

WORLD in Stockholm, August 12–18, 2007 WATER WEEK

Progress and Prospects on Water

**Striving for Sustainability
in a Changing World**





**WORLD
WATER
WEEK** in Stockholm
Bygga ett
Stockholm som påverkansfullt utvecklar
Sverige och världens vatten

Building Capacity

Promoting Partnership

Reviewing Implementation

Note to the Reader

In its role as organiser and host of the 2007 World Water Week in Stockholm, the Stockholm International Water Institute (SIWI) has prepared and published this final Synthesis Report. The report synthesises the wide range of issues, ideas and viewpoints addressed during the week and is prepared for the benefit of the participants and the broader water and development communities. It is also intended to contribute to the 2008 United Nations Commission on Sustainable Development (CSD) review of the first implementation cycle (2004/2005) of the CSD multi-year programme of work focused on the themes of water, sanitation, and human settlements, which resulted from CSD-13.

Section 1 includes the Overarching Conclusions, as well as the Policy, Scientific, Business and Non-Governmental Organisation (NGO) conclusions.

Section 2 includes a listing of major outputs and selected commentary by attendees.

Section 3 includes the conclusions from the High Level Panel on Water and Climate, as well as Seminar, Workshop and Side Event conclusions and recommendations under the themes of Water and Climate, Water and Sanitation, Governance, Water Resource Management, Ecosystems, and Finance, Business and Economics.

Section 4 summarises the major prize activities, and **Section 5** presents a list of the convenors and co-convenors.

Texts not attributed to individuals or convenors were prepared by SIWI. The statements, recommendations and opinions contained herein do not necessarily reflect the official position of the convening and co-convening organisations of the 2007 World Water Week.

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Photo: SIWI

Overarching Conclusions

A sense of both optimism and pessimism pervaded the 2007 World Water Week in Stockholm. Optimism existed because there is some progress on most water-related fronts. Pessimism held court, as well, since the serious gravity of the world's water, environment and human development crises – and the magnitude of the work at hand – weighed heavily upon the shoulders of the assembled experts in Stockholm.

Those 2,500 experts and some 140 organisations debated, discussed and delved deeper into an array of issues – from bioenergy to water rights – via nearly 80 separate sessions. Their conclusions and recommendations as summarised in this report should be taken to heart and used to jump start action.

What are some clear examples of progress and prospects on water? One would be that the Millennium Development Goal (MDG) target on drinking water is within reach. Another is the dedicated efforts to curb pollution and reduce water footprints in some parts of the world. A third success is the increasing political limelight that water is beginning to enjoy. But there is a very small number compared to 2.6 billion – the number of people suffering from a lack of access to basic sanitation, a focal point for an MDG target considered most likely to be the least successful.

And while misery enjoys company, it cultivates complexity: a predominantly urban population, producing and consuming more while changing the landscape, and adding to/suffering from/benefitting through climate variability and change, screams for revolutionary water planning.

Taking the last issue first, Stockholm showed that climate change is causing us to take a long, hard look at future water plan-

ning. No one is remotely prepared for a climate-changed world; poor people, even less so. Our capacity to adapt to both sudden and creeping changes in the water balance must be improved. Rising sea levels, spatial water availability changes, floods and drought will threaten infrastructure, physical planning and management. Improved ecosystem management will be fundamental for adaptation strategies. As water is the critical link between the climate system and human society, adaptation strategies targeting the water sector are therefore fundamental.

Beyond adaptation, ending our Faustian deal with oil by mitigating climate change through bioenergy or hydropower could have serious water implications. The good, the bad and the ugly of hydropower – already hotly debated – will once again be in the crosshairs. Even more so will be bioenergy solutions, though what's good for our cars and factories may not be for our stomachs or wallets. Biofuels may wean us off of our fossil fuel addiction, but at a cost: water (and land) that would be available for food production will be diverted to growing crops for biofuels. This has consequences. One, governments and other actors will have to consider the broader biofuel/food/ecosystem/water implications. Two, tradeoffs will have to be made, as competition for water, higher food prices and increased water scarcity will have to be balanced with clean energy, increased efficiency in agriculture, greater farm income, and so on. This complex issue is here to stay, and more needs to be known.

There is today a clear understanding on the global division between major water users. Agriculture has always been the dominant user of both blue (irrigated) and green (rain-fed) water, followed

by industry/energy and domestic water use. National and regional variations in water use are considerable, as are urban and rural uses, and solutions must also be. Future water use predictions to feed the growing global population are of particular long-term interest. Without water productivity improvements, then global water use (measured as the amount of water consumed by evapotranspiration) will have to increase as much as 70-90 percent by 2050, if current trends in food supply and demand prevail.

And that – human behaviour – may be our greatest water challenge. Spiking populations and growth in gross domestic products imply the demand for water and natural resources will significantly increase. Food and water security is therefore not only a supply side problem. Even in the face of enlightened policies, technological innovation and deepened scientific understanding, human behaviour – mirrored through our consumption and production patterns and the decisions we will make to solve current and future challenges – will ultimately drive forward or derail our efforts related to water for food, energy, sanitation and a range of other challenges. Our traditional values and daily choices are under scrutiny: some studies indicate that as much as half of all the world's food is lost due to poor logistics or is simply thrown away (availability is greater than consumption). There is a bright side: these losses, translated into water terms, mean that

consumer-driven gains in efficiency may completely change the predictions of necessary water use increases in the future. More water could then be used for bioenergy, domestic use or to secure vital ecosystems and services.

Finally, while the significance of existing water challenges weigh heavily upon us, we do not know *how much* they weigh. As the Water Week showed, imperfect data collection leads to a lack of clarity on the exact size, geographic extent, variability over time or all-around direction we are moving in with regard to water resources and water services. This vexing myopia makes even more challenging the attainment of globally agreed upon goals and targets for secure sustainable development, long-term poverty alleviation and ecosystem protection. To develop streamlined reporting systems based on common definitions and indicators, reliable data is a must for further development strategies, policies and actions.

If Stockholm in 2007 taught us something, it is that the path to a sustainable world in 2050 where 9 billion people have enough water, food, energy and income, as well as the chance to enjoy the beauty of nature, is not straightforward. Creeping, positive change on some fronts was evident at the Water Week; stagnation and uncertainty on others. Our common challenge is to accelerate the first, eliminate the second and investigate the third. In all cases, we must act.



Photo: SIWI



Photo: Mats Lannerstad

Policy Conclusions

Half-way to the target date of the Millennium Development Goals (MDGs), the 2007 World Water Week aptly focused on progress and prospects on water. While commitments are made by governments and international organisations, clear and effective monitoring and assessment methods are often lacking. In many cases, even when the tools for assessing and monitoring are available, the commitments and declarations signed are not honoured. The World Water Week repeatedly pointed to mismatches between goals and plans to achieve the MDGs and other commitments, and the slow pace that they are coming to fruition.

Emerging challenges such as climate change and increasing bioenergy demands – which have potentially huge impacts on water resources use and availability – were highlighted as imperative areas for research and policy guidance. While the effect climate change will have on the global water balance is not clear, the week highlighted that there is to a large degree agreement on the broad picture. For example, average annual precipitation is likely to be higher in India and lower in the Mediterranean region. Indeed, vulnerability to climate variability is apparent when one sees the current deficit in plans and measures for how to live with these likely occurrences. Increasing the readiness of societies to meet the changes likely to occur as a result of shifts in climate patterns is an important challenge, not the least for the water sector.

Progress

Progress on international goals and targets relating to water supply and sanitation lag behind. The reasons for this are largely known. The political environment is not conducive to covering costs for achieving sustainability and to increase investments. Low political will and commitment is shown in many country's development strategies where water and sanitation are not prioritised. In the water supply sector, figures charting progress are highly contested as current monitoring systems deliver very different figures depending on the methodology they apply. There is not a consensus on which and how indicators should be used.

Most countries failed to deliver the Integrated water resources management (IWRM) plans they committed to in Johannesburg in 2002 and the development of water use efficiency plans has nearly been forgotten entirely. IWRM indicators mainly monitor the process but not the impact. IWRM inclusion of soft data – such as, policy development, management instruments, institutional capacity, stakeholder participations as well as physical properties of water quality, quantity and allocation – creates difficulties. IWRM roadmaps for planning and implementation were shown in one seminar as a way forward.

Progress on transboundary water management was noted, though research and coordinated policy on transboundary groundwater lags behind. The vast groundwater resources in

Africa and the Middle East region were highlighted as sources of both potential conflict as well as cooperation. While analysis and mapping of these resources are underway, much remains to be done before adequate policies can be identified and put in place. Ensuring transparency in data and promoting dialogue between countries sharing transboundary water resources are important ways forward. This process requires patience and sustained effort. Such support needs to be coupled with work to strengthen weaker riparians power to interact, negotiate and reach deals with stronger neighbours.

Prospects and opportunities

To feed the growing population, blue and especially green water sources, such as soil moisture, need to be better utilised. Prospects for improving green water use to benefit food production are huge. However, the increased demand for biofuels as a clean but water consumptive energy source complicates the water-food-energy nexus. Governments need to carefully balance the demands for food, energy and ecosystems.

The human behavioural component has largely been missing in the water and environment debate. Actor's behaviour and their surrounding structures are both important to policy formulation and to assess what is possible. In particular, preferences, intentions and beliefs are important to understanding food consumption patterns.

Obstacles

As identified in the 2006 UNDP Human Development Report (HDR), where the power lies is the main determinant to water and sanitation and national and transboundary waters issues. In essence, power determines who gets what, where, why and how. Power structures in a society are still the key factor in understanding why poor people sometimes do not have access to water and sanitation, and why a weaker party in an international river basin does not receive an equitable share of water. Certainly, questions of how to level the playing field – whether that involves strengthening and empowering the poor, or supporting a weak state in its negotiation with a stronger neighbour – should be prioritised in the international community's support to the water sector.

A further example of how power can skew political processes is evident in the Poverty Reduction Strategy Papers (PRSPs), which often neglect water. The economic return on investment in the water supply and sanitation sector is huge. For example, as shown in 2006 HDR, one dollar invested in sanitation will result in an eight dollar return.

It was emphasised that development aid is not taking climate change concerns properly into account. Some estimates pointed out that only two percent of development projects are “climate change proof,” i.e. they factor in climate change's potential impacts into their development planning.

Conclusions and recommendations

- In order to be able to reach the water supply and sanitation goals of the MDGs, increased efforts are needed. First, it is recommended that countries develop implementation and financial plans for water supply and sanitation. Second, it is important to include the water and sanitation component into national development strategies (such as PRSPs) to a larger extent than today. Third, a political environment that allows for the sustainable operation of water supply and sanitation services must be created.
- To meet the new challenges increasing climate variability and change bring, countries need to develop national strategies on climate adaptation and climate variability. Strategies should focus on vulnerability issues. Increased work to lessen vulnerability today will make a country more ready to meet possible larger climatic changes.
- The efficiency of water use is still very low. There is a need to revitalise attention to the already agreed target on “water use efficiency plans” from 2002 in the Johannesburg Plan of Implementation. This is especially relevant for land use, production of agricultural products and bioenergy.
- A specific challenge is to improve on harmonised monitoring and reporting mechanisms for water supply and sanitation and IWRM. This is a result of the different demands for various types of indicators, poor quality of data and too many actors being involved. To move forward on the IWRM agenda, impact indicators that actually measure the effect of good IWRM practices – and not simply whether preconditions were met – need to be developed.



Photo: SIWI



Photo: Getty Images

Scientific Conclusions

Global change presents both challenges and opportunities. The 2007 World Water Week examined the performance of policies and programmes in meeting challenges and capitalising on opportunities for progress. It also assessed our readiness to face a turbulent future. The following is a breakdown of the main scientific conclusions coming out of the week.

Progress

The discussions revealed fundamental breakthroughs in understanding three main areas:

Water – A brake on economic development?

Climate variability, floods and droughts, contamination and water disputes all hamper socio-economic development. Low income countries remain particularly vulnerable to their hydrological context. However, water-related stress can also stimulate creativity. Countries that have harnessed critical manifestations of their hydrological variability have been able to secure the path to improved water security, economic development and increased production capacity. A successful fight against hydrological variability depends on the right blend between infrastructure and capable institutions. Experience suggests that where water security is achieved – as expressed through the seasonal storage index (SSI index) in terms of the quotient between existing and required storage – GDP growth is strong.

Water implications of climate change and its first signs in terms of climatic variability

Evidence of the ongoing global warming is increasing. Eleven of the last twelve years were among the twelve warmest recorded in the past 165 years. The impact of climate change on water resources will significantly affect societal activities, including agriculture, hydro-power, energy production, tourism and navigation. While mitigation mainly pertains to altering energy production and consumption,

adaptation is largely related to freshwater resource management. The three main categories of water problems (too little, too much, too dirty) will all likely be exacerbated by climate change.

IWRM as a mechanism for incorporating ecosystem resilience and protecting biodiversity

Water is a useful entry point for an integrated land/water/ecosystem approach. An ecosystem-based policy approach is emerging from processes crafted to improve understanding of trade-offs in decision making. Integrated water resources management (IWRM) is seen as a powerful means to conserve aquatic ecosystems that is compatible with sustained basin development. In this approach, the ecological value of river reach and water bodies are assessed and goals are set according to which functions of the ecosystems need to be protected most. Conservation priorities can be determined based on such values, and best management practices identified for dominant land uses and for protecting riparian zones. Land use zoning can be linked to protected areas and best management practices can be for dominant land uses can be introduced and enforced. Environmental flows can be set aside prior to water use allocation. With an IWRM-based approach, water agencies would be compelled to manage water allocation, pollution discharge and adjacent land use to meet the expressed social and ecological goals.

Research Needs

Water for bioenergy

The demand for bioenergy has increased rapidly in recent years. Trends indicate that interest in bioenergy from policy makers, producers and consumers will continue or even accelerate. Many valid arguments have been presented about the “pros” of developing bioenergy. There are also significant gaps of knowledge. Since the land and water used for bioenergy could have otherwise been used to produce food for human consumption, an enhanced competi-

tion for scarce resources is inevitable. Much better knowledge on the water and land use implications of increased dependence on bioenergy is needed. For instance, it is essential to know what kinds of feed stock – i.e. what kinds of plants or biomass used for bioenergy production – can generate high levels of energy output per unit of water used. We must know to what extent greenhouse gas emissions could actually be reduced by large scale industrial production of bioenergy and whether different strategies for bioenergy production can be compatible with, or pose conflicts to, food, water and ecosystem security needs.

Water losses beyond production

It is widely accepted that we need to produce “more crop per drop.” We also know quite well how losses and wastage of water from source to field can be reduced. Much less is known about how to curb losses and wastage from food in the field to food on the plate. At least a third, and often much more, of the food that is produced at the field level is lost, wasted or in other ways not beneficially used. Lost and wasted food requires land and water resources to be produced. Reduction of these unintended, and surprisingly under noticed problems, has direct implications on the pressure placed on land and water resources and food security. Special care must be devoted to support small producers in their effort to keep or sell as much as possible of what they produce.

The water cycle backwards

Ideas and knowledge on water resources management typically start with the water that is available – or accessible – for alloca-

tion and/or potential use. A top-down basin perspective has been natural, but it has not considered what water quality is needed at certain critical points downstream in the hydrological cycle. What is the fate of the water and its users by the time it reaches an estuary or an aquifer? Is there even any water left? Reversing the perspective and looking backwards through the hydrological cycle in a basin context – by analysing how the string of uses and users modify the water cycle – could provide a clearer focus on water quality problems. It would also highlight the quantitative reductions in flow that occur along the routes that water is forced to take.

Water for human needs first

Discussions of increasing water use efficiency and productivity implicitly refer to our ability to successfully manage water resources in situations of scarcity. Improvements in efficiency and productivity are important for society to strive for economic growth and increasing wealth. With increasing economic growth comes opportunities to reduce poverty and, generally, to improve living conditions. The combination of demographic trends and enhanced purchasing power for large segments of the world’s people will likely lead to significant increases on aggregate resource pressure and the quantity of environmentally harmful substances in our living quarters and the environment. We need to know more about the possible and likely implications of growing wealth among the world’s population. To paraphrase Mahatma Gandhi, “there is enough of water for everybody’s needs, but not for everybody’s greed.”

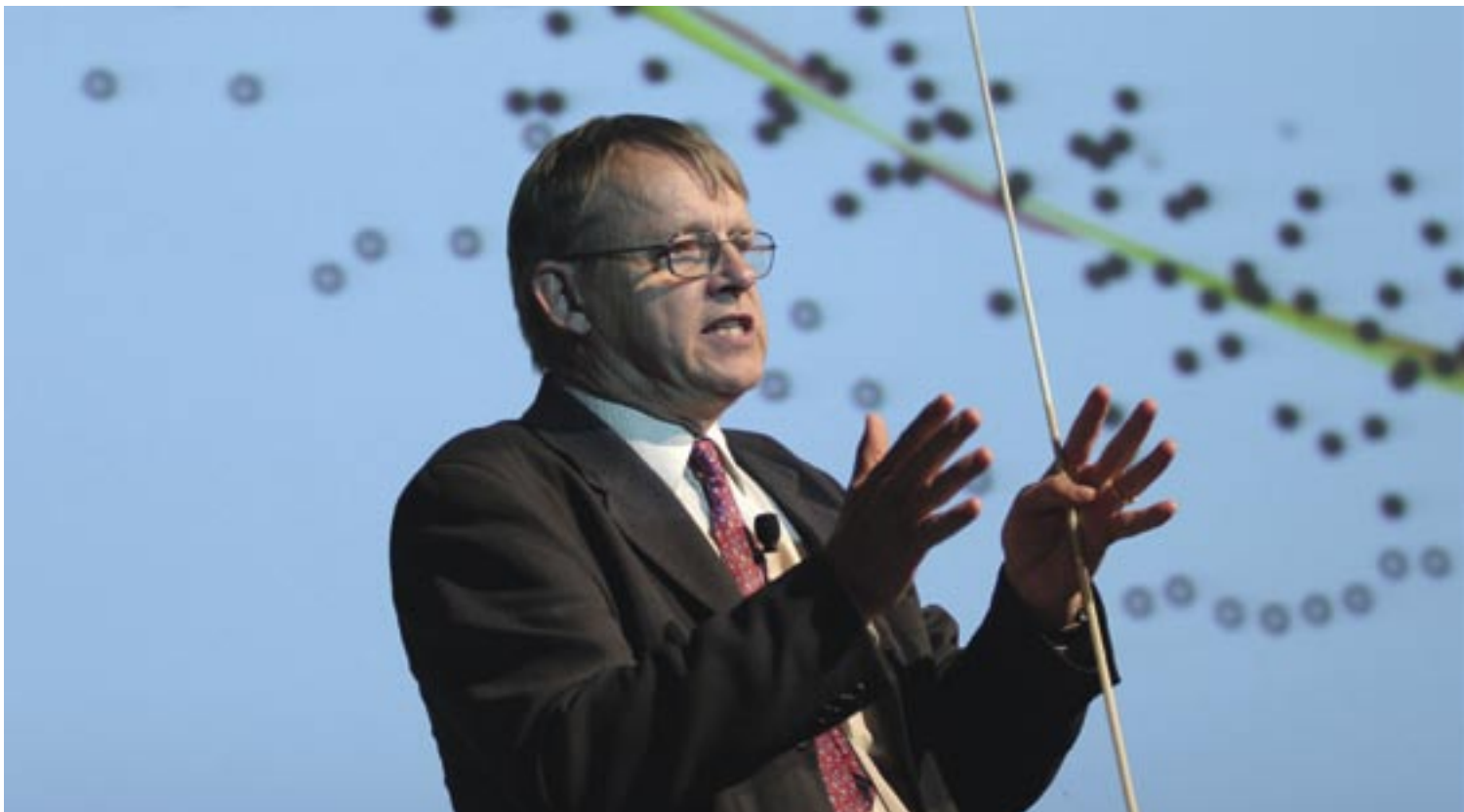


Photo: SIWI



Photo: SXC.hu/Alexander Khodarev

Business and Industry Conclusions

Participants in this year's World Water Week looked at the various roles business plays in relation to water – user, polluter, service provider and investor. In general, the sector has made great progress, particularly to reduce pollution and improve water use practices. In the roles of service provider and investor, the discussion suggested there is still considerable untapped potential. Participants highlighted opportunities and obstacles to achieving this potential.

