



The Ecosystem Approach to Water Management

The ecosystem approach to water management complements the current thinking on Integrated Water Resources Management. The approach builds on the consensus that has been reached during the decade after 'Dublin' and 'Rio'. This consensus can be summarized in seven principles of modern water management¹.

The principles of water management

Equity - water management activities equitably distribute the costs and benefits from water resources use and management and explicitly aim to alleviate poverty and create gender balance.

Efficiency - management promotes the most efficient use and reflects the full value of the resource, including market, ecosystem and socio-cultural values.

Sustainability - the water management regime is self-sustaining and readily adapts to changing conditions.

Legitimacy - water management institutions have a sound legal basis and their decisions and actions are seen as legitimate and fair by all stakeholders.

Accountability - policies and practice, and roles and responsibilities lead to efficient, fair and legitimate uses of water resources and the different stakeholders are accountable for their actions.

Subsidiarity - decision-making authority is devolved to the lowest appropriate level along with the power and resources to make and implement these decisions.

Participatory - all stakeholders are given the opportunity to participate in water resources planning and management decision-making and to become involved in reducing water conflicts.

The logic of the Ecosystem Approach

- Water resources are derived from a catchment or river basin ecosystem;
- The ecosystem provides goods and services, such as fresh water, to users and uses;
- To maintain these goods and services, ecosystems need to be protected and wisely managed, which includes the need to allocate water to ecosystems such as forested slopes and downstream floodplain wetlands;



- Protection of goods and services also requires preventing the negative impacts of land-use, agriculture, industry, mining and urban areas on water bodies;
- It further requires maintaining the river's lateral and longitudinal connectivity to floodplains and upper catchment areas respectively;
- Re-allocating water and protecting water sources puts restriction on other land and water uses and can lead to conflicts of interests as well as opportunities for benefit sharing and cooperation.

The measures for sustainable water management

The ecosystem approach can generate clear benefits to people, organisations, companies and societies. The following measures are part of an ecosystem approach to water management:

I. Combine water and land management in catchments and river basins

Land and water resources are connected and therefore cannot be managed separately. Maintaining or restoring land and water resources is critical. Actions include:

- Protect critical mountain slopes, wetlands and forests to maintain springs and control soil erosion;*
- Leave enough water in rivers to maintain or restore downstream ecosystems and their benefits;*
- Restore ecosystems, springs and aquifers that are vital for water sources.*

II. Address pollution

Pollution remains a major threat to people's and ecosystem's health. Actions to improve water supply and sanitation need to be directly linked to the reduction and prevention of pollution. Actions are:

- Implement basin-wide point-source pollution treatment and prevention plans;*
- Develop financial, legal and institutional incentives for non-point source pollution prevention;*
- Build capacity and technical support for demand-side water management.*

III. Conserve aquatic biodiversity

The importance of aquatic ecosystems for the hydrological cycle, biodiversity and livelihoods must be recognised. Their protection must be incorporated in basin and water management. Actions are:

- Maintain or restore migratory pathways of freshwater species through improved design or retrofitting of infrastructure;*
- Integrate wetland protection and wise use into water resources and land use planning.*

More information ?

Visit <http://www.iucn.org/themes/wani> or send an email to waterandnature@iucn.org.