



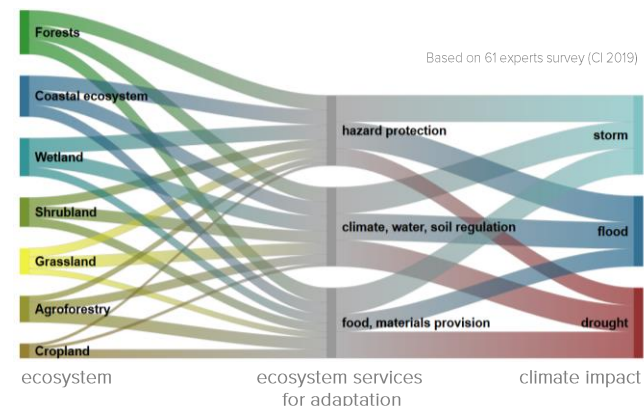
Nature-based Solution for Adaptation
www.conservation.org/EbA

NATURE-BASED SOLUTIONS FOR ADAPTATION

Nature-based solutions (NbS) for adaptation or ecosystem based-adaptation (EbA) are the use of ecosystem services and biodiversity as part of an overall strategy to help people adapt to the adverse effects of climate change.

Sustainably managing, conserving or restoring natural and semi-natural ecosystems enhance the delivery of ecosystem services that contribute to people's adaptation. For example, **forests** deliver multiple ecosystem services, such as hazard protection, water regulation and wild food provision that can reduce people's vulnerability to **storms, floods or droughts**. Similarly, **agroforestry** systems (i.e. the use of trees in farmlands) help buffer heavy rains and high temperatures and regulate micro-climate and soil fertility.

Several ecosystems provide a variety of benefits that can contribute to people's adaptation in different extents (see chart below and flows sizes). By building on these benefits and ensuring access rights, sustainable practices and equitable benefits sharing, nature-based solutions for adaptation can help minimize climate change vulnerability.



MULTIPLE ECOSYSTEMS

We have been gathering evidence on the benefits provided by a variety of ecosystems to help people adapt.

We expanded NbS for adaptation demonstration from mangroves to other ecosystems, such as grasslands, forests and agricultural land.

INNOVATIVE APPROACHES

We have been combining traditional NbS for adaptation approaches of nature protection, management and restoration with innovative and transformative approaches to strengthen effectiveness and impact.

We implemented NbS for adaptation that engage the private sector, strengthen governance and policies, involve indigenous and local communities and use technological and financial solutions.

ADAPTATION BENEFITS

We have been using rigorous scientific approaches to develop methodologies for the impact evaluation of NbS for adaptation in providing adaptation benefits.

We designed and conducted household surveys, remote sensing analysis, economic valuations and ecological assessments.



Based on CI EbA portfolio (see more details in [Fedele et al. 2019](#))

Adaptation benefits of nature-based solutions

with possible indicators for monitoring & evaluation



FOOD SECURITY

Prevalence of food insecure households (% HH, kcal intake/HH, food security index)



ASSETS PROTECTION

Percentage of assets damaged or protected (% infrastructure, \$ value, ha of land)



LIVELIHOOD MAINTENANCE

Average income from sustainable production (\$ gain, kg/ha yields, # jobs)



WATER SECURITY

Percent of people with access to enough clean water (% , m³/s)



HUMAN HEALTH & SECURITY

Number of years lost or deaths from vector-borne diseases, heat strokes, respiratory distress (% affected, # year), reduced conflicts (%)

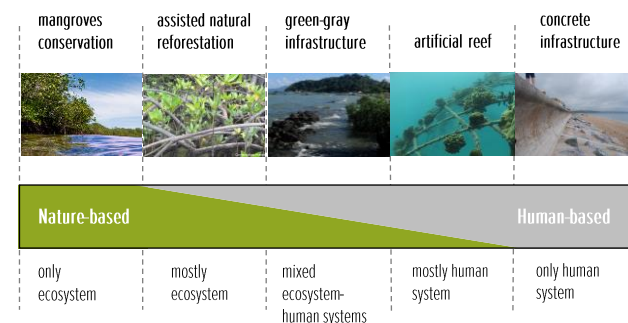
Based on a CI study (Donatti et al. 2020)

What benefits can NbS for adaptation provide?

- **Adaptation benefits** (see on the left):
food security, assets protection, livelihood maintenance, human safety & resource security and health provision.
- **Environmental benefits:**
increased species diversity, habitat preservation, carbon sequestration, and reduction of invasive species.
- **Economic benefits:**
increased productivity, livelihoods diversification, improved natural capital, income from payments for ecosystem services and eco-tourism.
- **Socio-cultural benefits:**
increased social cohesion, strengthened governance and institutions, and preserved scenic beauty and traditions.

How can NbS for adaptation be implemented?

NbS for adaptation can be implemented using nature only (e.g. mangrove conservation) or in combination with technical solutions (e.g. green-gray infrastructure). NbS for adaptation can also be implemented in combination with human-based solutions (e.g. early warning systems, land use plans, market access, climate change awareness).



for more information:
www.conservation.org/EbA

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