Progress

During the week many presentations offered examples of companies becoming more responsible water users – increasing their water efficiency, reducing pollution, and actively working to improve the water situation in communities where they are located. In the auto and fiber industries, companies have managed to stop leakages, increase water recycling, and reduce the amount of water needed for production. In Las Vegas, USA only two percent of the city's water supplies are used for tourism, its biggest industry. Fueling this progress are technological advances and increased emphasis on corporate responsibility, which are in turn driven by factors such as public opinion, water pricing and government policies.

Knowledge is another important factor in advancing progress. At Stockholm, the World Business Council for Sustainable Development (WBCSD) launched the Global Water Tool to help companies and organisations become more aware of their water footprint. Using this free tool, companies can now easily map their water use and assess risks relative to water availability in their operations and supply chains. The development of this tool is timely. Businesses are becoming increasingly aware of how water-related risks can lead to financial losses and reputational damage, and many financiers are adding water issues to their check-lists for assessing the risks associated with an investment.

This year's Stockholm Industry Water Award Winner, PUB Singapore, demonstrated that industry is an invaluable partner

in meeting water and sanitation challenges – both as a provider of innovative technological and engineering solutions and as a more efficient water user. Singapore PUB also shows how water stress and other such challenges can stimulate creativity, innovation and ultimately sector growth – Singapore now has a thriving water industry capable of transferring knowledge and skills to the region as well as attracting a broad range of skills and capabilities.

Opportunities

As with previous Water Weeks, the potential for partnerships between businesses, communities and governments was a topic of discussion in many sessions. While there are examples of progressive companies working with communities and other stakeholders to create mutually beneficial water management partnerships, there are many opportunities for further progress.

Encouraging companies to act on these opportunities involves making them more aware of how such partnerships benefit them. One session urged companies to look beyond their own "fenceline" and realise that beyond securing water for their own operations, it is in their interest to contribute to sustainable water management locally – to ensure a healthy workforce and supportive communities – and globally – to ensure strong global consumer markets and continued access to clean water for productive use.

Several other sessions emphasised the financial opportunities – the water sector provides a large market and many potential investment opportunities for business. In particular, presenters and participants identified investment at the community level as having great untapped potential. There are also opportunities to be found in water challenges, such as pollution and water scarcity, as demonstrated by PUB Singapore. Even water-related risks such as climate change can provide opportunities in the areas of technology, risk management and insurance.

Obstacles

A recurring theme in the development sector is the potential of private investment and Public Private Partnerships (PPPs) to bridge the financing gap for water services and infrastructure. Thus far, however, the response from the business sector has been lukewarm. This year's Water Week looked at why this is the case.

Several factors that inhibit both public and private investors were identified. These included concerns over: cost recovery and high overhead and transaction costs, the high risk/low return profile of many water investments, governmental inefficiency, corruption and instability, and lack of trust between governments and financiers.

Additional obstacles to investment at the local level are lack of human capacity and access to markets of scale. There were also concerns that international aid, or "cheap money" as one seminar called it, distorts local investment markets.

Conclusions and recommendations

There are signs of interest from international financial institutions and private financiers. To encourage potential investors to take the plunge, participants offered the following key recommendations:

- Avoid presenting water projects as social marketing plans and instead stress the financial aspects, such as recovering costs,
- Create an effective investment climate by improving governance and working to eliminate corruption,

- Use overseas development assistance to leverage private funding,
- Investments in building "social capital," such as health and education, helps to attract investors and financiers to other sectors, including water, and
- To make Public Private Partnerships work requires a mix of models, public disclosure of utility performance and credit rating.

Additional recommendations for improving business's contribution to sustainable water management:

For governments:

- Put into place more stable and effective regulation, both for water supply and sanitation and pollution reduction.

For businesses:

- Be aware of your water footprint, and
- Engage in multi-sector partnerships with communities and other stakeholders – partnerships based on understanding, transparency and mutual benefit enables effective collaboration that makes optimal use of each partner's skills.

By Ms. Sarah Clarice Carriger, Managing Director, WaterWrites



NGO Conclusions

Progress made

This year's World Water Week attracted an impressive 2,500 participants from 140 countries, a clear indication that water issues have risen to the top of the development agenda. The popularity of the conference is also a sign that Stockholm is maturing and becoming the place for the international water development community to meet, debate and look to the future.

In the past, much of the dialogue between stakeholders, governments, UN agencies and NGOs was conducted "in-house" – away from the public's gaze or general interest. Today, the importance of water and sanitation is finally crystallizing in the minds of many ordinary people. But where exactly does Stockholm sit within the public's awareness? While "climate change" has become the ethical buzz phrase of the early 21st century and "environmental issues" are etched ever deeper into the public and political consciousness, many of us in the water development sector would like to see more action and greater results happen far, far quicker.

The will and intent among the water development community during World Water Week was unparalleled. One of the main outcomes of this year's conference was the widespread acknowledgement that much stronger reporting and monitoring is needed to improve upon the slow rate of progress that has been achieved, particularly in Sub-Saharan Africa.

In November 2006, UNDP's Human Development Report, "Beyond Scarcity: Power, poverty and the global water crisis," proposed a Global Action Plan (GAP) to help ensure increased and more effective aid for the water and sanitation sectors. The GAP has three basic aims: to increase global funding (especially for "donor orphans" within the sectors); to ensure that money is spent effectively and fairly (longer-term, more predictable and coordinated funding and capacity building at local and regional levels); and to put the right structures in place to make progress. On this third aim, the UK Department for International Development (DFID) has proposed "the Five Ones" consisting of one annual UN monitoring report; one high-level global meeting; one national water and sanitation plan per country; one water

and sanitation coordinating group per country; and one lead UN body for water and sanitation.

The good news is that discussions in Stockholm progressed this agenda, with UN-Water in the lead. But urgency and renewed commitment remain vital given the fact that at the present rate, Sub-Saharan Africa will not reach its water target until 2040 and its sanitation target by 2076. This means that millions of children born in Africa today will never see clean water or safe sanitation in their lifetime, and maybe not even in their children's lifetime.

Organisations such as WaterAid now recognise that decentralising (and thus empowering) local governments is an important step towards supporting institutions on the front lines that directly deliver, or manage and regulate the delivery of, water and sanitation services. But the water community also needs to understand that this is still an incomplete process. For effective decentralisation, local government must have financial, human and technical resources to fulfil their roles.

Prospects/opportunities for further progress

New local watershed management authorities are emerging as part of the overall water management landscape. But how well do these new arrangements work with decentralised local governments, which are charged with service delivery; and how do they make decisions on access for all water users? These new institutions need to be accountable to the stakeholders that use water. Otherwise, there is a risk of water management being captured by special and self-serving interests. Domestic water users often lack a voice in the decision making process, so it should be the responsibility and duty of water management organisations to make sure that there is accessibility for all water users.

More sources of funding and greater energy are being invested in the water supply and sanitation sector. For example new programmes in the Africa Development Bank, Asian Development Bank and proposals for a Global Sanitation Fund have emerged. However, will these funds materialise in a way that learns from



Photo: WSSCC

Feed grains per unit of meat (kg/kg)

World	2.84
Africa	1.64
Europe	4.16
Latin Amer & Caribbean	2.09
China	1.35
India	0.37
United States of America	4.83

Based on FAOstat data

Photo: SIWI



the experiences of vertical funding in the health and education sector? WaterAid is confident that the entire water supply and sanitation community welcomes this increased interest and funding, but would argue that such investment needs to be integrated into a framework that is managed as a part of national priorities, and that funds are used to build the local capacity needed for longer-term institutional sustainability.

The International Year of Sanitation 2008 has the great potential to catalyse public support, which is essential in creating political will. The key to its success however, is to promote the issues, not the “International Year of Sanitation” as the brand. Messages should have passion and commitment, and urge the public to take action, for example, on the lack of privacy for millions of women without access to decent toilets.

Obstacles to progress

All too often, there is a lack of the right people or institutions in the room. We need to build stronger alliances with other health, education and economic development sectors so that they promote sound management of water resources and access to basic services as a necessity, not an option.

The water sector’s limited analysis of political processes is a cultural barrier that must be overcome. We need to understand how political will is formed. Politics is not just policy but is about people as well. Involving citizens and civil society in campaigning can and will create unavoidable confrontations within the sector. In many respects, as a sector we must accept that conflict

is a component of change and as such we should be ready and able to confront it.

Conclusions/recommendations

To a great extent, climate change and “environmental issues” have managed to dominate the development sector of late. Popular campaigns, powerful messages and a sustained assault on the public’s consciousness are finally starting to pay dividends. The term “carbon footprint” has become a byword, perhaps even a cliché for ethical thinking and environmentally conscientious behaviour. How has this populist thinking come about in such a relatively short period, given the difficulty many committed NGOs and activists faced for decades when it came to “getting the message across”?

Perhaps the answer lies in “thinking outside of the box.” The water sector needs to learn from a range of areas, not just the development sector, if it is to make the breakthrough needed to transform water development from a “soft” issue into “hard news.” For instance, the HIV/AIDS lobby can teach us much about how to create political will, communicate popular messages, and of course, galvanise the strength of mass meetings and conferences such as World Water Week. Stockholm’s unique position as the global gathering for the water development sector has made it another important weapon in the growing fight to end water poverty.

*Mr. Stephen Turner, Director,
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Outputs from the World Water Week

The 2007 World Water Week featured a number of new agreements, initiatives, launches and celebrations. A sampling is below:

- To strengthen the capacities of the public water operators that provide more than 90 percent of water and sanitation services in developing nations, UN-HABITAT, the United Nations agency working with human settlements, launched the Global Water Operators Partnership. For more information, visit www.unhabitat.org.
- SIWI and the Swedish Water House launched four new reports: “Making Anti-Corruption Approaches Work for the Poor;” “On the Verge of a New Water Scarcity;” “Agriculture, Water and Ecosystems;” and “Planning for Drinking Water and Sanitation in Peri-Urban Areas”. Download them at www.siw.org.
- The World Business Council for Sustainable Development (WBCSD) launched the Global Water Tool, a free and easy-to-use tool for companies and organisations to map their water use and assess risks relative to their global operations and supply chains. For more information, visit www.wbcd.org/web/watertool.htm.
- Professor Perry L. McCarty of Stanford University received the 2007 Stockholm Water Prize worth USD 150,000, for “outstanding achievements” from the hands of H. M. King Carl XVI Gustaf of Sweden.
- The Water Supply and Sanitation Collaborative Council (WSSCC) and SIWI announced the opening of the nomination period for the WASH Media Award. For more information, visit www.wsscc.org/en/media/wash-media-awards.
- British charity WaterAid launched its report “Global Cause and Effect: How the Aid System is Undermining the Millennium Development Goals” which argues international donors must replace their pursuit of single issue “global causes” with systems of aid that are built to respond to the complex needs of poor communities. Download the report at www.wateraid.org.
- The Global Water Partnership announced Letitia A. Obeng as the new Chair of GWP. GWP also released the policy brief “Climate Change Adaptation and Water Management,” as well as the book “Sustainable Sanitation in Eastern and Central Europe.” For more information, visit www.gwpforum.org.
- The Swedish International Development Cooperation Agency, Sida, released a position paper, “Natural Resource Tenure” which shows how development priorities such as pro-poor growth, gender equality, democratic governance, peace and security are all related to and impacted by tenure. Download the report from www.sida.se.
- The Asian Development Bank released the report “Dignity, Disease and Dollars: Asia’s Urgent Sanitation Challenge” outlining its aims to provide 200 million people with sustainable access to safe water supply and improved sanitation and double its pipelined USD 2.2 billion worth of sanitation and wastewater projects between 2006-2010. Download the report at www.asiadevbank.org/Water/Operations/Sanitation/.
- The Council for Scientific and Industrial Research (CSIR) South Africa presented new technology for removing heavy metals and subsequent radioactivity from mines. For more information, visit www.csir.co.za.
- The Co-operative Programme on Water and Climate (CPWC) presented its new resource centre on water, climate, risk, adaptation and mitigation and released the report “Water, Climate, Risk and Adaptation,” which discusses conceptual issues, stra-



Photo: Edelfix

tegic responses and practical cases in climate change adaptation from a risk management perspective. For more information, visit www.waterandclimateinformationcentre.org.

- The World Water Council (WWC), the General Directorate State Hydraulic Works for Turkey (DSI) and the Secretariat of the 5th World Water Forum released the First Announcement of the 5th Forum, titled “Bridging Divides in Water,” to be held in Istanbul, March 15-22, 2009. For more information, visit www.worldwaterforum5.org.
- Borealis and Borouge became a Founder of the Stockholm Water Prize. For more information, visit www.borealisgroup.com.
- The International Institute for Environment and Development issued two briefing papers that summarise new research on payments for watershed services in developing nations. For more information, visit www.iied.org/pubs/newpubs.html.
- The International Foundation for Science released its new report on “Strengthening Capacity for Water Resources Research in Countries with Vulnerable Scientific Infrastructure.” For more information, visit www.ifs.se.
- The Government of Singapore and the World Health Organisation (WHO) signed a new partnership agreement to jointly promote the safe management of drinking water globally.
- The Water Environment Federation and the International Water Association introduced the revamped World Water Monitoring Day initiative and provided kits to Stockholm Junior Water Prize participants. For more information, visit www.worldwatermonitoringday.org.
- The Water Integrity Network launched its new website to fight corruption in the water sector. Visit it at www.waterintegritynetwork.net.

Voices from the World Water Week

What do you consider being the most pressing water global issue right now?

Sustainable sanitation for all. We need to assure better governance and make advanced technology options available to more people.
Helmut Lehn, Forschungszentrum Karlsruhe, Germany



Lack of political will to make a significant change for the poorest or the poor women and men in the world's remote “no-go areas.”
Joke Muylwijk, GWA, Netherlands



What is the greatest climate change challenge?

It will be challenging to tackle in Africa where people are not prepared for it technically and socially.
Joseph Sang, ICRAF, Kenya



We have to be smart. We have to use conservation, reuse, recycling, reduction of demand and land management. If we do that, we should be alright for the next 50 years.
Peter Rogers, Harvard University, USA



Change is necessary for individual survival and global survival. If we do not change our lifestyle, nothing will happen. We have to internalise it, especially in the Western world.
Björn Guterstam, GWP, Sweden



We need political commitments by the right governments to make tangible and meaningful impacts in the right places. We cannot look at business as usual. We must back cast — look at our goals for the future and assess tangible steps to get there.
Dana Cardoo, Institute for Sustainable Futures, Australia



How can we raise the water issue on political agenda?

The first step is to get a clear political message. The reason why it's difficult is that water is the ultimate common property resource dilemma. Nobody owns the solution, therefore no one owns the political solution.
Domjinic Waughray, WEF, Switzerland



For now this link to climate change is good. It's quite concrete. People are concerned with climate, so pointing out that linkage can help.
Karin Bagge, Political Advisor to European Parliament MP



The media should give greater attention. The organisations in the water sector must cooperate with media more to get indirect pressure to politics.
Urooj Amjad, BPD Water and Sanitation, UK



Why do you attend the World Water Week?

I represent a new water company in Kenya. We are concerned about the usage of water resources and we are here to learn more to make the future of the company sustainable.
John K. Nyumu, Nairobi Water Company, Kenya





Photo: Mats Lannerstad

High Level Panel on Climate Change, Water and Vulnerability

We can never expect to have all the answers about the future impacts from climate models, but we still must act now. We all have a common but differentiated responsibility, as the ultimate drivers in water and climate concerns are human consumption patterns. These were some of the key conclusions from the “High Level Panel on Water and Climate.”

Human societies are becoming more vulnerable, not least in the fast growing cities of developing countries. Ponds, lakes and rivers are filled up and wetlands are drained. Houses are built in high-risk areas, either deliberately or from failed planning. When heavy rains increasingly fall due to climate change, catastrophes will result, many of which could at least partly have been avoided had we adapted to living with even natural climate variability. Unfortunately, political systems and the corresponding spatial planning too often act (even if rhetoric would imply otherwise) as if there were no major threats.

Current climate scenario’s ability to provide information at spatial scales useful for water management is limited. Local communities and farmers are asking for information they still can not get. This makes future planning particularly challenging in regions expected to face considerable changes. While more research is clearly needed, uncertainties should not restrain us from taking actions now that will make local communities less vulnerable.

Climate change is striking a world that is already in bad shape. Poverty and a widespread lack of water and sanitation increase vulnerability. In climate discourse, perhaps too much attention is directed on catastrophic events while too little focus is placed on long-term challenges poverty struck communities face in developing under climate change. Social insurance policies and micro insurance, for example, can help the poor recover losses after disaster.

Adaptation is more than infrastructure development. It is a core of good development strategy. It is about continuing with what the water community already tries to do: improving land and water management. It is about having systems to manage the processes of change that can still lead to more equitable and sustainable development globally. That the MDGs do not consider the climate change impacts on development is a great weakness that needs to be re-evaluated.

