



Ecosystem-based Integrated Water Resources Management (IWRM)

Module 5: Legal and Institutional Arrangements

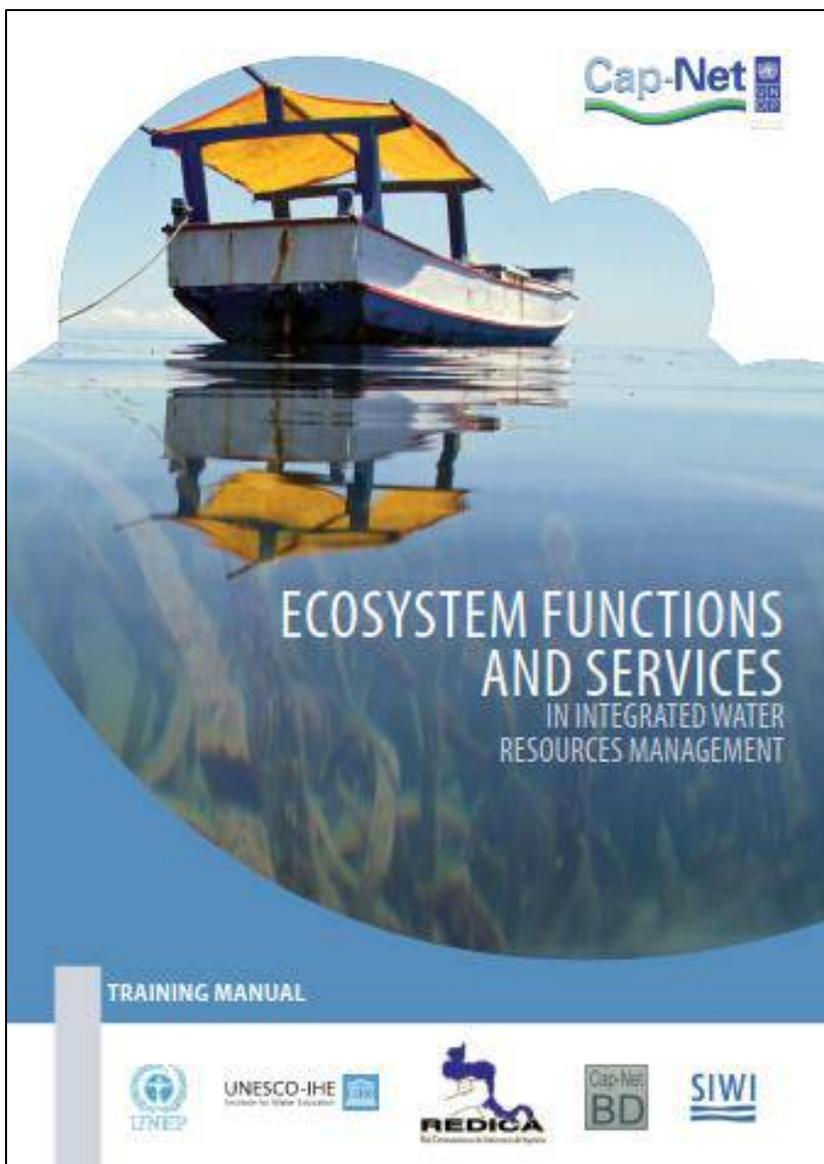


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Photo: Author, 2012



Learning objective of this module

Understand how governance and administrative structures as well as laws and institutions can be used to integrate an ecosystem approach into IWRM.



Why is integrating ecosystem-based IWRM difficult?



Common institutional barriers and opportunities for integrating an ecosystem approach

- Institutions do not exist at the appropriate scale to properly control ecosystem stocks and flows.
- Scale mismatches are also caused by ineffective linkages between organizations that have roles to play in ecosystem conservation.
- Decisions can be based on information acquired at the wrong scale.





Challenges for major institutional restructuring

- Proposing significant changes to an organizational structure or establishing public institutions can be resource intensive and difficult.
- Various approvals are needed at different levels of government, such as approval from (i) parent ministries (such as a ministry responsible for water resources); (ii) ministries and/or departments responsible for public service management; and, (iii) ministries of finance.
- The resistance of organizational traditions becomes a key barrier.
- Sometimes stifled by individuals or departments that may lose power.



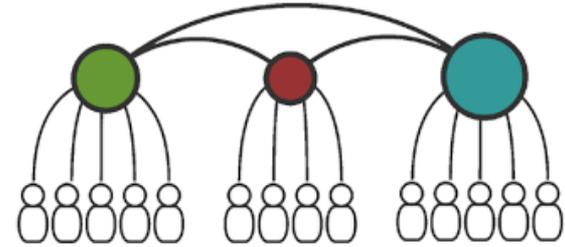


What are some ways to overcome these barriers and challenges?



Using decentralized structures to affect change

- River basin organizations (RBOs) at the national level are one form of decentralized water management.



