

From Rainwater Harvesting to Hydroelectric Dams: Infrastructure Given Centre Stage



Participants in the high-level panel included, from left, H.E. Buyelwa Patience Sonjica, Minister of Water Affairs and Forestry, South Africa; H.E. Martha Karua, Minister of Water Resources Management and Development, Kenya; Mr. Jamal Saghir, Director, Energy and Water, World Bank; Mr. Mike Anane, FIAN-Coordination, League of Environmental Journalists, Ghana; Mr. Steven R. Loranger, Chairman, President and CEO, ITT Industries, USA; Dr. Richard Taylor, Executive Director, IHA Central Office, United Kingdom; and Ms. Sunita Narain, Centre for Science and Environment, India.

A major focus of the 2005 World Water Week in Stockholm was on the pros and cons of new infrastructure for water resources development, conveyance, allocation and environmental flow, and for water supply and sanitation services.

In plenary presentations, workshops, seminars and side events, discussions focused on how both small- and large-scale infrastructure is, for most developing countries, a prerequisite for economic growth. In developing such infrastructure, however, environmental impacts and potential multiple uses must be considered alongside the technical, economic and social aspects before plans are made to design and build dams, hydroelectric facilities and other structures.

Of particular importance, it was also said, is the need to develop more effective mechanisms to ensure that large-scale infrastructure projects truly do benefit people, particularly the poor and the unserved.

Let it rain

It was emphasised that the importance and relevance of small-scale approaches cannot be denied. Rainwater harvesting was very much a centre of attention during the week. Structures to harvest rain require little space. A dried borewell, a row of soak pits or a tank – concealed below the ground – are all that are needed, said Ms. Sunita Narain, executive director of the Centre for Science and Environment (CSE) in India. Open spaces – rooftops and ground – can be used as the catchment surface to catch rain. In India, and Kenya, for example this traditional approach has proven

its worth in mobilising people to find and implement solutions locally.”

Water literacy is about building a water-prudent society, Ms. Narain said, and the approach empowers people to find applicable and cost-effective solutions to water supply and drought mitigation in urban and rural areas. A stunning statistic she displayed showed that 1 hectare of land, with 100 mm of rainfall, can yield 1 million litres of rainfall.

“Rain is decentralised,” said Ms. Narain, “so is the demand for water. Why not decentralise supply by catching water where it falls?”

Avoiding Northern mistakes

Other commonly heard remarks during the World Water Week were that the South can benefit by avoiding some of the Northern mistakes of the past. As shown in one seminar, “Finance for Water Solutions,” and elsewhere, funding for infrastructure remains a challenge. Public entities, private investment, partnerships and multi-lateral and bi-lateral donors need assurances that investments in the sector won’t go down the drain, figuratively speaking.

In a broad way, the 2005 World Water Week looked at how humans have used two complementary strategies to cope with water- and sanitation-related development challenges. The “hard path” refers to physical structures for water development, storage, conveyance, productivity enhancement and treatment. The “soft path” focuses on the human dimension of water management, i.e. institutional arrangements and governance, which determine “the rules of the game,” including the market, legal, po-

litical, administrative and human resource systems.

A high-level panel on large-scale water infrastructure during the week’s opening day featured a variety of views.

The panellists discussed water infrastructure needs in coming decades, past experiences, equity and long-term benefits, responsibilities of different actors and stakeholders and financing.

Africa voices its need

The call for infrastructure in the South was evident. “Provision of reliable water supplies for economic and social development is crucial to meeting the Millennium Development Goal on poverty,” said H.E. Buyelwa Patience Sonjica, Minister of Water Affairs and Forestry, South Africa. “Unfortunately, in many developing countries, there is not sufficient infrastructure to provide this reliable supply.”

An example from a seminar later in the week showed the potential impact of new infrastructure. A cooperative effort by Burundi, Rwanda, and Tanzania to design and build the Rusumo Falls hydroelectric project on the Kagera River could, once operational, bring 60 megawatts of renewable, low-cost power to an area where today only around 2% of households have access to electricity. (see page 16).