There are positive signs. Awareness and understanding of the causes and effects of climate change is growing. Low cost, low carbon technologies are being developed. Here, clearly, the private sector will play a critical role. Ultimately, however, there has to be the political will to make the necessary investments in adaptation and mitigation strategies.

Water and Climate Day

Convenors: Cooperative Programme on Water and Climate (CPWC), European Commission (EC), Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Germany (BMU), International Water Association (IWA), Munich Re Foundation, Netherlands Water Partnership (NWP), Portuguese Ministry for the Environment, Spatial Planning, and Regional Development (MAOTDR), Stockholm Environment Institute (SEI), UN-Human Settlements Programme (UN-HABITAT), United Nations University Institute for Environment and Human Security (UNU-EHS), UN Secretary-General's Advisory Board on Water and Sanitation (UNSGAB) and Wetlands International (WI)

The “Water and Climate Day” opened with a session about the most recent knowledge on climate change. Analysing the latest climate models and their impacts on water resources showed that water managers will be faced with considerable challenges.

Improved downscaling techniques make it possible to deliver data on a smaller scale with more precision. Water managers should use these newly available data sets to start preparing for climate change.

Still, though coupled climate and hydrological models are on their way, forecasts for water management will never be fully certain. In order to optimise the provision of this information, the specific requirements of the water sector (water management, utilities, energy, urban, coastal) for climate information must be defined. To bridge the gap between the water-sector's information requirements and the actual provided information on climate change, a structured dialogue between the climate and water management and water services and climate experts is necessary.

Perspectives on coping with the vagaries of climate change in

the Netherlands, Australia, Canada, Mozambique and Ethiopia, showed a strong demand for knowledge dissemination and exchange, and capacity building. Two individual events focused on mitigation of the emissions due to peat-land degradation through proper water management (Wetlands International), and coping with climate-change impacts for urban water management and services (IWA and UN-HABITAT). The resulting recommendations will be followed up.

Conclusions/Recommendations:

- A structured dialogue between the climate and water management and water services and climate experts is necessary,
- Mitigation is equal to energy, adaption equals water,
- There are no one-size-fits-all solutions or quick technical fixes to climate change adaptation. Water-related adaptation implies measures that go beyond the water sector, and
- Initiatives for climate-proofing water-related development activities are needed in relation to IWRM.

Striving for Adaptation: Water – the Key to Adapt to Climate Change

Convenors: Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Germany (BMU), European Commission (EC), Portuguese Ministry for the Environment, Spatial Planning, and Regional Development (MAOTDR), and Cooperative Programme on Water and Climate (CPWC)

The scientific evidence conveys the clear message that a change in climate is occurring. This change will impact the processes of the water cycle in regions worldwide with potentially disastrous effects. Even if climate mitigation measures are effectively implemented, there is still a need to develop strategies for adaptation to climate change-driven effects on water resources.

Though more scientific knowledge is needed, there is a sound basis to begin policy application. Successful adaptation strategies must cover measures in all water-related sectors, particularly those which strongly depend on the availability of clean and sufficient water. Implementing adaptation rules is a challenging task: it has to deliver benefits in a cost effective way while accounting for many significant scientific, technical, planning, administrative and economic implications.

Conclusions/Recommendations:

- Mitigation and adaptation are not alternatives: We need both!
- Only a common and integrated approach will provide successful win-win solutions that will be widely accepted by all actors involved and/or affected, and
- Water-related MDGs must take climate change into account while coping with climate change should not be an excuse for not achieving the MDGs.



Photo: EC-ECHO Bangladesh

Mainstreaming Climate into IWRM and the MDGs

Convenors: Cooperative Programme on Water and Climate (CPWC), Munich Re Foundation, Stockholm Environment Institute (SEI), and United Nations University Institute for Environment and Human Security (UNU-EHS)

Water-related MDGs and water development and operations do not take climate change into account. Climate change should not become an excuse for not achieving the MDGs – coping with climate change should not lead to increased poverty.

Development aid also continues to overlook climate change. Studies by the Netherlands' aid agency show that in some countries up to half of ongoing projects were threatened by the impacts of climate change.

The poor people in developing countries will suffer the most from climate change, but it is still unclear what is to be done to reduce their vulnerability. According to the World Bank's Vahid Alavian, USD 10-40 billion will be needed each year to help developing countries adapt to climate change. Scant consideration in the financing of development aid has been given to climate change. Proper cost-benefit analyses of adaptation measures are

needed. While it is not clear where the money will come from, it is known that to not act will be the more costly option.

Projects in Eritrea and Mozambique showed that climate change adaptation need not always involve major expense. As climate change impacts economic development and poverty, projects must ensure they can remain viable through changes in climate conditions.

Conclusions/Recommendations:

- Water-related MDGs and water development and operations do not take climate change into account,
- Proper cost-benefit analyses of adaptation measures are needed,
- USD 10-40 billion will be needed each year to help the developing countries adapt to climate change, and
- In some countries, up to half of ongoing projects were threatened by the impacts of climate change.



Photo: Getty Images

Climate Change – Adaptive Management within the Baltic Sea Drainage Basin

Convenors: Swedish University of Agricultural Sciences (SLU), Helsinki Commission (HELCOM) and World Wide Fund for Nature (WWF)

Predicted climate change impacts in the Baltic Sea drainage area are not of the catastrophic nature as those projected in other parts of the world. Likely effects include milder winters in the north and warmer summers in the south. Winter river flow is expected to increase by as much as 50 percent while summer river flow is expected to decrease 20 percent.

Diffuse sources of pollution, such as arable land and agriculture, are sensitive to changes in climatic conditions. Climate change scenarios project a 10-15 percent increase in run-off from arable land. The increased run-off from arable land is expected to be balanced by improved retention capacity in soil. Thus, no significant change of total loading is expected. However, the annual growing season in the drainage basin is expected to be prolonged 50-90 days. This will likely increase production and the amount of arable land in intensive production.

To prevent ecosystem degradation in the Baltic drainage area, action oriented and adaptive management in intergovernmental work must be strengthened. The Baltic Sea Action Plan (BSAP) developed by HELCOM is a good example of how to do this. Preconditions and economic incentives that stimulate innovation and allow market-oriented approaches are needed. Shared learning between stakeholders is required to take appropriate action.

Conclusions/Recommendations:

- Predicted climate change impacts in the Baltic Sea drainage area are not of the catastrophic nature as those projected in other parts of the world, and
- To prevent ecosystem degradation in the Baltic drainage area that will result from climate change, action oriented and adaptive management in intergovernmental work must be strengthened.

Cities at Risk: A Warmer World and the Big Chill for Urban Planners The Royal Colloquium in Honour of H. M. King Carl XVI Gustaf of Sweden

Convenors: Stockholm Water Foundation (SWF) and Stockholm International Water Institute (SIWI)

The 2007 Intergovernmental Panel on Climate Change (IPCC) assessment presented many challenges for the next century. Although not confined to urban areas, climate change – in combination with rapid urban and sprawling development – brings new challenges to policy makers and urban planners. In 2007, the number of people living in urban areas surpassed those living in rural areas. Fifteen of the world’s 20 largest cities are on coastal plains prone to flooding and sea-level rise. If not managed properly, climate change combined with expanding population and urban growth presents a recipe for disaster.

But we can act. There are clearly a range of possible mitigation and adaptation strategies at hand. First of all, we need to make sure not to exacerbate the problem – in particular through bad land management.

The insurance industry can offer a range of tools to protect people from the losses due to climate events and be an important partner for present and future planning. Yet, a tremendous challenge remains. Many people, particularly in developing countries,

simply can not afford basic insurance. Even worse, in many countries those who can afford insurance often see their premiums disappear due to corruption and poor insurance systems. Developed countries face similar problems; the total costs of hurricane Katrina was USD 126 billion, of which only 65 billion was insured. Similar numbers in developing countries show only a few percent insured against disaster.

Conclusions/Recommendations:

- Cities need increased preparedness; preparing for floods, preparing for losses and preparing for risks,
- Adopt a comprehensive approach including land-use regulations, infrastructure investments, reliable observation networks, appropriate forecasting and warning systems and reliable information to decrease vulnerabilities, and
- Focus international support to the most affected areas in developing countries and support them to build capacity.



Photo: SIWI

Climate Change and the Life Cycle of Disadvantages

Convenors: UNDP Human Development Report Office and Swedish Water House

The session presented the background to the upcoming 2007 UNDP Human Development Report connecting the impact of climate change to human development. Set to be released in November, the 2007 Human Development Report will give concrete recommendations on necessary action to avoid dangerous climate change. Report co-author Claes Johansson stressed that without a sharp reduction in CO₂ emissions, catastrophic outcomes will become likely as efforts to adapt to climate change would become insufficient. Adaptation to the inevitable climate changes is urgent, as the impact of the changing climate upon the livelihoods of 2 billion poor people will be especially severe. A cycle of disadvantages has been created where the poor have the least capacity and resources to absorb the shocks of natural disaster while they often live in locations and conditions that are most disaster prone. Assistance and immediate action is needed for poor communities to break cyclical patterns of stunted human development.

Global Warming, Impacts on Transboundary Watersheds and Cooperation among Basin Countries

Convenors: World Wide Fund for Nature (WWF) and the Swedish Network of Peace, Conflict and Development Research at Uppsala

Global warming is expected to aggravate existing pressures on freshwater resources and have catastrophic consequences in river systems shared by two or more states.

The Convention on Climate Change does not provide a clear mandate or guidance to collaborative adaptation among basin states. As water supplies become scarcer and more unpredictable, existing freshwater agreements may not be equipped to address the international management challenges posed by climate change.

The UN Convention on the Law of the Non-Navigational Uses of International Watercourses is a global framework governing the use and management of transboundary watersheds. Today they are fifteen contracting states but the convention requires 35 parties to come into force. An effective UN Convention is therefore necessary to support states in preventing and responding to crisis; aid in the prevention and resolution of climate-induced disputes; support the Convention on Climate Change regarding cross-border adaptation measures; and enable riparians in contentious basins to build mutual trust and move along the cooperation process.

Participants called upon nations and international actors to become parties to the UN Convention, which once in force will contribute to cooperative, basin-level adaptation.

Clearing the Smoke in Southeast Asia

Convenors: Wetlands International (WI), Cooperative Programme on Water and Climate (CPWC) and Netherlands Water Partnership (NWP)

Fires and oxidation resulting from drainage in Southeast Asian peatlands leads to annual emissions equivalent to eight percent of global annual emissions from fossil fuel burning. These emissions can be curbed through improved water management in failed land reclamation projects, in agricultural land and in palm oil and pulp plantations. By reducing drainage in existing plantations and by blocking drainage canals in deserted wastelands, future oxidation and burning can be mitigated. In addition, development of economically viable alternatives to current unsustainable land uses can safeguard the huge carbon storing capacity of tropical peatlands for future generations.

Local communities can play key roles in sustainable water management by adopting more sustainable practices and being actively involved in peatland restoration measures. Wetlands International is currently developing a funding structure to finance these efforts through the voluntary carbon market by providing payments for each ton of carbon that is maintained in the soil.

Rainwater Harvesting for Climate Change Adaptation and for Accelerating MDG Implementation

Convenor: Rainwater Partnership
Co-Convenors: UN Environment Programme (UNEP), Rainwater Harvesting Implementation Network and World Agroforestry Center (ICRAF)

During a session focused on rainwater harvesting (RWH) for water supply, the potential of this neglected option for water stressed areas was recognised. The discussion on the actual status and potential of RWH was facilitated by Uganda's Water Minister.

Field experiences demonstrated the potential of RWH as an adequate alternative to other water management practices.

Conclusions/Recommendations:

- Experience proves that RWH potential is vast and that it can support multiple uses: China has large scale rainwater irrigation systems (up to 80,000 hectares),
- There is an urgent need to mainstream RWH into national and regional policies and investment. The potential is acknowledged, but it is largely overlooked by policies and strategies,
- RWH has proven an effective awareness-raising tool on (over)consumption, and
- Scientific research reporting water projections seldom includes the potential of RWH to address water shortages and achieve MDG targets. This needs to be promoted.

Progress in Environmental Public Health

Convenor: Stockholm International Water Institute

Co-Convenors: World Health Organization (WHO) and DBL Centre for Health Research and Development

The tools, approaches and challenges for environmental public health have changed to reflect the growing global population and urbanisation process, increased mobility and enhanced capacity to assess and manage changes. Progress depends on integrated approaches and assessments, where health-related water and sanitation questions are placed in environmental and social contexts.

Predictive planning tools, like Health Impact Assessments, combine procedures and measures to judge the potential health effects of development and their distribution in affected communities. Risk assessment provides a dynamic basis to public health management. Other tools in the approach include: questionnaire-based epidemiological assessments of the incidence of diarrhoea as a rapid indicator of success in water and sanitation interventions, and GIS-based mapping to facilitate comparative evaluations.

Safe use of wastewater, excreta and greywater has become a necessity. Integrated into a functional management system, adverse health impacts can be minimal and offset by nutritional and

economic benefits, especially for the poor. Many health-related water, sanitation and hygiene problems can ultimately be managed at the household level, either by better storage and handling practices or combined with point-of-use treatment.

We should keep the messages of the Gilbert White Memorial lecture by Professor David Bradley in mind: “There are more options than professionals or locals initially perceive. Understand the situation. Remember geographical diversity may help decision-making. Then take a long-term view and persist.”

Conclusions/Recommendations:

- Progress will crucially depend on integrated approaches and assessments, where health-related water and sanitation questions are integrated in their environmental and social context, and
- Progress in environmental public health needs to integrate people’s perception, behaviours and habits – both in assessments and interventions – in a setting-specific way.



Photo: Mats Lannerstad

Preparing a Final Action Plan for the International Year of Sanitation (IYS) 2008

Convenors: United Nations Secretary General's Advisory Board on Water and Sanitation (UNSGAB) and UN-Water

This year's seminar focused on the on-going preparation for the International Year of Sanitation (IYS) and updated participants with the latest information on sanitation coverage and its links to poverty, under-development and ill-health. It presented a plan of action for the IYS for sharing, debating and setting up collaborative efforts by all interested parties: governmental institutions, organisations belonging to the UN-system, national and international NGOs, and bilateral and multilateral support agencies.

The main objectives of the IYS were presented and discussed. They include: increasing awareness and commitment on reaching MDG sanitation targets; mobilising governments, alliances, financial institutions and service providers; securing commitments to scale up sanitation programmes and strengthen sanitation policies; encouraging demand driven, sustainable and traditional solutions to sanitation issues; securing increased financing; developing and strengthening institutional and human capacities; enhancing the sustainability and effectiveness of available sanitation solutions; and capturing learning to enhance the evidence base and knowledge on sanitation.

Regional ministerial meetings in Asia, Africa and Latin America were announced, culminating with an inter-regional conference on sanitation. The meeting of the Commission on Sustainable Development (CSD), in April 2008, will also be an opportunity to report on and call for progress in sanitation programmes.

The Chair of UN-Water briefed participants on progress in the UN-Water Partnership Programmes and donor support to UN-Water. In support to the UN-Water Decade "Water for Life," three new UN-Water Centres installed in Perugia (Italy), Bonn (Germany) and Zaragoza (Spain) cover the World Water Assessment Programme, capacity development and communication,



respectively. Direct support to core UN-Water activities through multi-donor programmes is also on the rise.

Conclusions/Recommendations:

- Presented and discussed the main objectives of the IYS,
- Updated participants with information on sanitation coverage and its links to poverty, under-development and ill-health, and
- Announced three new UN-Water Centres installed in Perugia (Italy), Bonn (Germany) and Zaragoza (Spain).

Sanitation and Hygiene: Approaches for Sustainable Development

Convenors: The World Health Organization (WHO) and the Water Supply and Sanitation Collaborative Council (WSSCC)

The seminar presented different experiences in sanitation and hygiene projects from Bangladesh, Zimbabwe, Ghana and South Africa and identified factors that impeded or accelerated their progress.

The case studies presented a variety of efforts to tackle sanitation problems in the developing world. Bangladesh's Community Led Total Sanitation (CLTS) preferred a grassroots, self-transmitting approach that involved local communities and indigenous knowledge. Zimbabwe stressed behaviour change and advocated Participatory Health and Hygiene Education (PHHE). South Africa's Urines Diversion Project (UDT) used higher technology and investment. Ghana's wastewater project works as a stop-gap measure for systemic inadequacies in sanitation and water supply.

Instead of focusing on more pilot projects, existing operations should be scaled up. Putting sanitation on a bigger platform is the best way to achieve the MDG target. Cohesion between sanitation professionals is vital. Finally, top down and bottom up approaches are needed.

Conclusions/Recommendations:

- A well defined and transparent relationship between civil society organisations and the local and national government is a precondition for sustainable sanitation projects, and
- Sanitation policies must be based on a holistic approach and promote the economic benefits of waste management and other sanitation businesses.

Sanitation 21 – Let’s Do Planning and Design Better

Convenors: International Water Association (IWA), Stockholm Environment Institute (SEI) and Swedish Water House (SWH)

The seminar discussed problems with conventional approaches to sanitation, and how we as professionals can chart better ways forward. Solutions for sanitation problems are shifting from supply driven to demand-centred approaches. The planning process is also shifting from the conventional “engineers-in-charge-of-everything” to engineers playing a more intermediate role as a mediator.

The first step in the planning process should preferably include all stakeholders. It should focus on the approach to planning and look at the relationship between the different stakeholders. Questions to discuss include: What is the problem? What is not functioning? Are new solutions or upgrades of existing systems needed? The drivers and reasons why the present situation is the way it is should be considered and identified.

Better understanding of the context of planning for sanitation across all domains of the city, and how the sanitation system will work in that context is needed. Critically, professionals must analyse if particular solutions will actually work! Education and

more knowledge about available options and solutions that cut through all domains of the city are crucial. Difficulties in sanitation planning include: a lack of demand at the household level in many countries, and engineers/consultants protecting their preferred technology often preventing multi-technology systems from being adapted to the local context.

Conclusions/Recommendations:

- Planning for sustainable solutions takes time. When discussing a project, the time this process takes must be incorporated,
- It is necessary to understand the context of planning for sanitation across all domains of the city, and how the sanitation system will work for that context, and
- Decision makers need to see the connection between water and sanitation and other forms of development, especially how improvement in water and sanitation will improve health, safety and reduce poverty.

Trend Related Monitoring and Evaluation of Water Supply and Sanitation

Convenors: Stockholm International Water Institute (SIWI), Federal Ministry for Economic Cooperation and Development, Germany (BMZ) and Joint Monitoring Programme (JMP)

The session discussed strengths and weaknesses in current approaches to MDG monitoring in the WSS sector. JMP has the important mandate of compiling information on the WSS sector worldwide. Its reports inform politicians and decision makers on the international level.

