

## Adaptation planning and practices in the Water sector

## Water resources adaptation

- Sub-groups by adaptation approach
- 1. Protection of water supply
- 2. Water Harvesting
- 3. Improving watershed management
- 4. Salinisation of water caused by SLR

## Challenges: Water supply

- Capacity building is fundamental to many steps in planning and implementing adaptation measures in water, from technical capacity to institutional issues
- Assessing economic value of water lacks widely accepted methodologies and basic data, and in some cases can be an important piece of information to force change in water management.
- How is water valued and what is impact of pricing on different stakeholders?
- Some responses or coping strategies are not necessarily sustainable, calling for methods for assessment and monitoring to minimize maladaptations, as well as a big attitude change towards CC, such as through attitude change and improved communication (Katrina syndrome)
- What is role of attitude in changing behavior towards more sustainable use of water. How best change attitudes?
- How build capacity to effectively address adaptation in water resources, from data collection, analysis, institutional, policy development and implementation, communications, awareness raising etc?

## Challenges: Water harvesting

- Underground water is an important source of water, but one whose dynamics are not well known, such as recharge, movement between aquifers, process rates for salination, role of rain-harvesting techniques through deliberate recharging, or due to changes in runoff/infiltration as a result
- What are impacts of different adaptation actions (water harvesting, irrigation, etc) on the hydrological cycle/water supply at different scales
- Attitudinal barriers: climate change as an environmental issue rather than a development issue.

### Challenges: Integrated Watershed Management

- How assess and quantify vulnerability to guide planning and operational management of water resources?
- What are methods and tools for analyzing tradeoffs in different adaptation solutions to a common/single problem?
- How integrate analysis and decision making between wide-ranging scales, from local, community to a large watershed are or more.
- How can models be improved to provide locally useful information? What is tradeoff with levels of uncertainty?
- Observations of all key components of the hydrological cycle, including detailed measurements that support operational planning, are inadequate for many areas and regions, and this is a severe constraint to planning adaptation measures that require detailed data to run models, plan operations, etc.
- Approaches to water resources management can be through water demand management on on managing the supply side. A dual approach to water quality, as well as place of emphasis should be evaluated taking local context into account.
- Planning tools including models for downscaling, need improvement, but this is not a barrier to planning and implementing adaptation actions where the state of art in modeling is at its cutting edge, including through constraints of available data necessary to run the models

### Challenges: Salinization

- Other sectors are closely linked with water resources, especially agriculture and food, health, and energy. Integrated planning across these sectors is necessary, and the obstacles to achieving this integration are beyond technical.
- There are many time scale issues that need analysis and best practice to be developed, such as time required to move from policy to implementation, scaling up from local to whole basin and vice versa.
- Technologies have an important role, including technologies for reducing evaporation, water purification, and broader adaptation measures.
- Costs – resources needed, displacement costs (relocation due to inundation, salinization, etc)
- Displacement of people or loss of land leading to loss of culture
- Inadequate compliance with policy and regulations

### Recommendations

- Guidance on:
  - Transferability and applicability of case studies
  - Valuation of water (including social and environmental value)
  - Understanding of thresholds
  - Assessing overall availability (national and regional)
  - Incentives for watershed management
  - Dealing with competition for water

- **Promotion of:**
  - Better communication between users and providers of information, ensuring research responds to needs
  - IWRM to reduce vulnerability
  - Better coordination at international and national levels
  - Linkages with other UN depts. / intergovernmental working groups
  - Stakeholder participation
  - Downscaled applications of technologies
- Dissemination and quality control of UNFCCC adaptation databases and revamping of other relevant ones (WMO)
- Awareness and sharing information and experiences