

Ecosystem-based Adaptation (EbA): A review of the constraints



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Aim

Ecosystem-based Adaptation (EbA) uses ecological processes and systems to help communities to adapt to the impacts of climate change. EbA is a relatively new approach in climate adaptation although ecosystem-based approaches have a long history in conservation. Our aim was to **synthesise the kinds of factors that constrain the effective implementation of EbA** and to **identify key knowledge gaps in this area of research.**

Method

- Qualitative Review of over 60 peer-reviewed papers that specifically focus on EbA.
- Analytical framework from The Intergovernmental Panel on Climate Change Fifth Assessment Report (AR5, Cp 16) in constructing constraints categories for further analysis.



- Gender imbalance in access to climate and EbA information
- Difference in risk perceptions (what is at risk and why)
- Cultural preferences how a landscape should look like



- Heavy reliance on Western knowledge vs. Indigenous knowledge
- Confusion around what EbA means
- Incomplete methodologies on Monitoring and Evaluating (M&E) EbA project outcomes and benefits
- Strong emphasis on current climate variability, not future climate projections



- Traditional governance systems vs. Western top-down governance
- Mismatch of governance (borders, jurisdictions) vs. problem scales (climate hazards & ecosystems)
- EbA not mainstreamed across sectors
- Competing and conflicting land rights
- Lack of participatory processes



- Limits and thresholds under which EbA might not deliver expected benefits
- Emergence of novel ecosystems due to climatic changes
- Negative impacts from EbA projects
- Transformative aspects of EbA (EbA as transformational adaptation)



- Land prices (expensive to purchase land for EbA)
- Lack of specific EbA funding
- Funding focus on conservation, not restoration of degraded lands
- Inadequate funding for project upkeep and management



- Ecosystems already highly degraded, challenging baseline for EbA
- Biophysical constraints and limits (e.g. low topography, species range)
- Permanent changes in landscapes and ecosystems (e.g. lakes turning into forest ecosystems)