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UN-Water Decade Programme on Capacity Development

Towards Developing National Drought Management Policy: the 10-Step Process

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1 | Introduction -review

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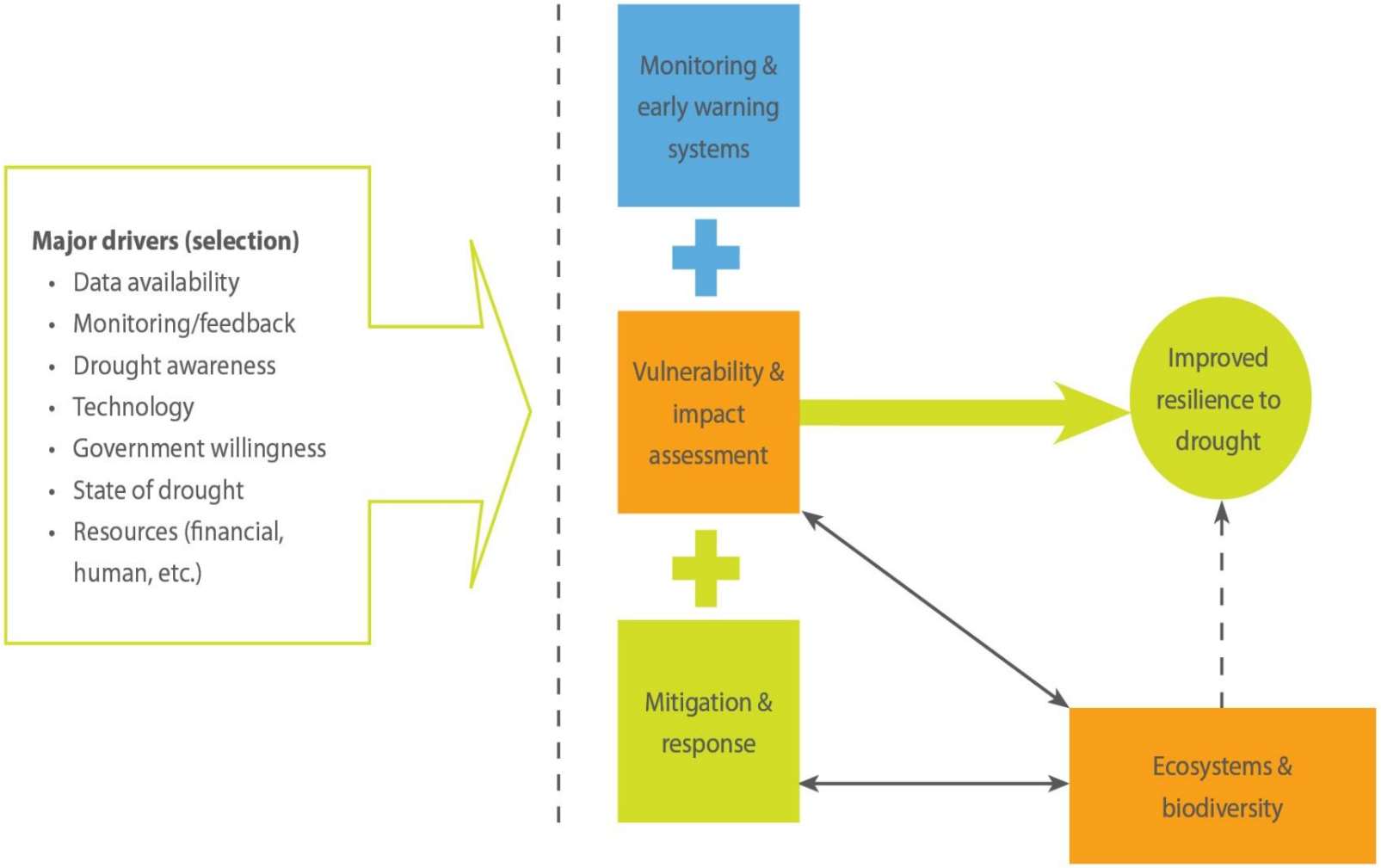

2| Objectives of National Drought Policy

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- To encourage vulnerable economic sectors & population groups to adopt self-reliant measures that promote **risk management**
- To promote sustainable use of agricultural & natural resource base
- To facilitate early recovery from drought through actions consistent with national drought policy objectives
- It can be a stand-alone policy or part of national policy for disaster risk reduction that is centered on the principles of risk management (UNISDR, 2009)

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- It is **a <u>one approach</u>** to assist nations with NDP process
- It **can/<u>should</u>** <u>be modified/adopted</u> according to local conditions
- Requires **<u>political will</u>** and coordinated approach; diverse stakeholders must be engaged in the process.
- It has been fundamental in guiding drought mitigation and preparedness plans <u>in the USA, Brazil, Mexico, Morocco,</u> among others.

