



*Supporting Drought Policies in Europe*

*Thematic Session 4*

# Drought Management Guiding Principles & XEROCHORE Recommendations

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# Drought management: Objectives & Means

## **The policy objective**

The development of a drought-resilient society

## **Means**

Strategic, tactical and emergency measures & processes to:

Mitigate drought risk ~  
Reduce vulnerability of sensitive sectors

Prevent or mitigate negative impacts and cascade effects from drought episodes

- Responsibilities
- Adaptive capacity

Human resources



- Tools
- Infrastructure

Technology resources



- Funding
- Economic efficiency

Financial resources



# Drought management: The state of affairs

## EU Policy framework

### EU Water Policy

Water Framework Directive  
EC Communications on water scarcity and drought (2007, 2008)

### Development strategies and sectoral policies

CAP, Energy policy, Soils...

### Other drought-related policies

Combating Desertification  
Climate Change Adaptation

### Requirements set by endorsed international conventions

## National Policies & Plans

### Drought national policies & management plans

Spain, Portugal, UK, Cyprus, France

### Within the frame of the UNCCD (*National Action Programmes for combating desertification*)

Greece (2001), Italy (2000), Portugal (1999), Romania (2000), Spain (2008)

# Drought management : Identified needs

## The EUWI Survey on “Water Scarcity and Drought”

### Scope

1. Causes and impacts of water scarcity and droughts
2. Drought management experiences at national level
3. Use of policy instruments for mitigating water scarcity and drought

### Responses from 18 MS

### Main outcome

Policy priorities, as specified in the *EC Communication Documents on water scarcity and drought (2007, 2008)*

### Recommendations

Use of the available EU instruments for:

- Promoting a water saving culture, and
- Investing in water infrastructure projects

Emphasis should be given to demand management

Development of water pricing policies to reflect the conditions of limited water availability

Development of guidance on efficient measures for drought mitigation

Drought management in consistency with the provisions of the Water Framework Directive

Incorporation of climate change impacts in drought management plans

Collection of information by the Member States on the basis of a core set of indicators

# Existing Technical Guidance & The XEROCHORE Contribution

## Main EC Technical Reports

EC Water Scarcity Drafting Group, 2006

Technical document on drought management and long-term imbalance issues in the framework of the WFD CIS

Technical report 2008-023: *“Drought Management Plan Report, including agricultural, drought indicators and climate change aspects”*

Indicative examples of drought management plans and drought indicator systems

Technical report 2009 – 040 (CIS Guidance No 24) on *“River Basin Management in a Changing Climate”*

Chapter 7 deals particularly with drought management, water scarcity and adaptation

