

# Ecosystem-based Adaptation (EbA)

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## Managing ecosystems to help people adapt to climate change

There is growing recognition of the role that well-managed ecosystems can play in supporting adaptation - through increasing resilience and decreasing vulnerability of people and their livelihoods to the impacts of climate change. Well-managed ecosystems have a greater potential to adapt to climate change, resist and recover more easily from extreme weather events, and provide a wide range of benefits on which people depend. In contrast, poorly managed, fragmented and degraded ecosystems can increase the vulnerability of people and nature to the impacts of climate change.

Ecosystem-based Adaptation (EbA) includes a range of local and landscape scale strategies that enable both people and nature to adapt in the face of climate change. An ecosystem-based approach to adaptation is compatible and supportive of a wide range of local and national development objectives, as well as with ongoing adaptation efforts at community level, and with existing priorities identified in many of the most vulnerable countries. EbA is appropriately implemented as part of a suite of adaptation responses including education, training, awareness-raising, and structural and engineering measures where appropriate. EbA shares the attributes associated with good practice adaptation, and as with all adaptation options, there remains uncertainty associated with the costs and limits of EbA. It is therefore important to monitor and review EbA measures, and implement adaptive management approaches. EbA provides opportunities for synergy in policy and practice, including in the following sectors:

### ***Sustainable Water Management***

Many climate change impacts will be felt through water – through drought, floods, storms, ice melting and sea-level rise. Water management is therefore central to effective adaptation policies, planning and action. River basins, aquifers, coasts and their associated ecosystems are natural infrastructure for coping with climate change. They provide water storage, flood regulation and coastal defences vital for reducing the vulnerabilities of communities and economies to climate change. Ecosystem-based adaptation that builds and maintains natural infrastructure in river basins strengthens water, food and energy security in the face of climate change.

### ***Disaster risk reduction***

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. EbA is therefore highly compatible with Disaster Risk Reduction and the objectives of the Hyogo Framework for Action<sup>1</sup>, which calls for the sustainable use and integrated management of ecosystems to reduce risk and vulnerabilities.

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<sup>1</sup> The Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters World Conference on Disaster Reduction was adopted in 2005 in Hyogo, Japan.

***Development of natural-resource dependent communities***

EbA is complementary to community-based adaptation. By maintaining and restoring healthy ecosystems that are more resilient to climate change impacts, EbA strategies can help ensure continued availability and access to water and other essential natural resources and ecosystem services so that communities can better cope with climate variability and change. EbA approaches can further support indigenous peoples and local communities by harnessing traditional knowledge in order to adapt to changing climatic conditions, and can also acknowledge the gender specific needs in relation to resources as well as recognizes women's knowledge and capacities to cope with climate change adaptation strategies.

***Sustainable agricultural production***

EbA has many synergies with sustainable approaches to agriculture, including supporting agricultural resilience, landscape-scale management, protection of water resources and the incorporation of local knowledge into agroecological production systems. Many indigenous farming practices are already based on in-depth knowledge of adaptive techniques, using specific crop and livestock varieties to suit changing local ecosystem conditions, and thereby help adapt to the impacts of climate change and climate variability on local agricultural production.

***Conservation and sustainable use of biodiversity***

EbA includes practices such as ensuring ecosystems remain intact and interconnected to allow for ecosystems and people to adjust to changing environmental conditions. It can include approaches to maintain and restore fragmented or degraded ecosystems, or directly support important ecosystem processes such as pollination and nutrient cycling, and therefore yields sustainable benefits for the conservation of biodiversity.

**Good Practice Adaptation<sup>2</sup>: the benefits of Ecosystem-based Adaptation**

- **EbA provides a balanced approach to managing climate and non-climate risks** - increasing ecosystem resilience reduces vulnerability to both climate and non-climate risks
- **EbA supports adaptation to current and future climate conditions** - increasing the health and resilience of ecosystems enables both people and nature to cope better with existing climate variability as well as future climate change. Approaches to ecosystem-based adaptation are readily available and can often be implemented immediately.
- **EbA prioritises win-win adaptation options and reduces trade-offs** - Increasing ecosystem resilience and reducing vulnerability is a robust response to an uncertain, changing climate that provides multiple 'win-win' benefits to both society and the environment
- **EbA avoids inappropriate adaptation**– EbA is consistent with the precautionary approach and can often contribute to climate change mitigation, lowering the risk of 'maladaptation'
- **EbA encourages gender-sensitive community engagement** – Consistent with the principles of the Ecosystem Approach, EbA should be decentralized as the lowest appropriate level. EbA is the strategy already adopted by many local communities, and builds on existing community adaptation practices.
- **EbA promotes integrated solutions and multi-agency cooperation** – an ecosystem approach to adaptation ensures that different sectors are involved in adaptation planning and practice.
- **EbA is delivered through adaptive management** – EbA supports adaptive management options by facilitating and accelerating learning, increasing social and economic resilience to climate change.

**Ecosystem-based Adaptation and the UNFCCC**

To appropriately incorporate EbA into the adaptation policy and practice, IUCN proposes:

- Including ecosystem-based adaptation into the adaptation component of the Shared Vision being discussed by the AWG-LCA and of the adaptation framework in the post-2012 regime;
- Increasing incorporation of ecosystem-based adaptation into the implementation of the Nairobi Work Programme and the development of technical guidance and capacity;
- Incorporating ecosystem-based adaptation more fully into national adaptation strategies and action plans, including NAPAs;
- Aligning ecosystem-based adaptation strategies 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.

<sup>2</sup> Adapted from UKCIP: Principles of Good Adaptation. [www.ukcip.org](http://www.ukcip.org)