- The purposes of the decentralization effort can be defined as
 - Effectiveness of measures and efficiency of execution is usually seen when tasks (and decisions related to these tasks) are devolved to the lowest level at which they can be carried out
 - In water management this has been seen to create transparency and to stimulate public accountability through participation and appeal procedures that are accessible to users and other stakeholders
 - Local-level structures are responsive to changes and demands from stakeholders in a timely manner



Legal options for integrating an ecosystem approach

- International and regional agreements including conventions, multilateral environmental agreements and transboundary agreements;
- National-level legal instruments including the national constitution; framework environmental laws; and sectoral laws (e.g. water law, regulations and standards);
- Local government laws and regulations; and
- Customary laws.



Laws may not achieve their intended purpose due to

- lack of political will,
- failure to anticipate the costs of effective implementation,
- failure to recognize the limitations of legal reform in bringing about social and economic change,
- lack of understanding of the law by stakeholders, and
- weak judicial institutions.

International and regional agreements: conventions, multilateral environmental agreements, and transboundary agreements

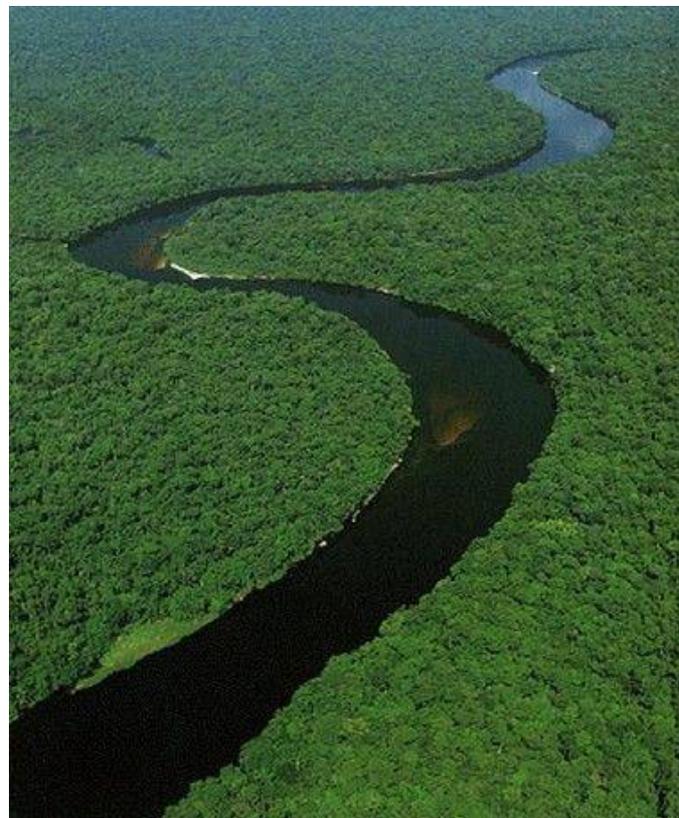


- Examples of UN entitled conventions
 - 1992 Convention on Biological Diversity
 - 1982 United Nations Convention on the Law of the Sea
 - 1992 United Nations Framework Convention on Climate Change
- For multilateral agreements or conventions to become ratified, the signatory state is required to comply with its constitutional and other domestic legal requirements.
- This act of ratification, depending on domestic legal provisions, may have to be approved by the legislature, parliament, the Head of State or a similar entity.



Regional and transboundary agreements

- The SADC Protocol on Shared Watercourses 2000, the Nile Basin Initiative (NBI) and the Niger Basin Authority (NBA) are good examples in Africa of riparian states and stakeholders developing shared visions for water and development, while integrating international legal norms, such as prior notification and causing no significant harm (UNEP, 2007).





The general principles of law recognized by civilized nations

- UN conferences that produced declarations and principles are
 - 1972 Conference on the Human Environment (**'Stockholm Conference'**) and
 - the 1992 United Nations Conference on Environment and Development (**'UNCED'**) in Rio de Janeiro.
- Three principles especially deserve attention:
 - the precautionary principle;
 - the prevention principle; and
 - the polluter pays principle.





Precautionary Principle

Principle 15 of the 1992 Rio Declaration “In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”

Prevention Principle

The prevention principle is premised on experience and scientific evidence that shows that prevention of harm is the **‘golden rule’ for ecosystems, for both ecological and economic** reasons.

Polluter Pays Principle

According to the **‘polluter pays’ principle** the environmental costs of economic activities, including the cost of preventing potential harm, should be internalized rather than imposed upon society at large.