The “Water and Energy” seminar also took an in-depth look at the subject. During the seminar, World Bank Energy and Water Director Mr. Jamal Saghir, said that neither future water nor energy requirements can be met efficiently in the coming

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Battling Graft in Water Resources Management

Speakers and attendees at a World Water Week seminar focusing on the issue of corruption in water resources management came away from their day-long gathering pleased that attention is finally being focused on the issue.

A growing number of tools and techniques – from Water User Associations to Citizens Report Cards – exist to combat this problem, and an increasing amount of empirical evidence is being gathered on an issue which only in recent years has surfaced as a one to be reckoned with.

The seminar expanded upon the World Water Week’s earlier examination of the issue. In 2004, a panel debate took place, and the 2005 seminar was convened by SIWI, the Swedish International Development Co-operation Agency, the Swedish Water House, Transparency International and the Water and Sanitation Program.



Photo: Frida Lanshammar

An important shift in thinking, if implicit, has occurred, and anti-corruption measures are now viewed as central to equitable and sustainable development, fuelled in part by evidence that corrupt practices are detrimental to economic efficiency and social equity. The World Bank Institute estimates that the bill for corruption in general each year is USD 1 trillion.

This absence of explicit attention to corruption can offer a number of good opportunities to fight it, said seminar speaker

Hansjörg Elshorst from Transparency International. “The fact that water is a political issue can be turned from a liability to an asset,” he said. “Political power and leadership can be mobilized to address corruption as well as the motivation of all involved from being responsible for an increasingly vital good.” Transparency International has developed a number of tools (e.g. Integrity Pact, Business principles against Bribery, Civil Society Tools) that could be adapted for challenging corruption in the parts of the water sector.

A number of concrete initiatives have already been taken, and examples were given at the seminar. In “Water Management in the ‘Moral Hazard Trap’: The Example of Irrigation,” Mr. Walter Huppert of GTZ analyzed the institutions for irrigation fee collection and water delivery in the Sriramsagar irrigation scheme in Andhra Pradesh. The analysis showed how some of the reform initiatives were geared to resolving “moral hazards” which, combined with the lack of transparency regarding funding and actual delivery of water, contributed to corruption. Better transparency was achieved through establishing and involving water user associations WUAs in project monitoring. Through the WUAs, the water users gained access to the scheme’s revenue records and were able to record the actual irrigated area on the tax rolls and hence received the entire amount of the grant.

Another example, “Community Voice as an Aid to Accountability: Experiences with Citizen Report Cards in Bangalore,” by Mr. Gopakumar K. Thampi presented a citizen-

led accountability initiative in which Citizen Report Cards (CRPs) were introduced to increase public accountability. The CRPs provided citizens and agencies with qualitative and quantitative information about gaps in service delivery. Over a 10-year period, citizen satisfaction with services increased, and corrupt transactions declined.

Other presentations presented everything from the results of a recent e-conference on corruption in the sector, to case studies from Lesotho, in the pipe manufacturing sector in Columbia, and on rent seeking in watershed development programmes in India, and more.

The seminar’s concluding panel discussion attempted to define how anti-corruption measures can be strengthened as a component in the international water agenda. Stakeholder involvement, increased communication and spreading of best practices were suggested.

The seminar chair, Mr. Piers Cross of the Water and Sanitation Program, Kenya, said the seminar was useful in the effort to provide an analytical model of corruption, involving the various stakeholders, including government, banks, the private sector and consumers.

Mr. Håkan Tropp of SIWI said, “The seminar helped to advance current appreciation of the extent of corruption, as well as provided recommendations for effective anti-corruption related policies in water resources management.”

The convenors of the seminar emphasised that they will continue to work with the issue. ■



Photo: Orange

Mr. Piers Cross, Team Leader, Water and Sanitation Programme (WSP), Africa, and Mr. Anton Earle of the University of Pretoria’s African Water Issues Research Unit.



Photo: Orange

African Ministers Initiative on WASH: Uganda, Ethiopia, Senegal, South Africa, Lesotho and Zambia, joined by SWP-Africa, NETWAS (Kenya) and the Water Supply and Sanitation Collaborative Council.

