



# World Water Forum Bulletin

Mexico 2006  
4th World  
Water Forum



## A Daily Report of the 4th World Water Forum

Published by the International Institute for Sustainable Development (IISD) in collaboration with the 4th World Water Forum Secretariat

ONLINE AT [HTTP://WWW.IISD.CA/YWB/WORLDWATER4/](http://www.iisd.ca/ywb/worldwater4/)  
VOLUME 82, No. 11, SUNDAY, 19 MARCH 2006



Prince of Orange Willem-Alexander of the Netherlands gave a keynote address on implementing integrated water resources management (IWRM).

### 4TH WORLD WATER FORUM HIGHLIGHTS: SATURDAY, 18 MARCH 2006

On Saturday, participants at the 4th World Water Forum addressed the theme of implementing integrated water resources management (IWRM), convening in plenary to hear a keynote address by Prince of Orange Willem-Alexander of the Netherlands and an introduction to the IWRM implementation theme. They also attended a Europe regional presentation and some 40 IWRM thematic sessions held throughout the day.

## REGIONAL PRESENTATION

Friedrich Barth, Institute for Organizational Communication, moderated the Europe regional presentation.

Michel Rocard, former Prime Minister of France, stated that the political will to tackle water issues is hampered by the fact that the timeframe for resolving these problems extends well beyond politicians' mandates. He also noted that governments not only have to change laws but also the behavior of their citizens.

Loïc Fauchon, President of the World Water Council (WWC), noted that 41 million Europeans presently do not have access to safe water and that more cooperation and technology exchange is required within Europe.

André Santini, President of France's Seine-Normandy Basin Organization, highlighted a French scheme in which a portion of the country's water budget is devoted to water development in Africa.

Benoît Lugen, Belgium's Minister of Environment, stressed the need for better communication with water users and the need to create financial mechanisms and regulatory frameworks.

Christina Gutiérrez Cortines, European Member of Parliament, noted that Europe lacks a drought policy and urged development of long-term policies to enable more water sharing.

Marina Makarova, Environment Ministry of Georgia, stressed the need for international cooperation to address research and financing limitations.

During a general discussion, participants emphasized that: fair water use requires equitable, participatory and integrated management; water basins should be managed within their

natural boundaries through international cooperation; water can become a catalyst for peace and security; and access to water and sanitation for all can only be achieved through solidarity and increased commitment by all stakeholders.

On risk management, panelists noted that: most economies in Europe are neither drought- nor flood-proof; high political costs can result from lack of risk management; and Europe should promote community-based disaster risk reduction in developing countries, rather than paying for post-disaster emergency relief efforts.

Regarding sanitation, the discussion focused on: the discharge of untreated urban pollution; the need for public funds for wastewater treatment; and the potential benefits of decentralized water treatment systems.

On innovative technologies, the need for integrated and adaptive solutions to address water scarcity, urbanization, rural development and risk mitigation were highlighted.

At the close of the presentation, Jeroen van der Sommen, Director General of the Netherlands Water Partnership, presented the European Region Document of the Forum to Prince of Orange Willem-Alexander of the Netherlands, who suggested that sanitation should be considered a health issue to raise its political profile.

## KEYNOTE ADDRESS

Prince of Orange Willem-Alexander of the Netherlands highlighted growing awareness that the water crisis is a management crisis. He urged countries to continue to take action to develop IWRM and water efficiency plans, noting that the 2005 Johannesburg Plan of Implementation target

for these plans has passed without achievement in many countries. Stressing that water is crucial for social and economic development, environmental protection and security, he said the need is not for new policies but for concrete action. Noting that his country has over 800 years of experience in water management, he stressed the need to share experiences and knowledge.

The Prince of Orange further highlighted the success of the European Water Framework Directive, a legislative instrument coordinating freshwater resources management in all EU member States. Noting that achieving IWRM requires patience, he said the process itself is a critical success factor, and opined that it should build on multi-stakeholder involvement and integrated planning while focusing on improving people's quality of life. He advocated focusing on positive factors, including the many achievements of the Global Water Partnership (GWP), encouraged the collation of best practices, and challenged participants to learn from the Forum's outcomes and to use them to inspire actions and projects on the ground.

