

EXPO ZARAGOZA 2008, Week 1: Water and Land
"Agriculture Water Development – Implications for Africa"
Global Development Learning Network (GDLN) Session
Tuesday, June 17, 2008

Summary Report

On June 17th, the five countries of Ethiopia, Egypt, Kenya, Mali and Tanzania, joined Zaragoza, Spain through the first GDLN session of Expo Zaragoza to discuss Water and Land Issues in the context of "Agricultural Water Development - Implications for Africa." 137 participants from the five countries discussed three main areas of agricultural water development: 1) achieving better performance of investments; 2) implementing innovative mechanisms for financing; and 3) attracting private financing. While the five countries each had varied and significant amounts of input, key recommendations for going forward, can be summarized as follows:

1) Based on past performance of agricultural water investments in your country, and in view of scaling up of future investments, what do you propose in order to achieve better performance?

Responses included:

- Participatory planning, maintenance and management of agricultural water development systems
- Cost sharing and cost recovery approaches for financing
- Training and capacity building of farmers as well as policy makers, and promote appropriate technologies
- Include agricultural water development within holistic and comprehensive development strategies

2) What is the experience in your country in testing and implementing innovative mechanisms for financing agricultural water development?

Responses included:

- Mobilizing funds from the water users
- Full cost recovery for operations and maintenance of agricultural water development
- Adopt public-private approaches for financing
- Micro-financing institutions and increasing credit to small farmers

3) What concrete measures do you propose to attract private financing for agricultural water development in your country? How do you propose to mobilize participation for farmers?

Responses included:

- Provide attractive incentives and stable policy and institutional climate for investments
- Improve physical infrastructure
- Improve land security
- Strengthen water users associations and other irrigation organizations
- Improve water use efficiency
- Create more financing instruments for farmers and provide training on financial management

Key recommendations for going forward in agricultural water development in Africa:

- 1) increase budgetary allocation for agricultural water development and integrate irrigation into development strategies
- 2) improve infrastructure of irrigation as well as related sectors of roads, railways, etc
- 3) adopt and enhance agricultural marketing to ensure there is a channel for production and economic returns for investments
- 4) capacity building and training needed for irrigation, as well as transfer of low-cost and cost-effective technologies

Participating countries

Ethiopia - 33 participants from Ministries of Water Resources; Trade and Industry; Research institutes; Environmental Protection and Land Use Authority of Amhara Region of Ethiopia; Private sector; and international agencies

Egypt – 16 participants from Ministry of Water Resources and Irrigation; Research Institutes; Project Staff; Private Sector and the media

Kenya – 32 participants from Ministries of Agriculture; Water and Irrigation; National Irrigation Board; Select irrigation schemes/Water user associations; Research institutes; Private sector; Universities; Independent consultants

Mali – 37 participants from Ministries of Agriculture; Water and Energy; Finance; Bi-lateral donors, Private Sector and Civil Society

Tanzania – 19 participants from Ministries of Water and Irrigation; Agriculture, Food Security and Cooperatives; Private sector; Universities; and Basin Authorities; Independent consultants

Question 1: Based on the past performance of agricultural water investments in Africa, and in view of the scaling up of future investments, what do you propose in order to achieve better performance?

Ethiopia

Ethiopia identified three intervention areas for better performance of irrigation: technical, institutional and marketing.

1) Technical

- Efficient irrigation water management system
- Provision of proper operation and maintenance and management of AWD systems
- Participatory Planning and Implementation of study and design of AWD
- Awareness creation at all levels
- Introduction of Water saving technologies
- Development supported by effective research and extension system

2) Legal, Social and Institutional Aspects

- Adopting effective land-use planning and tenure (system)
- Capacity building of beneficiaries (Stake holders -public enterprises, NGO and GO
- Extension support and Arrangement of Institutions extension service
- Proper AWD institutional arrangement and their sustainability: Instead of trying to import new institutions, policies should then seek to identify the strengths of the existing institutions and build from them.
- Arrangement of proper M&E of the system

3) Finance and market aspects

- Market oriented production
- Value adding by agro-processing to agricultural products
- Storage facilities provision
- Effective input and credit provisions
- Cost recovery mechanisms
- Sufficient financial support to AWD from public and private sources
- Stakeholders commitment by different means in the development process [labour, money and equipment]
- PPP and attractive incentives
- Policies and working environment for private and publics

Kenya

- Policy review to clearly deal with AWD, formulate policies that are facilitative to investors.

- Appropriate institutional reforms to implement the harmonized AWM policies.
- Harmonization of stakeholder activities in the Agricultural Water Development sector to avoid duplications and bridge gaps.
- Mapping out of land and water resources (to have reliable facts/data necessary for quick decision making by investors)
- Create an institution responsible for AWM to ensure the prioritization of the AWD concerns (as currently AWD is scattered across sectors and institutions).
- Dissemination of AWM technologies to improve the efficiency and productivity.
- Organize farmers and build their capacity to absorb requisite and emerging technologies.

Egypt

- Expand on organic agriculture and practice higher quality control on agriculture production to attain higher prices and increase exporting opportunities.
- Research for new crop varieties to achieve high yield and less water consumption.
- Introduce subsurface field drainage systems to increase productivity and prevent soil deterioration (environmental sustainability).
- Expand on agro industries.
- Provide marketing infrastructure and capacity building in this regard for small farmers.
- Reform crop pricing and subsidies policies.
- Improve irrigation infrastructure.
- Flood and draught management (small-medium storage facilities).
- Introduce and transfer cost- effective technology.
- Extension services and farmers' training.
- Fair trade policies.

Tanzania

- Use participatory approaches for irrigation development;
- Conduct proper studies on profitability of the project before interventions with the consideration of agro-business issues;
- To address the problem of inadequate financing the Government should empower farmers by creating a window for soft agricultural loans;
- Allocate more Public Funds from Governments in investing in Irrigation infrastructure;
- Ensure reliable water availability to minimize the risk that scares private investors investing in irrigated agriculture;
- Enhance Water Management aspects at both (a) the Scheme level to ensure efficient use of the resource and increase in productivity and (b) catchment/subcatchment level to ensure Integrated Water Management (IWRM) approach being abided by;
- Promote appropriate technologies efficiency in water use to ensure more crop production per unit volume of water and per unit area of land;
- Abide by the holistic planning approach to put on board all other inputs/packages required for maximum production; and
- Ensure Cost sharing approach in developing irrigation to gain the benefit of farmers having a sense of ownership of their irrigation schemes.

Mali

- For the best performance and sustainability of agricultural investments, it is necessary to take into consideration the problem of the human resources. The farmers need to be in the center of the process. The investments must correspond to their needs, identified with and by the beneficiaries. It is necessary to promote a participative approach at all levels and especially to accompany all new and rehabilitation infrastructures by measurements as credit, capacity building, road development, conservation and marketing of the agricultural production, training of users on the exploitation and the maintenance of the irrigation infrastructures.

Question 2: What is the experience in your country in testing and implementing innovative mechanisms for financing agricultural water development?

Ethiopia

- Self financing – mobilizing funds from the water user
- Micro-financing institutions – providing finance for AWD similar to other investments
- Cooperative financing mechanisms
- Revolving funds – allocating fund from donors or government to be used in revolving manner
- Equipment leasing / partial investment as a business in the system
- Contract farming / leasing irrigation farms
- Small agri-business groups like professional team
- PPP (co-financing)
- Development financing system governed by market system
- Gender balanced planning and implementation of AWD

Kenya

- Introduce and implement payment for environmental services /Green Water Credits.
- Full cost recovery for operations and maintenance of AWD.
- Capacity building of financial institutions that give credit to farmers.
- Bring on board private sector to develop investment.
- Adopt a Public Private Partnership approach to finance AWD.
- Commercialization and research development.

Egypt

- Cost recovery of investments in tile drainage has been successful since 1930.
- Cost recovery of investment in irrigation improvement projects has been moderately successful.
- Operation and maintenance is collectively carried out by WUA's farmers.
- For large irrigation scheme in Toshka the Government covered completely the investment cost of the main infra-structure and left the burden of the investment of internal irrigation system to investors as well as its operation and maintenance. The Government collects land-base charges for water (Currently under testing).
- PPP is being tested in West Delta project with very high expectation of success to be a model to follow the entire continent.
- Polluters pay is now a governing principle in the national water policy; however, it is not fully implemented yet.
- Agriculture Credit Banking was not a successful experience. Currently it is under comprehensive reform. It is recommended to provide credits for investors in land reclamation and water infra structure (irrigation and drainage systems) as well as to small farmers for agriculture inputs (seeds, fertilizers, and pesticides).

Tanzania

The predominant funding mechanism in Tanzania is mainly from the following sources/categories: Government, Beneficiaries and Development Partners and to lesser extent from the Private sector.

