

Ecosystem-based Adaptation (EbA)

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What is Ecosystem-based Adaptation?

Ecosystem-based Adaptation (EbA) identifies and implements a range of strategies for the management, conservation and restoration of ecosystems to ensure that they continue to provide the services¹ that enable people to adapt to the impacts of climate change². As a component of broader adaptation and development strategies, ecosystem-based adaptation aims to increase the resilience and reduce the vulnerability of ecosystems and people in the face of climate change.

Examples of ecosystem-based adaptation include:

- management of coastal ecosystems to reduce flooding during storm surges. Mangroves, salt marshes and other coastal vegetation types provide natural infrastructure which reduces the inland impacts of wave energy, acts as a barrier to debris, and reduces coastal erosion.
- management of agricultural lands using local knowledge of specific crop and livestock varieties, applying integrated water resources management approaches and conserving mosaic agricultural landscapes to secure food supply in changing and erratic local climatic conditions
- upland and watershed management to ensure that water storage and flood regulation services are maximised through the maintenance and enhancement of wetlands, river basins and their vegetation.
- maintaining and enhancing the resilience of ecosystems at the landscape scale, through systems of effectively managed protected areas and improvements in the management of surrounding lands and seas.

The benefits of Ecosystem-based Adaptation

As part of an overall approach to adaptation, EbA can provide a **cost-effective** means to build adaptive capacity. In addition to the direct benefits for adaptation, EbA can also provide **significant social, economic and environmental co-benefits**. For example, the restoration of mangrove systems provides shoreline protection from storm surges, but also supports fisheries-based livelihoods through increased productivity due to the provision of habitat for fish, and provides mitigation benefits through carbon sequestration.

In part due to their cost-effectiveness, but also due to community practice and capacity, ecosystem-based adaptation activities are often more **accessible to the rural poor** than actions based on infrastructure and engineering. EbA harnesses nature's potential to help communities to adapt, while supporting objectives for **poverty reduction** and making development resilient. EbA can support indigenous peoples by harnessing traditional knowledge in order to adapt to changing climatic conditions and also incorporates gender-specific needs in relation to natural

For more information, please contact :

Neville Ash
Head, Ecosystem
Management Programme
IUCN-Headquarters
Tel: +41 22 999 0273
Neville.ash@iucn.org

Ninni Ikkala
Climate Change Coordinator
IUCN-Headquarters
Tel: +41 22 999 0106
Ninni.ikkala@iucn.org

Claire Parker
Senior Policy Consultant
Fairhaven
Long Lane
Fowlmere, Cambs
SG8 7TG
United Kingdom
Tel: +44 7769664701
Claire.n.parker@btopenworld.com

IUCN World Headquarters
Rue Mauverney 28
1196 Gland
Switzerland
Tel: +41 22 999 0000
mail@iucn.org
www.iucn.org/unfccc

¹ Ecosystem services are the benefits people obtain from nature, such as food regulation, storm protection, food, clean water, fuel, shelter etc.

² This text draws from and is usually fully consistent with the draft report of the Convention on Biological Diversity's Ad-Hoc Technical Expert Group (AHTEG) on climate change and biodiversity

resources.

Ecosystem-based adaptation can be **applied at local, national, and regional levels**, and **implemented through both project and programmatic approaches**. Ecosystem-based adaptation can be quick to implement where ecosystems are intact, and therefore provides **immediate short-term opportunities, with long-term benefits**.

Additional benefits of EbA include that intact, well functioning ecosystems are usually more resilient to extreme weather events than degraded, impoverished ecosystems, and as such are able to provide the range of ecosystem services such as flood regulation on which communities' security depends. Ecosystems can therefore provide **dual benefits to climate change adaptation and disaster risk reduction**.

Ecosystem-based Adaptation in the UNFCCC

IUCN welcomes the inclusion of ecosystem-based adaptation in the draft of the AWG LCA negotiating text under the Objectives, Scope and guiding principles and under Means of Implementation for Enhanced Action on Adaptation³.

Objectives, scope and guiding principles⁴

Ecosystem-based Adaptation supports a number of the **Objectives, scope and guiding principles** defined for an action-oriented adaptation {framework} {programme}:

- it provides a means of implementing urgent and immediate adaptation action at local, national and regional scales.
- it builds on existing practices of natural resource management for increasing the resilience and reducing the vulnerability of ecosystem-dependent livelihoods in the face of climate change.
- it enables the maintenance of ecosystems and the services they provide for medium and long-term resilience to climate change.

Adaptation actions should be supported by new, predictable, sustainable, timely adequate and stable financial resources additional to official development assistance.

IUCN urges for the provision of new, predictable, sustainable, timely, adequate and stable financial resources additional to official development assistance for ecosystem-based adaptation actions.