## INTRODUCTION TO THE FRAMEWORK THEME

Katherine Sierra, World Bank, expressed confidence in the concept of IWRM, stressing that development that either undermines the environment or is socially unacceptable, cannot be called development. Noting that water-related disasters receive significantly more attention than the world's chronic water problems, she stressed poor countries' vulnerability and called for increased investment in water control and development, combined with institutional development and community involvement.



Katherine Sierra, World Bank

Calling for global standards of social and ecological sustainability, she stressed the importance of innovation and increased financial flows. She said the world's diverse conditions require creative solutions and pledged the World Bank's support to IWRM. Noting that all investments must be supported by robust regulatory systems and involve all stakeholders, she identified good governance as essential.

Sierra noted that the inevitable trade-offs surrounding water infrastructure development have been poorly understood in the past, but stated that socially and environmentally sound water infrastructure is indeed possible and can benefit society at large. She emphasized the need to involve local communities, share benefits and take into account local and indigenous knowledge. Noting that the absence of investments exacerbates poverty, she called for increased commitment by developed countries.

During the ensuing discussion, participants addressed: the definition of "water security"; the role of legislation; the importance of disaster prevention; the cost of not implementing IWRM; the need to involve civil society; the role of education and active participation of local communities; and the need to include social parameters in cost-benefit analyses while ensuring a fair distribution of costs and benefits among stakeholders.

## THEMATIC SESSIONS

### IMPLEMENTATION OF IWRM IN NATIONAL PLANS

**2005:** Gordon Young, World Water Assessment Programme (WWAP), opened the session, highlighting that its purpose

is to review the extent to which the target, established in Johannesburg in 2002, to incorporate IWRM principles into national plans by 2005 has been achieved. He explained that several global and regional surveys measuring the extent to which countries have incorporated IWRM plans would be presented.

João Bosco Senra, Brazil's Ministry of Environment, noted that in developing its IWRM plan, Brazil focused on new approaches to water management, including decentralization and increased public participation.

Alan Hall, GWP, presented the GWP Global Survey on the development of IWRM plans and strategies in 95 countries from Africa, Asia, Europe, Latin America and small island developing States. He emphasized that IWRM plans must be part of broader national development plans and urged governments and donors to increase support to countries lagging behind in the IWRM planning process.

Koichiro Umemura, Japan Water Forum (JWF), said the JWF Global Survey found that of 85 countries surveyed, 23 are making good progress towards developing IWRM plans, while 47 countries are taking steps and 15 countries are still in the initial stages.

Palle Lindgaard-Jørgensen, Danish Hydraulic Institute, provided an overview of the UNEP Regional Survey, which examined planning processes for IWRM in 37 countries in five global regions. He emphasized that institutional reforms are lacking and said UNEP will continue to support regional and national monitoring.

Roula Majdalani, UN Economic and Social Commission for Western Asia (UNESCWA), presented the UNESCWA Regional Survey of 13 Middle Eastern countries. She said that while all countries have initiated their IWRM strategies to some extent, weaknesses exist in, *inter alia*, the development of economic



Gordon Young, World Water Assessment Programme

instruments and institutional frameworks and the inclusion of environmental externalities and civic participation.

Khaled AbuZeid, Arab Water Council, outlined the status of IWRM plans in the Arab region, noting its water scarcity. Of the 22 Arab countries, AbuZeid said five countries have developed their IWRM plans and 11 others are underway. He stressed that IWRM efforts need to be regionally coordinated and noted a regional IWRM programme being developed jointly with UNDP.

Jamie Bartram, UN-Water, emphasized that: the ultimate goal of IWRM must be poverty alleviation; action and implementation must be prioritized; and capacity building must be improved.

Khalid Mahfoudh Al-Busaidi, Oman's Ministry of Regional Municipalities, Environment and Water Resources, described "Aflaj," an ancient indigenous IWRM system, noting it provides water for domestic and agricultural purposes.

Hussein Elatfy, Egyptian Ministry of Water Resources and Irrigation, overviewed the six-year development of Egypt's National Water Resources Plan. He said lessons learned include the need to create a permanent coordination mechanism with executive power for financing.

