

# Does the ecosystem approach offer anything new for environmental decision-making?

Report from the RGS-IBG conference workshop held on 29<sup>th</sup> August, 2013

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## Summary

- The ecosystem approach (implemented via its twelve principles for management, as per the Convention on Biological Diversity) is a way of implementing sustainable development, rather than an end in itself.
  - Although slow, there has been progress in implementing the ecosystem approach over the past decade.
  - Benefits of this approach to environmental decision-making include:
    - Recognition of the existence of a socio-ecological system (nature and society being inter-twined).
    - Highlighting the relationships between environment and human wellbeing that are not simply utilitarian.
    - Provision of the impetus for making decision-making processes relating to land and nature being more inclusive, equitable and transparent.
  - Challenges include:
    - Confusion about what constitutes the ecosystem approach, including conflation of this term with ecosystem service assessment.
    - The compartmentalised nature of government.
    - Constraints due to property rights.
    - Lack of existing evaluation of case studies and tools.
  - Opportunities include:
    - Improving the way the natural environment forms part of decision-making
    - Improving environmental impact assessment processes.
    - Better targeting of funding for inter-disciplinary research.
  - Options for addressing challenges and opportunities include:
    - Application and review of tools and guidance to case studies at multiple levels including major national infrastructure project.
    - More guidance on implementation and checklist for planning projects.
    - Ensuring the label 'the ecosystem approach' is only used when all twelve principles are considered.
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## Background

The Convention on Biological Diversity (CBD) adopted the ecosystem approach in the year 2000. The approach is defined by the CBD as “a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way”. This definition is accompanied by twelve simple statements (the Malawi Principles – Box 1) and five points of operational guidance (Box 2, next page). Some have edited and distilled these down to a smaller number of points.<sup>1</sup>

### *Box 1 - CBD Ecosystem approach principles*

1. The objectives of management of land, water and living resources are a matter of societal choices.
2. Management should be decentralized to the lowest appropriate level.
3. Ecosystem managers should consider the effects (actual or potential) of their activities on adjacent and other ecosystems.
4. Recognizing potential gains from management, there is usually a need to understand and manage the ecosystem in an economic context.
5. Conservation of ecosystem structure and functioning, in order to maintain ecosystem services, should be a priority target of the ecosystem approach.
6. Ecosystems must be managed within the limits of their functioning.
7. The ecosystem approach should be undertaken at the appropriate spatial and temporal scales.
8. Recognizing the varying temporal scales and lag-effects that characterize ecosystem processes, objectives for ecosystem management should be set for the long term.
9. Management must recognize that change is inevitable.
10. The ecosystem approach should seek the appropriate balance between, and integration of, conservation and use of biological diversity.
11. The ecosystem approach should consider all forms of relevant information, including scientific and indigenous and local knowledge, innovations and practices.
12. The ecosystem approach should involve all relevant sectors of society and scientific disciplines.

(See <https://www.cbd.int/ecosystem/principles.shtml> for the full text relating to each principle)

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<sup>1</sup> Examples include Scottish Government’s three principles (<http://www.scotland.gov.uk/Publications/2011/03/16083740/1>) and the six in Defra’s ecosystem approach action plan update (2007).

Since 2000, the approach has been invoked in strategic decisions and practical projects affecting land and water environments. For instance, Government departments and agencies in the UK have begun to reflect aspects of the approach in the policies they set and implement. In a few cases, actions are taken in the name of the ecosystem approach. In the majority of cases, however, the approach can be seen as an influence upon decisions taken under the banner of land use planning, biodiversity protection, or water management.

*Box 2 - CBD ecosystem approach operational guidance*

1. Focus on the relationships and processes within ecosystems.
2. Enhance benefit-sharing.
3. Use adaptive management practices.
4. Carry out management actions at the scale appropriate for the issue being addressed, with decentralization to lowest level, as appropriate.
5. Ensure intersectoral cooperation.

(See <https://www.cbd.int/ecosystem/operational.shtml> for the full text relating to each point)

Much needs to be done worldwide before the ecosystem approach becomes a routine basis for decisions that affect people and their environment. The mind-set underlying the approach is often at odds with the culture and practices of those who have the strongest influence on the state of the natural environment and our relationship with it. Establishing if and how the approach offers anything new for decision making is, therefore, vital to its future success. Clarity over the benefits of following the ecosystem approach (as opposed to existing approaches to nature conservation and natural resource management) is essential to further embedding the approach.