Presenters from Sub-Saharan Africa showed that current MDG monitoring – at least in urban areas – runs the risk of misleading decision making processes with overly optimistic information. Indicator definitions of so called “improved sources and improved sanitation” often include urban areas that do not provide safe water or sustainable access. JMP relies solely on household surveys, which are unable to provide reliable information on water quality, affordability and sustainability.

The international community should accept data coming out of countries with established comprehensive sector monitoring frameworks. Sources other than household surveys should be considered valid as long as they follow certain minimum criteria. This will improve ownership and enable countries to base planning on harmonised information and improve communication with external support agencies.

There is no blueprint for monitoring the MDG target of sustainable access to safe drinking water and basic sanitation. However, improvements can be made to provide information to the international community and local decision makers.

Participants agreed to work together to improve indicator definitions and harmonise data from different sources in order to better reflect the actual situation in developing countries, especially in urban areas. They will present their progress next year.

Conclusions/Recommendations:

- Indicator definitions of so called “improved sources and improved sanitation” often include urban areas that do not provide safe water or sustainable access,
- The international community should accept the data coming out of countries with established comprehensive sector monitoring frameworks, and
- Improvements can be made in order to satisfy the information needs of both the international community and local decision makers.



Photo: Olli Veris

Integrated Slum Upgrading: Meeting the Water and Sanitation Needs of the Poorest of the Poor

Convenors: UN-HABITAT and Asian Development Bank

The seminar discussed numerous issues critical to slum upgrading, such as: participation of the poor and community based organisations in large-scale redevelopment initiatives; innovative approaches for making slums integral parts of cities; relocation and redevelopment impacts; exorbitant rates for access to water; monitoring water supply and sanitation access; technological options; community systems for management of water supply and sanitation assets; and the role of local governments, landowners and slumlords in enabling access to water supply and sanitation.

Governments should make water and sanitation, and the poor a priority. Moreover, the gap between donor intentions and the actual happenings on the ground must be narrowed. Further improvements are needed in: monitoring access to water supply and sanitation regularly; involving communities in local decision-making; and in the implementation, management and application of appropriate technological solutions for sanitation. For this to

happen, local governments need to build capacity in working with others and develop infrastructure for sustainability.

Conclusions/Recommendations:

- Decision makers must be more involved in investments that increase and monitor functional access of the poor to housing, water supply and sanitation,
- Sanitation options with an ecological perspective are needed in higher density areas,
- Local government's capacity and work with others must be built,
- Better balance between top-down and bottom-up planning, and community involvement in projects with the private sector is needed, and
- Communities can be integrated into action planning processes in cities so that they become an integral part of the urban planning and development process.

The Killing Fields of Sanitation – Political Neglect

Co-convenors: Water Supply and Sanitation Collaborative Council (WSSCC), Swedish International Development Cooperation Agency (Sida), Stockholm International Water Institute (SIWI), Stockholm Environment Institute (SEI) and the French Coordination for Water.

The heightened profile of the sanitation debate must maintain momentum in order to push sanitation even higher on political agendas. The complexity of the problem and the taboos associated with toilets form obstacles that inhibit the sanitation discussion. Political neglect, however, especially at the local government level, is not the root of the problem. The greater the role maintained by the local authorities, the smaller the risk of political neglect. A lack of capacity at the local level and a lack of awareness within communities and households were identified as the major impediments to progress. The sanitation challenge is not only a matter of political will: sanitation will only become a priority at political levels when it is a priority at the household level. A call for empowering the people directly affected by lacking safe sanitation was echoed throughout the discussion, including by H.R.H. The Prince of Orange, Willem-Alexander of the Netherlands, who pointed out that we should not reach out to the already-converted.

Conclusions/Recommendations:

- Investment in public awareness and reaching out to the people who mobilise political leaders should be of equal importance to actual sanitation implementation schemes,
- Political neglect, especially at the local government level, is not the root of the sanitation problem.
- A lack of capacity at the local level and a lack of awareness within communities and households were identified as the major impediments to accelerating progress,
- In urban slums, schemes providing sanitation to the homeless have not proven very effective, and
- The sanitation challenge is not only a matter of political will. It will only become a priority at political levels when it is a priority at the household level.

SPLASH Speed Networking Event

Convenor: EUWI ERA-Net

SPLASH, the European Union Water Research Area Network (EUWI ERA-Net) – financed through the EC Framework Programme 6 – held a “speed networking event” that provided the 70 participants with a chance to meet and capture current thinking on how to enhance future water research.

Coordinated by the UK Department for International Development (DFID), SPLASH is a consortium of 15 ministries, funding agencies and national research and development agencies from 11 countries in Europe. Its main objectives are to minimise duplication of research, identify research gaps and share good management practice. The work often results in joint research programmes. The event concluded with three recommendations for researchers:

- Getting the research question right involves making connections with local research institutions to identify priority issues,
- Getting the research into use requires appropriate communication, with the support of enabling intermediaries, and
- Success requires flexible approaches e.g. appropriate timeframes and funding mechanisms.

Multiple Use Water Services for the Poor

Convenor: Winrock International

This side event brought together stakeholders to galvanise dialogue and debate on opportunities and risks of multiple-use approaches to improve health, income, livelihoods and social equity of the poor, and to enhance sustainability of water services. Results were presented from a global study on the costs and benefits of multiple-use water services and the potential markets in South Asia and Sub-Saharan Africa. Study results indicate that strategic investments in multiple-use services can cost-effectively improve the water services and enhance sustainability for more than 1 billion people. Key entry points include provision of new domestic multiple-use services and upgrading existing domestic and irrigation services in rural South Asia and Sub-Saharan Africa. The main recommendation is to further catalyze new partnerships that leverage existing knowledge, resources and implementation capacity to provide multiple use services. This begins with increasing awareness of multiple use services and is followed by strategic implementation activities and scaling-up processes.



Photo: SIWI

Water and Sanitation Sector Information and Monitoring Systems (SIMS) in African Countries

Convenors: Water and Sanitation Program (WSP) and African Water Facility (AWF)

The SIMS event discussed how coherent national and regional planning and monitoring strategies can be developed and help guide actors improve water and sanitation services. Presentations on the emerging SIMS framework – as conceptualised by WSP-Africa and AWF – showcased lessons and best practice examples from Uganda and Senegal, where comprehensive water sector information systems are being developed.

The SIMS approach was well received by the 70 participants who encouraged continued South-South learning. Still several key concerns for the SIMS approach were raised, including the need to: enhance information sharing; address “software” components (such as governance, the reform agenda and the functionality/ use of services); and integrate SIMS into national information systems, Poverty Reduction Strategy Papers (PRSPs), and Medium-Term Expenditure Frameworks (MTEF). The need to take advantage of the increased use of Public Expenditures Reviews (PERs) and to make SIMS adaptable to decentralisation were also stressed.

Can a Wikipedia of Water Quicken the Pace of Development?

Convenors: Netherlands Water Partnership, UNESCO Institute for Water Education (UNESCO –IHE), IRC International Water and Sanitation Centre, Green Ocean and The Movement Design Bureau

Akvo launched at Stockholm with dazzling Bollywood and African-movie themed marketing. Drawing on “open source” principles to share and improve know-how, this ambitious project aims to become the definitive, internet-based, global online water and sanitation resource and collaborative platform. Akvo’s plenary debate, moderated by Financial Times environment correspondent Fiona Harvey, drew widespread and upbeat feedback on the need for such a system in the water sector.

“At Stockholm, people from all kinds of organisations kept telling us they want to scale up microfinance-based water and sanitation projects, but knowledge sharing and reporting are big challenges for them. We make this process easy,” explains founder Thomas Bjelkeman.

Co-developed in California and Sweden, marketing is managed from the UK and the Netherlands, while pilot projects are getting underway to drive change on the ground in India. The team is working actively to recruit new finance and implementation partners. Learn more at www.akvo.org/blog.



Photo: SIMW

Dignity, Disease and Dollars – Asia’s Urgent Sanitation Challenge

Convenor: Asian Development Bank (ADB)

Sanitation should be a top priority for developing countries in Asia as 2 billion Asians lack access to adequate sanitation. Unfortunately, governments and decision makers are reluctant to invest in this critical sector because of misconceptions of sanitation technology being financially unviable.

Sanitation must be incorporated as part of integrated water resources management and connected across the health, environment and urban/rural development sectors. To do this, it needs to be made clear that sanitation is an investment that pays off, and

the sanitation dialogue with governments in developing countries must intensify in Asia. Technology options and their costs on a per country basis can be assessed to offer financing options and products that match needs. This includes boosting utilities capacity to provide sanitation services and using microfinance for household sanitation.

ADB plans to increase investments in sanitation, and engage with partners from the World Water Week in Stockholm to explore collaboration that will deliver results.



Photo: Mark Zeitoun

International Targets and National Implementation

Convenor: Stockholm International Water Institute (SIWI)
Co-Convenors: WaterAid and The World Health Organization (WHO)

The MDGs are political targets that have focused on urgent issues that were previously ignored. These targets have served their initial purpose and will soon need to be redefined in light of the progress and shortfalls they have highlighted.

For example, 6 out of every 7 poor people are in rural areas, but growth in un-served population is in urban areas. Over 10 percent of disease burden could be eliminated through improved water and sanitation. Current targets only measure served/un-served, obscuring deficiencies in quality and continuity of services provided.

Further progress requires new objectives and targets, including national and local targets, which provide more precise understanding. Evolving monitoring processes and technologies will make this possible.

The lack of political priority for sanitation is a special challenge. While simple figures mask complex problems, politics requires simple messages to create momentum and political will. At the same time, such monitoring and reporting can lead to “number chasing” and pressures that distort data and its value for decision making.

Lack of human and financial resources, as well as poor communication between the political and technical spheres, hampers monitoring. The Joint Monitoring Programme (JMP) is often misunderstood and misused. It needs adjustment but must maintain continuity.

Promising solutions and approaches do exist. Political targets and technical monitoring must work together and both are supported by better informed public opinion.

The MDGs encourage different sectors to interact positively. The links between sanitation, water, health and education provide good examples. More of this integration is essential.

Conclusions/Recommendations:

- Politics is driven by the will of the people. Targeting and monitoring need to inform and engage people over the long term, and
- Targets and monitoring processes that drive more integrated poverty alleviation are needed. They must have levels of precision that are relevant and attainable as over-precision is counterproductive but progressive implementation is appropriate.

Progress on Management Reforms for Better Services

Convenor: Stockholm International Water Institute (SIWI)
Co-Convenor: International Water Association (IWA)

Management of water services involves a myriad of complex, diverse and intricately linked issues, players and institutions. Cases highlighted how weakness in any of these areas can cause poor water services, and how dedicated and strong individuals or institutions can create successful water services. The remarkable transformation of Phnom Penh, Cambodia's war-torn water services has drawn global attention. The workshop emphasised that long-term commitment and step-by-step improvements are behind successful water management services. In India, only one of 4000 utilities, led by a visionary mayor, met the 24/7 challenge. A survey of successful utilities management revealed that this resulted from more than a century of committed work interspersed with periodic slow downs or failures.

Demand driven management seemed more attainable than supply driven strategies. Administrative accountability and community involvement, which often require regulatory frameworks, were also proposed as prerequisites for successful management. A concept of new public management that incorporates market oriented output based models and provides the necessary accountability and regulatory mechanisms was discussed. Global examples, including

Uganda, Netherlands, India, Zambia and other places, emphasised pricing, affordability, cost recovery, government support and leadership, and institutional culture. Reforms in utilities management require a combination of effective leadership, political will, capacity building, accountability, efficient institutions, financial recovery and affordability, and most importantly, time.

Conclusions/Recommendations:

- Long time commitments and step-by-step improvements are behind successful water management services,
- Demand driven management seems more attainable than supply driven,
- Administrative accountability and community involvement, which often requires regulatory framework, were proposed as a prerequisite for successful management, and
- Reforms in utilities management require a combination of effective leadership, political will, capacity building, accountability, efficient institutions, financial recovery and affordability, and most importantly, time.



Photo: Jupiterimages

Managing Future Consumer Demands

Convenor: Stockholm International Water Institute (SIWI)
Co-Convenors: International Water Management Institute (IWMI), Swedish International Development Cooperation Agency (Sida) and Swedish Environmental Secretariat for Asia (SENSA)

Food production remains the major water consumer. Efforts to enhance water use efficiency are paying off. To reduce water use, however, demand management instruments also need attention. Rising incomes and urbanisation shift consumption away from cereals toward livestock products, where diets based on meat from grain-fed cattle may take two times more water than pure vegetarian ones. The increasing incidence of obesity is not restricted to industrialised countries. Changes in diets are desirable to reduce pressure on water, and for health reasons. Reductions in water lost during production processes and changes in consumer behaviour are keys to ensuring water security. A large-scale system approach covering the entire water cycle – throughout domestic use, industry, agriculture (irrigated and rainfed) and the natural environment which tracks material flows, energy, etc. – provides a scientific basis to compare consumer trends and policy measures. Using consumer values to change consumer behaviour has proved to be a pivotal demand side-

asset (i.e the “salving salmon” campaign in Seattle). The application of demand management using an integrated resource planning approach provides “new” water services at a lower cost.

Conclusions/Recommendations:

- Consumer preferences are decisive for sustainable water development. Consumer behaviour, including diet preferences, need to change,
- Continued work with the food supply chain is needed,
- Ecological efficiency should be considered along the production-consumption continuum to ensure water and sanitation services and food security for poor people, and
- Policy reform on water, food, etc., needs to be seen in a holistic perspective, including materials and energy flows to ensure that water savings are not made at the cost of wider environmental impacts and resource depletions.

Building Capacity for Future Challenges

Convenor: Stockholm International Water Institute (SIWI)
Co-Convenors: Capacity Building for Integrated Water Resources Management (Cap-Net), United Nations University, Bonn (UNU) and Centre for Science and Environment (CSE)

The workshop provided numerous examples of work being done to build capacity for the future. Ms. Sunita Narain advocated the recovery and use of traditional wisdom in irrigation techniques be taken up current engineering education. Practical Action, an NGO of Bangladesh, introduced very successful projects supporting communities affected by river erosion where the community's average income increased from USD 300 to USD 400. Dr. Paul Taylor introduced Cap-Net, a new UN activity that asks trainees of international training programmes to register in the network and become trainers for international and as domestic training programmes. They build capacity in integrated water resource management (IWRM) in developing countries. An Information and Education Campaign on water-related hazards in the Philippines targeted governors, mayors, barangay chairmen and department engineers (local government units) who were taught to read geo-hazard maps and warning signs for communities prone to flooding and land-slides. Citizens of the communities also participated in successful cases of disaster management capacity building projects. The capacity of experts and organisations in the region of Middle East and North Africa, where water scarcity problems are becoming serious, identified human resource deficiencies as the key cause of water scarcity problems.

Photo: SIWI



The International Commission for the Protection of the Danube River (ICPDR) looked at school children and high-level decision makers in the region. Obstacles to achieving progress in the future are difficulties in institutional approaches of IWRM at central and local government levels.

Conclusions/Recommendations:

- Traditional wisdom of irrigation techniques can be utilised to improve current engineering education,
- Human resource deficiencies are a key part of the water scarcity problems, and
- The obstacles to achieving progress in the future are difficulties in institutional approaches of IWRM at central and local government levels.

Making Governance Systems Effective

Convenor: Stockholm International Water Institute (SIWI)
Co-Convenor: Water Environment Federation (WEF)

To make governance systems effective, efficient and realistic legislation based on stakeholder negotiations with local and regional actors must be implemented. The legislation framework must cover allocation of human water rights, as well as conflict and enforcement mechanisms. Many good examples exist today of negotiated legislative-based systems that are adapted to regional and local conditions (e.g. Sri Lanka, Brazil and the North American Great Lakes) and are anchored in stable political conditions.

It is more difficult to reach an effective and accepted governance system for transboundary river basins. In these cases, there must be an agreement between the countries concerned based on workable legislations in the countries. Strong stakeholder participation is crucial in order to gain a broad understanding of the different needs and demands in the society.

Political commitment and an enabling environment that is conducive to decentralisation of appropriate levels of government are keys to good water governance. Implementation must be performed at the appropriate levels. This is a long-term process requiring adequate resources to be sustained. A transparent

process is important for measures to be broadly accepted and to avoid corruption.

Incentives and clear evidence of the benefits gained by stakeholders who engage in sustainable water management must be provided. Good water governance requires capable professionals with relevant skills and knowledge that enables them to address the complex and serious problems of water scarcity and degradation.

Conclusions/Recommendations:

- Efficient and realistic legislation, based on stakeholder negotiations with local and regional actors, must be implemented for effective governance,
- Strong stakeholder participation is crucial in order to gain a broad understanding of the different needs and demands in the society, and
- Political commitment and an enabling environment that is conducive to decentralisation of appropriate levels of government are keys to effective water governance.



Photo: SWI

Addressing the MDGs Through Exchange of Knowledge and Technology

Convenor: Northern Water Network

The transfer of knowledge and technology is not easy. Capacity development in local communities, long-term project building and good communication among partners are all important factors for the successful realisation of sustainable projects.

The presentation on the history and experience of Japan showed that the Asian nation has always been a recycling society. Speakers cited how human manure is used as fertiliser and transported through an environmentally sound navigation system. Such experience could be applied across nations to reduce the impact of our modern energy-consuming life styles. Water shortages caused by the decreasing snow accumulation resulting from climate change, could seriously damage rice cultivation in Japan. In Central Asia, the melting glaciers lead to temporary increases in short-term water flow but could cause severe water shortages in the future.

Speakers and participants highlighted the importance of “Water Operators Partnerships,” through which a wide range of experiences could be shared among the southern countries. The role of the local governments in the IWRM process was also stressed.

To maximise the support from the North, increased South-South cooperation is needed in addition to the North-South cooperation. Better coordination of the donors is also needed, as money, time and effort are too often duplicated on the same purpose while others go neglected.

Conclusions/Recommendations:

- Technology transfer, experience and knowledge sharing is fundamental for the resolution of water issues and to achieve the MDGs,
- Increased dialogue is needed to achieve a two-way flow with both developing and developed countries contributing to dialogue and experience sharing, and
- Through the Water Operators Partnerships a wide range of experiences could be shared among the southern countries.

Water Governance and Adaptive Capacity – The Need for Multi-Level Approaches

Convenors: International Human Dimensions Programme on Global Environmental Change (IHDP), the Global Water System Project (GWSP), New Methods for Adaptive Water Management (NeWater) and the Stockholm Resilience Centre

At the seminar, scientists introduced cutting-edge research on water governance and complex coupled socio-ecological systems. Participatory and learning processes are essential for the effective use of water resources. A paradigm shift toward “good water governance” and resilient systems is often requested but rarely fully implemented. In order to manage the change needed, adaptive capacity has to be created and maintained. Several requirements for that were formulated and discussed, ranging from flexible institutional arrangements to charismatic leadership.

