International Union for Conservation of Nature
ISSUES BRIEF
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ECOSYSTEM-BASED ADAPTATION

Building climate change resilience through ecosystem management

- Climate change is likely to **magnify the existing vulnerability** of human and natural communities.
- **Ecosystem-based Adaptation (EbA)** is one approach that can be used, among other measures, to **reduce vulnerability and build resilience**.
- In order to achieve the Sustainable Development Goals, reach global biodiversity targets and contribute to the global climate agreement, nature-based solutions should be treated as integral to adaptation strategies at global, national and local levels.
- This can be done by **generating knowledge, strengthening institutions and governance, and implementing EbA measures**.

What is the issue?

Communities have been adapting to climate variability for centuries, but now their coping mechanisms are being outpaced by the fast-changing climate. Without tackling extreme poverty, sustainably managing ecosystem services and conserving biodiversity, the long-term adaptive resilience of communities will remain elusive.

Shifting weather patterns, affecting rainfall and temperature, are likely to create severe problems for the **ecosystem goods and services** on which people rely. Impacts are also likely to magnify existing risks of and vulnerability to disasters. It is therefore **critical to develop adaptation capabilities** to be able to deal with these changes.

In response to global climate change impacts, most countries (and the donors, investors and financial institutions that fund them) have focussed on 'hard' or 'grey' infrastructure options such as barriers, dykes and embankments for coastal defences and flood control, or new reservoirs and irrigation facilities to cope with water shortages. These options can be costly to build and maintain, and generally do not take the benefits of ecosystem-based approaches into account.

Ecosystem-based Adaptation (EbA) is one approach amongst a suite of others that can be used to **increase resilience and reduce the vulnerability of human communities and natural systems**.

Why is this important?

Healthy ecosystems such as intact forests, wetlands and coastal areas provide **many benefits to local communities** including firewood, clean water, medicines, shelter and food. They can also form **physical barriers against extreme weather events** such as cyclones and storm surges.

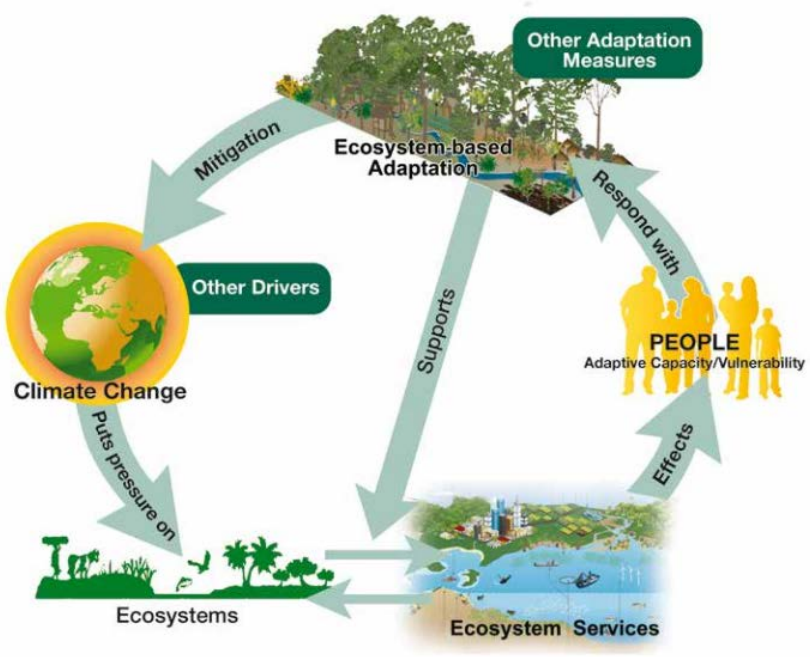

Figure 1: Ecosystem-based Adaptation conceptualized in the Driving Forces-Pressures-State-Impacts-Responses (DPSIR) framework.

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According to a study carried out of 34 hurricanes in the United States after Katrina and Rita, **the loss of one hectare of wetland amounts to US$ 33,000 in storm damage**. It also estimates that together, wetlands contribute US$ 23 billion to the US economy. Another recent study in the US shows that natural habitats protect two-thirds, or 67%, of the country's coastline.

EbA uses biodiversity and ecosystem services as part of an overall strategy to help people and communities adapt and become more **resilient to the negative effects of climate change at local, national, regional and global levels**.

This approach also highlights the importance of social equity, gender equality and local and traditional knowledge, as well as species diversity – it offers a unique, cost-effective yet under-used approach to adaptation. **EbA contributes to biodiversity conservation and to local economies**, particularly those mostly based on natural resource use in low-income countries, through effective ecosystem management.

What can be done?

EbA is now being used in hundreds of projects all over the world. Donors are also realising the effectiveness of EbA in providing multiple benefits. The German Government (IKI-BMUB) is leading the way, funding EbA projects worldwide worth around €100 million since 2008.

To achieve the Sustainable Development Goals, reach global biodiversity targets and contribute effectively to the global climate agreement, climate change adaptation will have to **build the climate resilience of people and natural systems**. Nature-based solutions to increase climate resilience should be promoted among investors, governments, NGOs and other stakeholders as important parts of adaptation strategies at global, national and local levels.

Efforts are needed to develop working links between the future adaptation goals of the United Nations Framework Convention on Climate Change (UNFCCC), the Aichi Targets (on biodiversity) and Sustainable Development Goals to tackle climate change challenges in an integrated way. This should involve promoting environmentally and biodiversity-sensitive development mechanisms.

EbA is an emerging area. More scientific data and evidence from the field are needed to validate its value and cost-effectiveness. **Climate adaptation responses, both at the policy and field levels, can only be effective if they are fully integrated into local development and conservation policies and projects**. This requires the development of guidelines and tools based on lessons learned from the field.

It is critical to use proactive adaptation measures (specifically EbA), especially in low-income, natural resource-dependent countries, **to enable communities to work towards ending extreme poverty and move towards sustained human well-being.**

Where can I get more information?

IUCN EbA website
EbA Knowledge Portal

iucn.org/ecosystems

More on IUCN at COP21:

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