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EXPERT MEETING ON THE  
ECOSYSTEM APPROACH  
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**PROPOSALS FOR DEVELOPMENT/REFINEMENT OF THE OPERATIONAL  
GUIDELINES OF THE ECOSYSTEM APPROACH***Note by the Executive Secretary***I. BACKGROUND**

1. Decision V/6 contains five points of operational guidance for the application of the twelve principles of the ecosystem approach, which were reviewed in document UNEP/CBD/AHTEG-EA/1/3 (Review of the principles of the ecosystem approach and suggestions for refinement: a framework for discussion). The following review, prepared by the Center for International Forestry Research (CIFOR), proposes to replace the guidance with specific operational guidelines relating to each of the principles of the ecosystem approach.

2. The five statements of operational guidance, are clearly written and coherently argued, and unlike the principles, were formally adopted in Decision V/6. They introduce important concepts into the EA, notably the concept of adaptive management. However, to some extent they overlap with and effectively repeat the content of five of the principles. Moreover, “operational guidance” is perhaps a misnomer for these 5 points, since they provide only very limited practical actions or further guidance on just how the ecosystem approach (EA) should be implemented. (The five operational guidelines, in order, merely repeat overlap with Principles 5, 4, 9, 2 and 7, and 12 respectively.) This repetition is considered to be a major weakness of the EA and is highlighted or evident in the responses from most of the case-study respondents

3. Statements of operational guidance, consistent with each principle, may need to be prepared to facilitate implementation of the EA across different regions and thematic areas of the CBD. If the ideals embodied in the principles are as fundamental as the term principle denotes, then each principle ought to be the foundation for at least one operational guideline. That there are 12 Principles but only 5 Operational Guidelines, suggests either that some of the principles are not as fundamental as is implied; that there is perhaps some redundancy among the principles; or that further development of operational guidelines from the principles is needed.

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\* UNEP/CBD/EM-EA/1/1.

4. The following section suggests a number of additional tentative operational guidelines, each linked to one of the principles proposed in document UNEP/CBD/AHTEG-EA/1/3. Some operational guidelines are drawn from Smith and Maltby (2001). The operational guidelines are neither comprehensive nor complete at this stage. In addition, the annex to this document presents a number of observations on and recommendations for the implementation of the ecosystem approach made at various workshops organised in support of the CBD Ecosystem Approach (Smith and Maltby, 2001; Korn, Schliep and Stadler, 2003). These recommendations may be useful in development and refinement of the operational guidelines.

## II. SUGGESTED OPERATIONAL GUIDELINES FOR ECOSYSTEM APPROACH PRINCIPLES

### *Theme 1. Provision of environmental goods and services*

#### **Principle 1: Ecosystem services, functions and processes** [EA Principle 5]

*Ecosystem services – the benefits people obtain from ecosystems by way of provisions, regulation of the human environment, support of biospheric processes, and inputs to culture – depend on maintaining particular ecosystem structures and functions.*

Operational Guideline 1.1 In implementing the Ecosystem Approach, focus on identifying the key relationships and processes within ecosystems.

Operational Guideline 1.2 The Ecosystem Approach should be taken into account when developing and reviewing national biodiversity strategies and action plans.

Operational Guideline 1.3 Strengthen research capacity, both individual and institutional, to undertake research and management in an ecosystem context.

Operational Guideline 1.4 Expand knowledge on the response of ecosystems, in terms of changes in composition, structure and function, to both internally and externally-induced stresses caused by, for example, harvesting, pollution, fire, introduction of alien species, and extreme variations in climate (droughts, floods).

### *Theme 2. Building consensus*

#### **Principle 2: Societal choice** [EA Principle 1]

*The objectives for managing land, water and living resources is a matter of societal choice, determined through negotiations and trade-offs among the stakeholders with different perceptions, interests and intentions.*

Operational Guideline 2.1 Effective stakeholder participation is essential if genuine societal choice is to be realised. This means working in particular to ensure the participation of otherwise marginalised groups (e.g. the poor, women, children, and ethnic minorities).

