

# IMPLEMENTING AN ECOSYSTEM APPROACH

## Making an Ecosystem Approach operational

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# IUCN Steps for the implementation of the CBD principles

- Step 1: Determine main stakeholders, define ecosystem area, and develop relationship between them;
- Step 2: Characterize structure and function of ecosystem, and set mechanisms to manage and monitor it;
- Step 3: Identify the important economic issues that will affect the ecosystem and its inhabitants;
- Step 4: Determine likely impact of the ecosystem on adjacent ecosystems;
- Step 5: Decide on long-term goals, and flexible ways of reaching them

From planning need to move to adoption, implementation, monitoring and evaluation

# Identification of the geographical scope for the application of an ecosystem approach

## ✓ Geographic scales, depending on:

- geophysical characteristics, socio-economic factors, relevant jurisdictional scope of governmental institutions, issues that need to be addressed

## ✓ Ecosystem boundaries:

- typically based on biogeographic and oceanographic characteristics
- encompass both the marine and the terrestrial components of the coastal zone

## ✓ Factors to take into account include:

- biogeographic characteristics
- physical oceanographic characteristics
- links between the marine and terrestrial environment
- human activities
- existing political, social and economic divisions to reduce conflicts and inconsistencies in the management process

# Identification of stakeholders

## ✓ Stakeholder analysis

- Identify all the key stakeholders with interests in the proposed ecosystem
  - Primary stakeholders - those who are most dependent upon the resource, and most likely to take an active part in managing it
  - Secondary, tertiary, etc. stakeholders – important voices which may need to be considered
- Set up a stakeholder forum to produce a base-line stakeholder report. Forum will continue to meet to provide continuous feedback to managers and policy-makers

# Scientific research and analysis of the components of the ecosystem, their interaction and functioning

## Objectives

- Assessment of ecosystem condition – carried out periodically
- Identifying ecological and operational objectives
- Identifying ecological indicators and reference points
- ✓ **Governments to support continued scientific research**
- ✓ **Human resources to be developed**
- ✓ **Results need to be broadly shared for policy purposes**
- ✓ **Linkages between science, management and policy-making need to be strengthened**
- ✓ **Use of precaution and adaptive management**

# Establishment of ecological and operational objectives

- ✓ Ecological, socio-economic and operational objectives clearly specify the state of the ecosystem to be achieved
- ✓ Relate to measurable properties of ecosystems and human societies
- ✓ Indicators and reference points to be developed to measure progress towards the objective
- ✓ Reflect interests and activities of humans
- ✓ Reflect the values and wishes of the stakeholders
- ✓ Process for identifying objectives must be inclusive and consultative

## Selection of indicators

- ✓ Indicators selected to monitor progress towards operational objectives and guide decision-making
- ✓ Indicators describe ecosystem status (including socio-economic), activity-specific ecosystem properties or impacts
- ✓ Measurable, using existing instruments, monitoring programmes and analytical tools
- ✓ Relevant to the achievement of operational objectives
- ✓ Concrete, cost-effective and easily understood by stakeholders
- ✓ Responsive to effective management action and provide rapid and reliable feedback on the consequences of management actions

# Identification of uses, pressures and management responses

## ✓ Identify uses

- fishing, navigation, minerals exploitation, oil and gas exploration and exploitation, land-based sources, tourism

## ✓ Pressures may include

- pollution by hazardous substances, microbiological pollution and nutrients over-load, marine debris, invasive alien species, physical destruction of habitats, the alteration of ecosystem structure and functioning

## ✓ Management responses

- Sectoral and integrated management
- Cumulative effects
- ABMTs, EIAs, SEAs

## **Analysis of existing legal and institutional framework and identification of gaps, overlaps and inconsistencies**

- ✓ Analysis of national legislation and institutions to ensure they supports application of an EA
- ✓ Gap analysis
- ✓ Inconsistencies reconciled
  - Supportive legislative and regulatory framework
  - Effective administration
  - Consider developing a national oceans policy
- ✓ Establish or reinforce transboundary cooperation mechanisms

## **Monitoring changes in ecosystems and the effects of management measures through indicators**

- ✓ Monitoring is essential to determine the status of an ecosystem over time and in response to natural changes and management measures
- ✓ Progress in the achievement of objectives should be evaluated regularly, through selected ecological, socio-economic indicators
- ✓ Monitoring changes in ecosystem status over time makes it possible to determine whether overall goals and objectives of an ecosystem approach have been achieved

## Adjustment of the management system

- ✓ Management systems and tools need to be adaptive, taking into account and responding to changing circumstances
- ✓ Marine ecosystems are dynamic - management should take into account natural variability as well as changes in human activities and the effects of management measures
- ✓ Results of monitoring and periodic assessments to be used to adapt and update strategies and measures to the changing situation in the ecosystem
- ✓ Scientific understanding of marine ecosystems often incomplete - managers to respond to improvements in scientific understanding
- ✓ Apply the precautionary approach in the face of uncertainties

# Compliance, enforcement and dispute resolution

- ✓ Compliance and enforcement essential to ensure adherence with relevant laws and regulations
- ✓ Monitoring and evaluation are essential for assessing compliance and need for enforcement action
- ✓ Encourage voluntary compliance and a culture of self-enforcement by user groups - stakeholders participation
- ✓ Dispute settlement mechanisms are also important to address conflict among users
- ✓ Such mechanisms can include informal (e.g. mediation and inquiry) and formal (e.g. arbitration and judicial bodies) approaches to the resolution of disputes

# Need to ensure sustainable financing

- ✓ EA has a cost, which may hamper implementation
- ✓ Sources of financing need to be sustainable
- ✓ Possible sources:
  - Taxes - most sustainable, earmarking important
  - Grants – problems with dependence and reduced sense of ownership
  - Loans – best if taken by government
  - User charges/licensing – issue of equity
  - Fines

# Public involvement, education and outreach

- ✓ Transparency, awareness-raising among the public and involvement of all stakeholders
- ✓ Advance understanding of the workings and importance of natural ecosystems and appreciation of the benefits they generate
- ✓ Stakeholders need to understand the economic and social benefits of an EA
- ✓ Educate public on the practical consequences of inappropriate behavior fosters compliance