



UNESCO-IHE
Institute for Water Education



IWRM as a Tool for Adaptation to Climate Change

Introduction to IWRM and Climate Change



Goal and objectives of the session

At the end of this session, participants will:

- Be able to describe the meaning of IWRM and its main principles;
- Understand the main reasons for taking an IWRM approach; and
- Be aware of some areas where IWRM can assist adaptation to climate change.

Outline presentation



1. What is IWRM



2. Why IWRM?



3. Principles



4. The users



5. The process



6. Policy

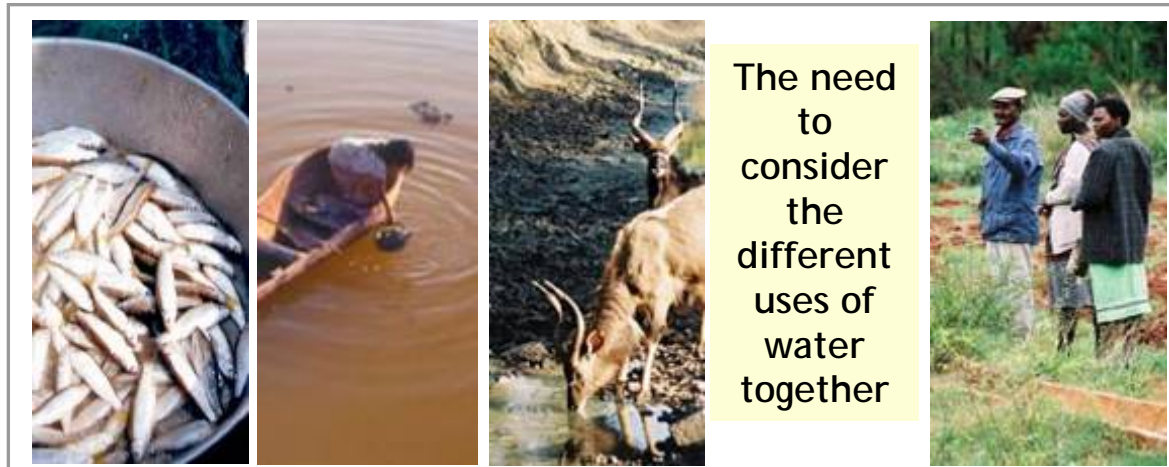


7. IWRM & CC

What is IWRM?

The basis of Integrated Water Resources Management (IWRM) is that different uses of water are interdependent.

The GOAL is the sustainable management and development of water resources.



What is IWRM? -2-

Integrated management means that all the different uses of water resources are considered together.

Water allocations and management decisions consider the effects of each use on the others. They are able to take account of overall social and economic goals, including the achievement of sustainable development.



... for future generations ...

Question



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Why IWRM?

Urgency for action

Water is vital for human survival, health and dignity and a fundamental resource for human development. The world's freshwater resources are under increasing pressure.

Water governance crisis

Sectoral approaches to water resources management have dominated in the past and are still prevailing. This leads to fragmented and uncoordinated development and management of the resource.



Increased competition

Increased competition for the finite resource is aggravated by inefficient governance.

Why IWRM? -2-



Securing water for people

One fifth of the world's population is without access to safe drinking water and half of the population is without access to adequate sanitation.



Securing water for food production

Over the next 25 years, food will be required for another 2–3 billion people.



Protecting vital ecosystems

Aquatic ecosystems depend on water flows, seasonality and water table fluctuations and are threatened by poor water quality.

Why IWRM? -3-



Gender disparities

Water management is male-dominated. Though their numbers are starting to grow, the representation of women in water sector institutions is still very low.

Who decides?

Decisions on water supply and sanitation technologies, locations of water points and operation and maintenance systems are mostly made by men.

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Water management principles

The Dublin principles have formed the basis for much of the subsequent water sector reform.



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



Water development and management should be based on a **participatory approach**, involving users, planners and policy makers at all levels.



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



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

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The water users

Agriculture
Water supply and
Wastewater
Mining and Industry
Environment
Fisheries
Tourism
Energy
Transport



Each of the water uses identified above has valuable positive impacts.

Most also have negative impacts, which may be made worse by poor management practices, lack of regulation or lack of motivation due to the water governance regimes in place.

Priorities

Each country has its own priorities for its developmental and economic goals.