Operational Guideline 2.2 Promote a greater understanding of the connections between people and their environment and how they influence each other. Emphasise that people are an integral part of the environment, and *vice versa*.

Operational Guideline 2.3 Develop the capacity to broker negotiations and trade-offs, and manage conflicts, among different relevant stakeholder groups in reaching decisions about management, use and conservation of biological resources.

Operational Guideline 2.4 Develop policies and instruments to promote an enabling environment for society to select and implement its choices.

**Principle 3: Cross-sectoral integration** [EA Principle 12]

*The complexity of ecosystem management for sustained use and conservation requires integrating the activities and actions of many different stakeholders.*

Operational Guideline 3.1 Management of natural resources requires increased inter-sectoral communication and cooperation at different levels of government (ministry, department, agency and local authority).

Operational Guideline 3.2 The Ecosystem Approach should be an integral part of planning in agriculture, fisheries, forestry and other production systems that may affect biodiversity.

Operational Guideline 3.3 Procedures and mechanisms should be established to ensure effective participation of all stakeholders and actors in national consultation processes, decision-making on management goals and actions, and, where appropriate, in implementing ecosystem management.

**Principle 4: Diversity of information and understanding** [EA Principle 11]

*Ecosystems are multi-scale, multi-dimensional entities that can be viewed at various scales and from different perspectives, each yielding unique but complementary information and insights.*Operational

Guideline 4.1 All relevant information from any concerned area should be shared with all stakeholders and actors, taking into account, inter alia, any decision to be taken under Article 8(j) of the Convention on Biological Diversity.

Operational Guideline 4.2 Assumptions behind proposed management decisions should be made explicit and checked against available scientific and indigenous technical knowledge and the views of stakeholders.

Operational Guideline 4.3      Appropriate mechanisms should be developed to document and make more widely available information from different knowledge systems, particularly those based on local and traditional practice.

Operational Guideline 4.4      The implications for ecosystem management of different 'world views', based on different knowledge systems, should be critically assessed.

### *Theme 3. Providing incentives for management*

#### **Principle 5: Ecosystem management in an economic context** [EA Principle 4]

*Many ecosystems provide economically valuable goods and services, thus predicating the need to understand and manage ecosystems in an economic context.*

Operational Guideline 5.1      Aim to reduce those market distortions that adversely affect biological diversity.

Operational Guideline 5.2      Incentives should be designed to promote biodiversity conservation and sustainable use.

Operational Guideline 5.3      To the fullest extent possible, require that the costs of using natural resources be internalised, while ensuring that a greater share of the benefits accrue to the people who produce them.

Operational Guideline 5.4      Seek to enhance benefit-sharing.

Operational Guideline 5.5      Develop mechanisms for appropriate valuation of ecosystems goods and services, and seek to have these reflected in National Accounts.

Operational Guideline 5.6      Review current subsidies affecting land use, other market distortions, incentives, and their implications for ecosystem conservation.

Operational Guideline 5.7      Remove perverse incentives, subsidies and other market distortions that are detrimental to the conservation and sustained use of biodiversity.

Operational Guideline 5.8      Take account of the economic value and potential of key biological resources and ecosystem services in national development planning.

### *Theme 4. Balancing conservation and use of biotic resources*

#### **Principle 6: Balance between conservation and use** [EA Principle 10]

*Sustainable development requires management regimes that balance conservation of biodiversity with judicious use of natural resources.*

Operational Guideline 6.1 Natural resource managers should seek the appropriate balance between and integration of the conservation and use of biological diversity, taking into account both the long- and the short-term, direct and indirect, benefits of protection and sustainable use.

Operational Guideline 6.2 Review and where necessary revise those policy, legal, institutional and economic measures that might hinder, or alternatively promote, the sustainable use of biological resources, particularly by local communities.

