



# National Perspectives on Ecosystem-Based Approaches (EbA) A case of Tanzania



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# Outline of Presentation

- Introduction
- Vulnerability of Ecosystems in Tanzania
- Relevance of Ecosystem-based Adaptation (EbA) measures to Tanzania
- Integration of ecosystem-based adaptation in national policies, strategies in action plans and sectoral programme
- Examples of EbA integration at sub-national level.
- Concluding remarks

# Introduction

- The impacts of climate change are vivid and being felt by vulnerable ecosystems and people.
- Healthy ecosystems provide valuable goods and services e.g. food, clean water, flood and erosion control, while building societal resilience to climate change impacts.
- Changes in rainfall and temperature are likely to contribute to changes in plant and animal species composition and diversity, as well as to shifts of species range and of the agro-ecological zones in the country.

# Introduction

- Changing climate has resulted in a general decline in the ecosystems ability to provide goods and services,
  - e.g. decline in agricultural productivity, and changes in agro-diversity.
- Thus appropriate actions that integrate and enhance ecosystem healthy are desired.

# Tanzania has a variety of ecosystems

- Tanzania hosts a variety of ecosystems including
  - River systems, mountains, drylands, wetlands and mangroves, Savannah, coastal and marine ecosystems, diverse agro-ecosystems
- Many of the ecosystems are trans-boundary
- These ecosystems directly and indirectly support the livelihoods of the population and much of the Country's economy, providing goods and services that support different sectors.

# Vulnerability of Ecosystems in Tanzania

- Most sectors of the economy in Tanzania are vulnerable to impacts of Climate Change
  - Communities depend on natural resources for livelihoods,
  - Low technology to address climate change challenges,
  - Exposure to multiple stress factors,
  - Thus, low adaptive capacity
- Change in weather and climatic patterns affects food production, water availability, power generation, tourism, and other sectors.

# Vulnerability of agro-ecosystems

- Impact of climate change on agriculture
  - Droughts have become more frequent leading to poor harvests
  - Water resource is decreasing leading to increased vulnerability of irrigation systems
  - Floods destroying infrastructure, e.g. roads and railways



- Reduced crop yields from rainfed agric.
- Reduced length of growing seasons
- Livestock mortality due to severe drought - shortage of water and pasture



# Vulnerability of Aquatic ecosystems



- Potential threat to biodiversity resources (e.g. Hippos) due to droughts.
- Such overcrowding favours the occurrence of contagious diseases, and physical injury.
- Decrease in fish yields in Lake Tanganyika ecosystems - by 30% (IPCC, 2007).



# Vulnerability of ecosystems in Tanzania

- Affected migration patterns - from resources poor to resource rich areas (humans, livestock, wildlife)
- Resulting in conflicts,
  - Farmers – livestock keepers (e.g. wetlands)
  - Human – wildlife



# Relevance of Ecosystem-based Adaptation (EbA) measures to Tanzania

- EbA main objectives is to promote societal resilience through the management or conservation of ecosystems (hence reducing people's vulnerability to climate change) (Pramora et al., 2012)..
- EbAs also have the potential to promote integrative and cross-sectoral adaptation, as many of them consider multiple ecosystem services and beneficiary sectors (Pramora et al., 2012).
- All these have relevance to Tanzania

# Relevance of Ecosystem-based Adaptation (EbA) measures to Tanzania

- Examples of EbAs:
  - the restoration of mangroves for protecting coastal settlements against storm surges,
  - the conservation of upstream forests to regulate water flow and control erosion for the benefit of vulnerable communities,
  - sustainable forest management for the provision of safety nets to livelihoods (CBD, 2009)
- Ensuring the capacity of ecosystems to generate essential services for climate change adaptation of socio-ecological systems requires ecosystems to be managed as components of a larger landscape of which human activities are part (Devisscher, 2010 ).

# Integration of EbA in national policies & strategies

- **Policies supporting EbA and biodiversity conservation**
  - National Environmental Policy, 1997
  - Forest Policy, 1998
  - Wildlife Policy, 2007
  - Agriculture and Livestock Policy, 1997
  - Water Policy, 2002
  - Energy Policy, 2003
  - Land Policy, 1997
  - Livestock Policy, 2006
  - National Disaster Management Policy
- **Integration of EbA in national strategies:**
  - Development 2025 Vision.
  - National Strategy for Growth and Reduction of Poverty (2010-2015) .
  - National strategy on urgent actions on land degradation and water catchments (2006) - restricting cultivation on steep slopes.
  - National Biodiversity Strategy and Action Plan
  - National Climate Change Strategy (2012).

# Integration of ecosystem-based adaptation in national policies and strategies

- Integration in action plans and sectoral programme
  - Five-Year Development plan (2011-2016)
  - National Adaptation Programme of Action (NAPA),
  - Agricultural sector Development Programme,
  - District Development Plans
  - Rural Development Programme, etc.

# Examples of EbA integration at sub-national level-1

- 14 national parks;
- Establishment of 34 Wildlife Management Areas (WMAs) in different parts of the Country;
- Establishment of Forest Conservation programmes like Participatory Forest Management (PFM) in different parts of the Country.
- Establishment and promotion of traditional land and biodiversity conservation – e.g. *Ngitiri* in Shinyanga Region, Western Tanzania,

## Examples of EbA integration at sub-national level-2



- Establishment and promotion of traditional ways of conserving land and biodiversity through traditional farming methods , e.g. the Matengo pit systems (the *Ngoro* systems ) in Mbanga District, southern Tanzania.
- Land management and conservation Programmes, e.g.
  - HADO (since the early 1970s);
  - HASHI - Hifadhi Ardhi Shinyanga (since the mid 1980s)
  - LAMP in Arusha, 1990s
  - SECAP in Tanga Region, 1980s

# Conclusion

- Ecosystems provide a valuable adaptation mechanisms.
- In this context, ecosystem-based approaches to adaptation could be used as part of the solutions in building resilience to climate change.
- National capacity building is needed (know-how , technical experience, education and training, financial) to enhance adaptation.



Thank You For Your  
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