Summary/Conclusions
Key Goals of the Initiative

• Raise awareness on **risk based** NDMP

• Enable nations to **assess their national situation**

• **Capacity development** to enable nations to identify a suite of strategies

❖ **The overall aim: enable countries to formulate a proactive, risk based drought mgt policy at national level.**
Increased drought frequency/severity has been observed in the region over past 10-20 years

Most countries have plans, such as National Action Plans for the UNCCD, and sectoral strategies that integrate drought or related to it;

However, a ‘full fledged’ drought policy and related action plan as inferred to by HNMDP are absent: encouraging start has nevertheless been noticed.

Relatively good experience in drought management with varying levels between countries

Most countries have a monitoring system the capacity and usage of which also vary from one country to another
• Drought vulnerability is assessed mostly globally by region, with some details for certain countries

• Irrigation development/ management improvement are the mitigation measures most adopted by countries.

• Other mitigation and response measures: compensation for loss and crop insurance in a few countries was reported

• Country needs have been expressed which include:
  • adoption of risk based national drought policy
  • development of related action plans,
  • upgrading monitoring and early warning,
  • enhanced vulnerability and impact assessment,
  • integration between sectors and operational arrangements.
The current procedures/challenges on early warning systems?

- Data issues (in terms of real-time availability, quality, density of stations, length of time series)
- Automated (real time) stations are very important for early warning systems
- There are no perfect forecasts and seasonal forecasts are not always reliable
- Lack of understanding of the vulnerability of water supply
- The need for better information on current status of water resources and historical data.
- Delivering of appropriate (time and format) information to public is challenging
- Knowledge (data) of regions outside country is important
Needs for meteorological and hydrological networks, data quality and sustainability

- Poor data coverage especially in high mountains (need snow pack information)
- Need for more soil moisture sites
- Introduction of new measurements (Evapotranspiration, solar radiation)
- Data on crop phenological stages (i.e. flowering, reproduction, etc)
- Need better weather and climate database management Systems
- Sustainability: need support from the Governments; raising awareness (Gov, public); incorporate needs into national strategies
Session 3: Drought monitoring & early warning systems

Re- mechanisms in place for communicating/liaising drought monitoring & early warning information between national institutions?

- Products are placed on the web, freely available to public.

- Data exchange between the institutions is sometimes challenging. Lack of coordination on data sharing

- Data is currently exchanged on request on Ad-hoc and Emergency basis

- Data should be free of charge for research purposes and for other governmental institutions.

- Early Warning System information disseminated through TV, radio, and press

- There is a need to do more on drought issues
Who is vulnerable and why?

• Most vulnerable sectors:
  – Agriculture
  – Industry
  – Transport
  – Biodiversity (Forests)
  – Tourism
  – Health

• Most vulnerable groups:
  – Small scale farmers (rain fed crop production)
  – Poor and marginalized people/communities
  – Tourist agencies/Hotel owners/community-based tourism
  – Elderly people
All the 3 groups focused on drought impact in agriculture

- **Efficient water use strategy:**
  - Diversification of water sources
  - Rehabilitation of existing irrigation infrastructure
  - Transfer of water resource
  - Introduction drought-resistant species
  - Access to data
  - Development of Early Warning System
  - Insurance measures
  - Education and awareness raising
### Who plays which role in development of mitigation plan?

<table>
<thead>
<tr>
<th>Stakeholders</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decision-makers (EU, legislative bodies, local municipalities)</td>
<td>take decision upon information</td>
</tr>
<tr>
<td>Key ministries</td>
<td>Impact assessment</td>
</tr>
<tr>
<td>HydrometeoService</td>
<td>provide data/Early Warning System</td>
</tr>
<tr>
<td>Research community</td>
<td>fill research gaps</td>
</tr>
<tr>
<td>Resource users association</td>
<td>take part in decision-making process in bottom-up manner</td>
</tr>
<tr>
<td>Private sectors/Insurance companies</td>
<td>Incentive measures</td>
</tr>
<tr>
<td>Civil society organizations/NGOs/extension services</td>
<td>Capacity building, awareness raising</td>
</tr>
</tbody>
</table>
Who is vulnerable (socially/economically) and why?

**Demographic groups:** elderly and children, farmers, landless people, sick people, rural communities

**Sectors:** Agriculture (differentiate rain fed and irrigated, different vulnerability), Industry/Energy (production, cooling), Forestry, Transport, Tourism, Biodiversity, Health, water sector (surface water, groundwater)

- Education and awareness raising, preferably at young age, experts should engage in awareness raising, private sector should get involved
Re-Drought Preparedness

- Cost of inaction, economics of drought should be a key message to decision makers.

- The cost of risk based Drought Management more than offsets the cost of emergency response.

- Cost-benefit analysis essential for convincing policy makers

- Mitigation measures are to be developed jointly by stakeholders rather than separately by sector

- Identifying drought mitigation measures may seem simple but it actually calls for ample negotiations for tradeoffs and can be time consuming, particularly the first time.
Re-Drought mitigation measures

- Improve irrigation systems
- Diversification of energy sources
- Plant fire resistant species
- Water leakage reduction
Re - Integration of drought responses & recovery in drought plans

• Water saving measures (night irrigation, etc.)

• Priority of water use (reduction of industrial water consumption)

• Tax reduction of victims of drought

• Cross border actions

• Measures for protecting soil moisture (min tillage)
Session 6: The 10-Step process

1. Appoint a Drought Task Force
2. State the Purpose and Objectives of the Drought Plan
3. Seek Stakeholder Participation and Resolve Conflict
4. Inventory Resources and Identify Groups at Risk
5. Develop Organizational Structure and Prepare Drought Plan
6. Integrate Science and Policy, Close Institutional Gaps
7. Publicize the Proposed Plan, Solicit Reaction
8. Implement the Plan
9. Develop Education Programs
10. Post-Drought Evaluation
Final Points

• Cost of inaction, economics of drought should be a key message to decision makers.

• Risk based Drought Management is cost effective when compared with the cost of disaster response.

• Presenting cost-benefit analysis to convince policy makers.
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Find out more on the initiative:
www.ais.unwater.org/droughtmanagement
NDMP on UNW-AIS

Documents the activities of the initiative

Reference and workshop material, such as

www.ais.unwater.org/droughtmanagement
Thank you!

UN-Water Decade Programme on Capacity Development (UNW-DPC)

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