Operational Guideline 6.3 Promote participatory integrated land use planning, ensuring that the full range of possible land use options are considered and evaluated.

Operational Guideline 6.4 Encourage thinking about longer timeframes in assessing land-use options and the use of natural resources (see Principle 11).

**Principle 7: Limits** [EA Principle 6]

*There are limits to the level of demand that can be placed on an ecosystem, though current ecological understanding is limited in knowing what the limits are. In such cases, a precautionary approach, coupled with adaptive management, is advised.*

Operational Guideline 7.1 Given the uncertainty associated with defining the limits to ecosystem functioning under most circumstances, the precautionary principle should be applied.

Operational Guideline 7.2 Where permissible limits to change can be agreed, manage within these but monitor and assess the ecosystem response. Feedback the information at regular intervals to those responsible for setting the offtake or other limits.

Operational Guideline 7.2 Encourage the use of environmental assessments and audits to establish ecosystem responses to disturbance.

*Theme 5. Cross-scale integration*

**Principle 8: Scale matters** [EA Principle 7]

*The driving forces of ecosystems, including those due to human activities, vary spatially and through time, necessitating management responses at appropriate scales.*

Operational Guideline 8.1 Management of ecosystems should be undertaken at the spatial and temporal scales appropriate to the objectives of management and the characteristics of the component or process being managed.

Operational Guideline 8.2 Avoid functional mismatches in the administration and management of natural resources by readjusting the scale of the institutional response to coincide more closely with that of the management issue. This logic underpins the current global trend towards decentralised natural resource management.

**Principle 9: Subsidiarity** [EA Principle 2]

*Natural resource management is best carried out at the level of the resource production system.*

Operational Guideline 9.1 Management should be decentralised to the lowest appropriate level.

Operational Guideline 9.2 Ecosystem management requires coordinated plans and actions at a number of different organisational levels.

**Principle 10: Take account of offsite impacts** [EA Principle 3]

*The open structure and connectedness of ecosystems ensures that effects on ecosystem functioning are seldom confined to the point of impact or only to one system.*

Operational Guideline 10.1 Natural resource managers should consider the possible effects that their actions could have on adjacent or downstream ecosystems.

Operational Guideline 10.2 Where impacts of management or use of one ecosystem have or are projected to have effects elsewhere, bring together relevant stakeholders and technical expertise to consider how best to minimise adverse consequences.

Operational Guideline 10.3 Require that environmental impact assessments are carried out for all developments (Convention on Biological Diversity, Article 14), and ensure that these assessments adequately consider the potential for offsite impacts.

Operational Guideline 10.4 Establish and maintain national and regional monitoring systems to measure the effects of selected management actions across ecosystems (Convention on Biological Diversity, Article 7).

Operational Guideline 10.5 Develop specific protocols and measures to address cross-border issues associated with shared ecosystems and with transboundary transfers of ecological impacts (e.g. air and water pollution).

**Principle 11: Management timeframes** [EA Principle 8]

*Time matters. Ecosystem processes function with different periodicities and time lags over a range of temporal scales. Choosing the appropriate time scale for management, depending on the problem concerned, is crucial.*

Operational Guideline 11.1 Recognising the varying temporal scales and lag-effects that characterise ecosystem processes, objectives for ecosystem management should include provisions for longer term outcomes and effects.

Operational Guideline 11.2 Monitoring is needed to detect long-term, low frequency changes in ecosystem structure and functioning.

Operational Guideline 11.3 Monitoring must be designed to accommodate the time scale for change in the ecosystem variables selected for monitoring. Alternatively, if the monitoring cannot be adjusted, select a more appropriately scaled but still relevant variable to monitor.

*Theme 6. Building adaptive capacity*

**Principle 12: Adaptive management - learning by doing** [EA Principle 9]

*Change in ecosystems is both natural and inevitable, and requires management policies and actions that, while satisfying social objectives, also promote ongoing learning and improved understanding of the changing circumstances, thereby building the flexibility and capacity to adapt to new situations.*

Operational Guideline 12.1 Natural resource managers must recognise that change is inevitable and take this into account in their management plans.

