

# Workstream 3: Drought Monitoring, Impact Assessment and Forecasting

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# The Three Pillars of Integrated Drought Management

**IDMP**  
Integrated  
Drought  
Management  
Programme

## Formulating **proactive** drought policy:

### **PILLAR 1**

**MONITORING AND  
EARLY WARNING**



**PROACTIVE  
DROUGHT  
MANAGEMENT**

### **PILLAR 2**

**RISK AND IMPACT  
ASSESSMENT**



### **PILLAR 3**

**DROUGHT RISK MITIGATION,  
PREPAREDNESS AND RESPONSE**



### **Pillar 1: Monitoring and Early Warning**

- **Integrated** monitoring of key indicators (hydrological, climatological, impacts)
- **Used to trigger actions in drought plans**

### **Pillar 2: Risk and Impact Assessment**

- Knowledge of **who and what is at risk and why** – root causes of impacts

### **Pillar 3: Risk Mitigation, Preparedness and Response**

- **Proactive** measures to increase coping capacity
- Response measures that support the principles of drought risk reduction

# Monitoring, Early Warning & Information Delivery Systems

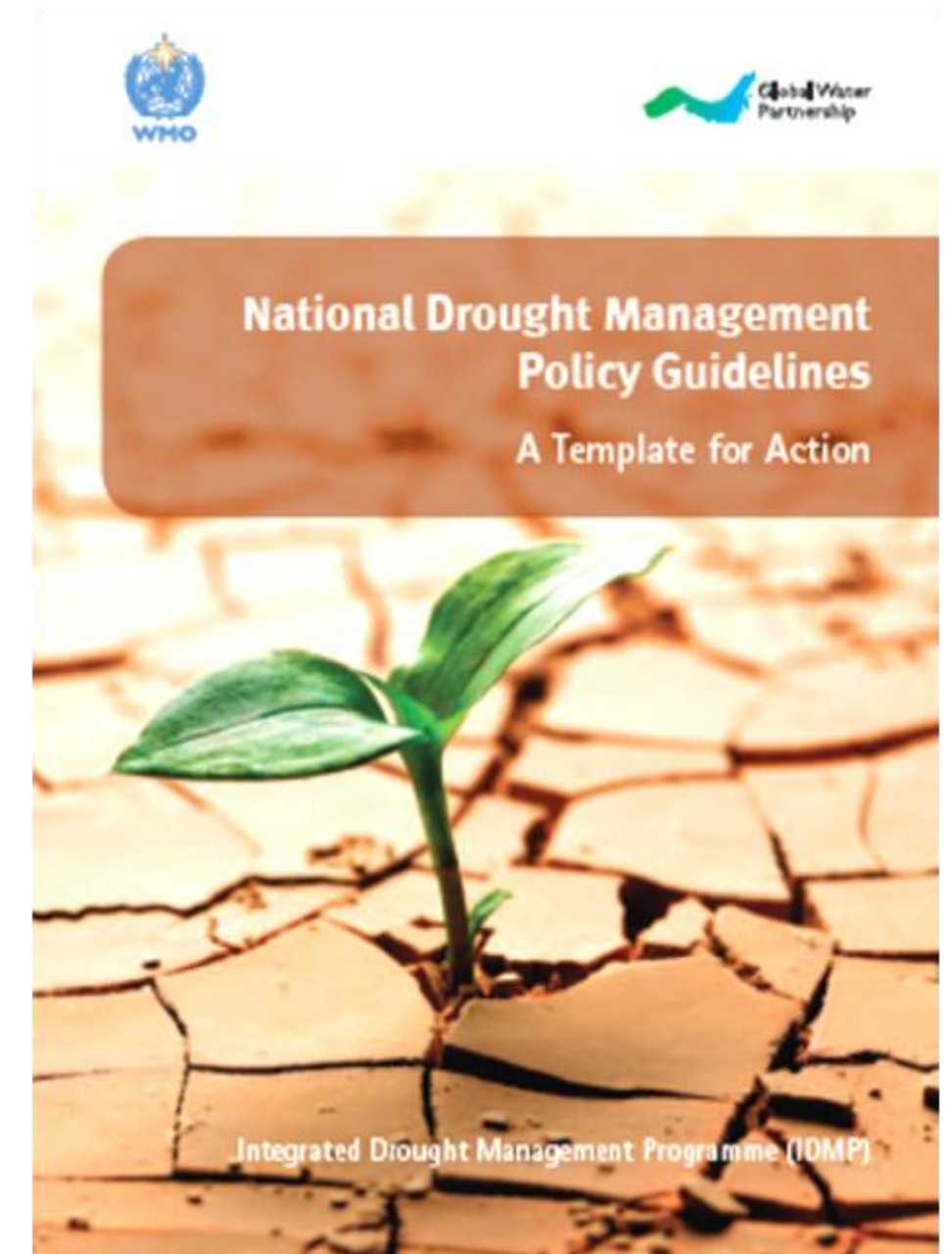
• Indicators/Indices	• Agencies/Ministries/Organizations
<ul style="list-style-type: none"><li>• Precipitation</li><li>• Temperature</li><li>• Surface water supplies<ul style="list-style-type: none"><li>– Stream flow</li><li>– Soil Moisture</li><li>– Reservoir levels</li><li>– Snow pack</li><li>– Water use</li></ul></li><li>• Ground water</li><li>• Remotely-sensed data (e.g., plant water stress)</li><li>• <b>Impacts</b><ul style="list-style-type: none"><li>– By sector, area</li></ul></li></ul>	<ul style="list-style-type: none"><li>• Water</li><li>• Meteorological &amp; Hydrological Services</li><li>• Agriculture, Forestry &amp; Fisheries</li><li>• Environment</li><li>• Health</li><li>• Energy</li><li>• Transportation</li><li>• Commerce</li><li>• Social Services</li><li>• NGOs</li><li>• Others</li></ul>

