
Integrated Water Resources Management (IWRM)



**The complex water
resources challenges facing
the world demand a broad
and coordinated range of
responses.**

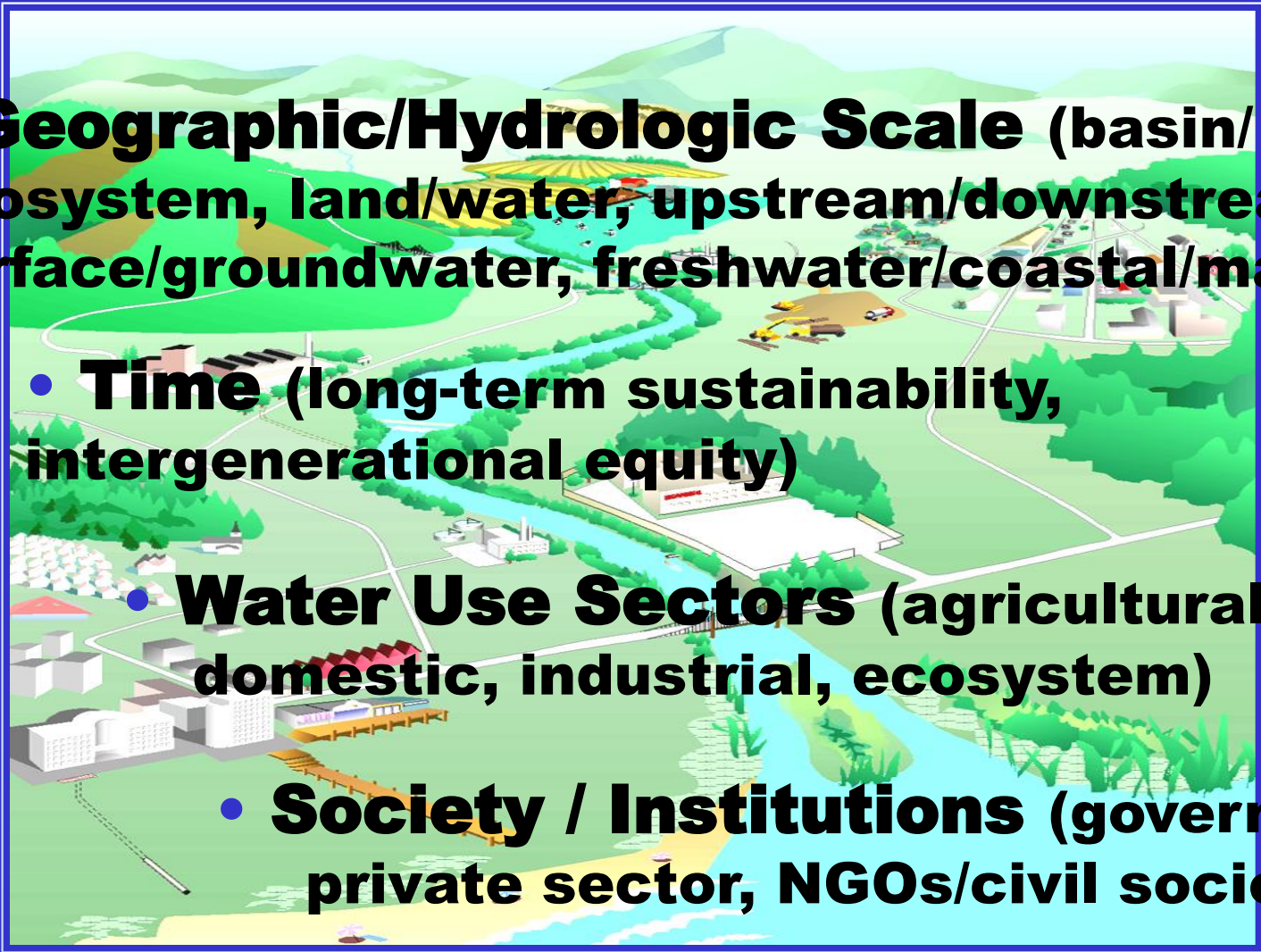


The Integrated Water Resources Management (IWRM) Approach

IWRM recognizes the fundamentally interconnected nature of hydrological resources, and promotes an alternative to a sector-by-sector, top-down management style.



What's Integrated About IWRM?