Operational Guideline 12.2 Use adaptive management practices.

Operational Guideline 12.3 Establish or strengthen the capacity of Parties to undertake long-term ecological monitoring, linked to specific management actions.

*Annex*

**IMPLEMENTING THE ECOSYSTEM APPROACH**

This section lists a number of observations on and recommendations for the implementation of the ecosystem approach made at various workshops organised in support of the CBD Ecosystem Approach (Smith and Maltby, 2001; Korn, Schliep and Stadler, 2003). These need further development.

**A. *Broad recommendations***

Creation of an enabling environment for the EA requires:

- relevant legislation and policies;
- administrative procedures to authorise the application of the EA within and across sectors and levels of decision making;
- mechanisms to inform, assist and advise on ecosystem management;
- mechanisms to monitor and assess the outcomes of ecosystem management activities;
- mechanisms to ensure that ecosystem managers are accountable for their actions; and
- multi-disciplinary and inter-disciplinary capacity within institutions.

In turn, mainstreaming the EA would require:

- Parties in neighbouring countries to seek to interpret and apply the EA in a consistent and congruent manner;
- adoption of the EA by parties to multilateral and bilateral environmental, trade, and development agreements;
- multilateral financial institutions to take account of the EA in their funding decisions;
- other initiatives undertaken in the context of the CBD to be guided by the EA; and
- an appreciation by donors that the normal project cycle is not sufficient to ensure that all aspects of the EA are institutionalised.

Creating an enabling environment and mainstreaming the EA also require communication and promotion of the EA concept. This could include additional workshops, similar to the Pathfinder Workshops, to assist governments interpret and implement the EA, and the development of regional networks of specialists competent to advise and assist governments in this process. Producing and disseminating revised and expanded guidelines, to facilitate the implementation and assessment of additional case studies and pilot projects from all regions, is a necessary first step in this regard. The CBD should continue its efforts to synthesise, publish and disseminate case studies and lessons learned.

**B. *Detailed recommendations***

In addition to these broad recommendations, a suite of more specific recommendations were made at the various workshops around the themes of building awareness, overcoming constraints and seizing opportunities, capacity building, and priority actions.



### *1. Building Awareness*

- Parties and others should use the case studies presented at the Pathfinder Workshops to illustrate the EA concept.
- Parties and others should carry out pilot projects and additional case studies to further explore the flexibility of the EA and the diversity of problems that the approach could address.
- Governments should use the EA as the basis for mainstreaming the CBD objectives into policy making.
- Parties and others should support mainstreaming of the EA and CBD into policy making (and encourage the integration of the EA into the national biodiversity strategy and action plans) by raising awareness among professionals outside the conservation sector through national workshops.
- Interested organisations should communicate the EA in short, easy-to-grasp phrases to both non-specialist policy makers and environmental specialists.
- Interested organisations should help raise awareness of Decision V/6 by referring to the decision and the definition of EA in their related work.
- All interested bodies should build awareness of the significance of ecosystem functioning to human social and economic welfare.
- Parties and others should consider identifying and developing regional centres of expertise that are able to take the lead in building awareness and capacity building for the EA.
- Interested community members should be empowered to raise awareness and understanding of the EA among their community.

### *2. Overcoming constraints and seizing opportunities*

- Parties should harmonise policies, laws and financial mechanisms to promote implementation of the EA.
- Procedures for evaluating ecosystem services should be agreed by Parties.
- Existing inter-sectoral structures, such as inter-ministerial committees, should adopt responsibility for mainstreaming of the EA into cross-sectoral decision-making.
- Parties should note that the EA is consistent with the objectives of other international environmental agreements.
- Appropriate regional protocols and administrative structures should be used to catalyse implementation of the EA, especially across borders.
- Rather than developing new institutions and legislation, governments should revise existing policies, legislation, regulations and tax structures to promote implementation of the EA.
- Relevant bodies should strive to achieve a common vision among all stakeholders when using the EA.
- Projects and other actions in support of the CBD should consider engaging communities by direct and visible coupling of projects with development efforts that deliver socio-economic improvements.
- Parties and relevant bodies should use the EA framework to ensure that international trade does not conflict with CBD objectives.
- NGOs and research institutions should develop indicators of ecosystem functioning and sustainability in conjunction with local communities.

