

# CONCEPTS AND PRINCIPLES OF IWRM

**Statistical, Economic and Social Research and Training Centre for Islamic Countries  
Higher Council for Environment and Natural Resources  
“Water Resources Management”**

**23rd-24th November, 2011  
Khartoum, Sudan**

# Objective of presentation

- To present brief overview of IWRM:
  - Concepts / general notions
  - Principles
  - Integration



# Water and development

- water management ↔ broader development
- water management to support sustainable human development
- Water uses and users are interdependent
- Need to engage and involve users and others affected by resource
- Need to move beyond formal, hierarchical structures of management

# Pressures and challenges

## ➤ Pressures

- Economic growth
- Water stress
- Pollution
- Sectoral approach in water governance

## ➤ Challenges

- Securing water for people, food, production and ecology
- Water variability in time and space
- Managing risks



# Water Management Principles

Many water sector reforms are based on the Dublin principles (1992):



1. Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment.

2. Water development and management should be based on a participatory approach, involving users, planners and policymakers at all levels

3. Women play a central part in the provision, management and safeguarding of water

4. Water has an economic value in all its competing uses and should be recognised as an economic good

# IWRM definition

- “a process which promotes the coordinated development and management of water, land and related resources in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems”

Global Water Partnership (2000)

The bottom of the slide features a decorative graphic of several concentric circles, resembling ripples on water, in a lighter shade of blue against the dark blue background.

# IWRM is a shift in thinking

IWRM differs from traditional approaches in three ways:

- Involves cross-cutting and tries to overcome limitations of traditional **sectoral** approach
- **Spatial** focus is the river basin
- Involves **participatory** decision-making with engagement of **all** stakeholders (*Inclusion versus exclusion*)

# IWRM

- 'Classical' WRM:
  - Supply oriented, sector focused, engineering-based
  - Top down 'water master planning'
  - Focus on water availability and development
- 'Integrated' WRM:
  - Demand-oriented, multi-sectoral approach
  - Addresses interaction between sub-sectors
  - Considers institutional requirements
  - Addresses capacity building beyond water sector



# IWRM

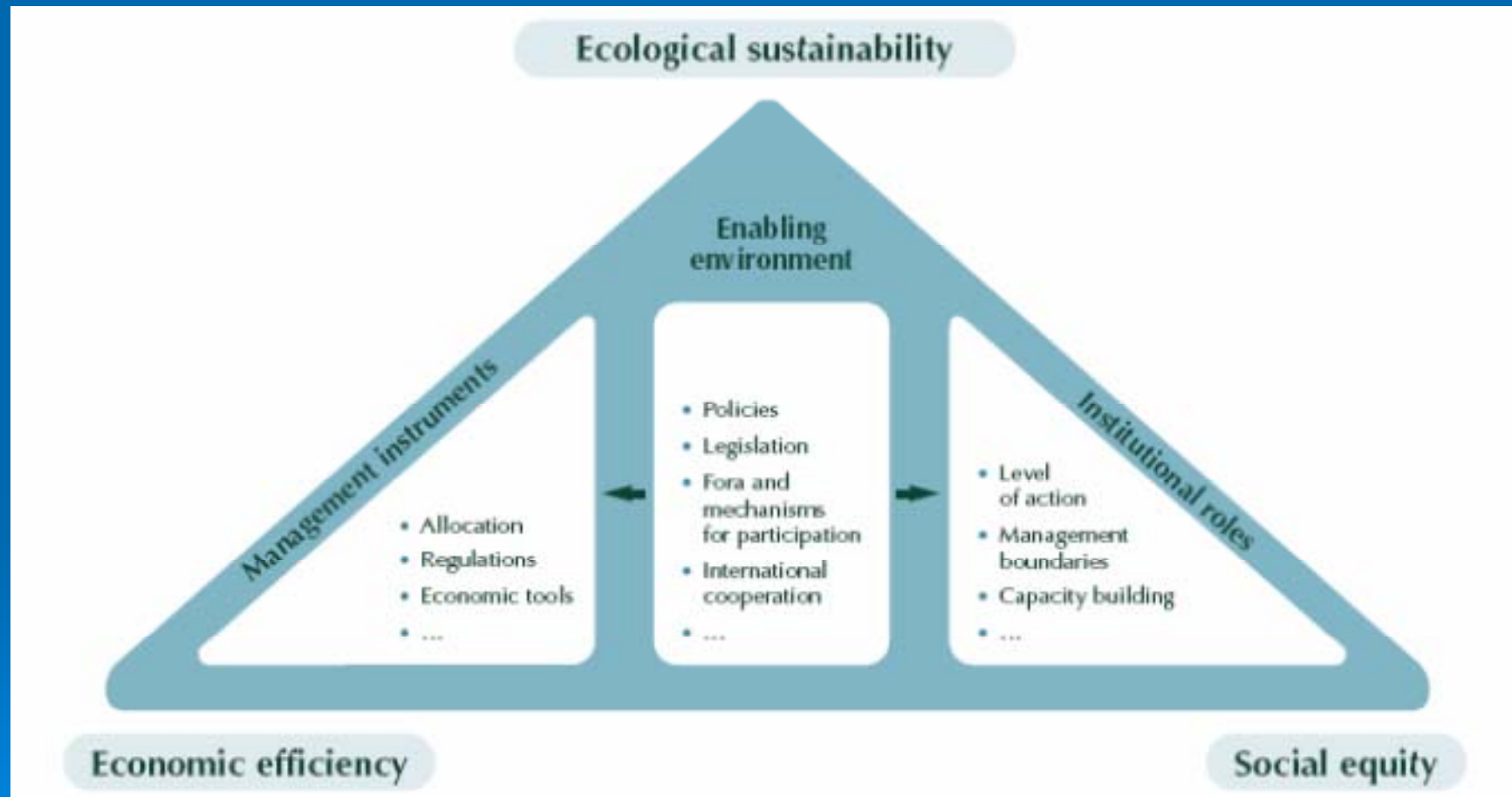
- Response to increased pressure on water resource systems from population growth and economic development
- Management and development of resources in interaction with users, uses and institutions