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- **Geographic/Hydrologic Scale** (basin/ecosystem, land/water, upstream/downstream, surface/groundwater, freshwater/coastal/marine)
 - **Time** (long-term sustainability, intergenerational equity)
 - **Water Use Sectors** (agricultural, domestic, industrial, ecosystem)
 - **Society / Institutions** (government, private sector, NGOs/civil society)

The Foundation of IWRM: Good Governance and Sound Science

**IWRM provides
a framework in which the competing needs
of multiple users and stakeholders
can be explicitly analyzed
and addressed, in a transparent,
systematic and participatory way.**



Supply Side

Water storage: multipurpose and small dams, and cisterns

Wells

Soil moisture and rainwater harvesting

Pollution prevention-brown water

Technology: desalination and RO



Demand Side

Policy reform and laws

Cost of water

Public education

Efficiency and conservation

UFW

Appropriate crops

Water rights trading

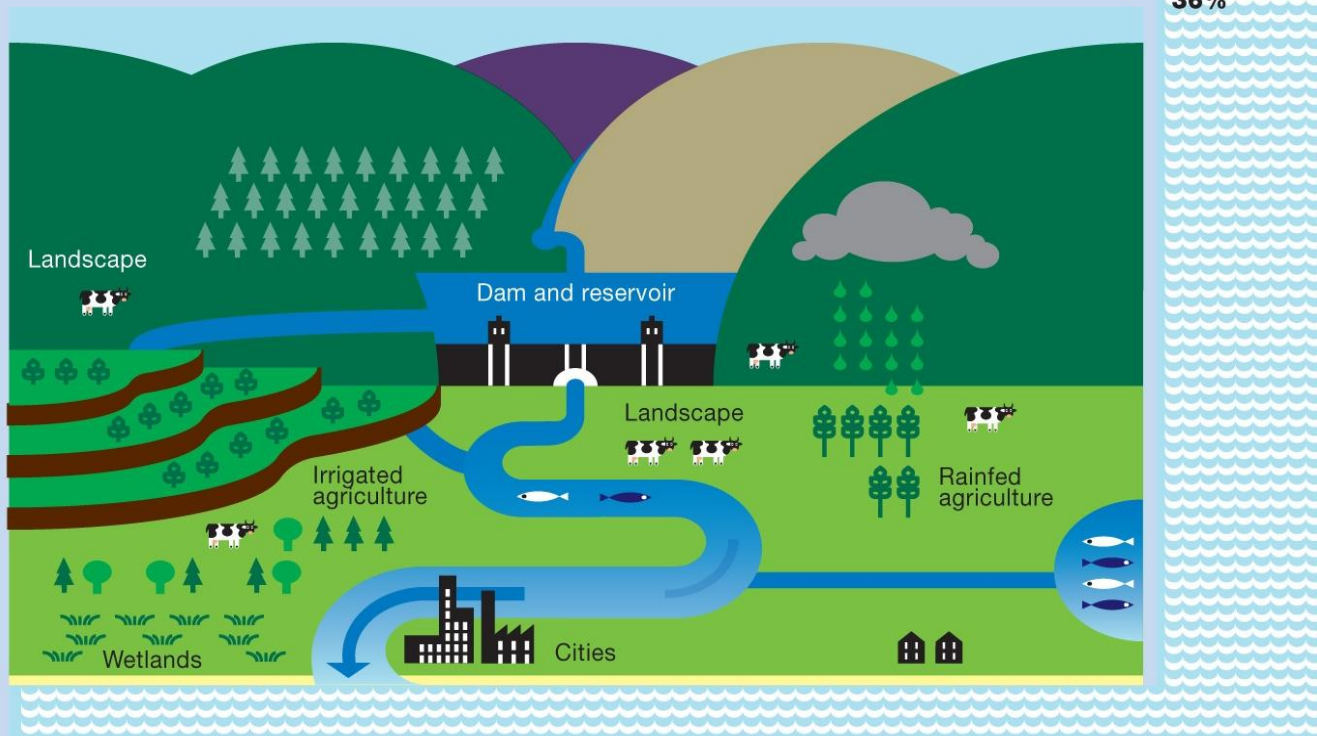
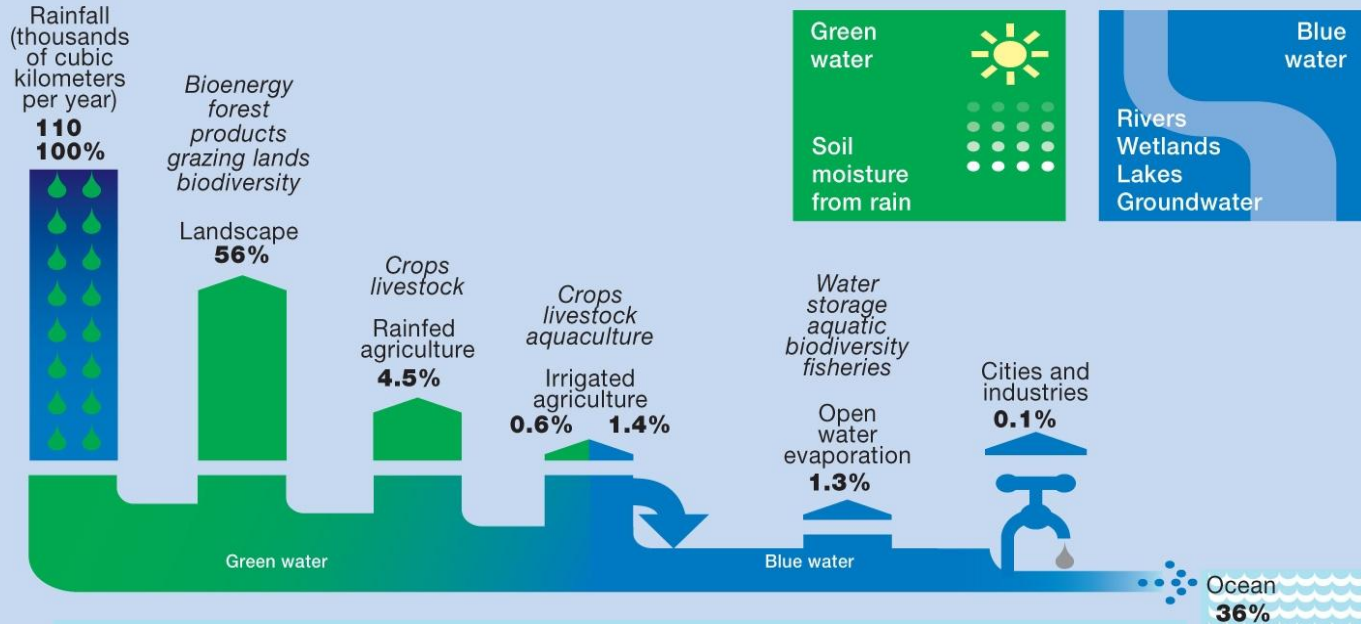