### 3. *Capacity building*

- Parties and funding agencies should aim to enhance considerably the capacity of and support for National CBD Focal Points so they can more successfully promote and facilitate implementation of the EA.
- Regional institutions such as Universities should develop training in modules relevant to the technical and management skills required to implement the EA.
- Capacity enhancement should be long-lasting and not limited to project funding cycles.
- Training institutes and employers should provide education and on-the-job training in adaptive management.
- Governments and others should address the chronic lack of resources and skills in some regions by identifying what specific capacities are required to implement the EA.

### 4. *Priority actions*

- Research institutions and others should develop problem-specific, practical guidelines that are relevant at the field level to help Parties and others to use the EA.
- Those using the EA should employ both bottom-up and top-down strategies to define the most appropriate scale for management for each particular problem.
- Perverse economic incentives affecting land use, in particular land conversion, should be removed.
- Professionals from non-conservation sectors of the economy and society (including industry, agriculture and finance) should be made aware of the EA.
- Easy-to-use decision support tools that integrate multidisciplinary knowledge (including from indigenous peoples) should be developed and disseminated.
- Existing information relevant to decision making under the EA should be made available and accessible to non-specialists.
- Guidelines and case studies on benefit sharing should be developed and disseminated.
- The physical and socio-economic aspects of ecosystem functioning should be a research priority.
- Interested organisations should produce clear guidelines on how the EA relates to other conservation and natural resource management strategies.

### C. *Implementation*

The workshops also suggested some guidelines related to implementation of the Ecosystem Approach principles.

- Because ecosystem management involves planning the management of complex systems, in which neither the elements of the system nor the goals of the actors (or even the actors themselves) are static, prescriptive plans are inappropriate. Instead, management needs to be based on an iterative process involving dialogue, negotiation, planned actions, monitoring and assessment of outcomes, and adaptation of subsequent management actions.

- Policies and procedures aimed at operationalising the EA principles should take account of both livelihood and equity issues (*i.e.* equity related to gender, economic status, authority). Related to this is the need to respect the ethical imperative that the costs of conservation must not be imposed on poor locally “dependent” people.
- Stakeholders should be defined as those people and institutions whose actions can affect the outcome of a project or activity, and those who are affected by the project or activity and its outcomes. There is a concern that uncritical application of the injunction to involve “all stakeholders”, as called for in the EA principles, may actually “dis-empower” those who are least able to bear costs, particularly if there are large asymmetries in social and economic status, influence, skills and capacity. Consequently, in involving stakeholders, priority should be given to those people who depend on the ecosystem for their survival, live within or in close proximity to the system concerned, and are willing to invest in some or other way in its conservation.
- Creating a long-term community stake in the conservation and sustainable use of biological resources requires that the full range of livelihood options linked to these resources is assessed. It also requires setting up or strengthening the necessary institutions, making available all the necessary information about livelihood options, and building the requisite capacity to sustain the initiative.
- Information, communication and education should be major components of any local or national initiatives aimed at applying the principles of the ecosystem approach. The role of customary law and traditional practices should also be recognised and incorporated in efforts to operationalize the principles.
- The influence and potential contribution of middlemen and consumers in natural resource trading chains, and others in the private sector, needs to be considered in applying the Ecosystem Approach principles.
- Managers of projects, and others active in forest ecosystems, should consider the possible long-term effects of their activities on adjacent and distant ecosystems, in addition to the effects on the ecosystem that they are managing. Provisions for this should be incorporated into national procedures intended to give effect to the EA principles.

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