³ FCCC/AWGLCA/2009/8 paragraphs 22 and 32

⁴ FCCC/AWGLCA/2009/8 paragraphs 18 - 22

⁵ FCCC/AWGLCA/2009/8 paragraphs 28 – 36

⁶ FCCC/AWGLCA/2009/8 paragraphs 37 – 43

⁷ FCCC/AWGLCA/ 2009/8 paragraphs 37 - 43

⁸ IUCN has submitted an Action Pledge to the Nairobi Work Programme relating to its thematic area "Adaptation practices and planning". The Pledge promotes the development and dissemination of methods and tools for assessment and improvement of Ecosystem-based Adaptation (EbA) http://unfccc.int/adaptation/sbsta_agenda_item_adaptation/items/4831.php

Current wording of paragraph 22 (j):

22. *The implementation of the adaptation [framework should]:*

(j) *Address concerns and build resilience of...*

(ii) *Particularly vulnerable populations, groups and communities, especially women, children, the elderly and indigenous peoples, including through promoting a gender perspective, a community-based approach to adaptation*

(iii). *particularly vulnerable ecosystems and species, including through promoting an ecosystem-based approach to adaptation*

In order to recognize the role of EbA for societal adaptation, IUCN suggests rewording paragraph 22 (j) as follows:

(j) *Address concerns and build resilience of...*

(ii) *Particularly vulnerable populations, groups and communities, especially women, children, the elderly and indigenous peoples, including through promoting a gender perspective, **and***

community- and ecosystem-based approaches to adaptation

Or a rewording of 22 (j) (iii) as follows:

(iii) *particularly vulnerable **populations, groups and communities**, ecosystems and species, including through promoting an ecosystem-based approach to adaptation*

Current wording of paragraph 23 (f):

23. *These (national adaptation) plans should:*

(f) *Take into account the dynamics of natural systems*

In order to recognize the role of ecosystem services in adaptation, IUCN suggests the rewording of paragraph 23 (f) as follows:

(f) *Take into account the dynamics of ecosystems and the ecosystem services they provide*

Current wording of paragraph 25 (d):

25 ... *Adaptation action includes:*

(d) *R&D, deployment, diffusion and transfer of adaptation technologies, including capacity-building, taking into account sector-specific adaptation technologies, ecosystem-scale intersectoral linkages and endogenous adaptation technologies*

In order to clarify the role of ecosystems in adaptation, IUCN suggests rewording paragraph 25 (d) as follows:

(d) *R&D, deployment, diffusion and transfer of adaptation technologies, including capacity-building, taking into account sector-specific adaptation technologies, **ecosystems and their services**, and endogenous adaptation technologies*

Or, adding a new sub-paragraph:

(f) ecosystem-based adaptation

Means of implementation⁵

IUCN welcomes defining Ecosystem-based Adaptation activities as priority areas for financial support.

Current wording of paragraph 32:

32. In addition to the above, priority should also be given to ecosystem-based adaptation activities.

In order to recognize the role of Ecosystem-based Adaptation in achieving the range of adaptation priorities highlighted in paragraph 31, IUCN suggests rewording paragraph 32 as follows:

32. In **relation to the above priorities**, consideration should be given to ecosystem-based adaptation activities.

Risk reduction management and sharing⁶

Well-managed ecosystems act as natural barriers and can mitigate the impact of, and aid recovery from, extreme weather-related events, such as flooding, drought, extreme temperatures, fires, landslides, hurricanes and cyclones. Restoration of coastal habitats such as mangroves, and watershed vegetation to provide natural infrastructure can be particularly cost-effective measure against storm-surges when compared with alternative coastal flood defence options.

IUCN stresses the synergy of Ecosystem-based Adaptation to climate change with ecosystem-based approaches to Disaster Risk Reduction and the objectives of the Hyogo Framework for Action

Institutional Arrangements⁷

IUCN welcomes the establishment of Centers and/or networks for adaptation, and draws attention to potential synergies with the Ecosystems and Livelihoods Adaptation Network (ELAN).

ELAN is a joint initiative between IUCN, WWF and other partner organizations, which aims to link the science, practice, and policy of ecosystem management for climate change adaptation, and focus on supporting capacity and building resilience in developing countries. This Global Network can support and liaise with established Adaptation Centres and/or networks.

Nairobi Work Programme

Research activities, capacity building and information exchange should be carried out to enhance learning on and effectiveness in the implementation of Ecosystem-based Adaptation. Further, sharing information on ecosystem-based adaptation will support effective policy formulation and implementation and thus also support integrated implementation of other adaptation measures.

IUCN recommends that ecosystem-based adaptation be further included in the implementation of the Nairobi Work Programme, in order to develop better scientific and technical guidance on practical adaptation actions and measures⁸.

Synergy with other Multilateral Agreements and Conventions

Ecosystem-based adaptation promotes the conservation and sustainable use of biodiversity and therefore provides policy coherence with other existing national commitments and interests. EbA includes a range of strategies for the management, conservation, and restoration of ecosystems, and therefore yields sustainable additional benefits for the conservation of biodiversity, including through:

- Maintaining intact and interconnected ecosystems to allow for biodiversity and people to adjust to changing environmental conditions.
- Restoring or rehabilitating fragmented or degraded ecosystems, and re-establishing critical processes to maintain ecosystem functions.
- Facilitating sustainable use of renewable natural resources under changing climatic conditions.
- Identifying and minimizing potential negative impacts of climate change on biodiversity.
- Supporting indigenous peoples and local communities to adapt and enhance traditional knowledge systems and management practices to changing climatic conditions;
- Ensuring that investments in the development and management of protected area systems are resilient to climate change.

IUCN recommends that ecosystem-based adaptation strategies are aligned with ongoing action under the Convention on Biological Diversity, the UN Convention to Combat Desertification, the Ramsar Convention on Wetlands and other relevant international commitments.