Common Approaches

- **Basin-scale Perspective / “Ridge-to-Reef”**
- **Supply-Side and Demand-Side Management**
- **Cross-Sectoral Program Design (agriculture-nature, municipal-industrial, water-energy)**
- **Improved Institutional, Policy and Legal Framework (User pays / Polluter pays, Cost Recovery, Water quality standards)**
- **Integrated Information Management and Application in Decision-Making**
- **Participatory Processes**

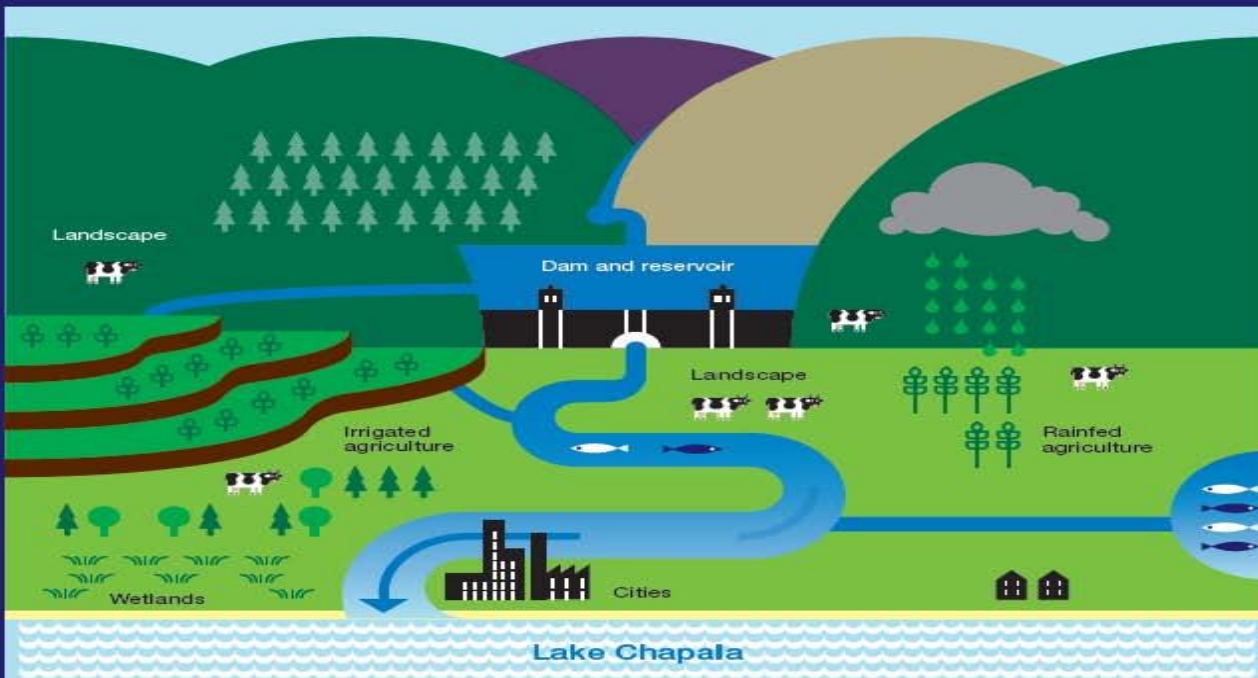
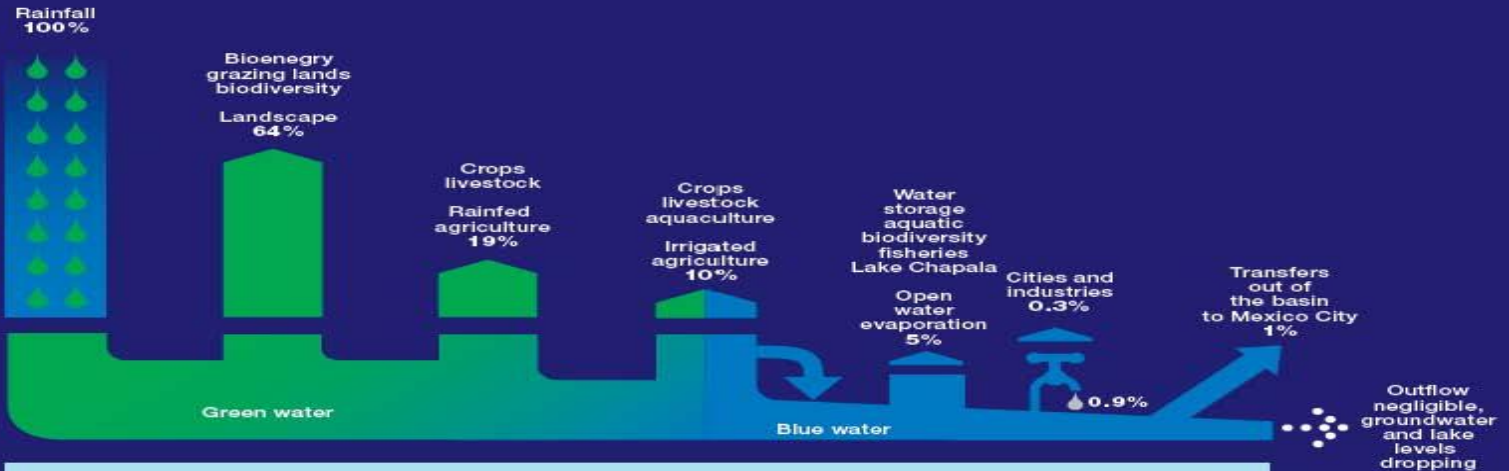


Global water use



Water use and productivity in a river basin

Lerma-Chapala Basin, Mexico
 (average annual basis)



Climate Change

- **Lack of coherent information and data**
- **Water management arrangements that do not build in flexibility**
- **Lack of coordination of water management plans and strategies**
- **Lack of capacity to adapt to CC through water management**
- **Social and economic drivers**



Fragility and Instability

CMM 2010 Alert List