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Step 1: Establish a ''National Drought Commission''

- Appointed by a high level authority
- Supervises & coordinates the development of the plan
- Coordinates action, implement mitigation & response programs during times of drought & to make policy recommendations to the appropriate government stakeholders
- The commission should reflect the multidisciplinary nature of drought/impacts
- Should include representatives of both state & federal government agencies & universities (rep. of extension, climatologists, policy specialists, planners, private sectors, etc.) - composition of NDC: state specific

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Step 2: Define the goals

- Government officials should consider many questions as they define the purpose of the plan
- Scope of the plan should be defined
- It should consider
  - The most drought-prone areas of the nation
  - Historical impacts and historical response to drought
  - Most vulnerable economic and social sectors
  - Legal and social implications of the plan
  - Environmental concerns caused by drought

❖ Drought plans may differ b/n countries/regions but the overall goal remains the same: reduce impacts of drought

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Step 3: Seek Stakeholder Participation & Resolve Conflict

- Resolve conflicts between key water user sectors (competition for scarce water resources among sectors)

- It is essential to identify all citizen groups (solicit input from all stakeholders) that have a stake in drought planning and to understand their interests.

- These groups (ranging from farmers, the poor, rural residents, marginalized, practitioners to decision makers) must be involved early and continuously for fair representation & effective drought management and planning.

- Forms of participation: establish citizens council/district (regional) advisory council, etc. as permanent feature of drought plan, helps to keep information flowing.

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Step 4: Inventory Resources & Identify Groups at Risk

- An inventory of natural, biological, and human resources including the identification of constraints that may impede the planning process, may need to be initiated by the drought commission.
- *Natural resource (ex. Water): where is it located?; how accessible is it? of what quality?*
- *Biological resources: quantity/quality of rangelands, forests, wildlife, etc.*
- *Human resources: labor needed to develop water resources, pipelines,…*

- Identify constraints to the planning process and to the activation of the various elements of the plan as drought conditions develop *(Constraints may be physical, financial, legal, or political)*

- Costs of the plan against losses (cost of inaction) should be weighed

- Areas of high risk should be identified (exposure **X** vulnerability)

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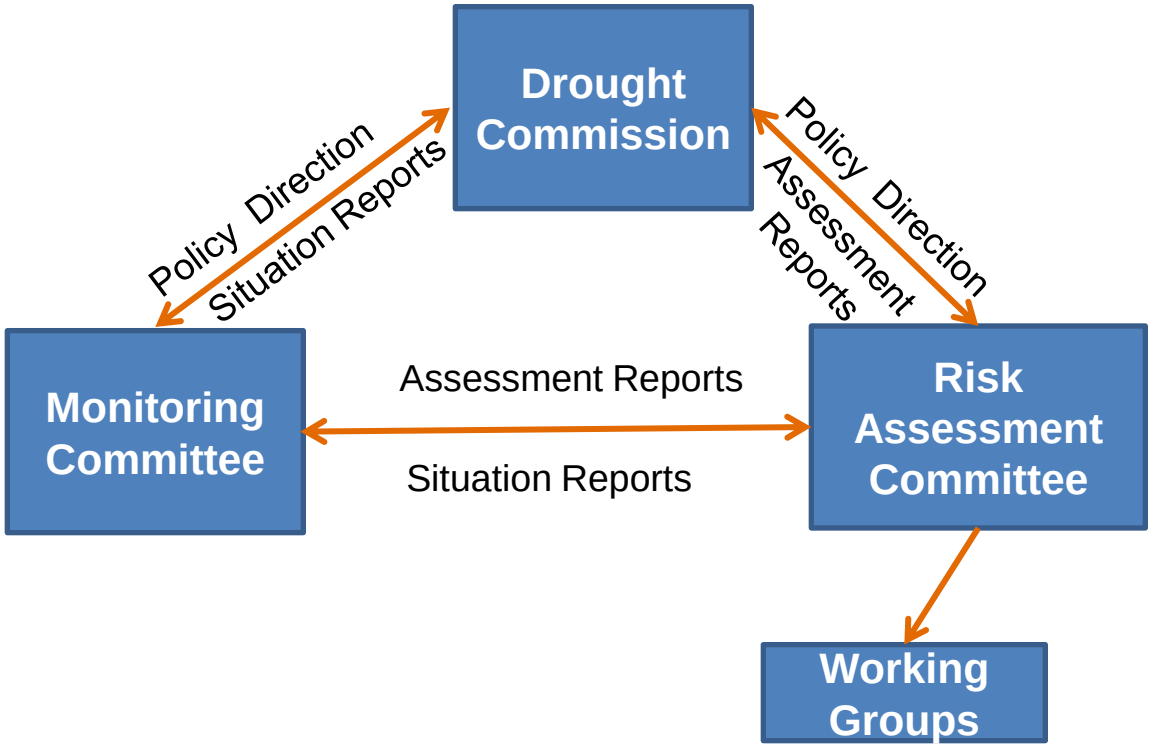
Step 5: Prepare Drought Preparedness & Mitigation Plan