Mohammed Al-Hamdi, Yemen's Ministry of Water and Environment, presented Yemen's National Water Sector Strategy and Investment Plan, noting its goals include the formulation of a shared vision for sector development and mobilization of government and donor support. He said the introduction of drilling and pumping technologies has led to the overuse of water resources in his country. Noting progress in implementation of the Plan, he highlighted its role in mobilizing public funding.

Ligia Castro de Doens, National Environmental Authority of Panama, presented an overview of the Commission for Environment and Development Strategy for Central America. She noted that outdated water laws and sectoral, supply-side and short-term approaches have hindered water management.

Alberto Crespo, Water Portal of the Americas, discussed Bolivia's 1994 Popular Participation Law, emphasizing that it led to an increase in coverage of water and sanitation. He attributed its success to stakeholder participation.

Isabel Bustillos, Mexican Citizen's Presence, presented results from The Access Initiative's pilot project to monitor governments' implementation of national water plans. She emphasized that participation should extend beyond consultation and that financing for participatory procedures must be included in water plans. On justice, she highlighted the need for specialized courts on water and environment.



Juan Carlos Valencia Vargas, National Water Commission (CONAGUA), Mexico

Juan Carlos Valencia Vargas, Mexico's National Water Commission (CONAGUA), provided an overview of the National Water Plan. He described the state of water resources in Mexico, highlighting overexploitation of aquifers, surface water pollution, and extreme hydrometeorological events.

Jeanne Emerante Defoi, Water Development Office of Martinique, noted challenges faced by the

Caribbean islands in developing IWRM, including: low domestic savings and investment capacity; underdeveloped public and private sectors; and susceptibility to "brain drain" and HIV/AIDS.

Ti LeHuu, UN Economic and Social Commission for Asia and the Pacific (UNESCAP), described UNESCAP's Asia Regional Survey, and stressed that strategic planning and management is vital for IWRM implementation as a means for environmental protection and poverty reduction.

Salmah Zakaria, Malaysia's National Hydraulics Research Institute, stated that government funding grows with increased awareness, but also highlighted the need to find alternative private sector sources of funding.

Khoo Teng Chye, Singapore's Public Utility Board (PUB), provided an overview of PUB's management of the entire water cycle in Singapore. He described the "four taps" of water in Singapore: i.e. local water supply, imported water, desalination and water reclamation. He noted that research and development, water pricing and public awareness facilitate the demand and supply side of water management.

Tamar Barabadze, US Agency for International Development (USAID), said USAID supports increased dialogue between the Southern Caucus countries to achieve IWRM.

Sophiko Akhobadze, Georgia's Minister of Environment Protection and Natural Resources, noted that Azerbaijan, Georgia and Armenia have started applying IWRM as a means to promote sustainable management of transboundary water resources. She addressed necessary future steps, including strengthening the legal basis for basin management, and highlighted promotion of democratization and decentralization of governance systems as anticipated results.

Iñaki Urrutia and Ana Oregi, Ministry of Environment of Vizcaya, Spain, noted that the Basque region has sufficient water for its population, but this resource must be managed properly. They highlighted steps taken to improve water quality following heavy industrialization in the region in the 1950s.

Harry Liiv, Ministry of Environment, Estonia, noted that in order to achieve effective water management it is important to



Ligia Castro de Doens, National Environmental Authority of Panama

adequately finance all planned measures, strike the right balance between local and state commitments, and have an enforcement system.

Rui Silva, Economic Community of West African States (ECOWAS), provided an overview of the ECOWAS Regional Action Plan for Water Management. He noted regional strengths, including the mobilization of high-level political authorities and a history of cooperation, and suggested that better indicators for monitoring and commitments from partners are needed.

Francis Bougaïré, Burkina Faso's Ministry of Agriculture, Hydraulics and Fisheries, noted his country's efforts in IWRM implementation and stressed that local water committees allow concrete involvement of all actors in water resource management.

During the closing panel discussion, panelists discussed: IWRM as a process with important environmental, social and economic aspects; the need for implementation, action and building of youth awareness; financial barriers for developing countries to implement IWRM; the importance of central government adoption of IWRM; and plans and strategies for cross-sectoral planning to ensure integration.