- Where there are large scale commercial irrigation schemes owned by the private sector such as sugar cane farms, Out Growers on the same type of crops within the vicinity enter into contract farming with the farm management to grow the crop using farm implements, agricultural inputs and extension services on loan basis and recover the costs later;
- Knowing the important role the private sector can play in investing in irrigated agriculture, the Government has sold (privatized) all large scale irrigation farms originally owned and operated by Government parastatals to private companies. The recently privatized irrigation farms (in 2006) are Mbarali (3,200 Hectares) and Kapunga (3,000 Hectares). The new owners have rehabilitated the infrastructure and the performance is much better than it used to be under the parastatals. Although this was not originally planned to be so, it is a sort of PPP as the Government incurred the initial capital investment costs then later, companies from the private sector have owned and are operating the irrigation schemes in a better and more efficient way. In Mbarali farm, part of the farm is farmed by the company whereas part of it is farmed by smallholder farmers on hire agreement. In Kapunga irrigation farm, the headworks and part of the main canal which commands 3800

hectares are owned and operated by the Private company (the owner of 3,000 Hectares) but part of water through that system is conveyed to a smallholder owned irrigation scheme of 800 hectares; and

- Likewise, eight coffee estates with total area of 650 hectares, managed by Coffee Primary Cooperative Societies in Kilimanjaro Region, were privatized to private investors. The investors have modernized the irrigation systems by installing drip irrigation systems on the entire 650 hectares area and developed new water sources by exploiting ground water through installation of boreholes. This kind of intervention, has substantially improved the coffee production both in quality and yields increase, with yields raising from an average of 300kg/ha to over 2,000kg/ha as well as increasing employment opportunities to the local surrounding communities. The kind of arrangement employed in these coffee estates is leasing out contract for a defined time period (33 years).

Mali

The main contribution came from the Office du Niger. Their large irrigation schemes were open for the private investments (individuals, farmer's associations and private companies through a convention with the government). Some examples from Office du Niger:

- Mamou CAMARA, has leased 400 hectares and arranged with his own capital;
- Sambalagnon Association, has leased 90 hectares and arranged on a bank loan (BNDA);
- Association Dounkafa, has leased 503 hectares and arranged on a banking financing;
- UEMOA (West Africa Economic and Monetary Union – 8 countries) has signed a convention with the government for agriculture water development on 11,000 hectares;
- The sugar company SOSUMAR is an example of public-private partnership on 15,000 hectares (agricultural component financed by the government and the industrial components by the private sector);
- The Program Millennium Challenge Account (MCA-MALI) is progressing on 15,000 hectares with a new approach (land security, reimbursement building cost), etc.

Question 3: What concrete measures do you propose to attract private financing for agricultural development in your country? How do you propose to mobilize participation for farmers?

Ethiopia

Broadening the existing incentives portfolio (package): i.e.

- Improving legal framework (attractive investment policy, tax, duties, labor law)
- Stable policy for investment climate
- Attractive incentives for private involved in AWD [tax holiday]
- Providing technical and administrative assistance to investors [information provisions]
- Providing sufficient irrigated land
- Clear water use right /land use security
- Putting in place basic infrastructure (road, power, telecommunications, airstrips)
- Effective bureaucracy and good governance

How do you propose to mobilize participation of farmers?

- If farmers are expected to participate in the irrigation development program they should be in a position to make well-informed decisions. They should be informed from the beginning of what is expected of them and what impact this development will have on their lives.
- A bottom-up approach should be followed in smallholder irrigation development, treating farmers as owners rather than beneficiaries of a project.
- Initiate participatory development of schemes (shared vision, task sharing, consensus)
- Creating sense of ownership and building confidence of farmers in the development of schemes through awareness creation
- Recognizing the contribution of farmers and their indigenous knowledge
- Training, including tours of schemes in operation and discussions with the users of these schemes on the different aspects of irrigation development, is indispensable. The training for farmers should consider aspect like water management, irrigated crop production, and marketing as well as general management and operation and maintenance.
- Mobilize the savings among the farmers (enhance the contribution of the farmers through labor, material

and finance)

- Proper institutional arrangement (WUA, Cooperatives)
- Gender-inclusive of irrigation support systems has to be in place in that both men and women are reached and productivity and incomes increase for both genders.
- An integrated rural development approach should be followed for any irrigation development.

Kenya

Concrete measures to attract private financing for AWD in Kenya

- Provide tax incentives to investors
- Encourage joint ventures with farmers
- Facilitate private investors to access land resource.
- Reform regulatory and procurement procedures to make them more efficient.
- Improve physical infrastructure.
- Improve efficiency in water use to increase profitability.
- Management of water to reduce risk and increase water storage.

How participation of farmers can be mobilized to implement workable financing

- Support formation of farmer groups and water users associations.
- Legalize and empower farmer organizations.
- Promote farming as a business to attract participation and commercialization.
- Create a revolving fund to finance farming enterprises.
- Training farmers on financial management.

Egypt

- Enabling legal and institutional environment that allows for water services' changes.
- Reducing risk through PPP by a good transaction model.
- Specialized adequate banking system.
- Technical assistance for marketing and technology transfer.
- Reduce energy burden by development renewable energy (high potential in Africa).

Tanzania

- Set up a Financing Institution (Bank) to facilitate loans for private investors interested in irrigated agriculture;
- The Government should pioneer to provide financing undertaking preliminary works for developing irrigated agriculture. These include: participatory identification of suitable areas of intervention, feasibility studies, detailed design work, provision of water right and land title deeds. As a package of all those outputs, the designated irrigation scheme could be made available for private companies interested to provide competitive bids to take the next steps of development and operation. The Government sets a mechanism in which both parties benefit from the undertaking. This is a kind of Public Private sector Partnership (PPP) arrangement; and
- The Government should have and implement policies which provide for deliberate strengthening of Irrigators Organisations (IOs).

Mali

The promotion of the private investment needs:

- Good investment code (free tax, legal and administrative measurement);
- Land security (policy reform on land tenure);
- Implementation of an investment fund for agriculture water development through the traditional banking system. The access to the bank credit will be through a decentralized financial system (SFD) which will ensure the mechanism and recovery process of the credit;
- Building water mobilization infrastructures (dams on big rivers, small dams, storage of the rainwater), roads, telecommunication and energy by the government;
- All that must be done in a national policy and strategy framework, accepted by all actors. This needs also a monitoring and implementing structure.

Mobilization participation of farmers

- In the case of the Office du Niger, the farmer's participation showed its limits. All participative installations are confronted with problems related to the bad quality. To guarantee the performance of the investments, it is necessary to limit the farmer's participation on quaternary level. The cost of this works can easily be supported by the small farmers.
- For works on a tertiary level, farmer's participation can be mobilized through a decentralized financial system (SFD) which will ensure the mechanism and recovery process of the credit.

Key Recommendations

Kenya

- The need to increase the fiscal budgetary allocation for Agricultural Water Development.
- Carryout Land Tenure reforms to encourage productive utilization of water and land.
- Identify/develop/acquire an appropriate institution to be the main focal point for AWD.
- Sensitize politicians and the public to support Agricultural Water Management
- Enhance marketing of agricultural produce and promote the producers.
- Capacity building across all sectors engaged in and/or associated with AWD

Egypt

These questions were posed before food crisis. Now, AWD is attractive due high food prices and new direction for Bio fuel production. Therefore, it is recommended to:

- To give food security the highest priority, especially in Africa.
- Control skyrocketing oil prices.
- Adopt market oriented cropping patterns.

Tanzania

- African Governments should provide more financial resources to meet the requirement for developing irrigation infrastructure and provide implementable arrangements for the private sector to contribute in financing and providing technical services for irrigation interventions; and
- African Governments should integrate their development plans in such a way that developed irrigation schemes are connected through other important infrastructures such as roads, railway lines, marketing places and the like without forgetting the importance of software aspects necessary for proper management of irrigation schemes.

GDLN session on June 26th, 17:30 – 20:00 (EU time)
Dilemmas of Decision-Makers: mechanisms and approaches for solutions
Zaragoza
Ghana
Malawi
Washington DC

Recommendations for the Zaragoza Charter

Introduction

The Water Expo/Water Tribune in Zaragoza also focuses on the theme of "Water and Cities" due to its growing importance in development: cities are not only economic engines, but more and more are perceived as places for peoples interaction and participation and as cultural centers offering vibrant lifestyles. Urbanization is increasing and the pressures are increasing to feed a hungry city, to satisfy the thirst in urban areas, while also protecting people and property from floods. Providing leadership to such dynamics for sustainable growth and peace in cities is becoming an art at all levels and required from all players.

For example, strategic planning and management in cities, engaging all relevant stakeholders in dialogues that can help respond to the short term / long term dilemmas politicians and mayors have. 'Listening to the city' is of crucial importance for successful governance i.e. to accelerate decision-making that enables immediate action implementation while aligning with longer term and strategic goals and aspirations. Another component in dealing with dilemmas is the extent to which decision-makers and planners are acquainted with the availability and operation of new technologies, innovative financing and decentralized governance mechanisms that can be used for sustainable water management in cities.

In this session, the participants shared their respective initiatives and experiences and generate a few recommendations for the Zaragoza Charter on this particular theme.

Thoughts and Discussion Questions

Knowledge

- What are the most important water issues in your city/administration?
- What is required to maintain the financial health of the water sector? Particularly, finance and utility expansion and long-term needs.
- Are voters aware of the potential shortages of water in your city? Does dialogue between the city government and the constituency exist?

Trade-offs: Making decisions

- Short term / long term dilemmas: How do long-term constraints impact your short-term decisions? What mechanisms encourage effective long-term decisions?
- Consensus building: Water use across different uses (e.g. industrial, recreational, households) is often a subject of discussion and debate. What control/impact do you

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Week 2 Theme: Water and Cities: Local Governments and Governance, and Urban Development

have in these areas? How do you engage with relevant stakeholders in a meaningful manner?