Drought Commission Organizational Structure

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Step 5: Prepare Drought Preparedness & Mitigation Plan (Cont.)

- An important step of establishing relevant committees
- Write the drought plan & develop necessary organizational structure
- Drought plan's three man components: (1) monitoring committee, (2) risk assessment committee and (3) mitigation and response (commission)
- **Specific responsibilities of NDC (mitigation & response):**
  - Determine mitigation and response actions for sectors in collaboration with risk assessment committee
  - Inventory all forms of assistance from the various levels of government during severe drought
  - Work with monitoring and risk assessment committees to establish triggers
  - Establish drought management areas
  - Developing website for disseminating drought monitoring info & drought plan

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Step 5: Prepare Drought Preparedness & Mitigation Plan (Cont.)

Monitoring Committee:

– Help policy makers adopt a workable definition of drought

– Help the commission establish drought management areas

– Develop a drought monitoring system

- Inventory data quantity and quality from current observation networks

– Determine data needs of primary users

– Develop/modify current data information delivery systems

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Step 5: Prepare Drought Preparedness & Mitigation Plan (Cont.)

Risk Assessment Committee

- Assemble the team
- Evaluate the effects of past droughts
- Rank impacts
- Identify underlying causes
- Identify ways to reduce risk
- Write “to do“ list

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Step 6: Identify Research Needs & Fill Institutional Gaps

- The drought commission should compile a list of specific research needs and deficiencies and make recommendations to the appropriate government body on remedial measures that should be taken.

- Examples:
  - Improving understanding on how climate change may affect incidence of drought events & severity
  - Research on improved early warning techniques and delivery systems
  - Gaps in monitoring station networks may exist
  - Meteorological, hydrological & ecological networks need to be automated so as to retrieve data in a timely manner in support of an early warning system
- Step 6 is expected to be executed alongside with steps 4 & 5.

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Step 7: Integrate Science and Policy

- Integration of science and policy during the planning process will also be useful in setting research priorities and synthesizing current understanding.

- Often policy makers have a weak grasp of scientific issues/technical constraints associated with drought

- Often scientists have a poor understanding of existing policy constraints to respond impacts of drought.

- Communication between science and policy must be enhanced
  - Setting research priorities
  - Synthesizes current understanding

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Step 8: Publicize the Drought Policy and Plans, Build Public Awareness & Consensus

Communicate constantly with the public, emphasising on issues including:

- How the drought plan is expected to relieve drought impacts in both the short and long term.
- What changes people might be asked to make in response to different degrees of drought
- What it will cost to implement each option, and how it will be funded

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Step 9: Develop Education Programs

- An education program to raise awareness of short and long-term water supply issues will facilitate that people understand how to respond to drought when it occurs and that drought planning does not lose ground during non-drought years.

- Build better than “normal better awareness”

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Step 10: Evaluate and Revise

The final step in the planning process is to create a detailed set of procedures to ensure adequate plan evaluation.

- **Ongoing evaluation:**

  It keeps track of how societal changes such as new technology, new research, new laws, and changes in political leadership may affect drought risk and the operational aspects of the drought plan.

- **Post-Drought Evaluation:**

  It documents and analyzes the assessment and response actions of government, nongovernmental organizations, and others and provides a mechanism to implement recommendations for improving the system.

4| A National Drought Policy ....

