Ecosystem Approach for the Management of Water Resources

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Facts

• Scientific evidence shows that ecosystems are under unprecedented pressure, threatening prospects for sustainable development.
• 60% of the 24 ecosystems examined by the Millennium Assessment (MA) are being used in unsustainable manner.
• Humans have changed ecosystems more rapidly and more extensively during the past half century than ever before.
CONSTITUENTS OF WELL-BEING

Security
- Personal safety
- Secure resource access
- Security from disasters

Basic materials for good life
- Adequate livelihoods
- Sufficient nutritious food
- Shelter
- Access to goods

Health
- Strength
- Feeling well
- Access to clean air and water

Good social relations
- Social cohesion
- Mutual respect
- Ability to help others

Source: Millennium Ecosystem Assessment
Rivers, lakes and aquifers that are contaminated with municipal and industrial waste not only harm susceptible species of animals and plants and biodiversity in general, but can also affect people and communities who are dependent on those resources to meet their freshwater requirements.
Challenge

The core water challenge facing most governments today, from the local to the international levels, is how to realign the availability of water with human and economic-based demand at levels that maintain ecosystem integrity and environment sustainability.
Draw backs of IWRM

• Governments faced difficulties to implement IWRM due to the complex scientific, socioeconomic and financial elements to be considered.

• Less attention has been given to “environmental and ecological sustainability” and resulting ecosystem services.

• IWRM must balance all ecosystem services to be most effective.
An ecosystem approach to WRM

• Ecosystem Approach is a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way (CBD).

• An integrated ecosystem approach is therefore crucial to maintaining both ecosystem and human health and ensure the sustainability of water supply.
IWRM/Ecosystem Approach

• Water management has traditionally focused on specific factors directed more toward individual concerns such as water pollution, water supply etc.

• The value of an ecosystem approach results in the fact that it focuses on the broader goal of balancing and sustaining ecosystem services as a prerequisite for meeting these sector needs.
Ecosystem Based Management (EBM)

• An EBM can facilitate and integrate actions to meet multiple societal goals:
  – Finding balance between different water users and uses
  – Preserving water use opportunities(services)
  – Integrating water quality and quantity
  – Merging aquatic and terrestrial concerns.
Steps for Implementation

• Successful implementation should involve four steps:
  1. Making the case;
  2. Generating knowledge;
  3. Turning knowledge to action;
  4. Monitoring, evaluation and feedback.
Making the Case

• Conduct regional and national awareness-raising campaign on the concept of “place-based” ecosystem management and on ecosystem services, their interlinkages, and their relationship to human well-being;
• Facilitate rapid assessment of the links between key ecosystem services at the national and regional levels;
Generating Knowledge

- Implementation of ecosystem approach would need to:
  - Establish networks for data and information exchange on ecosystem service;
  - Facilitate or undertake ecosystem level assessment;
  - Identify relevant ecosystem services and their relation to human well-being;
  - Identify the direct and indirect drivers of ecosystem change;
  - Develop plausible scenarios based on the impacts of direct and indirect drivers over time;
  - Build capacity to undertake economic valuation of ecosystem services.
• Determine which services have priority;
• Develop effective intervention strategies;
• Ensure equitable access and use of ecosystem services by all stakeholders
Monitoring, evaluation and feedback

- Offer technical support for the development and review of indicators of ecosystem service delivery;
- Facilitate review of the delivery of ecosystem services against established baselines;
- Facilitate and build capacity to develop and implement feedback mechanisms.
THANK YOU FOR YOUR ATTENTION

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