#### LESSONS LEARNED ON FACILITATING IWRM

**PLANNING:** Alex Simalabwi, GWP, discussed approaches used for IWRM planning, with experiences from Malawi and Zambia. He said IWRM is a useful tool to mainstream water concerns into national economic development, and that it contributes to achieving the MDGs. Stressing that IWRM plans should aim at awareness, participation and capacity building, and should induce a paradigm shift within government structures, he noted the need to manage expectations and accept challenges.

Housseini Maiga, Mali's National Water and Energy Agency, overviewed ongoing projects in his country, including a national programme of rural infrastructures financed by the World Bank. He said successes had been achieved as a result of strong political will, local water partnerships to promote top-down and bottom-up information exchange, and regional awareness workshops. He recommended focusing awareness raising on key and representative groups, and stressed the importance of: capacity building on project management; gender perspectives; and solving priority problems as determined by players themselves.

Rupa Mukerji, Intercooperation, India, spoke on "capitalization of experiences" in IWRM implementation, noting that it is a knowledge management initiative that seeks to achieve better programmes, policy dialogue, advocacy and planning, including through intercontinental sharing of experiences. She identified the initiative's four focus areas:

rules, regulations and management systems for water resources; addressing information imbalances in the context of community organization; convergence, linkages and collaboration; and

watershed development and growth.

Madiodio Niasse, GWP, highlighted Burkina Faso's national IWRM planning process and, in particular, the formulation of its IWRM Action Plan. He said that the process resulted in recommendations to: integrate IWRM into national development initiatives; operationalize key legislation provisions; empower institutional units responsible for IWRM; ensure genuine public participation; continue donor support; secure budget allocations; test solutions; and showcase achievements.

Birguy Lamizama, GWP, outlined common lessons learned from GWP programmes regarding IWRM planning. She said that since governments are the owners and leaders of the IWRM planning process, political will is crucial, and IWRM needs to be linked to national plans. Stressing the need for a common understanding of IWRM, she said sustained cross-sectoral and multi-level participation is a driver of the process and called for development of local capacity at all levels and improved communication. She recommended: focusing IWRM plans on countries' specific circumstances while incorporating feasible actions and timeframes; mainstreaming a gender perspective from the beginning; and implementing local and concrete actions throughout the process.

During subsequent panel presentations, Prince of Orange Willem-Alexander of the Netherlands, GWP Patron, congratulated the GWP on its significant achievements and called for a holistic approach taking into account stakeholders at all levels.

Mike Muller, Wits University School of Public and Development Management, said IWRM must be accepted at the water management level as well as among global decision-makers. He encouraged: translating theory and policy into action and outcomes; learning from earlier experiences; incorporating the IWRM process into national development planning cycles; and stressing water as a currency for development.

Rachid Balafrej, on behalf of Mohamed El Yazghi, Morocco's Minister of Environment, highlighted Moroccan experiences with IWRM planning. He noted increased awareness at all levels of government and stressed the need to integrate the work of different sectors and involve national governments, finance ministries and the private sector. He also called for increased technical training and education, and greater focus on conflict resolution.

Keizrul Abdullah, Malaysian National Committee on Irrigation and Drainage, noted similar challenges in IWRM implementation in different regions and stressed the importance of country water



Madiodio Niasse, Global Water Partnership



Mike Muller, Wits University School of Public and Development Management

partnerships offering a neutral platform for formulating national IWRM plans.

### **TRANSBOUNDARY WATER MANAGEMENT AND REGIONAL INTEGRATION IN AFRICA:**

This session was chaired by Bruno Jean-Richard Itoua, Minister of Energy and Water Resources, Republic of the Congo.

Noting that water resources are widely shared by various countries in Africa, Amadou Boubacar Cissé, Islamic Development Bank, presented an overview of transboundary water management in the region. He highlighted challenges, including economic and development differences and the lack of basic legal frameworks. He noted the importance of customary laws and local mechanisms, and said that although joint management is a complex matter, it presents significant opportunities for cooperation.

Tamsir Ndiaye, Senegal River Development Organization, described the establishment of his organization by Mali, Mauritania and Senegal to jointly and integrally manage the Senegal River basin. He highlighted transparency in governance and NGO participation.

