

## Research needs expressed in the Decisions of the Conference of the Parties to the Convention on Biological Diversity: Cross-Cutting Issue: Ecosystem Approach

The ecosystem approach (<http://www.cbd.int/ecosystem/default.shtml>) is a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way. Application of the ecosystem approach will help to reach a balance of the three objectives of the Convention. It is based on the application of appropriate scientific methodologies focused on levels of biological organization which encompass the essential processes, functions and interactions among organisms and their environment. It recognizes that humans, with their cultural diversity, are an integral component of ecosystems.

Cited Decisions that express research needs are V/6 and VII/11, also checked were Decisions IV/1, VI/12 and IX/7.

### Direct research needs

Decision	Paragraph	Chapeau / Heading	Text	Source <a href="http://www.cbd.int/decisions/">http://www.cbd.int/decisions/</a>
VII/11	Annex I Para 16	Refinement and elaboration of the ecosystem approach, based on assessment of experience of Parties in the implementation.	<b>Research and development is needed to target strategic gaps in knowledge</b> that are important for addressing the exercise at hand.	<a href="http://www.cbd.int/decisions/cop-07.shtml?m=COP-07&amp;id=7748">cop-07.shtml?m=COP-07&amp;id=7748</a>
VII/11	Annex I Principle 5 Para 5.4		<b>Expand knowledge of the responses of ecosystems</b> , in terms of changes in composition, structure and function, <b>to</b> both internally and externally induced <b>stresses</b> caused by, <i>inter alia</i> , human use, disturbance, pollution, fire, alien species, disease abnormal climatic variations (drought, flood) etc.	
VII/11	Annex I Principle 6 Para 6.1		<b>Identify practices that are not sustainable and develop appropriate mechanisms for improvement</b> involving all stakeholders.	
VII/11	Annex I Principle 6 Para 6.4		<b>Develop understanding of the limits of ecosystem functioning</b> and the effects of various human use on the delivery of ecosystem goods and services.	

### Indirect research needs

Decision	Paragraph	Chapeau / Heading	Text	Source <a href="http://www.cbd.int/decisions/">http://www.cbd.int/decisions/</a>
V/6	Annex I	Operational	A much <b>better knowledge</b> of ecosystem functions and structure, and	<a href="http://www.cbd.int/decisions/cop-05.shtml?m=COP-05&amp;id=7748">cop-05.shtml?m=COP-05&amp;id=7748</a>

	Part C Para 8	Guidance for application of the ecosystem approach.	the roles of the components of biological diversity in ecosystems, <b>is required, especially to understand: (i) ecosystem resilience and the effects of biodiversity loss (species and genetic levels) and habitat fragmentation; (ii) underlying causes of biodiversity loss; and (iii) determinants of local biological diversity in management decisions.</b>	<a href="#">05&amp;id=7148</a>
VII/11	Annex I Principle 1 Para 1.12	Refinement and elaboration of the ecosystem approach, based on assessment of experience of Parties in the implementation.	<b>Undertake assessment</b> at the national level to analyse effects of <b>ecosystem management practices</b> on society, with a view to find ways and means to mitigate possible constraints between stakeholders in the implementation phase.	<a href="#">cop-07.shtml?m=COP-07&amp;id=7748</a>
VII/11	Annex I Principle 3 Para 3.3		<b>Environmental impact assessment (EIAs), including strategic environmental assessments (SEAs) should be carried out for developments that may have substantial environmental impacts</b> taking into account all the components of biological diversity. These assessments should adequately <b>consider the potential offsite impacts.</b>	
VII/11	Annex I Principle 4 Para 4.6		<b>Evaluate the direct as well as indirect economic benefits associated with good ecosystem management</b> including biodiversity conservation and environmental quality.	
VII/11	Annex I Principle 5 Para 5.1		<b>Improve understanding of the interrelationship among ecosystem composition, structure and function</b> with respect to (i) human interaction, needs and values (including cultural aspects), (ii) conservation management of biodiversity, and (iii) environmental quality, integrity and vitality.	
VII/11	Annex I Principle 5 Para 5.3		<b>Assess the extent to which ecosystem composition, structure can function contribute to the delivery of goods and services</b> to meet the desired balance of conservation, social and economic outcomes.	
VII/11	Annex I Principle 5 Para 5.9		<b>Monitoring</b> population sizes of vulnerable and important species <b>should be linked to a management plan</b> that identifies appropriate response measures and actions.	
VII/11	Annex I Principle 7 Para 7.1		Enhanced capacity is required to <b>analyse and understand the temporal and spatial scales at which ecosystem processes operate</b> , and the effect of management actions on these processes and the delivery of ecosystem goods and services. <b>Identification of spatial patterns and gaps in connectivity should be included</b> in this	

			analysis.	
VII/11	Annex I Principle 8 Para 8.5		<b>The capacity to monitor and detect long-term, low frequency changes in ecosystem structure and functioning should be strengthened.</b>	
VII/11	Annex I Principle 11 Para 11.4		<b>The implications for ecosystem management of different "world views" based on different knowledge systems should be evaluated.</b>	
VII/11	Annex II Para 12	Consideration of the relationship between sustainable forest management and ecosystem approach.	While existing efforts in SFM/criteria and indicators are currently focused on the national level and the forest-management unit level, some recent efforts (such as work undertaken by IUCN) are focusing at the landscape level. The <b>development of criteria and indicators for the landscape level should be further pursued.</b>	<a href="http://www.cop-07.shtml?m=COP-07&amp;id=7748">cop-07.shtml?m=COP-07&amp;id=7748</a>
VII/11	Annex II Para 19		Developing and implementing biodiversity indicators would also help strengthen the contribution of SFM to biodiversity conservation. The <b>development of criteria and indicators as well as certification programmes within SFM at the landscape level should also be pursued.</b>	