- Pricing: Rapid urbanization enhances income inequality, and it is increasingly difficult to implement pricing policies that generate adequate revenue and provide affordable and safe water for all citizens. What is your experience in using water tariffs to cover the financial charges of the sector, prepare for the future needs and avoid environmental degradation?

Implementation and City Planning

- What factors impact the effective and equitable water management plans?
- How has your city faced the question of extending water services across jurisdictions, share costs, agreeing on common tariff principles?
- What are innovative opportunities for urban expansion and providing water to people (the poor) and businesses with regard to new approaches, technologies and (innovative) financing mechanisms within the water sector and city development?

Panel Contributors:

Moderator: Atem Ramsundersingh, Senior Water Management Specialist, World Bank Institute (Washington, DC)

Mila E. Freire, Senior Advisor Finance Economics and Urban Department, Office of the Vice President of the Sustainable Development Network, World Bank (Zaragoza)

Slawomir Turkowski, Mayor of Lodz, Poland (Zaragoza)

Javier Celma, Director de la Agencia de Medio Ambiente y Sostenibilidad del Ayuntamiento de Zaragoza (Zaragoza)

Kala Vairavamoorthy, UNESCO-IHE Institute for Water Education, The Netherlands and Lead Researcher of the EU funded SWITCH Program (Zaragoza)

Timeyin Uwejamomere, Policy Officer Urban WSS Services, WaterAid (Malawi)

And about 80 participants in total.

Suggestions and Charter Recommendations:

I. Challenges within the Water Sector:

Water issues at city level deal mostly with (a) availability and overexploitation (b) quality and pollution (c) health impact; (d) management, long-term planning and pricing.

Overexploitation: Because of this growing demand, urban authorities have been led to over-exploit valuable sources, this in turn leading to water crises. Mexico City, home to over 22 million people, depends on groundwater from the Mexico Valley aquifer for 80% of its water supply: the depletion of the aquifer has caused a shifting of the land and the city is now sinking.

Pollution: In many cities, the lack of wastewater treatment and drainage facilities leads to pollution of the ground-and surface water resources. The problem is particularly severe in coastal areas. In Latin America and the Caribbean, where more than 60% of the regional population lives in coastal zones, the pollution of rivers and seas is at the top of the list of environmental problems affecting coastal cities.

Health: Lack of convenient sanitation implies the lack of safe water supply. When it rains heavily, storm water washes accumulated waste, often from informal settlements lacking facilities into open boreholes and other water sources used by the poor for drinking water. This results in cholera epidemics, like the one that erupted in east Africa in 1997- 98 and that killed thousands of people.

Management and Planning: While climate and geography have a major impact on how growth and water use relate, the quality of the city government and its institutions determine how a city will be able to cope with population and economic growth. Long term planning requires resources and expertise. Ideally, urban planners would be able to forecast likely urban population growth over the next twenty years. Anticipating this growth, city leaders would take proactive steps to limit its environmental impact by financing necessary infrastructure, including water treatment plants, and planning their rational use.

Pricing: Prices are important instruments to decide across alternative uses of water but they are rarely used to discourage water use. For example, warm cities such as Las Vegas and Phoenix are the fastest growing cities in the USA, leading to greater water consumption and eventual water shortages. While one would expect that water prices reflect the relative water scarcity, available data show no relationship between water prices and relative water scarcity. A similar situation occurs in terms of water use. Increasing the price of water would reduce consumption. Raising the price of water is an unpopular move, especially in the areas where inequality is high and median incomes are low.

II. Voting and Consensus Building

Recommendations for the Zaragoza Charter

- Stakeholders (including politicians, civil society, NGOs, Water User Associations, women, etc) should be provided a creative learning and dialogue focused environment to create an enabling environment for change within the sector.
- Stakeholders should be involved in resolving water supply and sanitation issues and developing strategic plans.
 - Strategic planning should encompass institutional, organizational, policy, and infrastructure changes, based on measurable indicators to monitor progress.
- Stakeholders require education and leadership development in order to contribute to a shift in attitude and behavior regarding the value and perception of water availability.

Week 2 Theme: Water and Cities: Local Governments and Governance, and Urban Development

- Knowledge transfer and capacity development programs and initiatives should be developed to increase stakeholder contributions, improve long term sustainability plans.
- Participation requires mobilizing and embracing the collective wisdom of groups of individuals, to make quantum leaps and not only slow progress.
- Integrating stakeholders, creating an enabling environment within a regulatory framework, tariff decisions, and strategic planning can increase transparency and accountability, which can reduce overall corruption.

[**Stakeholders** (including politicians, civil society, NGOs, Water User Associations, women, etc) **should be provided a creative learning and dialogue focused environment** to enable active and effective participation, which can develop leadership and create an enabling environment for change within the sector. Specifically, stakeholders should be involved in resolving water supply and sanitation issues and developing strategic plans, while considering future city planning and sustainability. **Strategic planning should encompass institutional, organizational, policy, and infrastructure changes, based on measurable indicators to monitor progress.**

Public engagement begins with stakeholder identification and participation. However, **stakeholder involvement extends beyond participation.** Education and leadership development are critical components required in order to enable public/voters to contribute to a shift in attitude and behavior regarding the value and perception of water availability (further discussion on this topic during Session 8, from August 4-7).

Stakeholders can only positively contribute to decision making and planning if they are knowledgeable. **Knowledge transfer and capacity development programs and initiatives should be developed** to increase stakeholder contributions, improve long term sustainability plans within the sector and for the city.

In an environment of rapid urbanization and population growth, progress will need to be exponential. Although small achievements are noteworthy, they will not occur often enough to support urbanization. **Change inducing participation includes mobilizing and embracing the collective wisdom of groups of individuals, to make quantum leaps. However, a leap requires stakeholder capacity building and the involvement of influential and courageous decision-makers to assist in educating citizens, changing markets, and modifying city planning initiatives and strategy.** This newfound collective wisdom, if developed effectively by means of embracing critical thinking, creativity, and capacity development, can allow for communities to make quantum leaps instead of slow progress. Additionally, collective wisdom (through dialogue, experimentation, creative meetings, etc) can enable long term strategic planning and development by utilizing diverse change agents. However, **understanding cultural sensitivities should be considered** when considering reform. Furthermore, if local cultural values hinder the development of communities and complaints within political spheres, then strategic plans should be created to address this as well.

Corruption within the water sector and within city planning hinders economic growth and endangers long-term development. Integrating stakeholders, creating an enabling environment within a regulatory framework, tariff decisions, and strategic planning can increase transparency and accountability, which can reduce overall corruption.

III. Finance and Sustainability

Recommendations for the Zaragoza Charter

- Focusing solely on financial components and tariffs within a water utility is insufficient to provide sustainable and long term water services.
- Market functions should be integrated into a regulatory framework to allow for an enabling environment for the emerging role of small service providers.
- Any strategic plan should recognize the entire urban water cycle.

[Tariff programs to secure the financial sustainability of water services should be implemented, but **focusing solely on financial components and tariffs within a water utility is insufficient to provide sustainable and long term water services**. Market functions should be integrated into a regulatory framework that reduces the cost of water and creates an **enabling environment for the emerging role of small service providers**, including women's enterprises, especially with regard to serving poorer communities.

Many utilities are unable to handle complex problems which focus on the overall utility and short-term and long-term city planning impacts. **Any strategic plan, which includes a regulatory framework, should recognize the entire urban water cycle** (including institutional and financial frameworks). **Enabling stakeholders to make effective short-term and long-term strategic plans based on city development can assist in "future proofing," a community**. However, **"future proofing" requires the integration and application of collective wisdom in strategic plans and decision making, based on measurable tangible indicators** (for example: mission and vision measurements).]

IV. Conclusion

The dilemma of the decision maker can be handled and solved in an accelerated and creative manner, through effective stakeholder involvement. Stakeholder engagement (stakeholders with unique financial, cultural, educational, etc perspectives), as a means to mobilize collective wisdom perspectives can create the necessary quantum leaps required to respond to rapid urbanization and expansion and sustainable use of the water resource.

Expo Zaragoza
GDLN session week 3: Water for Life and Public Health
July 1st, 17:30 –20:00
Topic: Urban sanitation in Africa -- Measuring and achieving progress

Participating cites: Accra, Ghana; Dakar, Sénégal; Dar es Salaam, Tanzania; Washington DC, Zaragoza Spain.

Kickoff

A short presentation showed the challenges of increasing (or even maintaining) levels of access to sanitation in Africa. Population growth and urban migration put very high pressure on urban sanitation. “Feeder questions” for discussion included:

- In your situation, who is responsible for urban sanitation, and in what ways? (utilities, local govt, households: discuss both theory and reality!)
 - Is there a minimum standard of sanitation that is considered “acceptable” in your context? Does this help or hurt?
 - Does the Total Sanitation approach have anything to offer urban sanitation where you work?
 - Do you favour approaches with concrete outputs, or those which focus more on “less tangibles” like behavior?
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Discussion

A number of common threads and issues arose throughout the discussion of challenges and successes in promotion of sanitation.

Hardware and Software

Participants noted a general trend away from previous completely “hardware” driven programs towards efforts to balance “software” and “hardware”....although funding for hygiene promotion, particularly on the long term basis needed (rather than just at startup of a hardware project) was recognized as a problem.

Relevance of Community Led Total Sanitation (CLTS)

Experience in Ghana led participants to an impression that CLTS can help raise awareness, but is not sufficient in and of itself to stimulate sensible investment in sanitation...one approach has been to complement CLTS with social marketing.