## XEROCHORE

Background Document II *“Existing policies and drought management measures”*



Guidance Document *“Roadmap to support the development of an EU Drought Policy”*

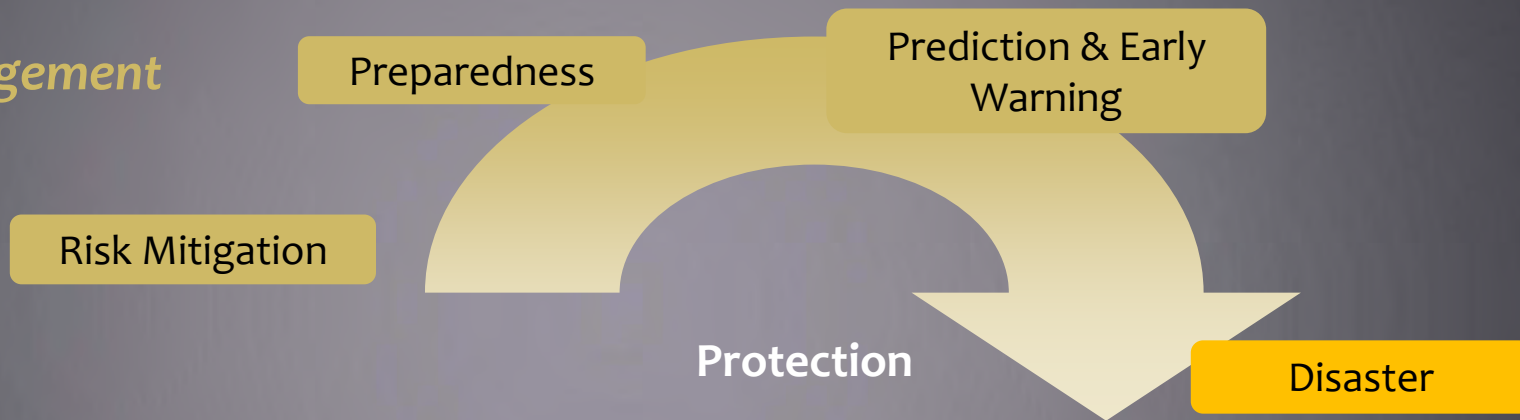


Policy Brief *“Harmonization of drought management policies at European scale”*

*Guiding Principles for Drought  
Management*

# The Drought Management Cycle

*Risk management*



Risk Mitigation

Preparedness

Prediction & Early Warning

Protection

Disaster

Recovery

Rehabilitation

Impact Assessment

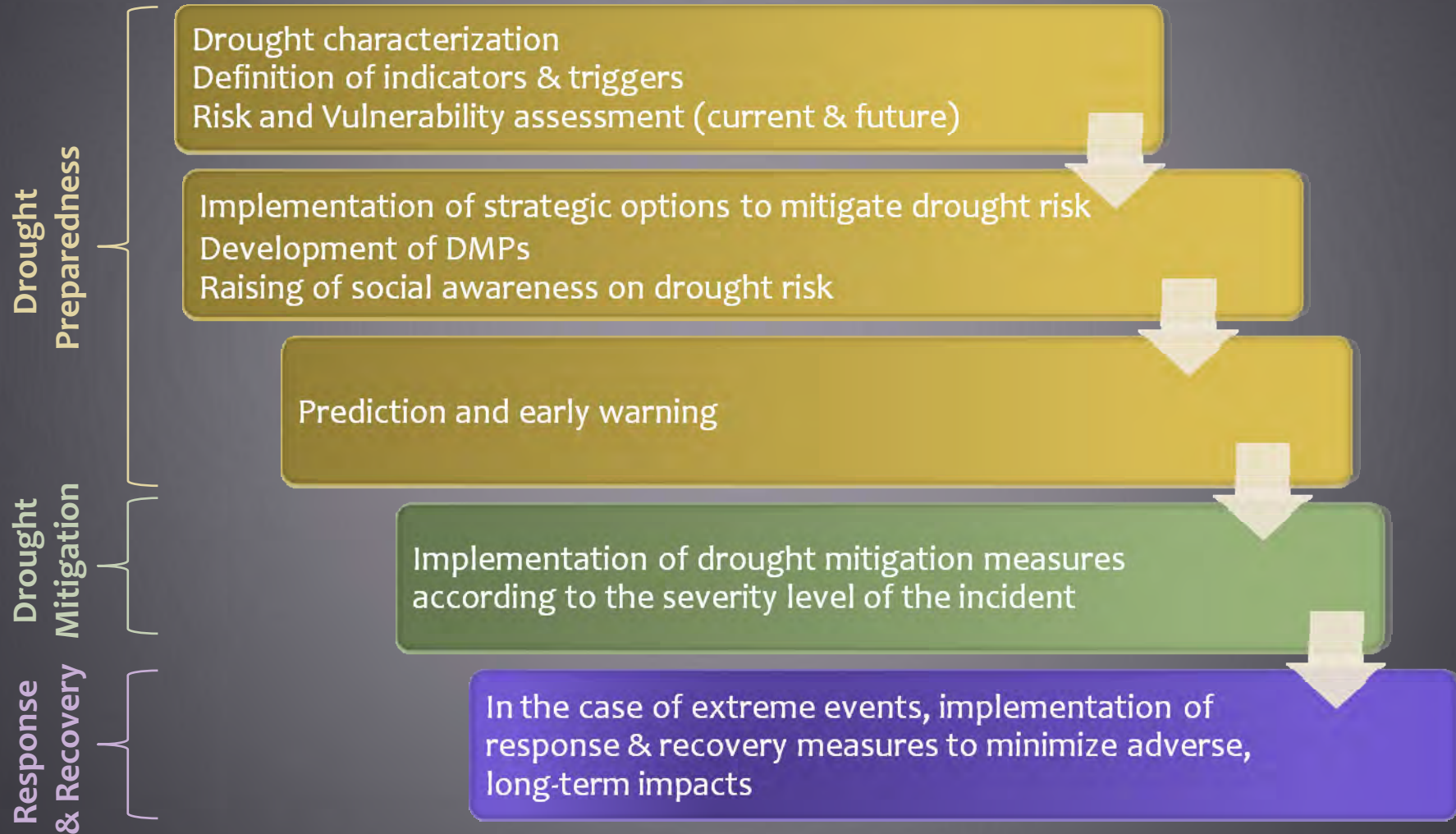
*Crisis management*

Recovery

Response

Wilhite, 1999

# Stages & Activities in DM





# Developing the Course of Action: Objectives

Embracing **risk management**  
instead of crisis management

Enhancement of  
preparedness – CC impacts  
Mitigation of drought risk,  
esp. for vulnerable  
regions/use sectors  
Development of Drought  
Management Plans

Acknowledgement of  
environmental needs and  
considerations (WFD)

Effective communication of  
drought risk at all levels





# Required institutional & organizational adjustments

## Development of Drought Management Plans at the River Basin scale through harmonized procedures

- Clear indicators and thresholds describing different alarm levels
- Mitigation actions for each alarm level
  - Specific measures for vulnerable sectors
  - Environmental protection
  - Assessment of trade-offs

## Coordination among River Basin DMPs through National DMPs

## Formalisation of drought declaration processes

## Definition of responsibilities & cooperation framework among different management levels (national, sectoral, regional)

## Application of economic instruments to internalize costs & risks (e.g. insurance schemes)



# Ensuring dependability, acceptability and effectiveness

## SH consultation & participation

Ensure that all issues & interests are taken into account

### Further objectives

- Exploitation of local knowledge
- Raising awareness on drought-related risks
- Reaching consensus on the acceptable level of damages during a drought episode

## Adoption & Implementation

Address interlinkages with other policies (EU, national, regional)

### Improve implementation by:

- Enhancing collaboration among involved authorities