How scientific findings are confronted with evidence from the local, regional and global levels were discussed. Mainstream water governance, both in science and practise, focuses on the local or the regional level. However, the water crisis is increasingly a global one. The concept of scale offers insights into the right level for interventions for specific problems so that proposed solutions can better fit the problem at stake.

The impact of climate change is one of the biggest challenges in future water governance and must be taken into account. Increased learning and adaptive capacity is needed. This requires flexible, coherent and supportive institutional frameworks to, among other things, increase efficiency of water usage.

Conclusions/Recommendations:

- Participatory and learning processes are essential for the effective use of water resources,
- A paradigm shift toward “good water governance” and resilient systems is often requested but hardly fully implemented, and
- Increased learning and adaptive capacity is needed. This requires flexible, coherent and supportive institutional frameworks.

How to Trigger and Sustain Water Policy Change

Conveners: Global Water Partnership (GWP), International Water Management Institute (IWMI) and Stockholm International Water Institute (SIWI)

The focus of this seminar was to learn from previous successes and failures in influencing and implementing positive policy change. Triggers can be events or conditions (e.g. a drought) that supply an opportunity for change, but they are not to create change enough on their own. To make change happen, you also need:

1. A sound proposal backed by research: the substantive content of change—what needs to be changed and why.
2. A strategy for change: a marketing approach for promoting change, based on knowledge of the political system and the need to build coalitions and counter entrenched interests.

Key ingredients to trigger and sustain positive change include:

- A clear message that people can unite behind,
- Strong, credible data to support the need for change and its feasibility and benefits,
- Smart marketing – understanding who has influence and how to appeal to the interests of potential allies, and

- Persistence – policy change requires determination and continued engagement, even once a new policy is implemented.

Potential pitfalls to be avoided are:

- Having your message hijacked or getting lost in the debate,
- Triggering bad policy change – in the words of one presenter, “before you pull the trigger, you need to be very sure of what you’re aiming at.”

Conclusions/Recommendations:

- Organisations and individuals must be determined, adaptable and prepared with sound proposals backed by research,
- Actors must have a strategy for change ready to take advantage of “trigger-type” opportunities when they come along, and
- Successfully triggering and sustaining positive change requires a clear message, smart marketing, strong credible data and persistence.

Bridging the Gap in Research and Education: Addressing Water Research Issues in Countries with a Vulnerable Scientific Environment

Conveners: International Foundation for Science (IFS), UNESCO-IHE Institute for Water Education (UNESCO-IHE), Centre Régional pour l’Eau Potable et l’Assainissement à faible coût (CREPA), Capacity Building for Integrated Water Resources Management (Cap-Net), Bangladesh Centre of Advanced Studies (BCAS) and WaterNet

The participatory workshop format, which was inspired by Appreciative Inquiry and Open Space animation techniques, incited participants to work, think and present research outcomes in ways that are different from classic academic formats. SIWI is strongly encouraged to adopt similar participatory processes in WWW related events.

Both plenary presentations and group discussions advocated story telling and sharing of experiences and best practices. Special emphasis was placed on these “a-ha” moments where the workshop participants felt that they were concretely contributing to bridging gaps in research and education on water issues.

Conclusions/Recommendations:

- Research in countries with a vulnerable scientific environment can benefit from partnership with researchers who are aware

of traditional knowledge and local perceptions of benefits and welfare,

- Local ownership aspects in water research could warrant future WWW events,
- Win-win partnerships arise when partners have equal control and mutually seek to develop research tools that preserve local knowledge, embrace local realities and sustain scientific integrity,
- Southern-based institutions are invited to revise their organisational structure to be more inspiring, efficient and attractive to young talents,
- Countries with vulnerable scientific environments must be encouraged to develop national strategic research agendas for local innovation and global competitiveness, and
- Networking is a powerful tool for scaling-up capacity building processes linked to scientific research.

Research Framework for Water Resource Governance: Water-Stressed Basins

Convenor: Council for Scientific and Industrial Research, South Africa (CSIR)

South Africa has unique developmental needs for poverty eradication and social equity through rapid economic growth and development within the context of finite and stressed water resources. The new water resources governance consists of five research programs, each representing unique challenges in the South African context. These are: HIV/AIDS and Sustainable Livelihoods; Communication of Science to Decision Makers and Stakeholders; Dialogue Structures; Management Paradigms and Monitoring and Evaluation. The framework is considered to be relevant for other developing countries in water constrained areas with a need for rapid economic development and integration into the global market.

Our ability to integrate is still inadequate, and we need to understand trans-disciplinary concepts. While a theoretical concept, it is grounded in reality and driven by the failure of current paradigms to meet the needs of the poor. Stakeholder communication needs to be an integral part of research. Approaches to water resource management need to be reviewed and broad approaches to livelihood programs in Sub-Saharan Africa are required.

Conclusions/Recommendations:

- Water Resources Management (WRM) issues are highly complex. They range from macro-economic to livelihoods, and from regional to small stakeholder scales. Problems of scale are exacerbated by multiple users within a management area,
- WRM needs to be integrated with broader societal issues, and meeting aspirations is context-specific,
- WRM needs to address the vulnerability of immuno-compromised people to poor water quality and supply, directly in terms of health, and indirectly in terms of livelihoods,
- Science in support of WRM is moving from focus on knowledge and understanding to the provision of solutions that are useful (and used), and
- HIV/AIDS should be considered as a critical component of the different themes on sanitation for the 2008 World Water Week.

EU Water Initiative Partners Meeting – Multi Stakeholder Forum

Convenor: The European Commission (EC) with support from the Swedish Water House

The EU Water Initiative (EUWI) provides the policy framework and a multi-stakeholder platform for increased and streamlined EU Member State and EC support to water and sanitation.

The Multi Stakeholder Forum adopted proposals to strengthen the EUWI during the next working phase. Key elements include: making regional components (Africa, EECCA, Med and Latin America) the engines of the EUWI; enhancing the EU identity and commitment; adopting a strategic demand-driven approach to national partner-country government led multi-stakeholder policy dialogue; and enhancing EUWI accountability to stakeholders, regional partners and the EU.

“SPLASH” – an EUWI achievement in coordinating EU sponsored water research – was presented. It will promote partnership, build capacity and increase coordination and communication of water and sanitation research activities.

The MSF Meeting discussed the OECD African Economic Outlook 2006/07 and the European Commission’s mid-term review of the ACP-EU Water Facility. The Water Facility has selected 175 proposals, from over 1300 submitted for funding, estimated to bring access to water and/or sanitation to about 21 million people over the next four years. The EC contribution of EUR 420 million has attracted an additional EUR 360 million of other funding from diverse sources. The response to the Facility has shown high and unsatisfied demand for finance that forges new partnerships for investment and mobilises relevant local actors.

Conclusions/Recommendations:

- The EUWI can be strengthened by adopting strategic demand-driven approach to national partner-country government and enhancing its accountability to regional partners, stakeholders and the EU,
- “SPLASH” will promote partnership and build capacity by improving the effectiveness of EU member state funded research on water and sanitation, and
- The ACP-EU Water Facility has selected 175 proposals estimated to bring access to water and/or sanitation to about 21 million people over the next four years.



Photo: Manfred Mats, SIWI



Water, Ethics and Religion

Conveners: The International Water Academy, (TIWA) Stockholm International Water Institute, (SIWI) European Council of Religious Leaders and UNESCO-International Hydrological Programme (UNESCO-IHP)

The meeting was convened with a view to contribute to international processes, both in and outside of the UN system. The seminar brought together representatives from a wide variety of creeds and denominations with institutions and organisations with extensive expertise on water-related issues.

The UN Declaration on Human Rights, as well as existing religious and professional ethical principles, are widely accepted. Yet, the real challenge is to make national and local governments, service providers (public and private), donors, and multilateral and bilateral organisations stand up to their moral commitments to these issues. As respected figures within their communities, religious leaders can promote water and environmental stewardship within their communities. Participants asserted that while science tells us what can be done, religion can push action on what ought to be done.

Many developing countries are lagging behind in progress towards the MDG targets. It appears the MDGs will be attained

only through immediate, concerted and sustained action. Even then, however, the job would only be half-finished in the challenge to eradicate poverty and hunger. “Getting things done” will require close partnerships between religious communities and water professionals.

Conclusions/Recommendations:

- The largely overlooked moral authority that religious leaders and communities can exert in support of securing basic rights and services for the poorest can be used to great advantage,
- Religious leaders, as respected figures within their communities, can promote water and environmental stewardship among their followers, and
- Religious leaders can motivate not only their own followers but also positively influence processes which benefit all of the planet’s inhabitants.

Practical Approaches to Pro-poor Water and Sanitation Governance

Conveners: UN-HABITAT and UNDP Water Governance Facility at SIWI

The seminar focused on numerous issues in pro-poor water and sanitation governance, such as: mainstreaming water and sanitation in the national poverty reduction policies; political will and commitment to serve the poor; listening to the voices of the poor; innovative financing mechanisms; mainstreaming gender; promoting integrity and accountability; strengthening partnerships between communities, local governments, utilities and the private sector; capacity building necessary to improve and strengthen skills, tools and methodologies for serving the poor; and public awareness and education. Discussants offered multiple methods to work for solutions by advising the need to: get the right balance between capacity building and increased coverage through “learning-by-doing”; develop innovative financing mechanisms to bridge the finance gap in community-led infrastructure provision; strengthen the capacity of local governments, utilities, civil society organisations and communities to serve the poor; promote integrity and accountability in the water and sanitation sector

to avoid corruption; and harness the potential of private sector partnerships for follow-up investments to scale up pilots.

Conclusions/Recommendations:

- The people, particularly the unserved, should demand to be fully engaged in water and sanitation decision making,
- Mechanisms should be put in place to facilitate the poor’s engagement with decision makers,
- National governments should continue to mainstream water and sanitation in their national poverty eradication policies,
- Donors, civil society organisations, communities and other development partners should enlist the patronage of top political leadership in a country to secure political will and deal with vested interests of the politicians, and
- Project formulators should make provision for natural and man-made shocks in the design of water and sanitation projects to ensure their ability to be sustained over time.

Water, Politics and Development: Transforming Sanctioned Discourse into a Strategic Approach

Convenor: Centre for Development Research, University of Bonn, Germany

Co-Convenor: Irrigation and Water Engineering Goup, Wageningen University, Netherlands

The seminar examined the every-day politics of water, politics of national water policy, hydro-politics, global politics of water and their inter-linkages. In the process it “mainstreamed” the notion of “politics” into the discourse of water resources management by presenting cutting-edge tools, analysis and applications. The seminar presented eight papers spanning four continents – Asia, Africa, South America and Europe.

The paper by Frances Cleaver examined the contestation among researchers and policy makers in bringing water management research into policy practice in United Kingdom. Francis Molle’s paper examines the epistemology of concepts, models and narratives that has dominated the water policy discourse. Margreet Zwartveen’s paper proposes a research agenda that calls for an examination of water politics along gender dimensions. Philippus Wester and Edwin Raps’ paper examines the politics involved in developing the Irrigation Management Transfer policy in Mexico. Christopher Sneddon and Coleen Fox argue that there are multiple pathways to democratisation, and that

politics in the Mekong and Zambezi basins represent a form of democratisation. In the process, the paper identifies this linkage with broader national and international politics. Thomas Kluge and his team’s paper analyses the contestation of IWRM concept in Namibia. Andreas Neef’s paper discusses the transformation of participatory policies revolving around watershed management in two different nations – Germany and Thailand. The final paper by S. Janakarajan examines the efforts to develop multi-stakeholder dialogue to solve a century-old inter-state water dispute in India.

Conclusions/Recommendations:

- We must go beyond the linear approach of policy analysis to analysing policy formulation and implementation from a socio-political perspective, and
- Special attention to the negotiated nature of policy formulation and implementation is essential for analysis and reform that can truly promote sustainable development.

Going from Political Rhetoric to Anti-corruption Action in Water: What Will it Take?

Convenors: Swedish International Development Cooperation Agency (Sida), Water Integrity Network (WIN), Stockholm International Water Institute (SIWI), IRC International Water and Sanitation Centre, Water and Sanitation Programme (WSP), Aquafed, IBON Foundation, United Nations Children’s Fund (UNICEF) and Transparency International (TI)

Anti-corruption activities have increased, but it is not clear how benefits trickle down to the poor. Poorly thought out anti-corruption activities simply risk shifting corruption to other places or hardening it. Furthermore, the poor sometimes bribe to get access to services as a coping strategy. Anti-corruption activities might make some situations worse by removing this coping strategy unless they put other measures in place.

We need to know much more about the indirect and direct impacts of corruption in water for the poor. What types of corruption exist? Can we measure them?

Anti-corruption strategies should focus on the poor’s water and sanitation services. It is important to make decentralisation work for the poor before corruption becomes embedded. To get the benefits of high level institutional reforms it is critical to strengthen the voice of poor people to seek improvements.

Conclusions/Recommendations:

- There is a continued need to increase the knowledge base. The water sector is immature and we have to follow what works and identify what does not,
- Corruption perception indexes are only a proxy for specific contexts. Such tools need to be combined with other tools to measure corruption, such as bribe payers’ indexes, etc.,
- Corruption in water reform must be tracked and monitored since corruption is dynamic and changes form,
- Macro level reforms are crucial, but in the meantime corruption must be fought on the ground,
- Participation is especially important in the first stages of anti-corruption activities, and
- Corrupt practices by multinationals and donors based in the North should be addressed.

Pollution Management in the Urban Watersheds of Developing Countries

Convenors: International Water Management Institute (IWMI) and International Development Research Centre (IDRC)

In most cities in the developing world, urbanisation has outpaced sanitation, with negative consequences for human and environmental health. Ways forward should consider the following recommendations:

- Urban sanitation planning should start when space is left and take a step-wise approach by subdividing cities in manageable units. Planning should take advantage of local opportunities, appropriate technology and indigenous creativity,
- Governments should not be under pressure to adopt external standards, e.g. on sewer coverage or effluent quality, which will only be a viable target in the long-term,
- Sanitation should not be planned for the sake of sanitation, but should consider the productive use of waste products, especially in agriculture. Downstream users need education on possible risks. The new WHO guidelines offer various options for risk reduction. Banning wastewater reuse is not an option, and
- The maintenance of sanitation systems requires appropriate technologies, human and financial capacities, cost recovery and incentives. Too often we focus on only punitive enforcements but not on incentives and education.

5th World Water Forum Side Event

Convenors: World Water Council (WWC), State Hydraulic Works Turkey (DSI) and the Secretariat of the 5th World Water Forum

The side event emphasised continuity between the 4th Forum and the 5th, which will be held in Turkey in March 2009 under the overarching theme of “Building Divides for Water.” Outputs from other international processes, such as the International Year of Sanitation and the mid-term evaluation of the MDGs, will be integrated into the 5th Forum preparation. Finally, the six main themes that would be addressed during the 5th Forum were presented under two major categories:

Providing Water for Sustainable Development:

- Global Changes & Risk Management
- Advancing Human Development and the MDGs
- Managing and protecting water resources and their supply systems to meet human and environmental needs

Enabling Mechanisms for Development:

- Governance and management
- Finance
- Education, Knowledge and Capacity Building

European Efforts for Sustainability in a Changing World: Water and Energy

Convenor: European Water Partnership (EWP)

The EWP side event focused on the many linkages between water and energy. Businesses and politicians must come to terms with the challenges arising from the many connections between water and energy. More importantly, however, during the event concerns were voiced over the need to work harder to get the message on the general water challenges out to the larger public outside the water sector. Peter Gammeltoft, Head of Water and Marine Unit of the European Commission, emphasised the critical role that organisations like EWP must play in this respect. Because of the major role large businesses can play as well, as mentioned by Joppe Cramwinckel, of Shell, the EWP will increase its efforts to raise awareness among business, politicians and consumers, and will work together with large companies to achieve this objective. More information on this cooperation is available on www.ewp.eu.



Photo: SIWI

Trend-related Monitoring and Evaluation on Integrated Water Resources Management (IWRM)

Convenors: Stockholm International Water Institute (SIWI), UNDP Water Governance Facility at SIWI and the UN-Water Task Force on Monitoring of IWRM

Several surveys are on-going to monitor progress of IWRM planning and the outcome of policy decisions related to water resources management at a national level. These include a survey submitted to all CSD member countries spearheaded by UN-Water's task force on IWRM and a UNEP survey on IWRM. UN-DESA also aims to carry out a study to follow up implementation of CSD 13 policy decisions. These surveys overlap to some degree and analysis and reporting should be coordinated.

IWRM is a country and context specific approach. Therefore, country specific as well as global indicators and reports need to be developed. Most current and previous surveys are qualitative focusing on various aspects of the IWRM process and only to a limited degree capture impacts. A constraining factor is the lack of robust indicators and frameworks for monitoring the progress and benefits of implementing IWRM. IWRM inclusion of soft data, such as policy development, management instruments, institu-

tional capacity, stakeholder participation, and physical properties of water quality, quantity and allocation poses difficulties. Other challenges include the impacts of IWRM going beyond the water sector and taking a long time to be felt. Further, a baseline to compare against is lacking in most countries. The IWRM plans that are being developed by many countries can act as a baseline for monitoring national level progress.

Conclusions/Recommendations:

- Define proxies for IWRM by subdividing IWRM and identifying proxy indicators for these units,
- Focus on what we are trying to achieve: sustainable development and management of water resources. This requires defined indicators for economic, environmental and social development, and
- Monitor people, capacities and flows of money to the water sector.

From World Lake Vision (WLV) to Integrated Lake Basin Management (ILBM)

Convenor: International Lake Environment Committee Foundation (ILEC)

The water quality and ecological integrity of global lakes and basins are rapidly degrading. The seminar introduced two conceptual approaches, the World Lake Vision (WLV) and the Integrated Lake Basin Management (ILBM), as part of on-going global efforts led by ILEC to address this extremely important issue.

WLV is an approach for developing broad basin stakeholder consensus on the future state of a lake. ILBM translates that vision into reality. Specifically, WLV offers guiding principles for identifying significant lake problems and developing practical solutions. ILBM offers a framework for addressing the basin governance issues related to lake management. This includes: policy measures, participatory mechanisms, scientific studies, societal knowledge, technological measures and sustainable funding.

