

The background of the slide features the United Nations Environment Programme (UNEP) logo, which consists of a blue laurel wreath encircling a globe. Below the wreath, the word "UNEP" is written in large, blue, serif capital letters.

Ecosystem Approach for the Management of Water Resources

Dr. Fouad Abousamra
Regional Coordinator
Ecosystem Management
UNEP-ROWA

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.

MOUNTAIN AND POLAR

Food
Fiber
Fresh water
Erosion control
Climate regulation
Recreation and ecotourism
Aesthetic values
Spiritual values

INLAND WATER Rivers and other wetlands

Fresh water
Food
Pollution control
Flood regulation
Sediment retention
and transport
Disease regulation
Nutrient cycling
Recreation and
ecotourism
Aesthetic values

CULTIVATED

Food
Fiber
Fresh water
Dyes
Timber
Pest regulation
Biofuels
Medicines
Nutrient cycling
Aesthetic values
Cultural heritage

COASTAL

Food
Fiber
Timber
Fuel
Climate regulation
Waste processing
Nutrient cycling
Storm and wave protection
Recreation and ecotourism
Aesthetic values

FOREST AND WOODLANDS

Food
Timber
Fresh water
Fuelwood
Flood regulation
Disease regulation
Carbon sequestration
Local climate regulation
Medicines
Recreation
Aesthetic values
Spiritual values

DRYLANDS

Food
Fiber
Fuelwood
Local climate regulation
Cultural heritage
Recreation and ecotourism
Spiritual values

URBAN Parks and gardens

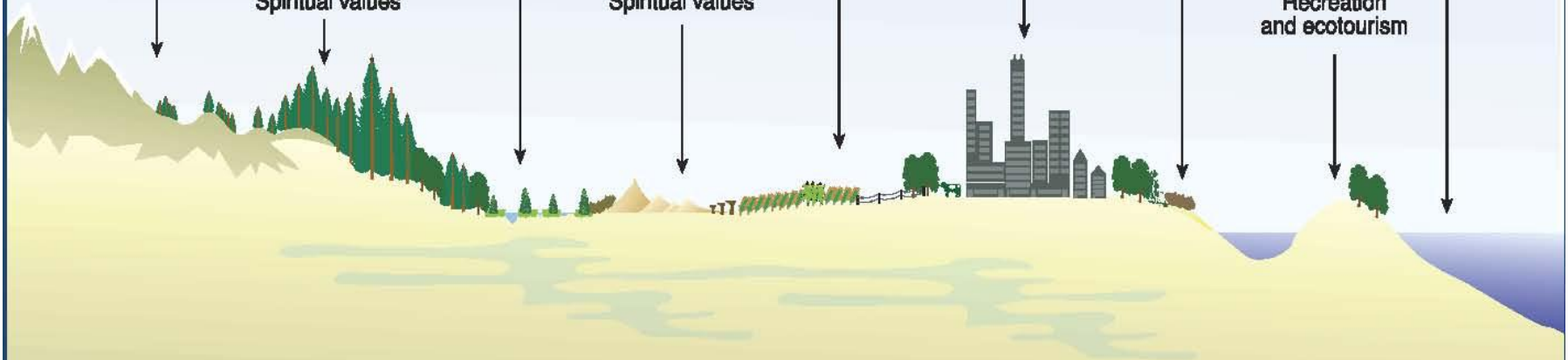
Air quality regulation
Water regulation
Local climate regulation
Cultural heritage
Recreation
Education

MARINE

Food
Climate regulation
Nutrient cycling
Recreation

ISLAND

Food
Fresh water
Recreation
and ecotourism



Source: Millennium Ecosystem Assessment



CONSTITUENTS OF WELL-BEING



Source: Millennium Ecosystem Assessment

ARROW'S COLOR
Potential for mediation by socioeconomic factors

- Low
- Medium
- High

ARROW'S WIDTH
Intensity of linkages between ecosystem services and human well-being

- Weak
- Medium
- Strong

Facts

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.

UNEP

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.

UNEP

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.

UNEP

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.

Turning Knowledge to action

- Determine which services have priority;
- Develop effective intervention strategies;
- Ensure equitable access and use of ecosystem services by all stakeholders

UNEP

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.

UNEP



THANK YOU FOR YOUR ATTENTION

Dr.Fouad Abousamra

UNEP ROWA

P.O.Box 10880

Manama, Kingdom of Bahrain

[Tel: 0097317812783](tel:0097317812783)

Fax: 0097317825111

Mail:fouad.abousamra@unep.org