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- Should be broadely stated (to accomodate changes in time & space)
- Should be intrinsically linked to the development/implementation of preparedness & mitigation plans at sub-national level
- Can be a stand-alone policy or it can be part of national policy for disaster risk reduction, sustanable developmet, IWRM, etc.
- Should establish a clear set of principles/operating guidelines
- should be consistent & equitable for all regions, pop groups & economic as well as social sectors
- Should be consistent with the goals of sustainable development
- Should reflect regional differences in drought characteristics, vulnerability and impacts

Source: Wilhite, 2007

4 | Guiding Principles

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- Political commitment, strong institutions, & appropriate governance (essential for integrating drought risk issues to sustainable development & disaster risk reduction process)
- Stakeholder participation: Bottom-up approach with community participation (both in decision making and implementation)
- Preparedness at all levels of government (Individuals, community, decision makers, local and regional authorities)
- Legal/ institutional framework with defined responsibilities and cross-institutional collaboration

Source: UNISDR, 2007

4 |Guiding Principles (Cont.)

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- Capacity building and knowledge development to help build political commitment, competent institutions, and an informed constituency
- Establish clear set of principles and operating guidelines to govern management of droughts
- Drought policies should emphazise mitigation and preparedness
- Policy mechanisms to ensure that strategies are carried out
- Development of long-term investment in mitigation and preparedness measures

5 | Drought Policy Challenges

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1. **Lack of coordination for drought risk management**

In Viet Nam, responsibility for drought risk is centralized within the national government, but the management of drought risk drivers falls between different institutions responsible for managing forests, agriculture, water and land use. *(Shaw et al., 2010)*

2. **Low priority given to drought by governments**

In Mexico, 16 million hectares of agricultural land in Sonora, Mexico, 87 percent are rain-fed and highly vulnerable to agricultural drought and accounts for 70 percent of agricultural production. Nevertheless, there is no drought early warning system or any systematic recording of drought impacts.

(Neri, 2004; Neri and Briones, 2010)

5 | Drought Policy Challenges

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3. Weak local drought risk governance capacities

In **North-western Bangladesh**, the local governments of Tanore and Shibganj have very low institutional resilience. They have not incorporated drought risk into disaster management plans, not developed effective drought risk management policies, training or demonstration programmes, and have weak coordination with other government institutions and NGO.

(Shaw et al., 2010; Habiba et al., 2011)

4. Conflict on water use

To manage scarce groundwater more efficiently during droughts, **Morocco** enacted a series of reforms, which included the privatization of water rights during the 1990s. The new policies conflicted with tribal customs and religious views and, due to the government's inability to ensure compliance, overexploitation of groundwater continued.

(Doukkali, 2005)

5 | Drought Policy Challenges

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5. **Inadequate human resource for implementing & managing drought related programmes**, inadequate feedback and dissemination of drought preparedness & mitigation information to the local levels to enable risk reduction and building of long-term resilience to drought in Kenya. (UN-ISDR report on Kenya , 2008)

Other challenges:

- Funding.
- Economics of drought
- Data availability/data sharing
- Political will
- Engaging effectively media /civic organizations for advocacy, , etc
-

6 | Case Studies

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Morocco

• established Integrated Drought Management System (in early 2000) with a focus on

Monitoring and early warning:
• Developed institutional and technical capacities in climate modeling, remote sensing, crop forecasting
• Established National Drought Observatory in the year 2000

Emergency plans to reduce impacts of drought:
• Developed various programmes: securing safe water for rural populations; preserving livestock through feed distribution; creating income & job creating activities and conserving forests

Reduce Vulnerability
• Integrated approach to water resources management
• Improving hydraulic efficiency of irrigation systems
• Strengthening managerial capacities of irrigation agencies
• Increasing productivity
• National plan to conserve irrigation water is developed

Brazil

The Brazilian Northeast, especially its semi-arid area, traditionally suffers from recurrent droughts that affect heavily its population, economy and environment.

Conclusions and Lessons learned

- As a result of drought and development policies, the Northeast of Brazil has reduced its economic and social vulnerability to droughts.
- Environmental vulnerability, however, has increased, due to increased human pressure on the natural resources of the Semi-arid Northeast
- Though the social impacts of droughts have decreased, due to social and economic policies, there is still a large group of the rural poor population that is vulnerable. This group continues to depend on social policies, especially on cash transfers.
- Climate risk should be considered as a dimension in economic, environmental and social public policies. This is an area where there seems to be increasing awareness but still little concrete actions…

Spain

Spanish Constitution and the European Union Water Framework are the bases of the Spanish water codes and statutes, including drought management plans.