WLV and ILBM can function as two wheels of a vehicle driving the global agenda on management of lentic waters toward sustainability. Modelling approaches, in particular, can and should be more responsive to the broader societal interest and concern in ba-

sin management. Specific case studies – on the management issues facing Lake Victoria and the Aral Sea, the Turkish irrigation water management under global warming threats, and the key challenges in lake basin management facing China – all showed a clear need to bring lake basin management into the mainstream agenda on water and environment in the forthcoming global fora.

Conclusions/Recommendations:

- Waters are made to serve for human uses more frequently in lentic forms than in lotic forms,
- Lentic forms of water have features – integrating nature, long retention time and complex response dynamics – that necessitate special management approaches that have not received attention in previous global water management discussions, and
- Past experiences in lake-basin management offer insight into sustainable management and maintenance of lentic waters and their ecosystem services.



Photo: Mats Lannersted

Nestlé Seminar: The Global Water Challenge – A Shared Responsibility

Convenor: Nestlé S.A.

A varied panel discussed the roles of government, civil society and industry in meeting the global water challenge. Convenor Nestlé recently published a Water Management report, describing initiatives taken directly and indirectly in its value chain.

Host government Sweden's Hans Jeppson, State Secretary, Ministry for Foreign Trade, opened proceedings with "Water for all – a Swedish perspective on Global Efforts."

Peter Gammeltoft, of the European Commission's D2 Protection of Water and Marine Environment, added the EU perspective. OECD's Professor Stefan Tangermann examined how the critical agriculture sector can meet the water challenge. Focusing on developing world water access issues, the IFRC's Piero Calvi explained its global water and sanitation programme.

Nestlé represented the private sector's perspective, examining the contributions, challenges and experiences of a major food manufacturer related to the water issue.

As demonstrated by Nestlé and others, business can be an important element of change by: ensuring responsible water man-

agement within its own direct sphere of control; using its influence at other stages in the value chain (consumers and farmers); and sharing expertise with partners. However, each partner must play to its own strength and leverage overlaps. This way they can create shared value between business and society – a more sustainable form of partnership than philanthropy.

Conclusions/Recommendations:

- Think outside respective boxes and share responsibility, though leadership for ensuring integrated water resources management and regulatory frameworks must come from government,
- Agricultural water management is a key challenge (agriculture represents 70 percent of fresh water extraction), and
- Adequate pricing systems are fundamental in developed and developing nations. Get pricing right, create the right incentives and you can achieve real change, such as in parts of South Africa where a basic minimum human right to water is assured by differential pricing for heavy users.

Under Cover! Revisited Groundwater as an Integral Part of Transboundary River/Lake Basin Management in Africa

Convenors: African Ministers' Council on Water (AMCOW), Federal Institute for Geosciences and Natural Resources (BGR), Germany, International Association of Hydrologists (IAH), Stockholm International Water Institute (SIWI), United Nations Educational, Scientific and Cultural Organization (UNESCO) and United Nations Environment Programme (UNEP)

This year's seminar – part of the Stockholm joint initiative "Promoting Transboundary Groundwater Cooperation for Africa" by AMCOW, BGR, IAH, SIWI, UNEP and UNESCO – focused on integrating transboundary groundwater into the work of River/Lake Basin Organisations (R/LBO).

Representatives from the Senegal, Chad and Volta basins, and from the Namibian government, highlighted their commitment for a better recognition of groundwater. They reiterated that financial constraints and lack of knowledge about the resources hinder effective management.

The African Ministers' Council on Water and the African Network of River Basin Organisations (ANBO) showed strong political commitment. Surface water oriented management institutions, like R/LBOs, should be strengthened and mandated to include groundwater resources management. In arid and semi-arid regions where aquifer systems might be largely disconnected from surface water bodies, additional groundwater specific institutional arrangements are needed.

The African Development Bank (AfDB) outlined an anticipated total budget for investments of approximately USD 14.2 billion

until 2015 – available through the Rural Water Supply and Sanitation Initiative Programme. Government institutions and R/LBOs were encouraged to apply for funding to enhance groundwater development, management and capacity.

With political backing and possibilities to seek financial support, African stakeholders and international partners must improve cooperation and begin implementation. Building capacity and a knowledge base of the existing resources are essential to implementation.

Conclusions/Recommendations:

- Financial restraints and lack of knowledge about groundwater resources hinder effective management,
- An anticipated total budget for investments of approximately USD 14.2 billion until 2015 will be available through the Rural Water Supply and Sanitation Initiative Programme, and
- Surface water oriented management institutions should be strengthened and mandated to include the management of groundwater resources.

The Baltic Turntable: Making the Baltic Sea a Model for a Good Marine Environment and Strong Regional Development – A New Approach to Sustainable Management of Shared Water Basins

Convenors: Laboratory of the Contemporary (Färgfabriken), Stockholm International Water Institute (SIWI), with contribution from the Swedish Research Council Formas and Sida Baltic Sea Unit

Over 30 years of intense inter-governmental cooperation and vast financial and intellectual investments in the Baltic Sea has not prevented its ecosystems from being deteriorated and current uses threatened. The third consultative seminar reviewed what is missing in today's Baltic Sea cooperation, validated the need for a new approach to cooperation and worked on an improved, structured and flexible project design.

The Baltic Turntable approach will start from the conditions in the sea and motivate actors in the scientific, political, economic, social and cultural fields in a creative and constructive way to raise awareness about the region at large. Most people living by the Baltic want a healthy sea to use for recreation, sustainable fishing and navigation. It is crucial that the 100 million citizens living around the sea understand and personally experience themselves as part of a functional region that stimulates innovation and sustainable business.

The Baltic Turntable will explore the power of engagement of

concerned stakeholders (public and private) to provide structured tools to stimulate change. This can be achieved by creating a new and common Baltic identity – which builds on the regional potential for economic growth and common values – new environmental technology, and innovative solutions to protect the Baltic Sea.

Conclusions/Recommendations:

- The Baltic Turntable Approach will motivate actors in the scientific, political, economic, social and cultural fields in a creative and constructive way to raise awareness about the region at large,
- Actors beyond environmental scientists must be engaged in improving and maintaining the Baltic Sea, and
- A common Baltic Identity, new environmental technology, and increased awareness of the Baltic Sea's value can provide structured tools to change behaviour.

Incorporating Water Management into National Development Planning

Convenor: Global Water Partnership (GWP)

Incorporating the IWRM strategies and plans into the overall national planning processes requires improved water governance and coordinated mechanisms for decision making among key stakeholders. The three case studies presented during the session, showed different approaches to the issues.

The Brazilian National Planning system is medium term and sectoral. The programmes related to water resources are spread among sectoral ministries. However, the water resources framework links those ministries with the water resources sector.

In Mali, close collaboration between the PRSP (poverty reduction strategy paper) unit and the IWRM plan unit has resulted in significant integration. The PRSP unit has taken ownership of water agenda and contributed to mainstreaming water issues in the broader national development framework. The role of GWP/CWP as facilitator and catalyst of this fruitful collaboration is acknowledged by both parties.

The Zambian Department of Finance has recognised that the availability of water for social and economic development is a

major constraint to national development. As a consequence, they took leadership to integrate improved water management into the country's Fifth National Development Plan (FNDP).

The inter-sectoral approach of IWRM has changed the national development planning to respond better to the needs of the poor. As a result, specific supporting programmes towards better water management are incorporated into those sector programmes. Planning and resources mobilisation have taken a successful sector wide approach, yet the budgeting process still follows an institutional approach.

Conclusions/Recommendations:

- Articulating water issues within national level planning processes better is key for securing adequate budgets to the water sector,
- The process of mainstreaming water programmes within national development plans is country-specific and highly political, and
- The involvement of non-traditional actors in the water sector, like ministries of finance and planning, strengthen the process.

The Middle East Seminar:

Transboundary Groundwater Resources in the Middle East Region

Convenors: Stockholm International Water Institute (SIWI), Swedish International Development Cooperation Agency (Sida), UNESCO International Hydrological Programme (UNESCO-IHP), Federal Institute for Geosciences and Natural Resources, Germany (BGR) and Federal Ministry for Economic Cooperation and Development, Germany (BMZ)

The Middle East seminar posed many questions: What needs to be improved in the governance of transboundary aquifers in the Middle East? What are the consequences of continuing on the current path?

The consequences of the global climate change are almost certainly negative for the Middle East. Growing populations and resource demands will make future agriculture more difficult. Indigenous knowledge on the use of resources on local and regional scales must be taken into account. Locally developed solutions and traditional techniques are often lost when centralised decisions are implemented.

International law for transboundary aquifers is weak but under development. How will this impact arid countries? How can parties be held accountable for over-use? What are the possible legal and institutional reforms to foster cooperation and promote “shared” governance over aquifers? These difficult questions, as well as political leaders more interested in maintaining influence than investing in long-term development strategies, place the

region in a difficult situation where short-term results are often at odds with sustainable water resource planning. Increased regional cooperation in the technical, scientific and decision making levels is needed.

UNESCWA presented a vision for sustainable management of the region’s aquifers. But how can institutions and international partners support this vision to make it a reality?

Conclusions/Recommendations:

- There is an urgent need for the countries in the region to start functional national groundwater quantity and quality monitoring,
- Direct cooperation with neighboring countries might not yet be feasible at this point in time,
- UNESCWA presented a vision for sustainable management of the region’s aquifers, and
- An increased effort on regional cooperation at the technical, scientific and decision making levels is needed.

What is the Hole in Your Bucket? Equal Opportunities in IWRM and WATSAN through Functional Networking: From Principles to Practises

Convenor: Women for Water, Water for Women
Co-Convenor: Wetlands International

Type 2 partnerships between different stakeholders are promoted as a tool to achieve pro-poor, sustainable solutions through a participatory approach. In practise, such partnerships rarely include the Major Group Women, despite the fact that the pivotal role women play in achieving pro-poor sustainable development is universally acknowledged and stressed.

The Women for Water Partnership and Wetlands International encouraged people and organisations to send in their core problem – the “hole in their bucket” – which were presented and discussed during the seminar.

The common factor for every “hole” is that different stakeholders, including policy and decision makers, have their own problem perception and preferred solutions. If in stakeholder participation some partners are more equal than others, the consultation will result in biased solutions that do not necessarily reflect the needs of the poor. In response, Women for Water combines the strength and skills of women’s organisations to give voice to the Major Group Women as an active and equal partner in development.

This functional networking is an important new tool for finding solutions to fix the holes. More than in the technical options, improved and integrated processes create solutions.

Conclusions/Recommendations:

- A paradigm shift is needed towards a cross-sectoral and participatory approach in which local actors, especially grassroots women’s groups, move from target groups to partners in their own development,
- Different stakeholders, including policy and decision makers, have their own problem perception and preferred solutions. When stakeholders power or involvement is unequal, biased solutions not reflective of the needs of the poor often result, and
- Women for Water combines the strength and skills of women’s organisations around the globe and gives voice to the Major Group Women as an active and equal partner in development.

OSCE and UNECE Experience in Transboundary Water Cooperation

Convenors: Organization for Security and Cooperation in Europe (OSCE) – Office of the Coordinator of OSCE Economic and Environmental Activities (OCEEA) in collaboration with the United Nations Economic Commission for Europe (UNECE)

OSCE and the UNECE together with the Moldovan NGO network EcoTIRAS presented four projects supporting development of transboundary water cooperation in the Sava, the Kura-Araks, the Dniester and the Chu-Talas river basins.

Different types of intervention and entry points for cooperation were noted, including: data monitoring and exchange; promoting IWRM principles and stakeholder involvement; developing efficient NGO communities; harmonising environmental policy; drafting bilateral agreements; establishing transboundary commissions; and network building.

These projects have improved cooperation and expansion of relevant stakeholder involvement at both the horizontal and vertical levels, creating cooperative practices and models that can be used beyond the sphere of water issues.

The UNECE, which is also the host of the Secretariat of the Convention on the Protection and Use of Transboundary Watercourses and International Lakes, is an important partner with its expertise on transboundary water issues and direct links

to the water authorities in the region. The OSCE, a political organisation, is the largest regional security organisation in the world and through the delegations in Vienna offers good mechanisms for continuous, international political dialogue.

Conclusions/Recommendations:

- Bi/multilateral water agreements require political will to be effective, hence political organisations play an important role in the process,
- Participation in international dialogue is a prerequisite for national/regional ownership, in particular in countries in transition,
- Regional organisations can play a much greater role transboundary water initiatives,
- Water is a political issue and can be a vehicle for enhancing democracy, public participation and empowering local stakeholders, and
- The OSCE and UNECE partnership clearly illustrates effective investments to sustainable development, peace and the future.

Managing the Largest Transboundary River Basin of the World: The Amazon Basin

Convenors: National Water Agency of Brazil (ANA), World Bank Global Environment Facility (GEF), United Nations Environment Program (UNEP), Organization of the American States (OAS), Amazon Cooperation Treaty Organization (ACTO) and International Water Resources Association (IWRA)

The Amazon, a 6.4 million-km² basin is shared by eight countries. It features important interactions of the river basin and its ecosystem with the global and regional climate system. IPCC scenarios for the Amazon show a large dispersion when the carbon cycle is included. Scenarios tend to produce a smaller effect in the western part of the basin and some drying in the eastern portion.

The Amazon Cooperation Treaty Organization – ACTO, with support of the Organization of American States – OAS and the United Nations Environment Programme – UNEP, is developing a major transboundary river basin management project. Funded by GEF, it will establish a basin wide surface and groundwater quantity-quality monitoring system. It will also invest in capacity building and training of water resources managers, and analyse hydro-climatologic policy options for integrated river basin management.

In planning future use of water resources in the Amazon, scenarios with larger variability should be used as extreme drought

or wet periods may become more frequent under global warming. Hydraulic infrastructure for flow regulation purposes will be needed. Contrary to general belief, deforestation tends to produce an increase in river flows. However, there is a threshold that when crossed leads to a reduction in precipitation and a consequent reduction in runoff.

Conclusions/Recommendations:

- In planning for the future use of water resources in the Amazon, it is important to consider scenarios with larger variability,
- Deforestation tends to produce an increase in river flows. However, there is a threshold limit over which there is a reduction in precipitation with a consequent reduction in runoff, and
- A major transboundary river basin management project funded by GEF aims at sustainable development of the river basin. It will analyse hydro-climatologic questions and associated policy options for integrated river basin management.

Groundwater Capacity Building Initiative Africa: Outcomes and Way forward

Convenors: German Federal Institute for Geosciences and Natural Resources (BGR), UNDP Programme for Capacity Building in Water (Cap-Net), West Africa Capacity Building Network (WA-Net), Southern Africa Network for Capacity Building in IWRM (WaterNet)

Capacity building for improving groundwater management is an essential part of IWRM. Based on a joint study for West and Southern Africa conducted by the event's convenors, recommendations for capacity building measures on various aspects of groundwater management were discussed. A similar survey is currently ongoing in Eastern Africa.

Target areas for capacity building discussed in the report include the technical-oriented fields of resources assessment and development, as well as the improvement of institutional arrange-

ments and exchanging experiences on legal regulations.

Capacity development on groundwater management is urgently needed to strengthen human resources. Further, more widespread understanding of groundwater issues is necessary for increased inclusion of groundwater issues into general water management.

On the basis of the study, several institutions (e.g. UNESCO, IWMI) committed to collaborate in capacity building initiatives and to share experience more widely. The first courses will take place in Senegal and Nigeria.



Photo: Manfred Matz, SIWI

SIWI Seminar: Water for Food, Biofuels or Ecosystems?

Convenor: Stockholm International Water Institute (SIWI)
Co-Convenor: Swedish Environmental Advisory Council

Unrealistic expectations are increasing for both food and biofuel production. With numerous basins closed or closing, there is no “free water” to meet the additional water demands that such increases in agricultural production would entail, let alone to meet environmental flow requirements.

In a 50-year perspective, scenarios indicate a 50 percent increase in water demand for food production. The water demand for bioenergy in that time may rival the total water demand for food. The desire to reduce dependency on oil producing countries and to create opportunities for farmers is very strong. Ecological resilience and downstream blue water flows and livelihood opportunities may be the victims of these trends.

In both the food and energy sectors, innovative approaches are within reach. Roughly half of the food produced, or more, is lost and wasted “from field to fork,” but we can reduce inefficiencies in virtually all stages from production to consumption. Smart diets, with moderate proportion of animal protein (25 kg/capita a year), reduce water demand.

The large yield gap in rainfed agriculture in poor countries can be closed by a “vapour shift”, i.e. by soil and water conservation measures that turn unproductive evaporation into productive transpiration. Second generation biofuel technologies using lignocellulosic feedstocks may lead to lower evapotranspiration requirements per unit energy. Biomass residues used for energy productively utilises waste. With rainwater harvesting for supplementary irrigation and soil conservation, degraded and low producing areas can provide livelihood opportunities for people in poverty-stricken areas.

Conclusions/Recommendations:

- A green water strategy must pay attention to ecological resilience and downstream blue water flow requirements,
- Food, energy and water security should be analysed from source-to-sink and from production to consumption, and
- Equity and resources stewardship requires that various categories of farmers have access to land and water resources to secure a livelihood.

Putting People and Ecosystems First – How Improved Decision Making Processes on Water Services Create Win-Win Situations Instead of Trade-offs

Convenors: World Wide Fund for Nature (WWF) and Swedish Society for Nature Conservation (SNF) with support from Swedish Water House

It is technically possible to provide water for all but it will demand revolutionary changes in the way we manage water. Unfortunately, lessons from past failures are being ignored and investments in large-scale water infrastructure are enjoying a revival. While such projects aim to provide water services for the poor, history has proved large-scale infrastructure to be unable to meeting the basic water, food and energy needs of the world’s poorest. Worse yet, in many cases the destruction of ecosystem services caused by projects actually make people poorer.

Presentations highlighted the experiences in Rajasthan and in the Ugandan World Commission on Dams (WCD) process. In Uganda, dialogue has enhanced interactions and improved mutual respect among stakeholders. In Rajasthan, small scale rainwater harvesting projects successfully set an example as a method for catering to poor people’s needs over large areas.

Difficult decisions must be taken – this is inevitable in any

development process – but what is most critical is how decisions on water services are taken. Equitable decision making requires that stakeholders affected by a decision are meaningfully involved in the process. The seminar noted that the World Commission on Dams recommendations are still a valid and used framework for decision making on water services, so long as they are adapted to national contexts.

Conclusions/Recommendations:

- There is growing acceptance that dialogue and partnerships, based on the WCD recommendations, can solve water use conflicts,
- Donors should provide more funds for facilitating dialogues, especially to support involvement of disadvantaged stakeholders, and
- Too much funding is still directed to large-scale water infrastructures that don’t deliver expected benefits.