- Developing information and data exchange networks (national & international level)



# Identifying corrective actions

## Evaluation & Revision

Use of *Virtual Drought Exercises* to evaluate the system's readiness to deal with drought

Post-drought evaluation of plans and actors' actions

- Post-drought impact assessment
- Stakeholder consultation and feedback

Integration of ongoing research outcomes and scientific knowledge

Sharing of lessons learned (successes, failures, critical factors) to develop more informed policies & drought management plans

# Drought management Requirements at different levels



The EU policy  
framework

- Overall framework for Drought Management & Planning (under the WFD framework & objectives)
- Synergies with other EU policies

National policies

- Coordination/Harmonization of River Basin DMPs
- National DMP if required
- Enabling environment for drought management

Regional/RB  
planning

- Drought characterization & vulnerability assessment
- Drought triggers – Monitoring of relevant indicators
- Drought mitigation options
- **Development of the DMP**

# Drought-related Research

*Identified needs in XEROCHORE*

## Improvement of:

Monitoring and forecasting tools

Vulnerability and risk assessment methods

Development and use of information systems

Methods incorporating risk & uncertainty in decision making

Development of multi-criteria tools for supporting participatory DM & selection of mitigation actions

## Analysis of linkages between:

Hydrologic-based indicator thresholds

Critical ecological demands

Strengthening of the science-policy interface

# Concluding Remarks

## The key policy concerns in the EU

Potential to address the 3 phases of drought management (i.e. preparedness, mitigation, recovery) within the current policy framework

Procedures and processes that can improve governance in the implementation of Drought Management Plans

Limitations and opportunities for linking the DMP to the WFD River Basin Management Plans

Reaching a decision on the level of damages acceptable during a drought incident ~ The WFD environmental objectives vs. derogation & exceptional events



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... past failures & successes  
... knowledge &  
information

*reshape future*