Patrick Kahangire, Executive Director, Nile Basin Initiative, noted that the Initiative provides a platform for cooperation between the ten riparian countries of the Nile basin and is devoted mainly to building confidence in regional cooperation. He said key elements for progress include a shared vision, strong riparian ownership, effective lead donor partnerships and commitments, flexible financing, a step-by-step incremental process, and transparency and accountability.

Enoch Dlamini, Komati Basin Water Authority, spoke about the institutional roles in the management of the Komati River basin system shared by South Africa, Swaziland and Mozambique. Stressing that transparency leads to cooperation, he underscored the importance of clear and separate roles for political and technical institutions, the involvement of stakeholders at all levels of the basin, and respect for local knowledge.

Robert Dessouassi, Niger Basin Authority, spoke about IWRM in the Niger River basin, involving nine countries working together under the Niger Basin Authority. Among the objectives of the initiative, he mentioned: harmonization and coordination of policies; ensuring control of legal aspects; fostering common projects; regulating navigation in the river; and mobilizing financial resources.

Oumar Ould Aly, President of the African Network of Basin Organizations (ANBO) presented an overview of the status of transboundary management in Africa at the continental level, highlighting the role of IWRM in reinforcing cooperation between countries.

Madeleine de Grandmaison, International Network of Basin Organizations (INBO), underscored the role of women.

After a brief discussion, Chair Itoua read a document with ten recommendations, including: increasing support for



Bruno Jean-Richard Itoua, Minister of Energy and Water Resources, Republic of Congo

the IWRM process; establishing new, and strengthening existing, transboundary basin agencies; organizing a monitoring system for transboundary basins' water resources at the continental level; and considering the elaboration of an international African charter of waters. Participants approved these recommendations by acclamation.

### **INTEGRATED MANAGEMENT AND GOVERNANCE: A FRAMEWORK FOR MAKING EMPOWERMENT A REALITY:**

Welcoming participants to the session, Sybe Schaap, President of the Dutch Association of Water Boards, emphasized that the water crisis is a management problem, and stated that the building blocks for an effective governance framework include stakeholder involvement, adequate financial resources, and effective organization and legislation.

Carlos Fernandez-Jauregui, WWAP, stressed that the water crisis is largely a governance crisis typified by poorly organized institutions, weak legal frameworks, limited human and financial resources, corruption and lack of transparency, and limited involvement of major stakeholders in decision-making processes. He proposed, among other things, that: water be accepted as a human right; country-specific governance structures be developed; water management be localized; and horizontal knowledge exchanges be promoted. He added that vertical integration is a key success factor allowing top-down and bottom-up approaches to function in harmony.

Fred Kimaite, Uganda's Directorate of Water Development, described his country's decentralization of water management, noting key challenges, including the delegation of responsibility, reconciliation of diverse stakeholder interests, and establishment of monitoring, evaluation and reporting responsibilities. He said stakeholder participation should go beyond consultations, stakeholder responsibilities must be clearly defined, and clear indicators should be established for monitoring, evaluation and reporting.

Upali Imbulana, Sri Lanka's Ministry of Agriculture, described a water diversion project that aims to alleviate poverty in his country. He stressed using existing equipment and local expertise with minimal new infrastructure and noted the project's positive impacts on gender issues, stakeholder outreach, and vertical policy integration.

Victor Pochat, Argentina's Undersecretariat for Water Resources, reviewed the development of water management principles in Argentina which involved extensive stakeholder consultations. Pochat stated that these principles provided guidelines, which integrate social, economic and other values in water management, and that extensive consultations instill a sense of ownership among stakeholders.

Rapule Pule, International Council for Local Environmental Initiatives (ICLEI), discussed an ICLEI project that engages and assists local governments in IWRM implementation in the Limpopo River Basin in southern Africa. Reviewing lessons learned from the project, he said roles and responsibilities of local governments must be clearly articulated and that inadequate

resources limit efficient operation of local governments.

Annika Greup, THIMUN Youth Network, stressed the need for greater capacity building and empowerment among youth.