Campaigning for Health, Dignity and Development

“People and communities are often less aware of the relationship between sanitation and health than that between clean water and health,” said newly appointed chair of the Water Supply and Sanitation Collaborative Council, Mr. Roberto L. Lenton, during the World Water Week. “Sanitation tends to fall between the cracks. But although everyone understands that water is life, sanitation is dignity.”

World Water Week participants heard the message time and again in Stockholm, with a programme heavily focused on what can be done to bring basic sanitation to the 2.6 billion currently without it, and the additional 2.4 billion with inadequate sanitation.

In Stockholm, the message received support at the highest levels. Mr. Lenton moderated a seminar called “AMIWASH: African Ministers coming together to achieve the MDGs.” In addition to the Ministers of Ethiopia, Lesotho and Uganda, the seminar included presentations by Hon. Ms. Buyelwa Sonjica, Minister of Water Affairs and Forestry, among others. The ministers called for more priority and resources towards sanitation and hygiene, which are often overlooked in the national poverty reduction strategy plans of developing countries.

The Hon. Maria Mutagamba, Ugandan Minister of State for Water and President of the African Ministers Council on Water (AMCOW) said that the recently launched AMIWASH is owned by Africans, led by Africans, and could boost efforts by their governments to achieve the Millennium Development Goals (MDGs) on water and sanitation by 2015. AMIWASH builds on the WASH campaign started by the Geneva-based WSSCC and its partners in 2001 to raise issues of water, sanitation and hygiene high on the political agenda. WASH was instrumental in getting the sanitation target included in the Millennium Development Goals (MDGs) at the 2002 World Summit on Sustainable Development in Johannesburg, and has grown to include many national WASH campaigns and is engaging a wide variety of stakeholders in over 30 developing countries.

A Symposium workshop on “Tailoring Water and Sanitation Solutions to Reach the Millennium Development Goals” explored the issue further and said that such solutions need to take into consideration national and local consumer circumstances and demands. This means that multi-level institutional linkages are required, that national government must set guidelines, arrange financing and monitor implementation.

Since capital subsidies are likely to be required, the operation, maintenance and continual repair can and should be supported by local fees. Scaling up to meet the MDGs through stimulating local action and enterprise is a challenge that must be met, participants heard in the workshop, which was convened by SIWI along with the International Water Association and the Water Environment Federation.

Another exciting event was the seminar arranged by the Stockholm Water Prize-winning Centre for Science and Environment, together with the Swedish International Development Co-operation Agency. Called “The Political Economy of Defecation: Tales of Water and Excreta,” speakers pointed out that in many cities of the South, the demand and scarcity of water is increasing, yet with increased water consumption and a lack of waste treatment facilities, the same cities discharge more and more untreated wastewater into the environment, leading to pollution and stress on downstream users.

This dilemma means that diverse solutions are needed. Solutions which build on the ecosystem principle of a “closed loop,” where both rainwater harvesting and even treated and recycled wastewater can augment water resources by recharging aquifers, may give Southern cities some respite.

Participants in the seminar entitled “From the Millennium Summit to 2015: Why Managing Water Resources and Expanding Water Supply and Sanitation Services is Vital to Meeting the Millennium Development Goals – and What Needs to be Done” said that it is time to shift gears upwards if the MDGs are to be achieved. The convening organisations – SIWI, Swedish Ministry for Foreign Affairs, Swedish Water House and UN Millennium Project – said goal-oriented water and sanitation strategies sectoral strategies can spur progress toward all the MDGs, particular those on poverty, hunger, gender equality and environment.

It is generally acknowledged that the measures taken to attain the MDGs on water and sanitation in time are currently not enough. However, conceptual shifts are crucial to see that low-tech solutions might be more suitable in countries in the South. Proper and enhanced education, training and awareness are furthermore a basic requirement, as well as a general restructuring of the present government systems and agencies, participants heard.

One way to do it might be by using the techniques displayed in the seminar “Marketing Sanitation and Hygiene – How Do We Sell Toilets Like Toothpaste?” Social marketing is the use of commercial marketing methodology to achieve social behavioural change. The seminar, convened by WSSCC and the Water and Sanitation Programme Africa, discussed how marketing tools can be used to understand the market and customers of sanitation and to successfully create demand, increase latrine coverage and promote safe hygiene behaviour.