# IWRM

- 3 E's of 'Integrated WRM :
  - Environmental sustainability
  - Equity, social
  - Economic efficiency
- 3 additional aspects of integrated WRM :
  - Enabling environment (policies, legislation)
  - Equity, social (right access)
  - Economic efficiency

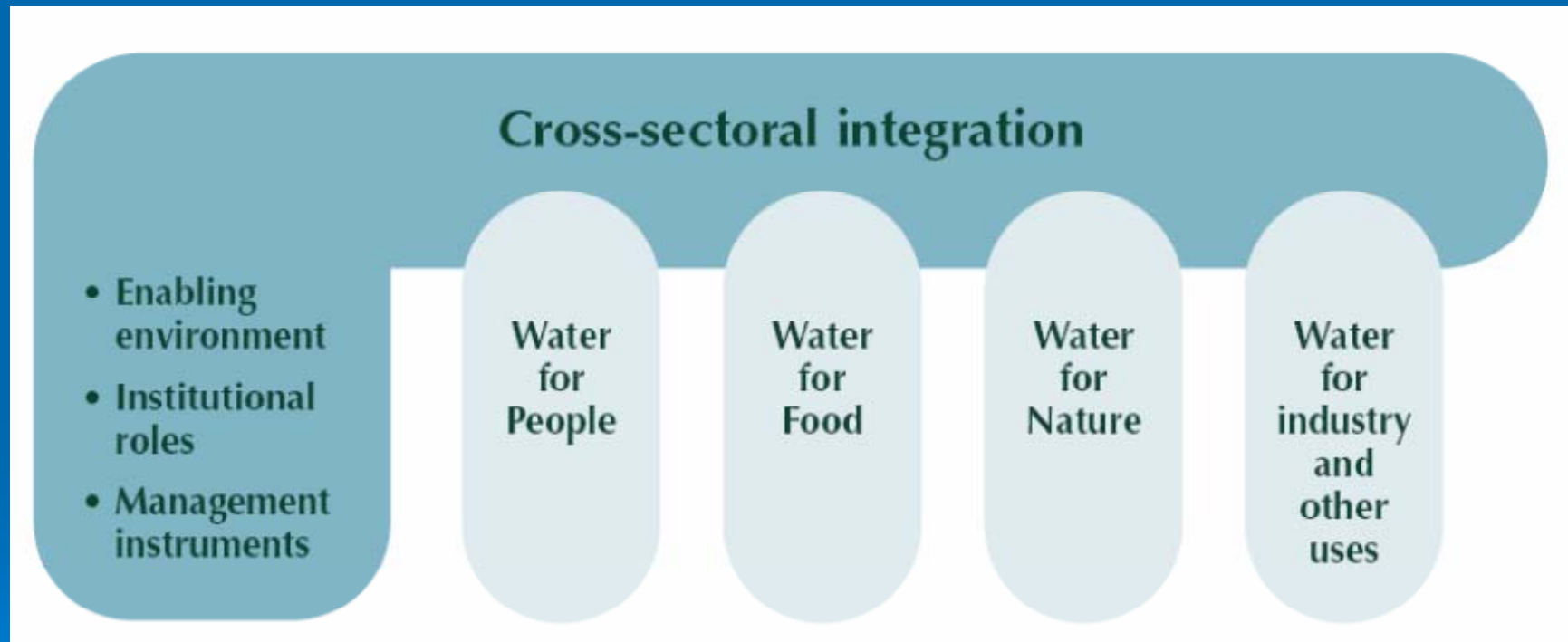
# General framework




# Integration

- Users working together
- Hydrological cycle is a unitary one
- Water quantity and quality are interrelated
- “Horizontal bridging” of water sector and other economic sectors
- “Vertical bridging” across spatial scales and levels of decision-making
- However: key words in IWRM remain ‘water resources management’


# Integration



# Good practices from IWRM case studies

- Sound investments in water infrastructure
  - Strong enabling environment: goals, legislative framework, finance
  - Comprehensive institutional roles: institutions, HR, stakeholder participation
  - Effective use of available management and technical instruments
- 

# General similarities between IWRM case studies

- Unitary nature water resources
  - Physical interventions
  - Limits to physical interventions
  - Need for institutional framework
    - role of stakeholders
    - balancing stakeholder interests
    - environmental dimension
    - Organisations promoting approach
- 

# Conclusion

- There is no uniform blueprint to WRM: IWRM is an approach.
- This IWRM approach can only work if it is not focused exclusively on water!





THANK YOU FOR  
YOUR ATTENTION...

