WATER RESOURCES MANAGEMENT IN SUDAN

Challenges

By

Dr:Hassan Abualbashar Ali Hamdoun
Background

- Location: Between 3 to 23 N & 21 45 To 38 30 E
- Area: 2.5 M sq. Km
- Population: 39.2 M (2009 census)
Diversity in Sudan
Four Zones: (Total RF >1000BCM)

- Desert Zone: 75 mm (36%)
- Semi-Desert: 75 – 300 mm (20%)
- Savannah: 300 – 900 mm (24%)
- High Rainfall Savannah: > 900 mm (20%)
Challenges

- Natural Challenges
- Technical Challenges
- Economic Challenges
- Institutional Challenges
- Drought management Challenges
Challenges

- Efficient and economic use of water resources.
- Legal and institutional framework for water related sectors.
Challenges

- Investment & Funds for sustainable management of water resources.
- Human and institutional capacities in WR.
- Participation of stakeholders.
- Water resources pollution risks and related environmental issues.
Natural Challenges

- More than 77% of water resources originates from outside Sudan
- High spatial and temporal variability of rainfall and related uneven distribution in availability of water.
- High sedimentation rates in canals, dam reservoirs (50% of capacity is lost) and inlet channels
- Weed growth in canals and Nile tributaries (Water Hyacinth)
Technical Challenges

- Inadequate water resources data (reliable monitoring system) and proper assessment
  - Inadequate human capacity for the collection, assessment and dissemination of data on water resources for developing, planning and implementing projects
  - Retain staff once they are given the requisite training and appropriate incentives devised

- Inadequate research and development capacity to carry out effective research programs in the water resources sector
Technical Challenges

- Balance between supply and demand and efficient use for irrigation water in agriculture.
- More conjunctive use for irrigation from surface and groundwater and solving the problem of drawdown and deterioration.
- Increase the water use, particularly rain-fed to match with the available vast land areas.
Economic Challenges

- Inadequate investments and finance in the water resources sector
- Limited available and expensive power
- Inadequate financial arrangements
- Limited storage vessels (reservoirs)
- Unstable agricultural policies and lack of effective cost recovery mechanisms - Sustainability
- Striking a balance between agricultural uses and hydropower.
Legal & Institutional Challenges

- The need to enhance regulation and coordination between water related institutions and the different users and avoid fragmentation of Government responsibilities and institutions in the States.
- Federal body of water resources responsible for strategic studies and planning for development and utilization.
Human Resource Challenges

- High rate of population growth (2.8%) and change of pattern in water use
- Unbalanced Development & Urbanization
- Lack of awareness and water extension programs
Institutional Challenges

Implementation of IWRM under Federal System
Let us work together to deal with the question: How to develop drought monitoring system?
Thank you