The Law of the National Hydrological Plan (2001) explicitly ordered the development of Special Drought Management Plans for all basins and Drought Emergency Plans for all urban water supply systems

Management actions under the drought policy:

- Internal operations
- Water uses
- Water reuses
- Industrial uses
- Legal aspects

China

In 2002 and 2004, China approved the Water and the Meteorological Law respectively, both of which are active in the prevention and control of drought

Purpose of the Plan:

- Identifies the local, provincial, state sector entities and non-governmental organizations that are involved with drought management and defines their responsibilities.
- Defines a process to be followed in addressing drought related activities, including monitoring, early warning, impact assessment, emergency response, hazard relief and recovery, and logistic supports
- Identifies long and short term activities that can be implemented to prevent and mitigate drought impacts

7 | Economics of Drought Preparedness (case study of Kenya)

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In the period 1980-2002, drought occured in Kenya 5 times (every 5 years)

Preparedness costs (1999-2001) = $US 1.65 million per year for five years = 8.25 million

Preparedness costs: Annual fixed & variable costs including running EW, preparing contingency plans, costs of meetings and other activities; training costs and other information and preparedness costs

Total cost of food relief in the emergency of 1999-2001 (for drought affected areas)= 150 million USD

- **Preparedness costs accounted for only 5.5 % of the total costs associated with emergecy relief responses**

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Thank you!

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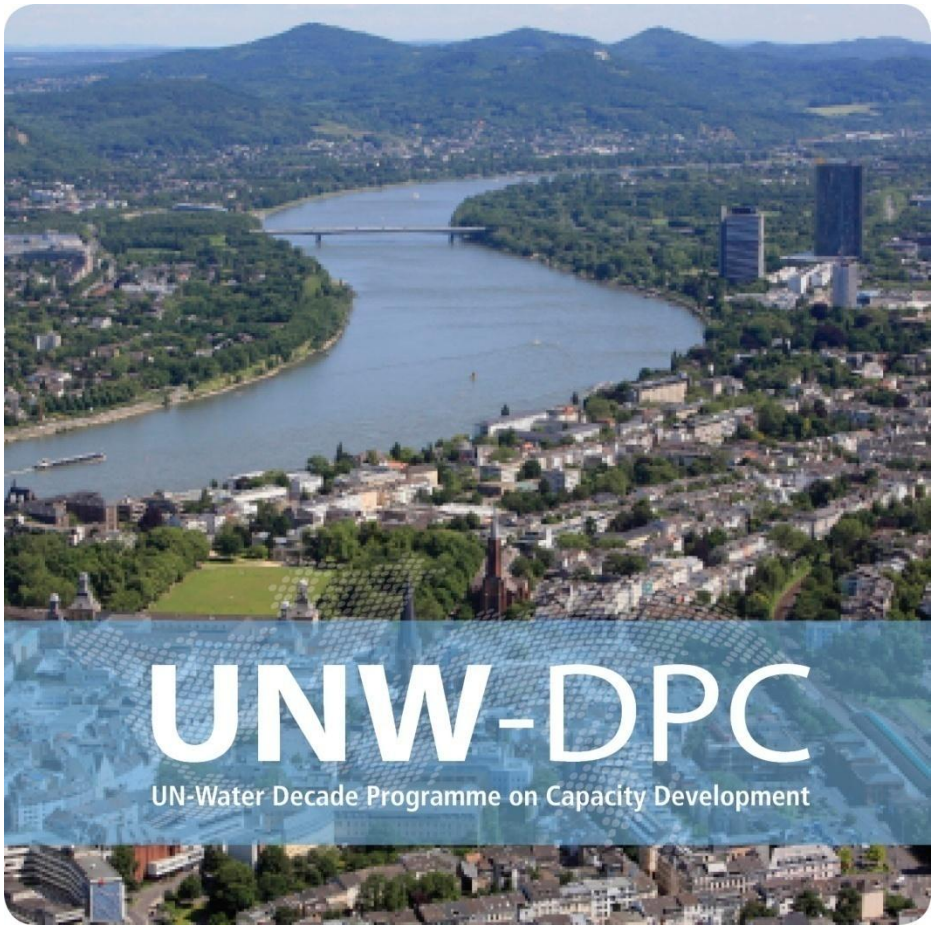

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Breakout Groups

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Group A: What are the challenges for developing national drought policies? (Daniel)

Group B: What are the institutional arrangements necessary for developing national drought policies? (Boubacar)

Group C: What are the steps being undertaken for developing national drought policies (country-specific discussion)? (David)