

BUILDING RESILIENCE TO CLIMATE CHANGE THROUGH WATER SECURITY : INTEGRATED APPROACHES

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GWP VISION : A water secure world

- Sufficient clean water for all life – for human society and for the ecosystems of which we are part
- Security for all the economic sectors which consume or harness water - agriculture, energy, industry, domestic water supply, tourism . . .
- Security from droughts, floods, landslides, water-borne diseases – all the negative aspects of water
- Improved quality of life, health and well-being for the most vulnerable groups, especially women and children
- Improved transboundary co-operation

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Framing the climate change challenge

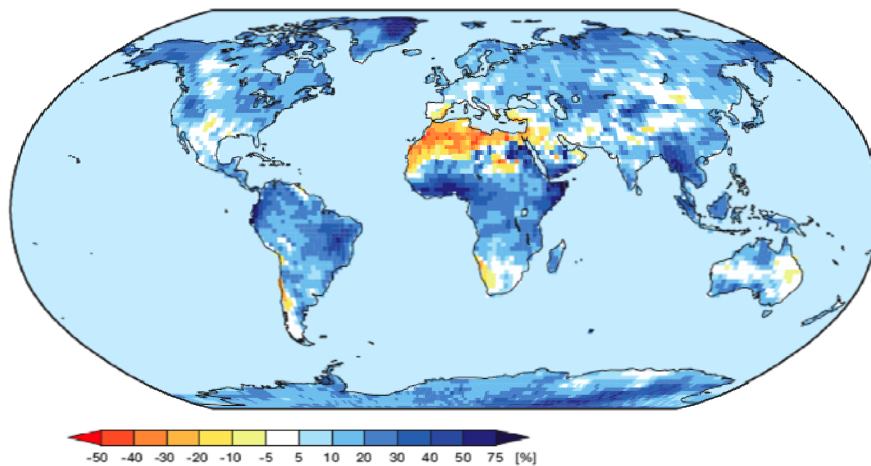
- Overall impacts of climate change on freshwater resources expected to be negative
- Intensifying existing challenges to water security
- Droughts, floods, more intense and more frequent storms
- But there is much that is not yet well understood
 - Beyond increased temperatures : rainfall changes, effects on river flows and groundwater recharge, soil moisture
 - Specific challenges of snow and glacier melt
 - Interseasonal and interannual variability
- Adaptive management is needed to respond to these dynamics

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Risk hotspots over a 100-year period (Scenario A1B)

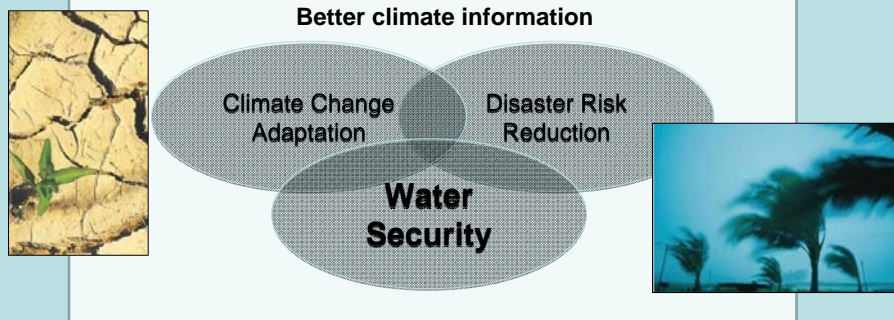
Percentage changes in annual extreme precipitation



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**A “no-regrets” strategy for climate change adaptation :
Building resilience through water security**