Working with Nature: Improving Integrated Water Resources Management by Sustaining and Restoring Ecosystem Services and Freshwater Biodiversity

Convenors: USAID Global Water for Sustainability (GLOWS) Program, Secretariat of the Convention on Biological Diversity (CBD), DIVERSITAS, Global Water System Program (GWSP), The World Conservation Union (IUCN), International Water Management Institute (IWMI), Ramsar Convention Secretariat, UNESCO International Hydrological Programme (UNESCO-IHP), Wetlands International (WI) and World Wide Fund for Nature (WWF)

Though essential to human well-being and both climate change adaptation and mitigation, biodiversity receives little attention in water resource management programs. Working with nature (freshwater ecosystems and their biodiversity) helps balance multiple objectives for water use.

Today, water managers have a wide range of policy, participatory, economic, and technical tools to effectively incorporate and manage ecosystem services into water management programmes. Emerging scientific tools, such as the Ecological Limits of Hydrological Alteration (ELOHA) framework, offer guidance to determine environmental flow requirements. Processes of social learning and institutional change can overcome misperceptions of trade-offs between ecosystem and direct human water needs. Permanent platforms for stakeholder participation that give voice to biodiversity concerns are increasingly applied in project design and implementation.

Sector-based approaches remain the major obstacle to progress. There needs to be a shift in political, economic and manage-

ment thinking towards more holistic ecosystem services based approaches. Recognition of our reliance on ecosystem services will enable us to better address the multiple problems and objectives for water use management. A shift in thinking by policy makers towards this more holistic approach and an increase in protection of ecosystem services by water managers is needed.

Conclusions/Recommendations:

- Water managers have at their disposal a wide range of policy, participatory, economic and technical tools to effectively incorporate ecosystem services into water management,
- Processes of social learning and institutional change may be applied to overcome the seeming trade-off between “ecosystem” and direct human water needs, and
- Sector-based approaches remain the major obstacle to progress. For this to change there needs to be a shift in political, economic and management thinking towards more holistic ecosystem services based approaches.

Partnering on River Basin Conservation

Convenors: The Nature Conservancy (TNC), National Water Agency of Brazil (ANA), Africa Wildlife Foundation (AWF), U.S. Army Corps of Engineers, Changjiang Water Resources Commission (CWRC) and Caterpillar Inc.

Implementing integrated river basin management (IRBM) in large river systems poses great challenges. Effective and transparent collaboration among partners (government agencies, private sector, NGOs and communities) is required for actors to be able to leverage their strengths, pool limited resources and create ecologically sustainable water management solutions to complex problems. The Nature Conservancy (TNC), Agência Nacional de Águas (ANA), African Wildlife Foundation (AWF), U.S. Army Corps of Engineers and Changjiang Water Resources Commission (CWRC) are making progress on the ground in working together across cultures, institutions and interests to reconcile the short-term emphasis on development with the long-term needs to conserve biodiversity in multiple river basins.

In Brazil, new tools and approaches, such as water user registries and standardisation of water charges, are helping to determine and manage trade-offs among multiple water uses. In China, a comprehensive ecological blueprint of the Upper Yangtze is facilitating stakeholder dialogue on the protection and develop-

ment of the basin’s resources. In the U.S., the U.S. Army Corps of Engineers and TNC are working together on 11 rivers and 26 dams through memoranda of understanding to help protect and restore the ecological health of the river systems.

Conclusions/Recommendations:

- Innovative planning tools can help decision makers identify priority conservation areas, and forecast the changes to water quality, water quantity and biodiversity that result from land use changes,
- Harmonising legal and regulatory systems is critical for effective management of transboundary rivers,
- Capacity and trust building among partners that incorporates and understands cultural norms is crucial, and
- Effective and transparent collaboration among partners (government agencies, private sector, NGOs and communities) is needed.

Kick-off Meeting for the 12th World Lake Conference: Taal 2007 in India

Convenor: International Lake Environment Committee Foundation (ILEC)

This side event was organised by ILEC as a Kickoff Meeting for the 12th World Lake Conference (WLC12) to be held in Jaipur, India from 28th October to 2nd November 2007. It introduced a message from Mehmood Khawaja, Additional Secretary & Project Director, Ministry of Environment and Forests, India, accompanied by a video presentation on the conference. They brought focus to the challenges facing and the possibilities in achieving sustainable management of the world's lakes and their basins, particularly in the regions of tropical climate and water scarcity. To build a bridge linking WLC12 with WLC13 and WLC14, presentations were also made by the representatives from the People's Republic of China and the City of Wuhan on WLC13, to be held in 2009, and by a representative from the Russian Republic on WLC14, to be held in 2013, that together successfully brought the meeting to conclusion.

Actions and Solutions: Translated Tools for a Changing Water World

Convenor: The World Conservation Union (IUCN)

The IUCN side event consisted of four presentations on the making, distribution and success of the "FLOW – The Essentials of Environmental Flows" toolkit. There is growing need for translated toolkits that are useful and available where it matters. Currently, IUCN is monitoring the download hits and order requests of the Flow (and WANI) toolkits online, as well as the progress on the EFlow Network subscriptions and visits. The "behind the scene processes" in the field in the Southern Africa region were presented, as well an addition of a Portuguese version of Flow for Mozambique. Finally, Michael Moore from SIWI introduced the Environmental Flows Network (EFlowNet), a network which aims to enhance the dialogue on environmental flows and provide an interactive forum for a diverse range of water stakeholders, and the launch of the EFlowNet website at www.eflownet.org.

The Role of Environmental Flows in Reducing Poverty and Meeting the Millennium Development Goals (MDGs)

Convenors: The Swedish Environmental Flows Initiative and The Global E-flow network

The Swedish Environmental Flows Initiative and The Global E-flow network event explored the link between environmental flows, ecosystem services and poverty. Ecosystem services must be recognised as key components of reaching global poverty targets and the MDGs. The presentations highlighted:

- The difficulties in valuating ecosystem services and different methods to approach this,
- The MDGs and where we stand today in terms of meeting the targets, and
- The relationship between poverty reduction and ecosystem decline.

A plenary session followed and discussed reasons why recognition of ecosystem services as an integral part of reaching development goals is so difficult. Use of the right terminology and convincing presentations on ecosystem decline being a real threat to human well being and economic development are needed.

Sida Position on Natural Resource Tenure

Convenor: Swedish International Development Cooperation Agency (Sida)

The Sida side event discussed the organisation's new position paper, "Natural Resource Tenure." In many developing countries, poor and marginalised groups depend on natural resources for their livelihoods and shelter. Pro-poor natural resource tenure is therefore crucial to poverty reduction and realisation of human rights.

The paper is broader in scope than many tenure documents, in that it comprises agricultural land as well as urban land, water, wetlands, coastal areas, forests, rangelands, genetic resources and, to some extent, sub-soil resources. It also shows how different development priorities such as pro-poor growth, gender equality, democratic governance, peace and security are related to tenure.

Successful tenure interventions require cooperation between many different areas of expertise. Land and water issues in this cooperation are especially critical. Hopefully the paper will draw attention from many different readers and stimulate such cooperation.

"Natural Resource Tenure" can be downloaded from internet at: www.sida.se/sida/jsp/sida.jsp?d=118&a=32805&searchWord=s=Position%20paper. Contact: margareta.nilsson@sida.se

Payments for Watershed Services: Conservation, Development, Both or Neither?

Convenor: International Institute for Environment and Development (IIED)

People who look after ecosystems that benefit others should be recognised and rewarded. In watersheds, downstream beneficiaries of wise upstream land and water use should compensate the stewards. To be effective, “payments for watershed services” must cover the costs of watershed management.

Payments for watershed services should not be considered as a poverty eradication tool with widespread applicability in developing nations. There is very little evidence that such payments have significant positive effects on land and water management. There can, however, be considerable indirect benefits and new relationships from payments schemes.

As demand for new tools grows, it is important not to discard the positive aspects of regulation. Payments need to be developed in the social, political and economic context of specific watersheds. Governments provide the legal and policy framework in which payments for watershed services can be an option, and are themselves increasingly acting as buyers of services on behalf of society.

Integrating Green and Blue Water Management: The Green Blue Water Initiative

Convenor: Stockholm Environmental Institute (SEI) and Stockholm International Water Institute (SIWI)

The Green Blue Water Initiative by SEI, SIWI and a number of other partners is now implementing its first activities in the Lake Victoria catchment as part of the Nile basin. The main goal is now to raise awareness and provide knowledge for integrating green water and land management in IWRM. The new green-blue water paradigm aims at increasing water productivity and mitigating water scarcity in semi-arid and sub-humid regions through a number of interventions, including: rainwater harvesting, supplementary irrigation, conservation agriculture and institutional adaptations.

This side event impressively demonstrated the high demand for the green-blue approach from a range of African regional, national, basin and local institutions concerned with water, land, agriculture and ecosystems. Mainstreaming of green-blue water principles into their activities and strategies was considered a major step towards improved water and food security, poverty alleviation and environmental sustainability.



Photo: SIWI



Photo: SIWI

Sustainable Water Technologies in Industry

Convenor: Stockholm International Water Institute (SIWI)
Co-Convenor: Water Environment Federation (WEF)

Technological advancements in industrial water use are pushed by public opinion, government policy and water pricing. Industry leaders in auto manufacturing and fiber have shown corporate responsibility and responded to short water supply by cutting leakage, recycling water and reducing the amount of water for production. While appropriate techniques have made many industries more economical, the educational process to help other industrial users is slow as established facilities are reluctant to share and take advice.

Arid communities are adapting to capture and store scarce water supplies. Industrial plants in India, Europe and North America have been harvesting rainwater, often using it for process water, cleaning and landscaping. Las Vegas, USA, is using only 2 percent of its water supplies for tourism, its biggest industry, and is returning most of its treated effluent for credit to withdraw an equal amount of potable water. Communities in India harvest rainwater to recharge groundwater near neighborhood wells. Energy neutral technologies, such as anaerobic wastewater treatment with aerobic

polishing and energy generation from waste biomass and algae, are being implemented.

Redevelopment of rivers and shorelines in urban areas are showing the value of natural processes. Sewers, wastewater treatment facilities and wetlands are being constructed and maintained along rivers in China and throughout the world to restore them to a more natural function for wildlife, recreation and community aesthetics.

Conclusions/Recommendations:

- Technological advancements in industrial water use are pushed by public opinion, government policy and water pricing,
- Industry leaders in auto manufacturing and fiber have shown corporate responsibility and responded to short water supply by cutting leakage, recycling water and reducing the amount of water for production, and
- In the industrialised world, leakage and inefficiency are being addressed while lack of access to water and spread of waterborne disease are major issues in the developing world.

Progress on Financing Water Services

Convenor: Stockholm International Water Institute (SIWI)

Co-Convenors: Global Water Partnership (GWP) and EU Water Initiative – Finance Working Group (EUWI-FWG)

There are positive signs from the International Financial Institutions (IFI) (e.g. Asian Development Bank (ADB) and the EU) and increased involvement of international organisations on financing water (e.g. the Organisation for Economic Co-operation and Development presentation). There are also signs of interest from financiers (e.g. the presence of finance experts and bankers at water events). However, lack of interest and capacity at the local level restricts progress.

Loan finance is available but grant funds are scarce. Overseas Development Aid needs to be used strategically to leverage more finance but not crowd out other sources. Innovative ideas, such as municipal bonds with tax exemption (e.g. India presentation), linking output based aid with microfinance (e.g. Kenya presentation), and IFI interest in sub-sovereign lending (e.g. ADB presentation), are positive signs. Public Private Partnerships can overcome resource constraints but require a mix of models, public disclosure of utility performance and credit rating to be successful.

Progress is blocked by high transaction costs, lack of human capacity and political legitimacy, contradictory policies and fragmentation. Difficulties in transfers from central to local levels exist. Credibility and trust between governments and financiers is also lacking. Government budgets for water are often under spent as a result. To overcome these obstacles financing has to be linked to good governance.

Conclusions/Recommendations:

- There are positive signs and interest from IFIs (e.g. ADB and the EU), international organisations and financiers in water,
- Progress is restricted by lack of interest and capacity at the local level, as well as high transaction costs, contradictory policies and fragmentation in water finance, and
- Public Private Partnerships can overcome resource constraints but a mix of models, public disclosure of utility performance and credit rating are all needed for their success.

Water: A Brake on Economic Development?

Convenors: Stockholm International Water Institute (SIWI)

Co-Convenors: The World Conservation Union (IUCN) and the World Bank

Floods, droughts, landslides, contamination of water resources and water disputes can make water problems a brake on development. Low income countries remain particularly vulnerable to becoming hostages to their hydrological context. Yet, countries that have harnessed their hydrological variability have also been able to secure the path to improved water security, economic development and productive capacity.

The workshop's presentations showed the strong capacity of people and institutions to face the challenge of their hydrological variability, be it through flood control, introduction of elements of the green revolution, improved irrigation, better water resources management, rainwater harvesting and targeted investments.

Development "brakes," i.e., water stress, floods, contamination, disputes, etc., can also provide opportunity and stimulus for creativity, innovation, ideas and new visions. There is one common denominator in the fight against water variability: the importance of institutional capacity building, better education, improved organisation and community management in the process

of improving water security. Investments are not the sole engine for change and innovation. The capacity of institutions and people to better plan, organise, decide, manage and monitor are at least as essential as investment, if not more.

Recommendations for improved investment and capacity building in water and development include: adaptive investments (where investment strategies are adaptable to specific hydrological contexts); community management in local watershed projects; and policies that address the link between scarcity of water resources and economic growth.

Conclusions/Recommendations:

- Investment in social overhead capital (water, health, education) induces productive investments, enhancing development,
- Water scarcity is a stimulus to development, providing that other social infrastructure is available, and
- Small projects are not necessarily small, enabling and organising citizens for water problems is crucial.

Founders Business Seminar: When Sustainable Water Use Becomes Everybody's Business – Linking Investors, Business and Water Sector Stakeholders

Convenors: Stockholm Water Foundation (SWF), Stockholm International Water Institute (SIWI), ITT Corporation, UNEP Finance Initiative, World Business Council for Sustainable Development (WBCSD) and Siemens

At the 2007 Founders Business Seminar, discussion focused on how to link the financial sector and business with water sector stakeholders to improve and increase investments, operations and collaboration in the sustainable use of water.

If the price of water reflected its true economic value many believe water would be less wasted and the sector would attract more of the needed investment. Many companies would be willing to pay a higher price for water if it meant it would be used in more sustainable ways.

Progressive investment and credit professionals see the ultimate business opportunity in being part of the overall solution rather than the problem and place a moral responsibility on financial institutions to provide financial services for sustainable development. More money will have to flow into the development of further, better and more sustainable infrastructure. This will partially have to come from the private sector and capital markets.

Investment in water is closely linked to the political environment. It is not only companies and financial institutions that need

to better understand each other. Governments must be brought into these discussions to provide the long-term vision and enabling market environment.

Conclusions/Recommendations:

- We must decide: should water be given the price that reflects its true economic value?
- Water must be regarded as both a human right and an economic product,
- We should learn the mechanisms, actors, processes and financial structures that enabled successful water schemes that have proved both profitable and socially inclusive,
- Water from the investor's perspective is interesting but not ripe, and
- Banks and investors are progressively willing to get involved in the water sector as they are realising the business opportunity in – after gas and oil – the biggest sector worldwide.

Poverty, Wealth and Water: Prioritizing Water Investments

Convenors: Swedish International Development Cooperation Agency (Sida), Stockholm International Water Institute (SIWI), UN Development Program (UNDP), World Bank (WB), The World Conservation Union (IUCN), World Health Organization (WHO), International Water Management Institute (IWMI) and Stockholm Environment Institute (SEI)

Political support for water issues often fails to translate into increased investment flows. Governments, donors and the finance sector still seem to have cold feet when it comes to investing in the water sector. The evidence on setting water investment priorities is still inconclusive. The GDP-rainfall variability interface is more complicated than previously thought. A presentation displayed weak correlation between rainfall variability and GDP growth, even when rainfed agriculture, water reservoir capacity and civil unrest were factored in.

Concerns over cost recovery, profit generation, high risk/low return, inefficiency, corruption and instability inhibit both public and private investors. "Cheap money" available for water sector projects may crowd out local private sector financing. To break the bottleneck in water investment, hydro-projects on macro and micro scales must stress the financial aspects like recovering costs. This will help lower risks. Complementary investments for more productive water use, such as investments in land conservation, human capacity and social capital, are important.

Private investments at the community level are largely absent, but cases show they are an untapped financing option of investing in local water.

Conclusions/Recommendations:

- Focus on diverse small-scale investments and investment at the local level,
- Invest in hygiene and sustainable sanitation for quick positive economic impacts,
- Put focus on creating an effective investment climate, such as improving governance and anti-corruption,
- Local investment markets should not be distorted by international aid,
- Invest in areas complementary to water, such as land conservation, human capacities and social capital, and
- Micro-financing must be made available to poor people on much larger scales.



Photo: SWI

Business Working on Water – Beyond the Fenceline

Convenor: World Business Council for Sustainable Development (WBCSD)

Co-Convenors: The Nature Conservancy (TNC) and World Economic Forum (WEF)

Companies around the world have been working for decades to manage their own water use and wastewater discharge. Now, as freshwater becomes increasingly scarce, and amid mounting competition between communities, industries, agriculture and ecosystems for finite resources, there is growing awareness that successful management of such challenges will best be achieved through collaboration.

Progressive companies are now working with communities and other stakeholders to create innovative and mutually beneficial water management partnerships. Many others are interested in doing so, as demonstrated by the 100 people, mainly from business and NGOs, who attended the session aimed at exploring options beyond the “fenceline”.

Inside the fenceline, business needs water for operations. Beyond the fenceline, water is needed for a healthy community and workforce. Going further (“beyond the horizon”) is the water needed for healthy and strong global consumer markets. In all cases, to work beyond the fenceline means engaging with others.

Conclusions/Recommendations:

- Understand your assumptions – Community participation is key to evaluating people’s wants and needs. Your assumptions may not reflect reality
- Make an informed choice of partner – Choice of partner is important. Do you share the same interests as your partner? What type of skills does each partner bring to the table (e.g., capacity building, communication, implementation, facilitation of behavioral change)?
- Bluewash or Bona fide? Partnerships must be transparent. If a company is working throughout its value chain because of the embedded value of water within it, then it should be clear that its efforts are not “bluewash.”
- Multi-sector initiatives are most effective – When everyone is around the table and contributing their share, projects are implemented more efficiently, because each partner can leverage each others skills.

Ensuring Local Government Finance for Water and Sanitation

Convenor: WaterAid

As with other sectors, there is consensus that decentralisation of service delivery for water supply and sanitation to the local level will improve efficiencies, increase accountability and better meet local needs and priorities.