### **Workshop introduction**

A workshop session was held at the Royal Geographical Society's Annual conference in 2013, in order to consider the difference that the ecosystem approach makes to decision making. It involved 30 people with varying backgrounds and lasted just over an hour. Participants included those who had been involved in developing and evaluating the approach since its inception, as well as those who had sought to interpret and apply it to particular problems and places in recent years.

The workshop was preceded by a series of presentations (see <http://ekn.defra.gov.uk/about/background/rgs2013/> for copies of the presentations). These offered perspectives on the development of the ecosystem approach, as well as practical applications placed under the banner of the ecosystem approach. The presentations informing the workshop highlighted that much had been achieved over the last ten years, but that the impact was difficult to quantify. In particular:

- There are diverse understandings of the term decision-making. Some people consider it to be public policy while others consider it to be more about choices made both individually and collectively in all parts of society.
- While some advocate that the ecosystem approach is not being applied unless all twelve principles are followed, others choose to highlight progress in applying individual principles.

## Session structure

Participants were asked to discuss the difference that the ecosystem approach makes to the way that people view and manage the natural environment. They were encouraged to do this using the material contained in the preceding presentations, as well as their own experiences. Three discussion groups formed as follows:

- One for those who felt that their primary interest lay in the application of the **ecosystem approach** at a local level or landscape scale.
- One for those who were concerned about the embedding of the **approach** at the national scale or strategic level (actions that ultimately influence the management of particular places, but are not targeted at those places).
- A 'wild card' table which focused on taking stock of the approach in relation to its original purpose.

The groups used the following structure for their conversations:

- Consideration of the difference, if any, that the **ecosystem approach** has made over the last ten years
- Estimation of the difference it can make over the next ten years.
- Identification of obstacles to achieving further advancement of the approach, and solutions to dealing with these.

The observations have been synthesised according to the structure, integrating the comments from each group.

## Achievements to date

In considering the difference that the **ecosystem approach** has made over the last ten years, many participants were positive in their outlook. They noted that during the time that the approach has been advocated, the natural environment has been increasingly recognised as an asset and a dynamic system rather than a set of compartmentalised natural resources (soils, rivers etc). Moreover, people are part of their environment as an integrated social and ecological system. The focus is on landscapes and networks that include the places where people live. It is, of course, impossible to determine whether this shift in discourse and policy is attributable to the existence of the **ecosystem approach**.

Continuing on a positive note, participants acknowledged that the **ecosystem approach** has helped to ensure that the benefits arising from a healthy natural environment are considered alongside other factors that underpin human well-being. This contrasts with times in the past when there was a more negative focus on the dis-benefits arising from environments degraded due to pollution, over-use and neglect. The **approach** has helped to ensure that the connection between societal issues (such as health inequalities) and the natural environment is made more readily.

The **ecosystem approach** helps people to see themselves as living within nature, rather than separate from it. This is particularly important in western cultures which continue to hold a utilitarian

view of the natural environment (one of the critiques of ecosystem service thinking). The approach also promotes dialogue that is more inclusive of a wider range of people. While progress in applying the ecosystem approach may be limited, it has been a useful reference point in encouraging decision-making that is both more informed and equitable. It has helped to expose trade-offs, where difficult choices need to be made, or where win-wins could be realised. Where implemented, this has helped to ensure that these are addressed for the greater good, rather than according to the interests of particular organisations or individuals.

It was noted that when applying the approach, interpretations of success vary because understanding of the concept has changed over time. The way in which different disciplines and communities of interest view the approach varies greatly. For example, there are different understandings of the role of technical 'experts', the way in which people are involved in decision-making processes and the importance of knowledge held by different parts of society. There was also a discussion about whether the ecosystem approach was an end in itself, or a means to a variety of ends, making its evaluation more problematic.

### **Challenges encountered**

In assessing achievements of the ecosystem approach over the last ten years, workshop participants identified many challenges. For example, it was noted that the approach has not yet had a large scale impact on land management. Land use planning remains a large area where the approach could be applied to great benefit, the way in which the functions of government and its agencies are divided up and not integrated was identified as major constraint on implementing the approach. Property rights also create problems with its implementation.