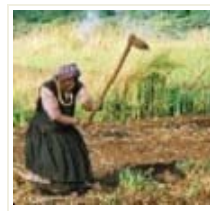
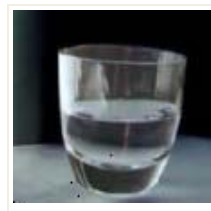
The water users -2-

Social and economic benefits from water use sectors.

Obvious benefits include food production, energy production, drinking water, jobs, recreation, etc. However, the relative value of these benefits is more difficult to assess.



Benefits of IWRM to the sectors?



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The process: Implementing IWRM

The challenge to conventional practises
The case for IWRM is strong. The problem for most countries is their long history of sectoral development.



As the Global Water Partnership puts it:
“IWRM is a challenge to conventional practices, attitudes and professional certainties. It confronts entrenched sectoral interests and requires that the water resource is managed holistically for the benefits of all.”

IWRM is, above all, a philosophy.

The process: Implementing IWRM -2-



Negotiating differences

All of this implies change, which brings threats as well as opportunities. There are threats to people's power and position and threats to their sense of themselves as professionals.



IWRM requires that platforms be developed to allow very different stakeholders – often with apparently irreconcilable differences – to somehow work together.

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Policy and legal framework

An overall plan

An overall plan is needed, including

- A new water policy;
- Reform of water law and institutions;
and
- Making the hard decisions.

Water legislation converts policy into law and should:

- Clarify the entitlement and responsibilities of users and water providers;
- Clarify the roles of the state in relation to other stakeholders;
- Formalise water allocation system;
- Provide legal status for water management institutions of government and water user groups; and
- Ensure sustainable use of the resource.



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Key WRM functions

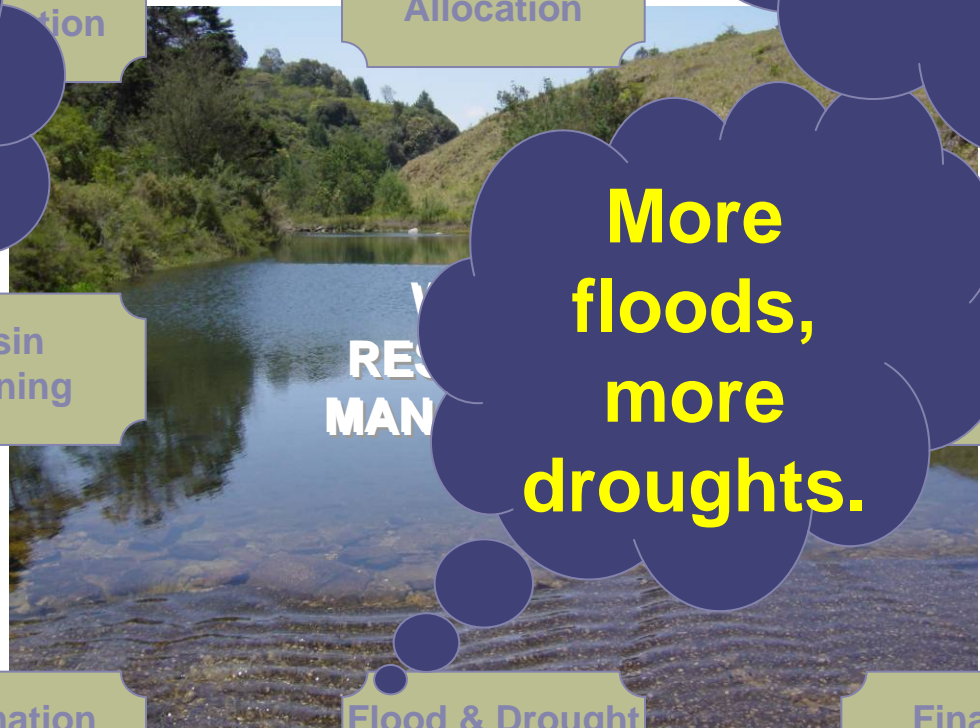


**Action:
Reallocation,
efficient use.**

**Action:
Risk
assessment,
adaptation.**

**More water,
less water.**

**More
floods,
more
droughts.**



holder
tion

Water
Allocation

Basin
Planning

oring

Information
Management

Flood & Drought
Management

Financial
Management

WATER
RESOURCES
MANAGEMENT

IWRM can help adaptation to climate change -3-



- Better water management makes it easier to respond to changes in water availability.
- Basin planning allows for risk identification and mitigation.
- Stakeholder participation helps in mobilization for action, risk assessment.
- Good management systems allows the right incentives to be passed on to water users.