# Vulnerability/Impact Assessment, Mitigation and Response

<b>Who and What is at RISK and Why?</b>	
<ul style="list-style-type: none"> <li>• By Sector</li> </ul>	<ul style="list-style-type: none"> <li>• Agencies, Organizations &amp; Stakeholder Groups</li> </ul>
<ul style="list-style-type: none"> <li>• Agriculture</li> <li>• Energy</li> <li>• Environment, Recreation &amp; Tourism</li> <li>• Transportation</li> <li>• Health</li> <li>• Commerce</li> <li>• Others</li> </ul>	<ul style="list-style-type: none"> <li>• Reps from Ministries and non-governmental organizations</li> <li>• Communities &amp; regional organizations</li> <li>• Stakeholder groups representing all impact sectors</li> <li>• Others</li> </ul>
<b>By Area/Region</b>	
<ul style="list-style-type: none"> <li>• Drought management areas (provinces, river basins)</li> <li>• Communities (rural, urban)</li> <li>• Indigenous population</li> </ul>	

# National Drought Management Policy Guidelines

- Adapting of 10-step process by Don Wilhite (National Drought Mitigation Center at the University of Nebraska-Lincoln)
- Template that can be adapted to national realities and needs
- Building on existing risk management capacities



Source: World Meteorological Organization and Global Water Partnership, National Drought Management Policy Guidelines: A Template for Action

# The 10-Step Planning Process

## Step 1

**Appoint** a national drought policy commission

## Step 2

**State or define** the goals and objectives of a risk-based national drought management policy

## Step 3

**Seek** stakeholder participation and **define/resolve** conflicts between key water use sectors, considering transboundary implications.