Participants noted a perception that the natural science knowledge base is not sufficiently robust to deliver or apply all the principles of the approach. For example, knowledge of the limits to ecosystem functioning (Principle 6 of the approach) is often considered to be patchy at best. Experience from case studies, however, indicates that technical data, information or knowledge are not the reasons why the approach is not applied. For example, application of the approach is limited even in places with relatively good environmental and social datasets such as the UK.

Application of individual aspects of the ecosystem approach has brought challenges. For instance, application of the concept of ecosystem services (referred to in Principle 5 of the approach) on its own can result in the principles relating to societal choice and equity (Principles 1, 2, 11 and 12) being overlooked. The confusion arising from the use of the term 'ecosystem services approach' was noted (this tends to focus solely on ecosystem service appraisal without consideration of the Malawi Principles). The tendency for many environmental projects to adopt the label after they have become established, without adhering to the overall concept of the ecosystem approach, also creates problems when trying to evaluate the success of the approach.

### **Opportunities for the future**

The ecosystem approach is one way to operationalize sustainable development that links biodiversity conservation to human well-being. The ecosystem approach provides a way forward through the current debate about the pros and cons of monetary valuation of ecosystem services and natural

capital, by drawing attention to the socially constructed nature of values and preferences within specific settings. The approach may help ensure that schemes that lead to monetary values being placed on 'services' provided by nature (such as under payments for ecosystem services) are designed more equitably and sustainably.

The ecosystem approach can make a difference to existing methods to support decision-making, such as impact assessment for development projects and policy programmes<sup>2</sup>; particularly if the approach costs in environmental 'externalities'. Beyond this, there is a significant opportunity to ensure that the approach is used to inform the frameworks of organisations and professions whose primary interests lie outside nature conservation. These include, for example, the health professions and engineers, as well as those whose work involves promoting local economic development and green infrastructure.

Workshop participants noted that if the ecosystem approach were to influence decisions about the funding of environment-related research and the delivery of public policy, greater benefits might be realised. In particular, the approach challenges the both way in which the scientific community generates knowledge, and the way in which it is used. The principles are useful in that they draw attention to both processes and outcomes of any project.

### **Dealing with obstacles**

Participants felt that case studies of good practice were particularly important in demonstrating the benefits of the ecosystem approach. Likewise, tools to support decisions could be developed or adapted from existing tools (so long as these are derived and applied with consideration of the full set of principles). Both tools and case studies should be subject to transparent review so that confidence in them can be built. In line with adaptive management, projects and programmes should be periodically reviewed to take stock of how the approach is being applied and the benefits it is bringing.

Further operational guidance on the approach would also help in addressing current challenges in applying the approach. This could be targeted at different communities of interest and decision-making processes, addressing different scales. Application of the approach should not be 'top-down' and formulaic. It is more important that the ethos of the approach is understood. Therefore, practical applications of the approach should be derived from within social and environmental settings, rather than imposed upon them.

Some participants suggested that the ecosystem approach would benefit from application in high profile decision-making settings, such as a national infrastructure project. This would help to highlight the advantages of taking the approach in relation to sustainable development.

If the principles of the ecosystem approach were communicated as a check list, this could be helpful in improving decision making in its various forms (local, national, individual and collective). A traffic light system could be used to indicate progress with each of the Malawi Principles in different

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<sup>2</sup> It should not, however, be equated with Strategic Environmental Assessment: the former broader and is intended to be applied every level and at every scale.

contexts (including governance scales). This would prompt explanation, discussion and further review, bearing in mind the importance of adaptive management as noted in Principle 9.

## **Conclusions**

In relation to the question “Does the ecosystem approach offer anything new for environmental decision-making?”, the workshop discussions demonstrated that it is possible to answer positively. This is because many projects and programmes that claim to reflect the approach are a ‘step in the right direction’ towards sustainable development.

The benefits brought by the ecosystem approach to decision-making are seen most clearly when it is contrasted with traditional fragmented and centralised approaches to managing our place within the natural environment. There is, however, a need to communicate and apply the approach carefully in order that it is not ‘lost in translation’, or allowed to drift from its original intentions. Most important among these original intentions is the idea that all the principles should be considered in decision-making and planning. Projects that focus on individual principles may be good starting points, but should not be portrayed as exemplars of the whole approach.