National-level legal instruments

- National constitution: provide a source of environmental law that is useful for protecting ecosystems by recognizing environmental rights. A number of countries have embedded the right to a healthy environment and access to clean water in their constitutions.
- Environment law framework: is a single law that provides the legal and institutional framework for environmental management without seeking to legislate comprehensively. It represents an integrated ecosystem-oriented legal regime that leads to a holistic view of the ecosystem, the synergies and interactions within it, and the linkages in environmental stresses and administrative institutions.
- Sectoral law: water law, regulations and standards such as Minimum instream and environmental low criteria for rivers, Water quality standards, and Eluent discharge limits.



WWF Local government laws and regulations

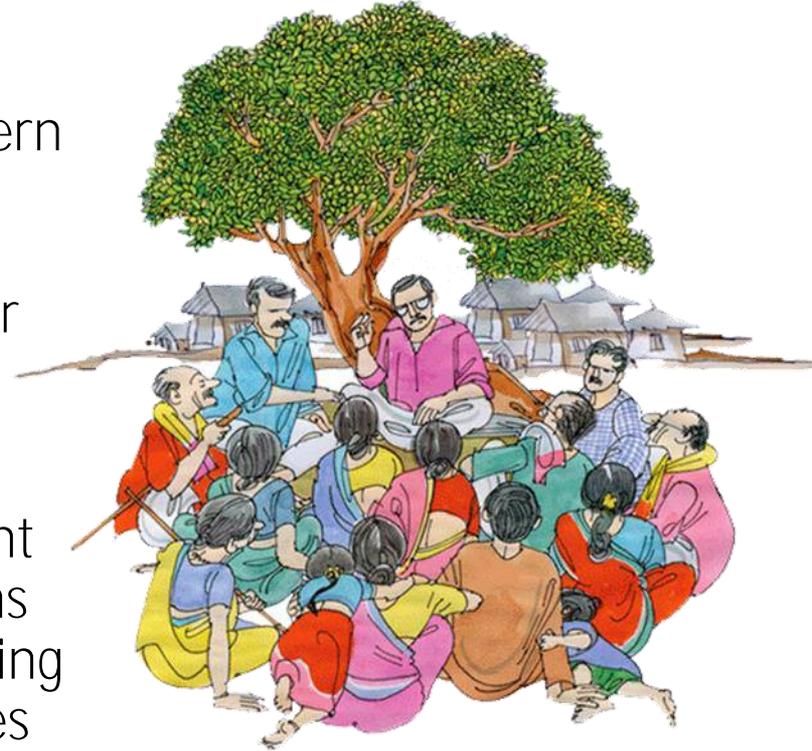
- In some countries, administrative units (such as provincial governments and municipalities) set their own legal provisions that define levels of pollution and appropriate land uses. These should be analysed in the same way as sectoral law.





Customary laws

- Customary law is commonly used to govern water withdrawals and water sharing arrangements of rural communities and water user associations (such as those for irrigation) found therein.
- It is important to ensure that enforcement institutions are educated in the provisions of national water law, so that in the crafting or discharge of customary law, differences with other legal systems are minimized.





How does IWRM help promote an ecosystem-approach?



IWRM principles provide two types of entry points that a water manager or organization can use to promote ecosystem protection.

- The first is that they present a legal basis obliging water authorities to protect ecosystems.
- The second is that they provide a basis for engaging stakeholders and making use of stakeholder platforms to apply political and accountability pressure on water authorities to show how well they are protecting ecosystems.



Stakeholder engagement and public participation

- In order to develop a strategy to engage stakeholders, the leading or facilitating institution or individual should carry out institutional mapping. This includes analysing where the sources of power and funding reside (especially in government departments) that could be used to support an ecosystem management programme.
- The following must be established for organizations that have power and funding to influence an ecosystem management programme:
 - Relationships between such organizations
 - Interests
 - Rules governing their behaviour, including decision making procedures





Case Study: Stakeholder Engagement

- **Jamaica's** high density tourism industry has put heavy demands on the **country's water resources** and presented challenges including causing a scarcity of potable water, as well as degrading water quality and destroying mangroves, wetlands and reefs.
- An environmental management system was implemented in over 30 hotels throughout the island.
- They installed water conservation devices, drip irrigation and low-pressure sprinkler systems, sub-meters to monitor water use in key areas, and they implemented voluntary towel reuse programmes.
- These measures contributed to water savings of over 41.4 million imperial gallons among participating hotels while also reducing energy and chemical use.
- project also demonstrated the financial benefits of water conservation, as participating hotels reported an average savings of US\$913 per room after implementing conservation measures.



Case studies and examples

1. Chindwin Basin
2. Bago Basin



Conclusions

- Institutional arrangements for water management can cause barriers for incorporating an ecosystem-based approach into water management. But when institutional barriers are analysed and well understood, for example through legal analysis and stakeholder mapping, strategies can be devised to overcome them.
- There are diverse opportunities and entry points for incorporating ecosystems into water management that include:
 - holding managers accountable for implementing existing regulations or international treaties to which a country is party to;
 - and using public campaigns to force water authorities to take action for ecosystem conservation.