Table 1.1. Six Climate Threats, and the 12 Countries Most at Risk

Low Income
 Middle Income
 High Income

<i>Drought</i>	<i>Flood</i>	<i>Storm</i>	<i>Coastal 1m</i>	<i>Agriculture</i>
Malawi	Bangladesh	Philippines	All low-lying Island States	Sudan
Ethiopia	China	Bangladesh	Vietnam	Senegal
Zimbabwe	India	Madagascar	Egypt	Zimbabwe
India	Cambodia	Vietnam	Tunisia	Mali
Mozambique	Mozambique	Moldova	Indonesia	Zambia
Niger	Laos	Mongolia	Mauritania	Morocco
Mauritania	Pakistan	Haiti	China	Niger
Eritrea	Sri Lanka	Samoa	Mexico	India
Sudan	Thailand	Tonga	Myanmar	Malawi
Chad	Vietnam	China	Bangladesh	Algeria
Kenya	Benin	Honduras	Senegal	Ethiopia
Iran	Rwanda	Fiji	Libya	Pakistan

An aerial photograph showing a large body of dark blue water on the right side, meeting a lighter blue area. A central landmass with a dark, forested or vegetated area is visible. To the left and bottom, there are sandy or light-colored areas, possibly beaches or dunes. The text "THANK YOU" is overlaid in the center of the image.

THANK YOU