Standards, technologies and packaging

Tanzania stated that British and WHO standards were employed, and that such standards fulfilled a useful role in the context of public works contracts; an objectively defined deliverable has to be specified for such contracts to work, and for this standards were helpful. Ghana observed that definition was a serious issue for tracking progress, and that

uncertainties and confusion at the Global level as to what constituted “adequate sanitation” could create problems. It was agreed that the category of “traditional latrines” tracked by some household surveys needed to be more precisely defined or described so that one could objectively determine whether such a facility improved or threatened public health.

A number of interventions stressed the dangers of promoting inappropriate sanitation technologies....very simply, it makes no sense to promote sanitation people don't want. Participants mentioned an increasing demand for water-flushed systems that would have to be addressed, particularly where households are expected to finance part or all of the facility. Sénégal noted that “combinations” of services made sense to consumers, e.g. toilets with showers, or toilets with wash-basins and soakaways. Tanzania noted interest in packages of sanitation with rainwater harvesting storage.

Role of small scale entrepreneurs and social marketing was picked up in all 3 countries. In Tanzania small scale entrepreneurs offered septage (latrine emptying) services for much less than the government, and now offer this service to more people more cheaply than was possible from the govt service. In Ghana, social marketing campaigns (in parallel with CLTS awareness raising) strive to promote the small scale provider's ability to develop and market products and services to the consumer. The small scale provider plays a key role in the major successes and uptake in urban onsite sanitation in Dakar. Participants stressed the need to be opportunistic in marketing sanitation and the various benefits it provides; not just reduced disease transmission, but also comfort, convenience, security for women, and dignity.

The role of policy, government and strategy It was clear to all that government had a leading role to play in promoting and enabling urban sanitation. A number of participants argued to view sanitation holistically, as part of urban or municipal development, or as part of housing policy or water resource management...the recurring point was that sanitation has not fared well simply as a sub sector of water supply, and that broader alliances and impacts need to be considered.

“Good policies are nice, but they are not enough”—participants made the point that policies need strategies to “give them legs” on which to run. Strategies are key in converting ideas from words and nominal legislation into construction, practice, use, and behaviour change.

Sanitation finance

This was a hot topic of the session, with much frustration and some useful exchanges. Most participants argued **the need for some sort of assistance, help, or temporary financial support** to households to invest in sanitation. Sénégal shared experience of a dramatic uptake in onsite sanitation investment when subsidies increased. Many participants also shared experiences of how initially successful low or no subsidy schemes could be destroyed when a donor or NGO offered subsidies in the vicinity; households then come to expect the subsidy, and refuse to take part in programs that do not offer it.

Micro-finance was a frequently mentioned possibility, but financially-experienced participants pointed out that success in micro-finance is usually tied to income generation.

Longer-term finance appeared a more broadly applicable approach if the mechanisms can be worked out. Where concessional lending is offered to a countries with repayment periods of 15 or 20 years, it would make sense to pass on these terms to households to reduce the monthly repayment rate. In much practice, loans are offered only with 2 or 5 year repayment periods, which often means only the relatively wealthy can profit from them.

Some Suggestions for recommendations to the Zaragoza Charter.

GOVERNANCE

- **Government at all levels should create awareness about sanitation and hygiene and support with cash where possible.** The large externalities of sanitation demand action from government to overcome natural financial and individual resistance.
- **Coherent and holistic national strategies are** needed to implement sound policies for sanitation. Such strategies are needed to implement good policies.

PLANNING

- **The inter-relations between sanitation, water and hygiene must be recognized.**...sanitation requires handwashing, and handwashing requires water! The inter-relation between sanitation and Integrated Water Resource Management should always be considered.
- **The development and implementation of Global and National Action Plans in sanitation and water supply is a priority** Sanitation should be discussed as an integral part of municipal planning, and national development....not just as a subsector of water.
- **Strive to use waste and wastewater as a resource,** particularly in the context of scarce water, and high energy and food prices.

ECONOMICS, FINANCE AND THE PRIVATE SECTOR

- **The potential of longer-term repayment periods should be explored for household sanitation for the poor.** Such an approach is likely to be more realistic than either micro-finance (which tends to work best for income generation schemes) or the current form of 2-3 year repayment schemes
- **Get the Private Sector Involved,** both in providing hardware and marketing
- **Northern nations should expand funding support to the south,** including political willingness to earmark funds for urban sanitation

Water Tribune @ Expo Zaragoza 2008
Week 4 Theme: Water for Cooperation – Sharing Benefits and Costs

GDLN session on July 10th, 09:00 – 12:00 hrs (EU time)

Water for Cooperation – Sharing Benefits and Costs

Zambia

Uganda

Niger

Ghana

Burkina Faso

Zaragoza, Spain

Washington DC

Recommendations for the Zaragoza Charter

Panelists:

- Atem S. Ramsundersingh, Sr. Water Management and Institutions Specialist, World Bank Institute (also moderator)
- Rafael Romeo Garcia, Confederacion Hidrografica del Ebro
- Canesius Kanangire, Regional Manager Nile Basin Initiative
- Charles Biney, Acting Executive Director Volta River Authority
- Eduardo Mestre, Director Water Tribune at Water Expo 2008
- Raymundo Jose Garrido, Coordinator of Thematic Week on Water as a Unique Resource
- Jose Maria Santafe, Jefe de Area de Planes y Programas, Ministerio de Medio Ambiente
- Ashok Subramanian, Sector Manager AFTWR, World Bank
- Maria Mutagamba, HE Minister of Water & Environment Uganda, Chair of the African Minister's Council of Water
- Kenneth Konga, HE Minister of Energy and Water Development, Zambia
- Victor Pochat, National Director for Water Policies, Coordination and Development Under-Secretariat for Water Resources, Argentina
- Joanne Cummings, Water Policy Advisor U.S. Department of State
- About 110 participants in total.

Introduction

Transboundary water management has been piloted and studied in many parts of the world. Regional and national organizations have been established to build trust among countries and their leaders, to share knowledge and information and to plan and implement projects sharing benefits and costs. Many collaborative efforts have delivered evidence that conflict and lack of cooperative management would be expensive, disruptive, and would interfere with efforts to relieve human suffering, reduce environmental degradation, and achieve economic growth.

Water Tribune @ Expo Zaragoza 2008
Week 4 Theme: Water for Cooperation – Sharing Benefits and Costs

There are 263 rivers around the world that cross the boundaries of two or more nations, and an untold number of international groundwater aquifers. So, in many parts of the world, the potential for conflict still exists, and parties involved have not yet embarked on the path of assessing incentives for regional cooperation or have not started systematic dialogue for exploration of shared use of water as a unique resource. What can these countries learn from the experiences of other water basins?

In this session several experts and key players in river basins will share their experiences in the African context and formulate a set of recommendations i.e. defining steps to identify incentives to get countries and stakeholders together around the dialogue table, to assess the pros and cons of those incentives and to communicate and negotiate with each other about win-win solutions.

Key issues and discussion questions included:

1. What are incentives to get parties together for a dialogue on transboundary cooperation?
2. Understanding benefits and costs: making assessments, negotiating agreements?
3. Leveling the playing field: readiness and capacity of institutions?

I. Dialogue on transboundary cooperation

In Spain the Spanish Regulatory Framework water is a public affair. The water basins authorities in Spain are responsible for water governance: managing and administration of the water flow and the river banks. Important in the Spanish context is the fact that the user participates in the planning, financing and operation of all the facilities.

The basic institutions of the Ebro basin bodies ensure the representativity and participation of the various administrations and users in the governing, management and planning of the basin body. They are renewed every three years with all users being represented. The duties of the water commissariat are several: management, protection and monitoring of the public hydro domain, i.e. water, rivers and river banks; users' regulatory system, user community organizations, reporting infractions; and river monitoring.

The agenda for these meetings with the operating bodies is determined by all of the participants. The meetings are required at a regular interval to see the state of works, to determine the fees and royalties, the volumes of water required in the different reservoirs according to the demand, providing water to public users, etc.

Africa deals with many challenges of dealing with multiple shared waters in their territories. Mechanisms have been put in place that allow for countries and peoples to come together to understand what shared waters is all about and to jointly develop this common resource.

Confidence and building trust was at stake among others in the Nile Basin Initiative. All the nine countries involved need the water. In order to gain confidence, there was a

special project of confidence building. This project has approached members of parliament across the regions to build confidence among themselves, and even among prime ministers. Real cooperation by the heads of states is being taken place, not only by the Ministers of Water.

II. Understanding benefits and costs

As countries engage other countries in dealing with transboundary waters, they perceive a set of benefits to their people and costs to themselves. In the beginning, people see many benefits like improved information, access to regional markets, lower cost of production in hydropower for example and optimal management. Countries also calculate the costs like transaction costs of engaging in multiple meetings, stakeholder forums, perceived giving up sovereignty, loss of control of outcomes, and the more powerful will dictate the terms, etc.. In the earlier stage of discussion, the costs seem to be pretty high compared to the benefits. The facilitators of these forums and the leadership of countries are looking for a way to see if benefits could outweigh the costs. Many perceived costs need to be minimized through trust building, through actually working together in order for countries to realize that the benefits of transboundary water dialogue and negotiation can result in more benefits than costs.

While dialogue is going on between the ministers and governments, there are local people who want to see the benefit flows to their communities and development interests. The local communities are also calculating their local costs and benefits.

