. Several ministers noted government efforts to assist local actors to secure private bank loans for water and sanitation work and many stressed the importance of focusing and supporting financing at the local level. Drawing attention to the Gurría Task Force

on Financing Water for All report, they emphasized different forms of cooperation and of financing options beyond traditional ODA and public funding, highlighting micro- and co-financing. One developed country urged the creation of national financial mechanisms to fund water management in developing countries, while a developing country called on international agencies to revise their policy of considering water investment as an expense.

Several countries stressed the importance of public-private partnerships for attaining water management objectives.

On IWRM, many countries noted the importance of taking an integrated approach. Some countries urged submitting progress reports on IWRM and water efficiency plans to the UN Commission for Sustainable Development, for consideration at its 2008 session.

On governance, many countries stressed the importance of decentralization and of strengthening local authorities and institutions, with several highlighting the need for effective stakeholder participation. Some, however, cautioned against over-decentralization and privatization, and underlined the importance of appropriate

regulatory regimes and of strong and enforced national legislation ensuring transparency and accountability in water management, particularly regarding pollution, flood prevention and overall water management. One country drew attention to its use of the 1997 UN Watercourses Convention as a model for regional treaties and called for the development of a "water culture network" to address water issues in an equitable and reasonable manner.

IISD SUMMARY: The IISD summary of the 4th World Water Forum will be available on Monday, 27 March 2006, online at: <http://www.iisd.ca/ywb/worldwater4/>



Ryutaro Hashimoto, former Prime Minister of Japan