## Step 4

**Inventory** data and financial resources available and **identify** groups at risk

## Step 5

**Prepare/write** the key tenets of a national drought management policy and preparedness plans *(monitoring, early warning and prediction; risk and impact assessment; mitigation and response)*

# The 10-Step Planning Process

Step 6

**Identify** research needs and **fill** institutional gaps

Step 7

**Integrate** science and policy aspects of drought management

Step 8

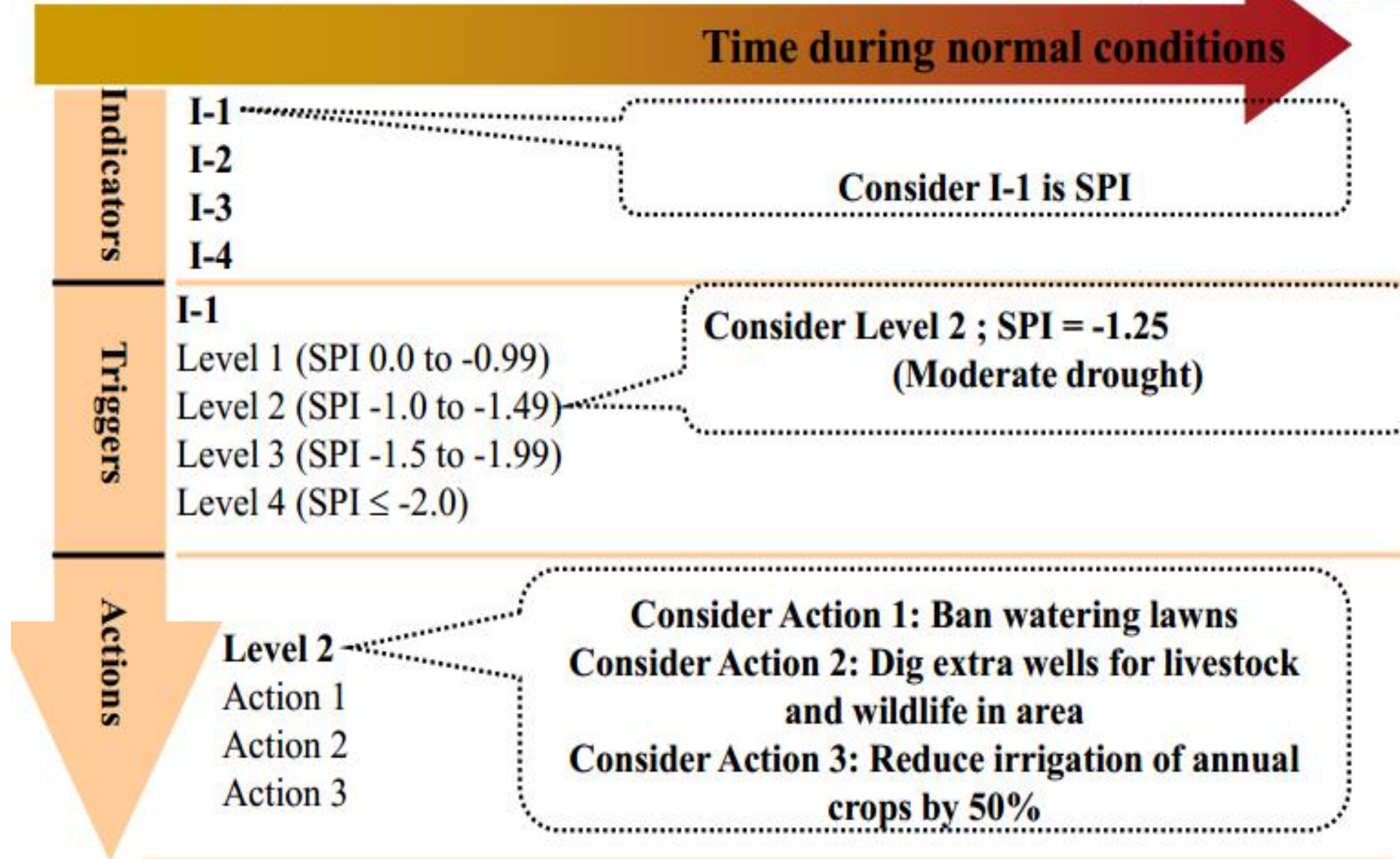
**Publicize** the national drought management policy and preparedness plans, **build** public awareness and consensus

Step 9

**Develop** education programs for all age and stakeholder groups

Step 10

**Evaluate, test** and **revise** drought management policy and supporting preparedness plans







**Drought  
Resilience**

**+10**

High-level Meeting  
on **National Drought Policy**

**Thank you!**