JOINT MEETING REGIONAL AND TECHNICAL COMMITTEE REPRESENTATIVES
24 AUGUST 2012

Groundwater resources and irrigated agriculture – making a beneficial relationship more sustainable
GWP TEC Perspectives Paper

Template for Contributions from the GWP Knowledge Chain

Background

Globally, irrigated agriculture is the largest abstractor and consumer of groundwater resources and important groundwater-dependent agro-economies have widely evolved. But in many arid and drought-prone areas, unconstrained withdrawals and use are causing serious aquifer depletion and environmental degradation and cropping practices also exert a major influence on groundwater recharge and quality.

In this context the Perspectives Paper provides an overview of the current situation, of the patterns and drivers of intensive groundwater use, of the ways in which sustainability can be improved in 'groundwater-only' irrigation areas and by 'conjunctive management' in major alluvial canal commands, and of the future outlook.

The Paper also argues that:

- The irrigation-groundwater nexus requires an active cross-sector dialogue and integrated vision to promote more sustainable land and water management.

- Clear policy guidance and focused local action are required to make better use of groundwater reserves for drought mitigation and climate-change adaptation.

- To be effective policies must be tailored to local hydrogeological settings and agro-economic realities, and their implementation will require appropriate 'institutional arrangements' (with a clear focal point and statutory powers for groundwater management), full involvement of the farming community, and more alignment of agricultural development goals with groundwater availability.

A Background Paper is now under preparation and will elaborate on the Perspectives Paper.

Purpose of Session

The Perspectives Paper will serve to galvanize discussion on the topic of groundwater resources and irrigated agriculture and to provide feedback and inputs that will contribute to the Background Paper.

The session will offer a forum for such feedback, and an opportunity for GWP Regions to propose case studies based on their experience.

Format

The session will start with a brief introduction of the Perspectives Paper by Technical Committee member Tushaar Shah and by Stephen Foster, who are also working on the Background Paper.

This will be followed by a facilitated discussion aimed at gathering feedback and suggestions from the GWP Regions. Regional input and views are particularly welcome on the topics below, with case studies to illustrate water security issues and solutions. The outcome of the session will be reported back to the plenary.

Issues for Discussion

The session seeks to gather information and knowledge from the GWP Regions on the following topics primarily in the context of the developing world:

MAIN FOCUS

- Beneficial and harmful impacts of intensive groundwater use in the agricultural sector.
- Groundwater development for agricultural irrigation in varying hydrogeological settings
- Effectiveness of specific groundwater management and regulation policies (such as pricing, subsidies, administrative regulation, use-rights and other groundwater markets)
- Planned conjunctive management of surface and groundwater use
- Impact of water harvesting and groundwater recharge on sustainable groundwater development and management
- Nexus between energy pricing and subsidies, and groundwater over-development, and carbon footprint
- Groundwater irrigation and its impact on agrarian poverty (especially in Asia and Sub-Saharan Africa)

SECONDARY ISSUES

- Constraining groundwater quality deterioration from irrigated agricultural practices (including wastewater reuse).
- Techno-managerial approaches to sustainable management and use of poor-quality (somewhat salinised) groundwater.
- Any related topics raised by the participants (urban groundwater management, natural groundwater quality, etc).

Specific requests to GWP regions and countries:

- Concrete, specific examples of successful community management of groundwater demand.
- Examples of planned conjunctive use and management of surface water, groundwater and precipitation.
- Case studies of successful regional/basin scale groundwater governance.
- Successful programs for containing public health impacts of groundwater-based drinking water supply with high concentrations of fluoride, arsenic and other contaminants.
- Case studies of successful management of the nexus between energy subsidies and groundwater irrigation.