Several scenarios exist calculating the benefits from water for growth. Less than 10 percent of hydro power potential, a renewable resource, is being developed and tapped in Africa. This needs to be taken into account. Does regional cooperation allow for further development of this great potential, does it allow for power pooling and power connection?

Similarly, less than 5 percent of cultivated land in the continent is under irrigation. The tremendous need and potential for irrigated agricultural development in the context of the current food crisis can not be overemphasized. There is tremendous potential to expand and improve sustainable hydro power and sustainable irrigated agriculture.

As the water for growth agenda through hydro power, through irrigation, through urban and industrial growth is emphasized, countries run into the challenge of multi purpose benefits and multi purpose agendas. People do not build infrastructure or set up management mechanisms only to manage for one sector or another but also look at the multipurpose benefit that flows from that intervention. There exists the potential to develop hydro power, but at the same time improve flood management, improve fisheries, irrigation, support growth poles and growth corridors, ensure and improve watershed management. This has to be managed together.

One of the best examples of transboundary basin management in Latin America today has to do with the river Limpa, shared by Guatemala, Honduras and El Salvador. The

three governments are trying to decide how much water could be allocated to each country. Each and every decision has to be shared by the three countries. Finally, they are putting together a list of projects that each country wants to implement, so that the economic benefits can be shared by the rest.

III. Capacity of institutions

Institutions are needed to mediate, to facilitate dialogue among the various users in order to arrive at negotiated plans and policies. In Spain, basic institutions of basin bodies play a role as facilitator to stimulate dialogue among various users of water. Applications of these concepts and ideas in reality can be seen from the Senegal River Basin and the Lesotho Highlands Program. In the last case, Lesotho and South Africa saw a cooperative opportunity in a clear example of water for growth. Much easier compared to the nine countries in the Niger or Nile Basin. Not applicable everywhere but there are some lessons to be learned in terms of seizing the opportunities of comparative advantage so that mutual gains can be achieved. The two countries entered into a pack of water deliveries from Lesotho to South Africa in exchange for royalties for the use of water.

Africa not only faces the colonial or geographical legacy of multiple transboundary waters, but also faces the natural legacy of climate variability. Water can have a destructive and negative effect to GDP growth through climate shocks. Recent assessments have shown that in a country like Mozambique for instance with recurring floods, there is a serious impact on the national economy. Flooding costs 1.5 % GDP per year. Climate shocks in Kenya cost 2% GDP per year.

The good news is that the presence of transboundary mechanisms provides a forum for regional solutions. If there are mechanisms for cooperative management in place, then the chances of conflict are substantially reduced. This has been shown in various investigations.

The experience of the Zambezi Basin Commission shows the uneven level playing field in the SADC region. The Zambezi river basin has been recognized to be the most important river basin in the SADC region. To this effect, Zambia with other states signed the revised Protocol on Shared Water causes in 2000. This Protocol provides the framework for the management of shared water causes in the SADC region. However, signing of this protocol has brought several implications. National institutions have been obliged to redefine their responsibilities vis-à-vis the management of the river basin by a regional institution without being marginalized. Seven states have signed the Protocol. The main constraint for Zambia is the loss of control to the SADC protocol with regard to the utilization of inland waters.

International water diplomacy has to be included in capacity building. Ministers of Foreign Affairs have to be invited to talk about the urgency of the shared benefits and costs. In the case of Mexico and the United States, negotiations about water can not exclude other things like immigration.

Recommendations for the Zaragoza Charter:

- Focus on sharing development benefits rather than sharing water. Emphasis on mutual economic, ecological, social and political gains as a major trigger for entering into cooperation. Perception of mutual benefits motivates dialogue.
- Build capacity for countries to enter into transboundary water management negotiations and discussions as well as to analyze the outcomes. Include local communities in capacity building.
- Develop concrete action-oriented activities on the ground in order to build trust and confidence.
- Engage in international water diplomacy to include all the stakeholders involved. Participatory process will enable ownership of the shared water issues by all the stakeholders.
- Include flexibility in the negotiations to be able to take into account factors such as climate change. However, negotiated agreements need to be robust, despite changing political and economic contexts.
- Involve Civil Society.
- Quantify financial benefits and costs, including environmental and political benefits and risk reduction.
- Develop basic water infrastructure for the African continent.
- Talk about holistic sustainability holistically, not in a narrow sense.
- Share experiences, principles, information and most of all share benefits among the actors in order to build trust and confidence. Ensure openness and transparency.
- Awareness raising and continued dialogue will recognize the importance of the cause of transboundary management.

EXPO ZARAGOZA 2008 Week 5: Water Supply and Sanitation:

Session via Global distance Learning Network (GDLN) on July 15, 2008, 17:00-20:00

Organized by Meike van Ginneken and Karen Sirker, World Bank

Social Accountability: Consumers Count

Investment in infrastructure without related investments in developing policy and institutions will have a reduced impact in relation to the Millennium Development Goals and broader development objectives. The enormous challenge of increasing access to water supply and sanitation is complex and requires appropriate management and institutional arrangements; in many cases traditional arrangements are found to be inadequate.

In many countries, the major transition of most utilities in the 1990's was from centralized to decentralized public provision. While decentralization has changed the size and nature of utilities, they face the same challenges as their centralized predecessors, often with fewer resources. Many utilities are locked in the vicious spiral of weak performance incentives, low willingness and ability to pay by customers, insufficient funding for maintenance leading to deterioration of assets, while necessary reforms are often blocked by inappropriate political interference. In these circumstances, consumers, especially the poor, are on the losing side.

While considerable attention is placed on the financial and technical governance of utilities, the voice of users is often muted. One consequence is that service providers do not take account of users' priorities and preferences. The utility, in turn, loses the trust and cooperation of the community that it is supposed to serve. The result is often service deterioration, further alienating users.

The importance of consumer accountability in urban water supply and sanitation sector is gaining attention. Consumer accountability can be defined as the degree to which public or private service providers of water are answerable to their customers for their performance, their conduct, their use of resource and policy decisions. It is a specific type of social accountability which is a process where citizens or citizens group work directly to hold powerholders to account for their performance and behavior. Recent research has shown that consumer accountability can improve the quality of services by making the providers more accountable to the people they serve. The challenge for practitioners is not to identify and implement the perfect "magic bullet" to promote and protect user interests. It is the more subtle one of instilling and maintaining appropriate cultures within utilities, and building the trust of the users.

This session is intended to create awareness and exchange know-how on social accountability and the tools used to support social accountability initiatives in the water sector, how utilities, governments, and civil society can initiate social accountability initiatives, and some of the challenges for the sustainability of these initiatives. This session will present three case studies: 1. a citizen-led initiative in Kenya using Citizen Report Cards in the cities of Kisumu, Nairobi and Mombasa; 2. a utility-led initiative in the municipality of Puerto Cortes, Honduras; and 3. a government-led initiative dealing with consumer complaints from the Office of the Ombudsman in Peru.

- Social Accountability – is a means to an end; not so much a solution in itself, but a trigger for a (long) reform process in the relationship between citizen and state

and service providers, creating a favorable environment for finding sustainable development solutions, amidst uncertainty about what is the 'right solution' and difficult trade offs between short and long term, and different interest groups.

- Highlights:
 - Honduras – turning a disaster (Hurricane Mitch) into an opportunity, out of necessity to deal with the aftermath: devolve to local governments more responsibilities in water services; and empower local stakeholders and create local solutions, such as in Puerto Cortes.
 - Kenya – Citizen Report Card – transforming the inter-action between citizen – operator and government;
 - Peru – creating in the Ombudsman a respected and trusted institution to facilitate difficult decisions, such as on tariff increases, through a process of transparent, honest dialogue between conflicting interest groups.
 - Uganda – reminding us that new ideas naturally face resistance and the importance of well documented demonstration and experience to facilitate change.
- Relevance of these particular experiences and the Zaragoza – Virtual Pavillion knowledge sharing: Innovation and progress are made up by local initiatives, started by bold leaders, who persevere or fail, and constantly improve: from them we build up what becomes 'good practice' for sharing widely. Events like the Water Tribune and its Virtual Pavillion help accelerate this learning process. Today we connected 3 continents and four countries facing similar challenges and offering different solutions.
- Now the next challenge is to scale up good practice: we face huge challenges (MDGs, Access to Water, Sanitation for growing population with growing AG production), and added uncertainties (climate change) – this will require many difficult choices – and a well established 'communication' between citizen/users and service providers and regulators will facilitate them. To move from the pioneer experience to scale, the session offered some avenues and ideas:
 - Learning & Capacity development: empowerment requires not only Voice, but well informed Voice, to weigh in on difficult choices; learning from others' experience helps, but it also takes again leaders who are capable to translate and adapt good practice into local context.
 - Accountability and Behavioral Change: Through the process of empowerment and engagement, we can expect not only improvement in accountability on the supply side, but also increased awareness, and hence willingness for necessary changes in demand side behaviors (e.g. water consumption). Peru was talking about creating a new 'water culture' and the need for 'advocacy' in addition to information.
 - Sustainability of reform efforts: both formal and informal approaches were mentioned (and Meike's presentation and publication elaborate on them). There are different ideas about the role of politics (formal authority) in the water sector: between protecting the water agenda from political influence (e.g. through citizen ownership) and democratization of water by making it a central point of the political agenda. Different local circumstances of governance lead to different solutions. But my view is

that after successfully taking the 'short route' to accelerate service improvements, the 'long route' has to be brought along to institutionalize and generalize improvements. The institution of ombudsman (Peru) and new water laws (Honduras, Kenya) are pointing in this direction.