Many other innovative programmes and initiatives were on display during the side event sessions.

“Building Capacity in the African Water and Sanitation Sector,” a side event arranged by Partners for Water and Sanitation (PAWS), was well attended and showed how this tri-sector partnership between the United Kingdom Government, civil society and private sector assists countries in Africa with the provision of clean water and adequate sanitation. The Type II UN registered partnership was founded at WSSD in 2002, and currently works with South Africa, Nigeria and Uganda.

“Innovations in Service Delivery to the Poor,” a side event arranged by Water and Sanitation for the Urban Poor (WSUP), showcased an innovative partnership of businesses and non-governmental organisations providing capacity building and service delivery, with local partners, to the poorest communities in urban and peri-urban areas.

“Meeting the MDGs and Strengthening the Competitiveness of the European Water and Sanitation Sector – The Work Performed Within the EU Water Supply and Sanitation Technology Platform” offered attendees a chance to learn about the ongo-

ing efforts to structure the research policy of the EU and to focus it on the achievement of the MDGs and on strengthening the Water and Sanitation sector within the EU in the short, medium and long terms. ■



Photo: Mats Lannerstad

“In Ethiopia, sanitation was previously ignored, but after the integration of the community-based WASH and health care programmes for communities, the coverage vastly improved,” said the Hon. Mr. Shiferaw Jarso, Minister of Water Resources of Ethiopia, during the World Water Week.



Photo: Olli Varis

According to WHO and UNICEF, less than 400 people in a typical African village of 1,000 have access to a latrine. Diarrhoea resulting from poor sanitation and hygiene is responsible for the death of more than two million children each year.

Building a Climate to Cope

As if the Asian tsunami catastrophe didn't drive home the message strongly enough, Hurricane Katrina helped to make the point: there is an urgent need to learn how to cope with disasters, with climate variability and climate change and with other water-related hazards.

IPCC report to include water

The issue was an important one during the 2005 World Water Week in Stockholm, finding opportunities for discussion in the form of workshops, seminars and side events. More than 60 participants in the Symposium workshop concluded that there are several main challenges. Among them is the challenge for scientists to provide credibility to decision and policy makers. Another is for people in the vulnerable areas to cope by preparing for the variability, change and

risks – not just future vulnerability, but even for today. In this regard, communication between water managers, policy makers and the public is essential. On the horizon is the 2007 report by the Intergovernmental Panel on Climate Change, the panel's fourth such assessment which this time will place particular focus on water issues.

The workshop was convened by SIWI along with the Cooperative Programme on Water and Climate, Swedish Meteorological and Hydrological Institute, Swedish Institute for Climate Science and Policy Research at Linköping University, and the World Meteorological Organization.

Vulnerability analysis tools

In another side event, several analysis tools designed to increase understanding of vulnerability to impacts like changing precipitation patterns, droughts and coastal flooding were on display. Attendees discussed the challenges for the development of vulnerability analyses and instruments to identify the risk-related hotspots at regional, basin, country and local levels. The mainstreaming of climate

impacts, for example, into sustainable water management will go a long way towards minimising the impacts, particularly for the poor in developing regions.

Book launch on climate in South Asia

The World Water Week also witnessed the book launch for "Climate Change and South Asia's Water," organised by Environment Canada and the University of Toronto. This book has been edited by M. Monirul Qader Mirza and Q.K.Ahmad published by Taylor & Francis, U.K. The book addresses the most pressing water resources issues in South Asia, particularly in relation to climate change and variability. This is a region with abundant water during the monsoon when floods occur, often very devastating, and with droughts and scarcity of water during the dry period. Inevitably there are wide seasonal and spatial variations. These extreme events often cause substantial damages to infrastructure, property, and all human population. The book finds that the possibility of increased vulnerability exists unless adequate adaptation measures are designed and implemented under a policy framework that includes active participation of the stakeholders. ■

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Photo: Matthias Rust