WaterAid is carrying out research in 15 countries to increase understanding of financial obstacles to local service delivery and propose measures to improve often complex and fragmented financing arrangements.

Case studies from Mali and Tanzania revealed the impact of two key variables on local government capacity to manage funds. The Tanzania case showed how improved sector policy and institutional arrangements at national level – the new “Sector Wide Approach” – has streamlined financing at the local level. The Mali case showed the need for functional decentralisation and the separation of service delivery from policy and regulation.

Discussion focused on ways to break the vicious cycle that perpetuates low levels of local capacity and continued central control of resources. For more details, contact: Laurahucks@wateraid.org

Water for Sustainable Economic Growth – How Do We Elevate Water as a Global Priority?

Conveners: Japan Water Forum, Asia-Pacific Water Forum (APWF), Global Water Forum (GWP) and World Economic Forum (WEF)

People are aware that there are serious water/sanitation issues in the world, but they do not usually grasp their supremacy. Discussion held at the side event focused in part on raising political awareness of the economic implications of water management. Concrete examples of what can be done, such as companies and industries setting standards for their own consumption in order to spur competition for resource efficiency, were given in attempts to present global leaders with not only the “water problems” but also practical solutions and alternatives.

The 1st Asia-Pacific Water Summit will target the heads of governments in the Asia-Pacific region in order to make them realise that water is not a departmental issue and cannot be separated from the co-development of the country. The notion of “water-dividend” was also mentioned to illustrate that if people start investing in water they will receive positive economic returns.



Photo: Michael Moore, SIWI

Mapping Water in Business: Launch of the New WBCSD Global Water Tool

Convenor: World Business Council for Sustainable Development (WBCSD)

Water is the single most important element necessary for existence. Yet, many users fail to fully grasp the interrelationship of activities and global water supply on one another. This is beginning to change. Progressive businesses now understand that “to manage water globally, you need to know the water situation locally.” The World Business Council for Sustainable Development has developed a free and easy-to-use tool for companies and organisations to map their water use and assess risks relative to water availability in their operations and supply chains.

The Global Water Tool was launched on 15 August during the World Water Week amid enthusiasm among business and non-business participants. Several attendees welcomed the development of a practical instrument for companies – which was seen as a refreshing departure from the “same old conversations of doom” that frequently dominate such conferences. The tool will be updated as fresh data becomes available.

See www.wbcd.org/web/watertool.htm

Stockholm Water Prize



Photo: SIWI

Professor Perry L. McCarty from Stanford University, California, a pioneer in the development of the understanding of biological and chemical processes for the safe supply and treatment of water, received the 2007 Stockholm Water Prize on August 16 from the hands of H.M. King Carl XVI Gustaf of Sweden. The ceremony took place at the Stockholm City Hall.

Standing before hundreds of friends, family and guests assembled to see him accept the 17th Stockholm Water Prize from the hands of H.M. King Carl XVI Gustaf of Sweden, Professor Perry L. McCarty began by taking the first chance he could to thank Sweden and its leaders “for setting the example on environment and social responsibility for the rest of the world.”

For everyone else in attendance, however, the evening was an opportunity to give thanks and pay homage to the distinguished Stanford professor who, through the field of environmental biotechnology, created the foundation for small and large-scale water pollution control and modern safe drinking water systems.

At the ceremony at the Stockholm City Hall, Mr. James H. Clark from the Nominating Committee for the prize noted that Professor McCarty “has been the pioneer for work in developing the scientific approach for the design and operation of water and wastewater systems. He has established the role of fundamental microbiology and chemistry in the design of bioreactors.”

Among the many qualified experts in different disciplines, Prof. McCarty was applauded for a stunning scientific career. Over the past five decades he has combined deep knowledge in physical, chemical, biological and microbiological processes and transferred the results into outstanding technical development. His work is widely used all over the world as the basis for wastewater treatment systems.

Following the ceremony, the Royal Banquet in the City Hall gave guests a chance to hear Professor McCarty give the sage advice

for scientists to think big, but look small as we turn to science to help us find sustainable solutions in the upcoming generations.

Never straying from his passion for the miniature universes and infinite innovations still yet to be discovered in micro organisms, McCarty implored all listening to take lessons from the tiniest of sources for inspiration.

“Now I am not sure that I have made you as excited as I am about what happens in a septic tank,” he quipped, “but it is the community of organisms all working together that we need to study and learn more about. We ourselves obviously have much to learn about living together cooperatively, perhaps they can help us to learn how to do this much better than we have...With the coming climate changes we will have to adapt as well, and I hope we do it successfully. I expect we can if we all work together as the micro-organisms in a septic tank have learned to do.”

The Stockholm Water Prize, a global award founded in 1990 and presented annually to an individual, organisation or institution for outstanding water-related activities, is worth USD 150,000.

The Founders of the Prize are: Bacardi, Bourealis and Bourouge, DuPont, Europeiska Insurance, Fujitsu Siemens Computers, General Motors, Grundfos Management, Hewlett Packard, ITT Flygt, Kaupthing Bank Sverige, Kemira Water, KPMG Sweden, Läckby Water, P&G, Ragn-Sells, Scandic, Scandinavian Airlines (SAS), Siemens AG, Snecma, Swedish Railways (SJ), Uponor and the Water Environment Federation, in collaboration with the City of Stockholm.

Stockholm Junior Water Prize

The Stockholm Junior Water Prize, presented August 14, was the first to be handed out during the week. In front of 700 guests in the Stockholm City Conference Centre, a Mexican trio – Ms. Adriana Alcántara Ruiz, Ms. Dalia Graciela Díaz Gómez and Mr. Carlos Hernández Mejía – was awarded the prestigious youth prize.

The Stockholm Junior Water Prize is presented each year to high-school age students for an outstanding water-related project focusing on topics of environmental, scientific, social or technological importance.

In taking top place among 27 participating countries, the team from the Cultural Institute of Paideia in Toluca, Mexico, was recognised for a project, which according to the international nominating committee, “developed a novel approach to adsorb lead in industrial wastewater.” The young scientists received the Prize from the hands of H.R.H. Crown Princess Victoria of Sweden in addition to a USD 5,000 scholarship and a crystal sculpture.

The winning project used eggshells, an abundant and inexpensive bio-residual, for its capacity in the adsorption of pollution in wastewater. First, the students mixed eggshells with an aqueous solution of lead to remove the pollutant from the liquid phase. Next, the morphology and elemental composition of this compound was determined through a three step process of using atomic force mi-

croscopy, electron scanning microscopy and energy dispersive x-ray analysis. The project resulted in a simple, innovative, effective and economically viable method of wastewater treatment.

In their official motivation, the committee praised the project’s creativity and its immediate applicability to industrial water management. “By mixing ground-up eggshells in a liquid lead solution, the young Mexicans successfully removed more than 90 percent of lead pollutants from liquid waste. This low-cost, time-efficient method provides an alternative solution for removing heavy metals, a pollutant and health hazard around the world, from water. The quick and effective process can be applied in both small-scale industries large industrial operations.”

Honourable mention was given to the Mr. Yang Guo, Mr. Junhong Wu and Ms. Sisi Yu of China, who investigated new, practical, and efficient alternatives to decontaminate heavy metal pollution in the agricultural wetlands of the Chinese Pearl River Delta.

The international competition, which is sponsored globally by the ITT Corporation, included a number of events in addition to the award ceremony. Site visits, seminars and social events provided the 47 young people, many of whom were making their first international trip, with an experience they should treasure forever.



Photo: SIWI

Mexico claimed the Stockholm Junior Water Prize with their project “The Elimination of Pb(II) From Water Via BIO-Adsorption Using Eggshells.” H.R.H. Crown Princess Victoria of Sweden presented the award to (from left) Carlos Hernández Mejía, Dalia Graciela Díaz Gómez and Adriana Alcántara Ruiz.

Stockholm Industry Water Award



Photo: SIWI

Mr. Peter Forssman, Chairman, Stockholm Water Foundation, presents the 2007 Stockholm Industry Water Award to Mr. Khoo Teng Chye, Chief Executive, PUB Singapore. Photo:SIWI.

As the old saying in water conservation goes, “Waste not, want not.” But when it comes to “wastewater,” now that PUB Singapore has redefined the industry to show this valuable renewable resource isn’t waste at all, everyone wants to have it. For their impressive work to transform the urban nation into a model of smart and sustainable water management practice, the public utility board of the urban nation Singapore was awarded the 2007 Stockholm Industry Water Award.

As the creator of NEWater, PUB Singapore has established a blueprint for water industry success: sound policy, investment in technology, close partnerships with business and community, and cost-effective policy implementation. Through the utilisation of four “national taps” – imported, desalinated, rain-captured, and recycled water – PUB provides 100 percent of Singapore’s water, and will increase its NEWater production to 30 percent within the next five years.

The reclaimed water has done more than successfully produce

safe, high quality drinking water. Through its attractive packaging and ingenious marketing (which includes the popular mascot “Waterboy”), it has successfully overcome the fear and stigma attached to recycled drinking water to be warmly embraced by the public consumer. By developing the industrial techniques for water reclamation and spreading NEWater in a nation known for its spotless reputation and high standards in health and safety regulations, PUB has paved the way for nations across the world to follow suit and exponentially increase their renewable water resources.

The Stockholm Industry Water Award is presented by the Stockholm Water Foundation. It honours innovative corporate development of water and wastewater process technologies, contributions to environmental improvement through improved performance in production processes, new products and other significant contributions by businesses and industries that help improve the world water situation.

Swedish Baltic Sea Water Award



Photo: SWI

H.E. Ms. Gunilla Carlsson, the Minister for International Development Cooperation in Sweden, presented the 2007 Swedish Baltic Sea Award to Ecodefense, a Kaliningrad based Russian NGO, represented by Mr. Vladimir Sliviyak and Ms. Alexandra Koroleva.

During the Closing Session of the World Water Week on August 17, 2007, attendees witnessed the honouring of one group’s tireless commitment to defending the irreplaceable ecosystems of the Baltic Sea Region.

H.E. Ms. Gunilla Carlsson, the Minister for International Development Cooperation in Sweden, presented the 2007 Swedish Baltic Sea Water Award to Ecodefense, a Kaliningrad based Russian NGO, for its efforts to increase awareness of the Baltic Sea water environment.

Since 1999, by means of reports, hearings and campaigns, their exemplary work has pushed to further education and broaden the knowledge among the general public, government departments,

authorities, politicians and companies within an area suffering severe environmental problems.

The Swedish Baltic Sea Water Award is a regional award for water stewardship. The award is given by Sweden’s Ministry for Foreign Affairs in appreciation for what individuals, corporations, non-governmental organisations and municipalities have done in order to help improve the Baltic Sea’s water environment.

“Ecodefense works under difficult conditions in an area with large environmental problems,” said Ms. Ulla-Britta Fallenius, chair of the award committee. “They have already been successful, and we would like to give attention to those efforts as well as encourage their important work to continue.”

Best Poster

The 2007 Best Poster Award was given to Mr. Karthikeyan Janakiram and Mr. Sridhar Rao of the Department of Civil Engineering at Sri Venkateswana University in Tiraputi, India, for their poster, “Development of Point-of-Use Candle Type Household Filters for Removal of Arsenic From Water.”

Posters presented during the World Water Week have always been an important component of the overall programme. Special

efforts are made to make them accessible to participants and incorporated into the deliberations taking place during the World Water Week.

Mr. Janakiram and Mr. Rao will both receive travel and accomodation to participate in the 2008 World Water Week in Stockholm.

Convenors and Co-Convenors

- African Ministers' Council on Water (AMCOW)
- African Water Facility (AWF)
- African Wildlife Foundation (AWF)
- Amazon Cooperation Treaty Organization (ACTO)
- Aquafed
- Asian Development Bank (ADB)
- Asian Development Bank Greater Mekong Subregion (ADB-GMS)
- Asia-Pacific Water Forum (APWF)
- Baltic Master Project
- Bangladesh Centre of Advanced Studies (BCAS)
- Capacity Building for Integrated Water Resources Management (Cap-Net)
- Caterpillar
- Centre for Development Research
- Centre for Science and Environment (CSE)
- Centre Régional pour l'Eau Potable et l'Assainissement à faible coût (CREPA)
- Changjiang Water Resources Commission (CWRC)
- Cooperative Programme on Water and Climate (CPWC)
- Council for Scientific and Industrial Research, South Africa (CSIR)
- Danish Ministry of Foreign Affairs/Danida
- DBL Centre for Health Research and Development
- Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ)
- DHI Water and Environment
- DIVERSITAS
- EU Water Initiative
- EU Water Initiative – Finance Working Group (EUWI-FWG)
- European Commission (EC)
- European Council of Religious Leaders (ECRL)
- European Water Partnership
- EUWI-ERA-NET Consortium
- Federal Institute for Geosciences and Natural Resources, Germany (BGR)
- Federal Ministry for Economic Cooperation and Development, Germany (BMZ)
- Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Germany (BMU)
- French Coordination for Water
- French Water Academy
- Global Water Partnership (GWP)
- Global Water System Project (GWSP)
- Green Ocean
- Helsinki Commission Secretariat (HELCOM)
- Human Development Report Office (HDRO)
- IBON Foundation
- Institute for Health Research and Development (DBL)
- International Association for Hydrogeologists (IAH)
- International Association of the Waterworks in the Danube Catchment Area (IAWD)
- International Commission for the Protection of the Danube River (ICPDR)
- International Development Research Centre (IDRC)
- International Foundation for Science (IFS)
- International Human Dimensions Programme on Global Environmental Change (IHDP)
- International Institute for Environment and Development (IIED)
- International Lake Environment Committee Foundation (ILEC)
- International Secretariat for Water
- International Water Association (IWA)
- International Water Management Institute (IWMI)
- International Water Resources Association (IWRA)
- IRC International Water and Sanitation Centre
- Irrigation and Water Engineering Group, Wageningen University
- ITT Corporation
- Joint Monitoring Program (JMP)
- Laboratory of the Contemporary (Färgfabriken)
- Landscape Ecology Group, Umeå University
- Munich Re Foundation (MRF)
- National Water Agency of Brazil (ANA)
- Nestlé S.A.
- Netherlands Water Partnership (NWP)
- Network for Women Water Professionals Sri Lanka (NetWwater)
- New Approaches to Adaptive Water Management under Uncertainty (NeWater)
- Northern Water Network (NoWNET)
- Organization for Security and Cooperation in Europe (OSCE) Office of the Coordinator of OSCE Economic and Environmental Activities (OCEEA)
- Organization of the American States (OAS)
- Portuguese Ministry for the Environment, Spatial Planning and Regional Development (MAOTDR)
- Rainwater Harvesting Implementation Network (RAIN)
- Rainwater Partnership
- Ramsar Convention Secretariat
- SaciWATERS (South Asia Consortium for Interdisciplinary Water Studies)
- Secretariat of the 5th World Water Forum
- Secretariat of the Convention on Biological Diversity (CBD)
- Sida Baltic Sea Unit
- Siemens
- State Hydraulic Works Turkey (DSI)
- Stockholm Environment Institute (SEI)
- Stockholm International Water Institute (SIWI)
- Stockholm Resilience Center
- Stockholm Water Foundation (SWF)
- Svaraj/Oxfam India
- SWECO International
- Swedish Environmental Advisory Council
- Swedish Environmental Secretariat for Asia (SENSA)
- Swedish Environmental Technology Council (SWENTEC)
- Danish Ministry of Foreign Affairs/Danida
- Swedish Network of Peace, Conflict and Development Research at Uppsala University
- Swedish Research Council Formas
- Swedish Society for Nature Conservation (SNF)
- Swedish University of Agricultural Sciences (SLU)
- Swedish Water House (SWH)
- The International Water Academy (TIWA)
- The Movement Design Bureau
- The Nature Conservancy (TNC)
- The Water Dialogues
- The World Conservation Union (IUCN)
- Transparency International (TI)
- UNDP Water Governance Facility at SIWI
- UNEP Collaborating Centre on Water and Environment (UCC-Water)
- UNEP Finance Initiative (UNEP-FI)
- UNESCO-IHE Institute for Water Education (UNESCO-IHE)
- UNESCO-IHP International Hydrological Programme (UNESCO-IHP)
- United Nations Children's Fund (UNICEF)
- United Nations Development Programme (UNDP)
- United Nations Economic Commission for Europe (UNECE)
- United Nations Educational Scientific and Cultural Organisation (UNESCO)
- United Nations Environment Programme (UNEP)
- United Nations Framework Convention on Climate Change (UNFCCC)
- United Nations Human Settlements Programme (UN-HABITAT)
- United Nations Secretary-General's Advisory Board on Water and Sanitation (UNSGAB)
- United Nations University, Bonn
- United Nations University Institute for Environment and Human Security (UNU-EHS)
- United Nations Water Task Force on Monitoring of IWRM
- United States Agency for International Development (USAID) GLOWS Program
- University of Bonn, Germany
- UN-Water
- USAID Global Water for Sustainability (GLOWS) Program
- U.S. Army Corps of Engineers
- Varim
- WaterAid
- WaterNet
- Water and Sanitation Program (WSP)
- Water Environment Federation (WEF)
- Water Integrity Network (WIN)
- Water Rights Foundation
- Water Supply and Sanitation Collaborative Council (WSSCC)
- West Africa Capacity Building Network (WA-Net)
- Wetlands International (WI)
- Winrock International
- Women for Water Partnership (WfWfW)
- World Agroforestry Center (ICRAF)
- World Bank (WB)
- World Bank Global Environment Facility (GEF)
- World Business Council for Sustainable Development (WBCSD)
- World Economic Forum (WEF)
- World Health Organization (WHO)
- World Water Council (WWC)
- World Wide Fund for Nature (WWF)

World Water Week in Stockholm

The World Water Week in Stockholm is the leading annual global meeting place for capacity-building, partnership-building and follow-up on the implementation of international processes and programmes in water and development. It includes topical plenary sessions and panel debates, scientific workshops, independently organised seminars and side events, exhibitions and festive prize ceremonies honouring excellence in the water field. Stockholm is the meeting place for experts from businesses, governments, the water management and science sectors, inter-governmental organisations, non-governmental organisations, research and training institutions and United Nations agencies. The World Water Week is organised by the Stockholm International Water Institute.

www.worldwaterweek.org

Stockholm International Water Institute

The Stockholm International Water Institute (SIWI) is a policy institute that contributes to international efforts to find solutions to the world's escalating water crisis. SIWI advocates future-oriented, knowledge-integrated water views in decision making, nationally and internationally, that lead to sustainable use of the world's water resources and sustainable development of societies.

www.siw.org



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