- Urban cross-sectoral perspective and synergies in the context of decentralization: many relevant decisions affecting water services are taken at a local level. From that perspective it makes sense to look across different service sectors (solid waste, water, waste water, ?energy?, transport) to create synergies between citizen/user empowerment efforts. Kenya referred to such effort in the context of its citizen report card.
- Reaching and giving voice to the unserved and unheard ones: huge challenge still out there, beyond empowering current users, to give voice to the not-yet users. Decisions and behaviors of the current users and suppliers (e.g. excessive demand, non-payment, high loss rates) bear directly on the ability to expand services. Hence this voice needs to be brought into the dialogue.

**GDLN sessions on July 22, 09:00 – 12:00 and July 24, 16:00 – 19:00 (EU time)
Climate Change and Water Resource Management**

Recommendations for the Zaragoza Charter

Participating Countries July 22	Participating Countries July 24
Thailand Indonesia Vietnam Lao PDR Moldova Singapore Australia Zaragoza, Spain Washington D.C.	Tanzania Uganda Ghana Costa Rica Zaragoza, Spain Washington D.C.

Panelists on July 22:

- Habiba Gitay, Sr. Environmental Specialist, World Bank Institute (also moderator)
- Eduardo Mestre, Director Water Tribune at Water Expo 2008 Zaragoza
- Bruce Campbell, Murray Darling Basin Commission, Australia
- Chang Chian Wui, Deputy Director (Policy & Planning), PUB, Singapore
- Abel Mejia– Sector Manager, Water Anchor, World Bank
- Atem S. Ramsundersingh, Sr. Water Management and Institutions Specialist, World Bank Institute
- About 60 participants in total.

Panelists on July 24:

- Habiba Gitay, Sr. Environmental Specialist, World Bank Institute (also moderator)
- Eduardo Mestre, Director Water Tribune at Water Expo 2008 Zaragoza
- Nancy Ahern, Deputy Director, Seattle Public Utilities
- About 50 participants in total.

Introduction

It has been widely recognized that climate change is and will continue to have impacts on development, often adverse in many developing countries that are located in areas that are already water scarce and already face other pressures on their water resources, for example through land degradation, over exploitation of ground water and urbanisation.

When dealing with impacts of climate change, people often think about developing and/or modifying scenarios and models that provide the projected changes in climatic parameters. The time horizons for these types of outputs are 2050 to 2100. In addition, there are a number of scenarios and models so for any country, there can be multiple projections. So the projected changes can provide the broader envelopes for the likely

temperature and precipitation, but is not necessarily useful for short-medium term planning often faced by water managers. Some interesting and different approaches have been used by countries to better manage the risk of ongoing and future changes in the climate and reduce the risk of erosion of the present development gains.

The impacts of climatic extremes are well known to water resource managers, especially in arid and semi-arid regions or flood prone areas. However, as part of climate change, along with the increasing mean temperatures and changes in annual and inter-annual distribution of rainfall, there is an increase in frequency and intensity of extreme events.

These issues have been explored in these GDLN sessions, bringing people from different regions and countries together. The GDLN sessions have built on and have drawn on speakers at the Water Expo, brought in other senior practitioners from different countries and connected government, non-governmental staff and community leaders who are confronted with the impacts of climate change and climatic extremes.

Key issues and discussion questions included:

1. What changes were made to manage the climate risk, including that from climatic extremes, in the water sector and water utilities?
2. How important was the climate variability and change experienced in the last decade or so in these decisions?
3. How was civil society, non-governmental organizations involved in these decisions and actions?
4. What were the biggest challenges and how were they overcome?
5. Were there key times/places when somebody was the champion for the changes?
6. How long did all these changes take to go from discussion to implementation?
7. What has been the role (if any) of public-private partnerships?
8. What are some issues that still need to be acted on?

The discussion highlights included:

- The holistic/integrated approaches being taken to water resource management in Australia, Indonesia and Seattle, USA. In these approaches, the need for addressing multiple pressures that water utilities and water managers face which affect water availability was emphasized. In addition, the need to look at water distribution and the whole catchment management was brought out.
- The world has often focused on reducing greenhouse gas emissions (ie mitigation). Given the impacts that are already observed, adapting to these impacts, especially in terms of reduced water availability is essential. However, there is a need to ensure that policies, planning and action consider both efficient and reduction in energy use as well as water conservation and efficient use. This would mean that both mitigation and adaptation are integrated in policies and plans. Specific mitigation measures can include consideration of energy use in purification, storage and distribution. Thus, energy efficiency and conservation can be components of water conservation, efficient use response, etc and may also attract additional funding.

- Public participation and affecting consumer decisions is very important. Tools such as “water footprint” and “virtual water” are extremely relevant for climate change and water related issues.
- Government policies and plans can sometime add to the pressures from climate change by having perverse incentives for water and energy use in place. Careful policy analysis and examination of potential governance issues can help in overcoming these.
- As the climate-water and development challenges are being accepted, policies and action plans are being developed and implemented, Sharing this knowledge and the outcomes among developed and developing countries is important. These can include management plans, changes in utility operations and potential ways of reducing water demand and increasing water efficiency in the rural sector, for example, through introduction of crop varieties that are drought and higher temperature tolerant, aligning emergency and early warning platforms, etc.
- Balance the demand and supply side of energy and water needs through market instruments and the readiness to respond to weather extremes.
- Involve city alliances at a global level.
- Explore hydro-power from energy production and water storage point of view.
- Involve the media and youth as a mediator for climate change-water management coverage to a larger audience and to the younger people.

Recommendations for the Zaragoza Charter

Climate change is a reality and countries should begin by addressing the immediate pressures, including climatic extremes and by factoring climate change impacts for both short-term and long-term development planning. One component of climate change is changes in climate variability, which mean more frequent and intense extreme events. These events have massive implications for managing water resources, and the ecosystems that are essential for continued provision of such resources, and water infrastructure.

- Build capacity and provide platforms for knowledge exchange in and between different countries on integrating climate change and variability into water resource management. The knowledge exchange should focus changes necessary in policies, plans (including catchment management) and potential technologies (soft and infrastructure).
- Engage and enable government leaders, politicians and policy makers to internalize and better manage the risks of climate change and take advantage of opportunities that arises such as through improved and strategic planning and additional resources.
- Through public awareness programs aimed at critical stakeholders (Ministry of Finance and Planning, private sector, etc.) move to action through policy, behavior and consumer choice changes to help with water management under climate change. Where possible link this to responses to the present extremes and disaster preparedness.

- Identify innovative and creative “soft-technology: solutions, especially for managing water resources under climate change and drainage in urban areas such as garden sponges, porous pavement, and green roofs.
- Actively involve local communities, youth, and indigenous on adaptation measures with special regard to climate extremes, decentralization of integrated water resources management, sustainable wetlands systems, etc.
- Leverage financing for adaptation and where possible link it with actions that would help with efficient use and/or reduction in energy use and therefore reduce greenhouse gas emissions.

**GDLN session on July 30th, 16:00 – 19:00 (EU time)
Hybrid Financing Schemes for Water Infrastructure**

Tanzania

Uganda

Jordan

Zaragoza, Spain

Washington DC

Recommendations for the Zaragoza Charter

Panelists:

- Aldo Baietti, Sr. Finance Specialist, World Bank (also moderator)
- Josefina Maestu Unturbe, Chair of Week & Session on Water Economics and Finance
- Alain Mathys, Program Manager, Suez Corporation
- Nicaola Saporiti, Investment Office, International Finance Corporation
- Sherisa Nuesa, Chief Finance Officer, Manila Water Company, Inc.
- About 60 participants in total.

Introduction

The post-East Asia, Russian and Argentinean currency crises have heightened awareness of project-related risks and created a much lower tolerance for financing water investments in countries that exhibit poor economic and fiscal conditions. The set of financing and risks instruments that have supported water transactions in the past were not able to thwart losses, and while fine-tuning of current risk or guarantee instruments is certainly helpful, the profile of transactions with any involvement of the private sector has changed markedly since the post crisis era. Many international operators have turned away totally from taking on certain financing, demand and even commercial risks arising from conventional BOTs or concessions type arrangements. Their preference after the crises has been options that transfer finance risks to public partners (as in management contracts and leases).

With increased risk awareness of private investors, risk allocation appears to be shifting, with greater focus on transaction models that blend financing from both public and private sources. Hybrid finance schemes have emerged to accommodate the paradigm shift in the appetite for risk and to take advantage of the comparative strengths that each party, public and private, brings to the infrastructure finance market. Hybrid schemes have evolved because of two principal weaknesses in the financial markets: the lack of reliable sources of equity funds (that is, counterpart funds) in purely public schemes and the lack of depth in local debt markets which precludes sourcing long-term financing to render tariffs affordable.

This session was intended to create awareness on the structure of hybrid schemes, how financing responsibilities are shared and on how risks are allocated to certain parties.

The session presented cases in current water infrastructure projects both water supply and sanitation and in the irrigation sectors and showed how they can be applied across the water infrastructure. The session also showed how mixed financing mechanisms are evolving further in order to finance less attractive segments of water services such as sanitation and sewerage, extension to poorer communities and peri-urban areas. These are done through the adoption of output-based schemes as well as the financing of operation subsidies during a specified transition period.