Rein van der Kluit, Dutch Association of Water Boards, presented recommendations, including ensuring stakeholder involvement, developing legal frameworks for effective interaction between national and local policy, and establishing clear mechanisms for financing, coordination and infrastructure renewal.

During the session, participants posed questions on fostering vertical integration, the processes of drafting water management principles and of decentralization, and the establishment of water use priorities.

#### **THE CHALLENGES OF LEGAL SECTOR REFORMS:**

Abel Mejía, World Bank, opened the panel discussion and described the current status of legal reforms in the water and sanitation sectors in Latin America.

Francisco Rodríguez, Dominican Republic's National Institute, outlined the development of water-related legislation in his country, highlighting that only 30 percent of the population has access to safe drinking water and sanitation. Noting that power and water plants are run exclusively by the State, he described the national legal framework for water and electric management. He concluded by reiterating that water is a public good essential for pursuing social and economic development.



José Miguel Zeledón, Ministry of Environment and Energy, Costa Rica

José Miguel Zeledón, Ministry of Environment and Energy, Costa Rica, spoke about the history of water legislation in his country, characterized by a long process of broad and ongoing consultations. He explained that the legislation adopts the "polluter pays" principle and uses an ecosystem approach. As lessons learned, he identified the need for flexible norms and the importance of incorporating local proposals.

Enrique Salazar, Peruvian Ministry of Agriculture, elaborated on Peru's legal reform process, highlighting the work of successive commissions on expanding existing legislation on water services and basin management. He said developments were hampered by a general reluctance to change legislation and by a confusing technical and legal framework.

Fernando Arrieta, Colombian Ministry of Environment, Housing and Land Development, discussed the development of his country's new Water Act, which aims to integrate and build upon a large number of existing acts. Stressing that the new Act will include social, economic and environmental aspects, he highlighted the extensive consultative process used in the Act's

development.

Nancy Patricia Gutiérrez Cortinez, Member of Parliament, Colombia, addressed shared challenges of modernizing laws and getting them approved. Saying that water is a controversial issue that politicians tend to avoid and noting concerns surrounding privatization, she emphasized the lack of trust and difficulties in reaching agreement across all sectors of society.

Grethel Aguilar, IUCN, indicated that the most important challenge in water-related legal reform is strengthening political will. Acknowledging widespread public fears concerning privatization of water infrastructure, she called for further dialogue. She stressed the importance of timely and responsible public participation for bills to be passed, and noted that effective acts must respond to public needs and have wide environmental and social considerations.

Fernando Ulises Adame, Mexican Congressman, said Mexico's deficient water management, which results in shortages, inefficiencies and pollution, is largely due to a weak legislative framework. Noting that legal developments are ongoing, he called for wide civil participation and increased attention to hydropower issues.

In the following discussion, participants addressed: the involvement of local authorities and institutions; the transfer of financial resources from federal to local levels; the effects of global environmental problems such as climate change; and effective public participation in the elaboration of laws.

**THE ROLE OF WATER AND IWRM IN THE ACHIEVEMENT OF THE MDGs:** Session Chair Roberto Lenton, GWP, emphasized the essential role of water for achieving each of the MDGs and noted the outcomes of the 2005 World Summit calling on all countries to prepare MDG-based national development strategies and urging the implementation of IWRM plans and strategies in these national plans.

Mi Hua, Global Environment and Technology Foundation, discussed the Millennium Project's experience regarding water and poverty reduction strategy planning in Africa. She reviewed the preparation of MDG-based strategies and MDG needs assessments, and stressed the importance of: using country-owned processes; strengthening coherence between planning and budget processes; supporting national policy dialogues; mobilizing resources; developing frameworks for monitoring; and identifying "quick wins." She also noted challenges in Kenya, including huge financing gaps and corruption.

Ede Iljasz, World Bank, presented on progress in achieving the MDG water supply and sanitation targets in Africa. Noting increased international focus on the continent, he said that while most African countries have developed national water supply and



Mi Hua, Global Environment and Technology Foundation

sanitation plans, these are not related to the MDGs. Ijasz stressed the need for a Pan-African country-owned, regionally supported water supply and sanitation MDG roadmap, which would consist of an MDG outlook, a sector preparedness assessment, and a sustainability scorecard. He said the MDG roadmap would also provide a common framework and enable the tracking of progress towards the MDGs.