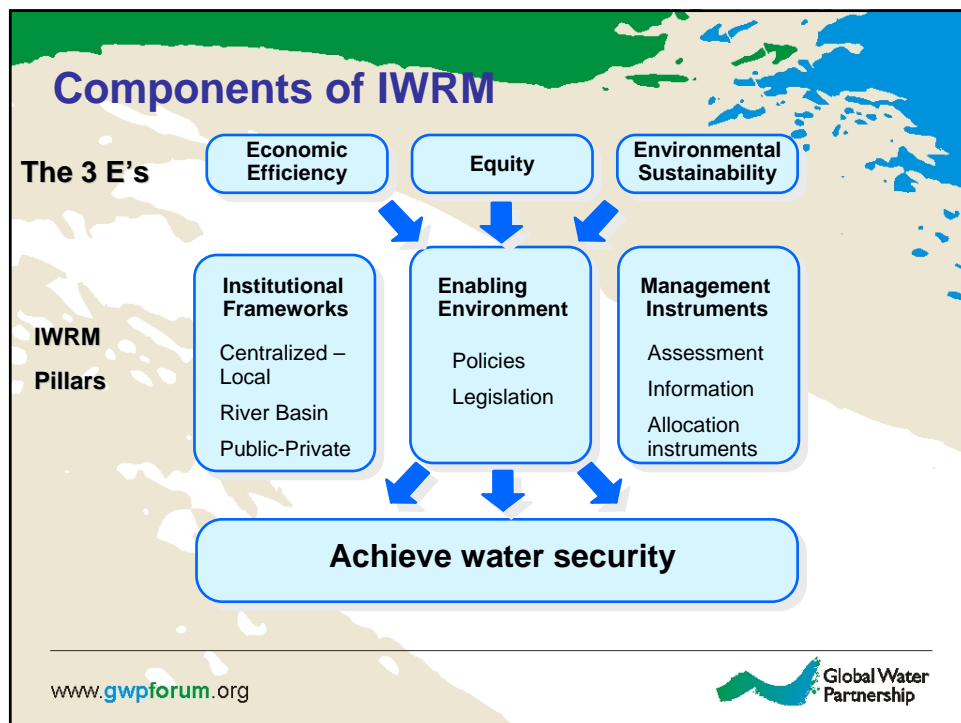
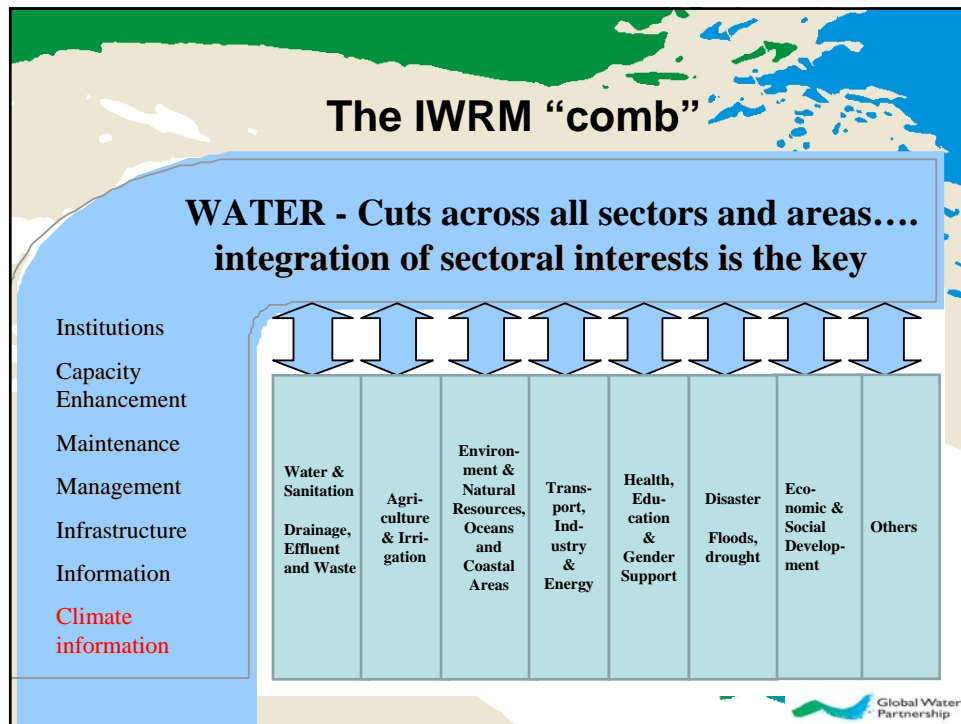
- **Better climate information** : more detailed, more timely
- **Innovative and cross-sectoral** approaches to floods, droughts and chronic water scarcity
- **Adaptive management** developed through IWRM processes rather than single-sector processes

Integrated Water Resources Management

An approach that reflects the need to achieve a balance among:

- Economic efficiency
- Social equity
- Environmental sustainability





GWP : the IWRM ToolBox

- **Purpose**

- *IWRM knowledge sharing and dissemination tool available to all*

- **Components**

- *Tools (54 tools – guidelines on how to implement IWRM);*
- *Case studies (193 cases – illustrating how tools work in practice);*
- *References (178 references – support documents, manuals, papers, and external IWRM knowledge databases)*
- **FIND IT AT :**
- www.gwptoolbox.org

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A screenshot of the GWP ToolBox website. The header includes the GWP logo and the text "Global Water Partnership ToolBox Integrated Water Resources Management". A navigation bar contains links for HOME, IWRM, WHAT IS TOOLBOX?, and ABOUT GWP. The main content area is titled "Home > IWRM" and contains a paragraph about the IWRM concept, followed by a section for "CASE STUDIES BY REGION" with a list of regions including Africa, Asia, and Europe. A green banner at the bottom of the screenshot contains the text "GWP ToolBox : on-line IWRM library" and "Visit us at www.gwptoolbox.org".

Global Water Partnership
ToolBox
Integrated Water Resources Management

What's new:
This is the 3rd
database on IWRM
Stockholm Water
New publication
Governance (GWP)
[read more...](#)

HOME IWRM WHAT IS TOOLBOX? ABOUT GWP

Home > IWRM

TOOLBOX

- A THE ENABLING ENVIRONMENT
- B INSTITUTIONAL ROLES
- C MANAGEMENT INSTRUMENTS

CASE STUDIES BY REGION

- Africa
- Asia
- Europe

IWRM

The extent of crisis in water resources management is well known, but how to deal with it is more difficult. If effective, long lasting solutions to water problems are to be found a new water governance and management paradigm is required. Such a new paradigm is encapsulated in the IWRM concept, which has been defined by GWP as 'a process which promotes the coordinated development and management of water, land and related resources in order to maximise the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems' (Technical Advisory Committee 2000).

IWRM explicitly challenges conventional water development and management systems. It starts with the recognition that traditional top-down, supply led, technically based and sectoral approaches to water management are imposing unsustainably high economic, social and ecological costs on human

GWP ToolBox : on-line IWRM library
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Some key international events

- The United Nations Conference on Water in the Mar del Plata, Argentina, March 1977;
- International Conference on Water and Environment, Dublin, January 1992;
- United Nations Conference on Environment and Development, Rio de Janeiro, June 1992;
- The World Summit on Sustainable Development, Johannesburg, 2002 – established the “IWRM mandate” requiring all countries to develop IWRM plans and water efficiency plans by 2005

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Guiding Principles of IWRM

(Dublin 1992; Rio 1992; JPOI 2002; GWP Strategy 2009-2013)

1. Freshwater is a finite vulnerable resource, essential to sustain life, development & the environment
2. Water development & management should be based on a participatory approach, involving users, planners, and policy makers at all levels
3. Women play a central role in the the provision, management and safeguarding of water

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Guiding Principles of IWRM

(Dublin 1992; Rio 1992; JPOI 2002; GWP Strategy 2009-2013)

4. Water is a public good and has a social and economic value in all its competing uses.
5. Integrated water resources management is based on the equitable and efficient management and sustainable use of water and recognises that water is an integral part of the ecosystem, a natural resource, and a social and economic good, whose quantity and quality determine the nature of its utilisation.

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From the 2008 UN-Water report on IWRM

- There has been some recent improvement in the IWRM planning process at national level. Much more needs to be done to implement the plans.
- Of the 53 countries for which comparison was made between the GWP survey (2005) and the UN-Water survey (2008) the percentage of countries having plans completed or under implementation has risen from 21% to 38%.
- On this measure the Americas have improved most – from 7% to 43%;
the comparable changes for Africa were 25% to 38% and for Asia from 27% to 33%.

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A host of integrated approaches

ICM – Integrated Catchment Management

ICZM – Integrated Coastal Zone Management

IFM – Integrated Flood Management

ICARM – Integrated Coastal and Riverbasin Management

IWRM – Integrated Water Resources Management

.. .. Sustainable Development is inherently a cross-sectoral process

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So where to from here?

- Urgent need to climate-proof water resources development and management
- Where SEA is embedded in national legislation, use SEA to help move WRM towards IWRM
- Where national IWRM plans exist, harmonize them with national adaptation plans
- Mainstream both water and adaptation strategies into development plans and strategies

... Towards a new era of climate-sensitive development

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