Key issues and discussion questions included:

1. What are the more significant risks associated with water projects and who should bear these risks?
2. What makes hybrid schemes promising and why should governments buy-in on some of the financing responsibilities? Why can't existing risk instruments in the market do the trick?
3. What has been the experience in each country in implementing innovative financing mechanisms and what lessons can be offered to other countries?

Discussion highlights included:

I. Challenges within the Water Sector:

The Millennium Development Goals are a startling reminder of the financing challenge ahead. The challenges of halving by 2015 the proportion of people without sustainable access to safe drinking water, and the challenge of halving by 2015 the proportion of people without access to basic sanitation, translate into a doubling of investment needs from \$15 billion to \$30 billion for water supply and sanitation alone.

The dilemma for private operators in poor countries is the cost of water services extension beyond the core areas. This cost is much greater and the private operators have to charge a higher initial connection fee for the poor communities. Output Based Aid provides grant financing to allow for the poor to connect without paying the connection fee or at lower cost and therefore does not put in jeopardy the financial operation of the private operator which typically would be done.

Water is not as profitable as telecommunications or the road sector, so as a consequence causes dwindling funding into the sector if funding is coming only from the private sector. In Uganda low profitability causes lack of investment.

Another constraining issue in Tanzania is the lack of information on ground water development. Furthermore, local communities lack the skills to engage in water projects.

II. Affordability and Willingness To Pay

Water is very unique in infrastructure sectors because of the issue of affordability and because water is necessary for life. There is this idea in most countries that high prices for water are not acceptable, even if they only recover the cost of service. Cost recovery is thus a principal element in water sector policy discussions. Politicians may utilize this issue of affordability as an argument for keeping tariffs low, which in turn defers

investments and keeps service below the acceptable levels. World Bank surveys show that if you allow customers to choose, they will generally choose the better service at a higher cost. Findings from technical studies based on affordability and willingness to pay surveys show that even in the poorest countries customers are willing to pay for better service, even if it means a higher price. Attaining cost recovery tariffs will help greatly in bridging the financing gap for water supply and sanitation services. Financial viability of water projects would open up many additional financing options for water infrastructure. Not only can the private sector come in and make viable business ventures of water services, but also will allow public utilities from draining the public resources of their governments. Countries should allow the customers to decide themselves and bring them the service they are willing to pay for. This has proven to be more successful than the traditional methods of assessing demand and determining cost recovery and tariff policy.

III. Public-Private Funding

The traditional method of poor countries using public resources only to finance the water services is not the way to go, according to Mrs. Maestu. “You have to mix the financing and take advantage of all different public and private sources. The private sector can greatly complement the interest of governments to expand and improve services.”

One of the strategies of emerging markets is to ask local bank syndicate for loans as local counterpart funds. Multilateral or foreign development banks can be asked to step in as well. The equity market is the third strategy. Finally, the World Bank can become the guarantor or bank lender for loans with longer maturities.

Several structures of hybrid financing mechanisms exist. In Manila, the Philippines, the Manila Water Company has been very successful in increasing the investments from the private sector. A Public-Private Partnership with United Utilities (U.K.) was formed in 1997 when the water system was privatized. The regulatory framework provides a progressive concession agreement that encourages private sector investments in the network at a guaranteed return together with service obligations. Another key element enshrined in the contract is dispute resolution through International Arbitration. After the first IPO in 2005, the Manila Water Company is now investing in other countries in the region, such as Vietnam.

In Casablanca, Morocco, the LYDEC contract provides the following shareholder structure: Suez Environment owns 51 percent, local institutional investors 35 percent and 14 percent is floated on the Stock Exchange in Casablanca. A total of \$ 850 million has been invested from 1997 to 2006 in water, wastewater and electricity, which protects the city of Casablanca from periodic flooding. Success factors include: identification of innovative financing mechanism with long maturity, good sector governance authorities who can give high priority to the project, an efficient management, the need to have innovative finance mechanisms, and an important role for financing institutions.

IV. Risk Sharing

Risk sharing associated with water or irrigation projects differ from country to country. In Egypt's West Delta Project risk sharing occurred among three parties: farmers, operators

and government. Farmers took on a big part of demand risk, and as a result contributed to the financing the project. The operator took the traditional commercial risk and ultimately the planning & design risk. The government took the big portion of the debt financing risk. The project was initially financed through sourcing money from the World Bank while the government was taking the foreign currency risk. This Public-Private Partnership is a hybrid scheme between the private and public sector initially intended to get the private sector to take on the perceived immediate risks of the project. Furthermore, the government is also guaranteeing the water source, which is a major breakthrough for Egypt.

V. Conclusion

The West Delta model provides the opportunity for new thinking on past norms and practices in the irrigation sector. The model lays out a framework for involving key stakeholders in the planning process to influence their support and willingness to pay for the project. And it demonstrates that cost recovery can be achievable if consumers are actually given a choice to pay for the infrastructure. This model also maximizes the respective contributions of both government and private sector with minimal or no direct subsidy support.

The nature of the transaction structure in this case is also interesting. There was full cost recovery opportunity in Egypt by the private operator, while in other developing countries such as Ethiopia there wasn't the opportunity for farmers to repay the capital cost of the project. This implied that the Ethiopian government is taking on all the costs and is essentially building the system without the farmers requiring paying. To summarize, allocation of risks can differ from country to country. Not one case is easily applicable to another.

Two clear types of risks can be identified in hybrid financing: foreign exchange risk and political risk. These were not managed well in the past in private sector's contracts. First of all, private sector participation in the water sector can cause controversial and ideological dilemmas. With regard to political risks, there has to be a consensus in the country or the city for private sector participation. People have to understand the concerns of the idea of private sector participation and an overall consensus has to be reached between Civil Society and political authorities. Secondly, the legal and institutional framework has to be well in place and provide safeguards to arbitrary decisions. The third element is the design of the contract associated with the financing of the water project.

VI. Recommendations for the Zaragoza Charter

- Seek out private sources of finance as public sources of debt finance are limited.
- Limit reliance on subsidies, as they are growing more limited and cannot be relied on, particularly in poorer countries.
- Debt when used prudently can allow for substantial leveraging in order to expand coverage.
- However, to make use of debt financing, returns must exceed costs.

- Identify solutions that allow the sector to bridge the financing gap in poor communities where affordability is low.
- Carry out affordability and willingness to pay surveys to determine the price of water services to be paid by consumers.
- Involve local banks syndicates, multilateral and foreign development banks, and equity markets in the developments of hybrid financing schemes.
- Identification of innovative financing mechanism with long maturity.
- Recognize the risks of foreign exchange risk and political risk when integrating a hybrid financing solution.
- Build consensus between Civil Society and government authorities about private sector involvement in providing water services.
- Ensure a legal and institutional framework that provides safeguards to arbitrary decisions.
- An understanding that allocation of risks should be based on the country context.

**GDLN sessions I & II on August 5th from 08:30 – 11:30, 14:00 – 16:30 (EU time) and
 GDLN sessions I & II on August 6th from 08:30 – 11:30, 17:30 – 20:00 (EU time)
 GDLN session on August 7th from 08:30 – 10:30 (EU time)**

Values for a Water / Life-Sustaining Civilization: Learning and Communications to Transform Society

Recommendations for the Zaragoza Charter

Participating Countries August 5, 08:30 – 11:30	Participating Countries August 5, 14:00 – 16:30
China India Indonesia Uganda Singapore	Tunisia Benin Senegal Burkina Faso Cote D’Ivoire
Participating Countries August 6, 08:30 – 11:30	Participating Countries August 6, 17:30 – 20:00
Egypt Palestine Yemen Ethiopia Kenya Tanzania	Nicaragua Panama Dominican Republic Costa Rica
Concluding session August 7, 08:30 – 10:30	

Panelists:

- Atem Ramsundersingh, Sr. Water Management & Institutions Specials, World Bank Institute
- Eduardo Mestre, Director Water Tribune at Water Expo 2008 Zaragoza
- Liu Heng, Vice President, Nanji Hydraulic Research Institute
- Steven Lovink, Founder and President Planet2025 Network
- Karen Sirker, Social Development Specialist, World Bank Institute
- Victor Viñuales, Coordinator Thematic Week Water and Society, Zaragoza
- Shaila Gupta, Corporate Strategic Planning Officer, UNOPS
- David Barringo, Deputy Director Water Tribune @ Water Expo Zaragoza
- Cristina Monge, NGO, Zaragoza
- David Barringo, chair Session II August 6 Water Tribute at Water Expo 2008 Zaragoza
- Luis (Steven: please fill in)
- About 350 participants in total.

Introduction

Values at the core of our civilization greatly influence the relationship between water and society. They also increase or decrease individual and collective potential for change. Many societies around the world are deeply connected to water through daily rituals and customs, often religious or spiritual, as part of earning a living that depends on linkages to water, or for reasons of health and sanitation. Increasingly, societies tend to be divorced from the source of their connection to water – in many cities, we simply turn on the tap, and as if by magic, water appears (or does not appear).

If societies can become sensitive to and conscious of their current core values and how they relate to the *absence, presence* or *creation* of a life-sustaining civilization, it becomes feasible to explore how prioritized interventions could accelerate learning and trigger high impact communications mechanisms that contribute to changed attitudes and behavior in support of a globally sustainable lifestyle.