Alex Simalabwi, GWP, discussed efforts to link IWRM strategies with national development frameworks in southern Africa. He emphasized the need to “sell” IWRM to relevant ministries as a key to economic development and as a means for achieving national development goals. He stressed the importance of making an economic case for IWRM by using quantifiable data, involving finance and economic planning ministries, and allowing the media to play a role.

During a panel discussion, Muller noted that in order to be effective, water managers in the 21st Century need to understand other sectors’ requirements. Wouter Lincklaen Arriens, Asian Development Bank, encouraged ministries dealing with water issues to unite through national water boards. Jenna Davis, Stanford University, acknowledged the challenges of cross-sectoral discussions and pointed to the presently insufficient involvement of municipal managers. Simon Thuo, GWP East Africa and Nile Basin Initiative, welcomed recognition of water as a service for other sectors, and noted advances in MDG-based planning in Ethiopia.

Responding to a question from the floor, Muller stressed that government water managers are under pressure from various lobby groups with conflicting interests, and that governments must strike a balance to ensure efficient and sustainable use of water. Participants further discussed: how the informal sector can be brought into IWRM plans; the need for dialogue addressing IWRM in conjunction with other MDG issues; and the role of civil society in IWRM implementation.

**TRANSBOUNDARY BASIN MANAGEMENT: REGIONAL CONSENSUS AS A DRIVING FORCE FOR PROGRESS AND DEVELOPMENT:** This session was co-chaired by Lea Kauppi, Director General of the Finnish Environment Institute, and Adama Sanogo, Secretary General of the Organization for the Development of the Senegal River.

Co-Chair Kauppi outlined Finland’s long tradition in transboundary water management and identified prerequisites for its successful implementation, including a strong legal and institutional base and the long-term commitment of all cooperating institutions. She noted that transboundary water management encompasses not only distribution, but also benefit-sharing.



Helen Fotopoulos, City of Montréal, Canada

Helen Fotopoulos, City of Montreal, Canada, outlined the history of water management in Montreal. She described how lack of concern, budgetary shortsightedness and administrative neglect have hampered efficient water management, which she said is a collective, long-term endeavor. Fotopoulos advocated the wide adoption of a “water culture.”

Olivier Cogels, Mekong River Commission, presented the Mekong River Management Project, explaining that this is a regional IWRM project at the basin scale, the main purpose of which is to alleviate poverty. He highlighted the project as an example of a successful international instrument leading to increased cooperation, and underscored the importance of joint planning, a common vision, cooperation, an integrated approach, and its adoption at the Council of Ministers’ level.

Sergey Kostarev, Irtysh River Steering Committee, discussed IWRM in the Irtysh basin shared by China, Kazakhstan and Russia. Among critical factors for the effective implementation of IWRM, he highlighted: the establishment of a recognized institutional body; public participation in water management; database development and monitoring; local expert training and delegation of responsibility; and international cooperation.

Bougairé spoke on the creation of the Volta Basin Organization involving six African countries, and highlighted the importance of adequate political will to ensure access to human and financial resources.

Ovidiu Gabor, Director, National Administration “Romanian Waters,” presented on transboundary water management in the Danube River basin. Identifying constraints, he named social and economic disparities across the basin, and the particular situation of transition countries and requirements for EU accession. Highlighting the importance of the EU Water Framework Directive, he said the Danube Joint Action Programme aims to ensure the protection of water and ecological resources for sustainable development through, *inter alia*, wetland restoration and pollution monitoring and reduction.

Alain Lefebvre, President of the International Meuse Commission, described transboundary water management in the Meuse basin. Among achievements, he named: a harmonized monitoring network; warning and alarm systems for accidental pollution; publication of water quality status reports; a Meuse Action Programme; and a Meuse Action Plan on Floods. Outlining findings of a recent status assessment, he said ensuring adequate quantity and quality of surface and groundwater requires international coordination in parallel with national implementation.

