

SESSION OUTCOME

Session 3.4.1 A Hidden Resource: Sustainably Managing Groundwater for the Future

The Session Situation Report provides background and a detailed record of the issues discussed for specific topics. The goal of the Session Situation Report is to:

- 1) Provide an overall description of the topic and major issues discussed

The distinctive behavior of groundwater relative to surface water requires specific strategies and approaches to achieve successful management of and protection for groundwater resources. The session will explore better ways to properly manage and protect groundwater and expose fallacies concerning the present-day management of groundwater. Urgent action proposals to respond to the critical over exploitation of groundwater resources and also innovative approaches for the solution of groundwater pollution are expected.

Besides the technical point of view, the legal, institutional, social, cultural, economic, political, and ethical frameworks are important to groundwater management and these facets will be treated.

Specific case studies were presented.

Major issues discussed:

- Global picture of groundwater
- The 'water budget myth' of groundwater management and development
- Groundwater governance and management at various scales
- Access to groundwater by individuals at point-of-use; no need for large, costly water supply projects.
- Failure to recognize the characteristic nature of groundwater vis-à-vis surface water and rain water.
- Over-exploitation of groundwater and nonrenewable groundwater
- Assorted site-specific problems/case studies
- Data and information needed for decision-making and policy implementation.
- Aquifer storage and recovery/artificial recharge for groundwater replenishment
- Transboundary aquifer utilization, governance, and management

- 2) List specific actions or interventions identified to improve the conditions within the sector

List the interventions in the order of importance, as identified by session participants

In all cases, the following list may help you organize your notes:

Key Themes and Topics Discussed

Political Consequences



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Economic Considerations
Social Factors
Technologies Involved
Environmental Factors
Legal Implications

Interventions:

- 1) Improve data acquisition and monitoring
- 2) Coordinate groundwater management with the principles of IWRM
- 3) Discourage over-exploitation of groundwater, unsustainable use, quality deterioration, and threats to ecosystems
- 4) Implement institutional change required for effective groundwater governance and management
- 5) Properly value the resource
- 6) Enhance understanding of groundwater, at all levels, even by water professionals
- 7) Assess impacts on transboundary aquifers, especially due to climate change
- 8) Encourage trust-building with shared aquifers and development of strategies for management
- 9) Develop schemes to manage/replenish nonrenewable groundwater
- 10) Mitigate conflict among various economic sectors (agriculture, M&I, etc.) regarding groundwater usage and access
- 11) Update antiquated laws/regulations
- 12) Encourage awareness over groundwater issues; education
- 13) Identify best methods for education and outreach (Internet?)

For those discussions where the majority of the issues have been agreed upon, and the discussion is focused on identifying solutions, the following list provides a framework for classifying the solutions into four categories. Solutions may range from less concrete (recommendations) to more concrete (initiatives).

Recommendations

Improve data and long-term monitoring
Promote data transparency
Identify best methods for education and outreach (Internet?)

Proposals



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Commitments

Improve data and long-term monitoring

Initiatives

Modify IWRM so that it truly reflects the characteristics and peculiarities of groundwater, especially nonrenewable groundwater

Ensure that future World Water Fora have sufficient sessions (other than side events) in which groundwater is integrated. Suggested sessions at 6WWF:

- Case studies of IWRM in groundwater dominated basins
- Applications of IWRM to systems with aquifers underlying multiple surface water basins
- Improving IWRM to better consider aquifer systems
- Effects of climate change on aquifer systems
- Transboundary surface water - groundwater basins
- Aquifers as storage systems

Please provide your name and contact information in case we need to clarify some of the information you have provided.

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