A series of four regional GDLN-based sessions have brought together a wide variety of stakeholders (individuals, including youth, institutions, organizations) from different sectors around the globe to share their views and formulate recommendations for inclusion into the Zaragoza Charter, one of the outcomes of the Water Tribune activities. Participation and dialogue have been in response to short thematic video clips and key questions, facilitated by active moderation. Each geographic region has reinforced and complemented inputs from previous GDLN-based sessions, also known as the ‘virtual pavilion’ or ‘e-waterexpo’ sessions. The final closing session on August 7 (morning session, off-line), has harvested collective wisdom from the four regional GDLN sessions and sought to *connect the dots* during a moderated interactive panel discussion with experts present in Zaragoza.

Key issues and discussion questions included:

1. *Values for a water/life-sustaining civilization.* Two urgent challenges in almost all societies on this planet need to be addressed: (1) Our behavior, whether as a child, adult or a CEO of a water utility or a company, is about wasting water and polluting water; and (2) corruption in the water sector in many societies, where cultural values determine what is perceived as corruption or not and what are seen as the negative impacts of corruption. In the sessions we have dived deep into developing a common understanding, using the wisdom of crowds, to define new cultural values that emerge or that need to be promoted to change or to transform societies. Questions to guide the dialogues were, for example:
 - What are current core cultural values driving people to waste or pollute water and tolerate corruption in the water sector?
 - What universal core values are emerging in our respective societies that need to be nurtured and promoted to enable and establish a water/life-sustaining civilization?
2. *Accelerating Learning.* Current formal, informal, and non-formal systems of education appear to be poorly equipped to ensure that present and future generations will be able to adapt in time to live in a world with scarce water resources. Many systems of education worldwide are still focusing on creating ‘skilled and productive’ human beings, but not on enabling people to deal with high dynamic and changing environments in which personal engagement and collaboration are essential ingredients for a sustainable water-friendly life-style. Given the urgency to improve readiness of societies to deal with their water resources for sustainability and growth, how can education be renewed such that it enables accelerated learning? Key questions to guide the dialogues were:

- Given the core values (current and newly emerging ones in societies), how can we accelerate learning such that individual and collective actions to manage our water resources efficiently and equitably have measurable impact in society in 3-4 years? What learning innovations, solutions, and (social) technologies are required?
 - What interventions in your country's educational systems show promise to achieve timely results?
3. *Innovative communications*: The earth and all living things consist of mostly water. Water is life, you and me. Water crystals scientifically show that water responds to positive communications of thoughts and intentions by way of music, prayer, its treatment or pollution, singing, or shouting. Imagine all advertising, product marketing and promotions, public relations, radio, TV, web-based communications, games for social change, and new media to be celebrating water for life – it could change the relationship between people, water, and society forever.
- Given the core values (current and newly emerging ones in societies), what mutually reinforcing concrete actions can society's stakeholders undertake to promote 'innovative' communications that penetrate deep in the collective mind of societies and in a short period of time causing change of attitude towards water i.e. reducing waste, pollution and corruption? What are key obstacles and how to remove those?
 - What examples of innovative communications in your country can you share?

Discussion highlights included:

I. Values for a water/life-sustaining civilization

- Balance traditional, indigenous systems with modern values within the context of globalization.
- Enhance participation of civil society in the production, planning and investment in water resource management.
- Lack of basic knowledge sharing on water resources and water prices.
- Without coherence in the values of intention and implementation, there will be no sustainable development and integrated water management.
- Global citizenship: identify common values to assist in sharing water(s), while integrating local and cultural circumstances. Some common values include global responsibility (sharing costs, benefits, risks, etc), global diplomacy, transparency, the sacred connotation with water, conservation, cooperation and sharing.
- Trilemma: water as a social good, as an economic good and as a spiritual good. How to conciliate these three?
- Lack of global good governance and efficient water management limits its sustainability and the attitude towards the resource.
- Gender mainstreaming and empowerment of women for water development and management increases better water provision.
- Religious wisdom: Understand how religion impacts the role water plays in society. Water is a sacred resource and a common good. Utilize religious leaders to communicate the value of water as people do not question this leadership.
- Corruption: Greater responsibility of the resource and service providers can help to mitigate corruption so every person can have access to water. There needs to be a drive for more value based direction within policy and include the voice of consumers and civil society to help make service providers accountable. Corruption is an issue to be discussed openly and not to be taken as a taboo.

- Values of cooperation, solidarity, sharing and respect can contribute to sustaining the resource and should be integrated within institutional frameworks and programs.
- How a community values water impacts societal behavior, and community accountability will contribute to a sense of ownership and effective water resources management. However, solutions should consider local as well as global circumstances.
- Values should be integrated into public policies or part of the legislation and law enforcement. Policies should also acknowledge technologies, cultural values and local circumstances.
- Historically, water has been linked to ancestral connections. More recently this value has been lost and should be born again.
- Because water is classified as a common good in some communities, the problem lies in creating societal value for an item with no economic value.
- Cultural, spiritual, religious, moral, and ethical values have been lost and as a result, impact sharing of the resource.
- Sustainability within the sector requires a change in behavior and short and medium term actions.
- Local citizens should be mobilized to be the actors of change.
- Governments should include fiscal measures when designing policies in order to induce more rational water use.
- Universal Declaration of Human rights has a common denominator of values such as social justice and equality among local communities, which should be included in the discussion on values for a water/life-sustaining civilization.
- With regard to water and sanitation facilities, currently people manage water supply and sanitation facilities on trust and good will basis. That needs to be legalized and there should be a legal binding.
- Livestock feed is the major consumer for water in countries like Ethiopia for example. Integration of crop production and livestock management into water and development sector is most promising approach for sustainable water utilization.
- State-of-the-art technologies are equally important as traditional technologies, and adoption of innovative technologies on water promotion and irrigation as practiced in countries like Israel.
- The holiness of the water is to be taught not only on the demand side but on the supply side. The concepts should be oriented towards the suppliers.

II. Accelerate Learning

- Exchange information and best practices among institutions and countries.
- Change and behavior modification begins with self intention. Change only occurs when leaders practice the desired behavior.
- Embrace technological innovation such as GDLN and video conference tools for global knowledge sharing.
- Learning should be continuous and consistent with coherent messages and objectives. Learning by observing.
- Obtain buy in from the ministry of education and relevant stakeholders for high impact change across communities, regions, country.
- Create an enabling environment so that educators can lead, influence, and act as catalysts of change inside and outside of the classroom.

- Leadership development to prioritize the water agenda among competing sectors. Develop youth leadership to contribute to long-term societal change. Children both at school and home can be used as champions to deliver water messages and adverts related to water issues.
- Paradigm shift in pedagogical style: Extend beyond the textbook (for example, China incorporates chapters and activities on water conservation in order to develop a harmonious society for future generations) and communicate best practices within curriculum.
- Change management – embracing core values to sustain the resource among changing local and global circumstances.
- Education and experiential learning from childhood should include formal, informal (ex: comic books, dramas, festivals, water shortage simulation games), and non-formal instruments from childhood and behavioral change so that young people can become ambassadors for change.
- Create virtual spaces to exchange ideas and best practices (ex: India).
- Capacity building initiatives for various stakeholders.
- A learning process of global citizenship is needed. Local or regional educational systems should not be forgotten. Importance of education and coherence with adult education and cultural formation.
- Need to link research with education in higher education institutions. The continuity of research has to be assured.

III. Innovative communications

- Create communication mechanisms in which greater accountability can be achieved through citizen feedback to service providers.
- Utilize religious leaders to communicate the value of water as individuals embrace messages from these leaders.
- Utilizing modern media and local moderators and institutions like churches/mosques as an important tool to raise awareness and to change attitudes towards water and to educate local communities on their rights and obligations with regard to water resources management.
- Engaging private sector in publicizing/marketing sustainable water use.
- Exchange of information and challenges in order to empower and mobilization of various stakeholders (women, youth, civil society, government, politicians).
- Explore the possibilities of an international tribunal of justice for the Zaragoza Charter in order to prioritize water on the political agenda.
- There is a need to approach water issues in an integrated way and also by using successful stories to show how communities approached a particular problem and solved it. Such successes can be packaged and disseminated to other communities.

IV. Recommendations

- Promote global citizenship; identify common values and make society aware of values in order to assist in sharing water(s), while integrating local and cultural circumstances.
- Investigate how water pricing contributes to valuing water and demand management.
- Develop capacity building initiatives within and outside of the water sector.
- Explore how religion can positively impact the value and use of water.

- Equip current formal, informal, and non-formal education systems to build capacity, to enable accelerated learning and involve youth as water ambassadors. Educational centers have to be the example of sustainable water and energy use.
- Involve media as a key player in awareness raising and change management to focus on rights and obligations to the water resources.
- Raise awareness among transnational enterprises and engage this private sector stakeholder in publicizing/marketing sustainable water use.
- Connect various stakeholders (ex: utilities and schools) to help youth understand the urgency of water scarcity and in turn, change water use practices. Develop water champions among youth.
- Recapture lost traditional values of water such as its sacredness, cultural, spiritual, religious, moral, and ethical connections, which can contribute to sustainability.
- Enhance civil society participation in the production, planning and investment in water resources.
- Share knowledge, information and challenges in order to empower and mobilize various stakeholders (women, youth, civil society, government, politicians), especially local citizens, to be the actors of collective change.