Shimon Tal, Israeli Co-Chairman of the Joint Water Committee of Israel, the Palestinian Authority and Jordan, said the management of mutual watersheds in the region is regulated by existing peace agreements between these nations. Noting that transboundary water management relates to issues such as security and borders, he highlighted a water shortage in the region that cannot be solved by redistribution alone, but requires recycling of sewage and desalination. He outlined the region’s agreed principles, including commitment not to harm

each other's water resources, and mutual assistance in alleviating water shortages. Stressing that any solution must be practical, just, agreed upon and comprehensive, he expressed hope that the final agreement between Israel and the Palestinian Authority would also accommodate these principles.

Noting serious problems in water access, in particular in Gaza, Fadel Kawash, Palestinian Water Authority, stressed the importance of multilateral negotiations to achieve agreement and progress and said that water is crucial in securing peace.

Bertrand Charrier, Green Cross International, drew attention to the importance of a shared vision and respect for the human right to water and the ecosystem approach.

Oumar Ould Aly, ANBO President, discussed transboundary management in Africa, noting several recommendations, including: support of transboundary basin agencies and the leading role of the ANBO; establishment of observation and monitoring systems; improvement of education and awareness; and increased user participation.

Jorge Rucks, Organization of American States, highlighted regional agreements on transboundary water management, which aim at developing legal instruments, common visions and objectives, and contributing to sustaining peace.

Alice Aureli, UNESCO's International Hydrological Programme (IHP), noted cooperation between UNESCO and INBO. Highlighting IHP projects around the world, she noted a general lack of legal frameworks and knowledge on transboundary water flows, particularly of groundwater.

Benoît Bazin, European Commission, highlighted the EU's long institutional and legal history with basin management and outlined EU initiatives to finance specific transboundary projects, especially in Africa.

Pascal Berteaud, French Ministry of Ecology and Sustainable Development, said water issues are a key factor determining relationships between countries and should receive adequate attention, including through regional agreements and the formulation of shared objectives.



José Machado, Brazil's National Water Agency (ANA)

**IWRM IN FEDERATIVE COUNTRIES:** Benedito Braga, Director of Brazil's National Water Agency (ANA), moderated the session and said that countries with a federal structure encounter challenges with IWRM when international jurisdictions are involved.

Noting that Brazil has states with broad political autonomy for water resources, José Machado, ANA, identified diplomacy and dialogue as major IWRM challenges for federations.

Jacques Cicard, Seine-Normandy Basin Organization, said the river basin committees in France do not superimpose governmental boundaries. Emphasizing the use of the "polluter pays" principle, Cicard explained how these committees vote on appropriate tax levels for polluters, and in closing highlighted increased oxygen and fish biodiversity levels in the Seine-Normandy basin over the past decades.

Rosan Garjulli Sales Costa, ANA, discussed the creation of the Watershed Committee for the San Francisco River in Brazil. Garjulli noted that the participatory approach of the Committee offered the opportunity to reach agreed goals of widely different cultural, social, and economic sectors of society.

Mario Lópes Péres, CONAGUA, presented on the consultative and coordinating agreement for the distribution and availability of surface water in the Lerma Chapala watershed. He said that multidisciplinary expertise and participation in the watershed's management enabled the use of highly scientific and technical tools.

Marie-José Racine, Montmorency River Watershed Council, discussed IWRM in the Canadian province of Quebec and, in particular, in the Montmorency Watershed. She said the Quebec Water Management Plan consists of: an overview and diagnosis; goals and actions; and tools to engage local stakeholders.

Acknowledging the non-binding nature of the Montmorency River Watershed Plan, she said the Plan has been welcomed and has mobilized local civil society. She concluded that IWRM depends on adequate technical and financial means to reach agreed goals.

Olivier Bommelaer, Seine-Normandy Basin Organization, underscored the tourism and recreational potential of watershed management. He also noted that combating pollution has been a driver of watershed management in France.

Victor Dukhovny, Scientific Research Center of the International Commission of Water Resources of Uzbekistan, said that IWRM has its roots in Spain and France and suggested using the full range of IWRM tools to achieve its goals.

In the ensuing discussion, participants inquired, *inter alia*, about: potential lawsuits and provincial-state-federal conflicts, limits of the participatory approach in face of water deficits, and incorporating the precautionary approach in IWRM.