Ndërtimi për rekuperimin e Lagunës Kune-Vaini nëpërmjet Adaptimin e Ekosistemët (EbA).
Presentation Structure

1. Background to the Kune-Vaini SCCF project
2. Introduction to Ecosystem-based Adaptation (EbA)
3. EbA case study
4. Overview of the project design
Global Environmental Facility (GEF)

- Special Climate Change Fund
- Project Cycle:

  - Project Identification Form: May 2013
  - Project Preparation – Project Document: August 2013 - March 2015
  - Project Implementation: April 2016 – March 2019
Project Rationale

• Kune-Vaini Lagoon provides a range of important ecosystem goods and services
  • Water purification
  • Flood mitigation
  • Food provision – fishing
  • Biodiversity conservation, etc.
Project Rationale

- The Kune-Vaini Lagoon is threatened by human influences
  - Urban expansion
  - Pollution
  - Erosion, etc.
Project Rationale

• Climate change exacerbates the threats to the Kune-Vaini Lagoon
  • Increasing temperature – increased evaporation – increased salinity
  • Sea-level rise – increased erosion
  • Increasing variable rainfall – increased flooding
Identification and Implementation of Adaptation Response Measures in the Drini Mati River Delta (DMRD)

Identifikimi dhe zbatimi i masave per adaptim ne derdhjjet e lumenjve Drin e e Mat
Projekt propozimet bazuar ne masat prioritare për përshtatje ndaj ndryshimeve klimatike
(tav. donatoreve 23 prill 2013)

1. Menaxhimi i erozionit bregdetar (EbA+engineering)
2. Menaxhimi i ujrave të ëmbla në DLDM
3. Menaxhimi i ekosistemeve pyjore në zonene bregdetare (EbA)
4. Menaxhimi i grykës së lagunës së Cekës (Enginineering)
5. Menaxhimi i kanaleve komunikuese në Ishullin e Kunës
6. a. Përmirsimi i komunikimit ujor midis  lagunës së Zajës e lumit Drin Enginneering, b. Përmirsimi i komunikimit ujor midis  lagunës së Cekës e Zajës (Enginneering)
7. Mirmbajtja e bankinave në Kune –Vain dhe Ishull Shëngjin (CbA).
8. Mirmbajtja e bankinave në zonën e Tales. (CbA)
9. Trajtimi i ujrave të zeza në zonën e DLDM. (CbA).
10. Mirembajtja e kanaleve kulluese ne zonen e DLDM. (CbA)
11. Pergatitja e studimit të fizibilitetit për të gjithë zonën e DLDM (CbA)
Human activities are reducing the ability Kune-Vaini Lagoon to provide valuable ecosystem goods and services required by local communities. The observed and predicted effects of climate change further exacerbate this.
Project Solution

• to increase the capacity of government and local communities living nearby the KVLS to adapt to the adverse effects of climate change using ecosystem based approaches to adaptation.
Definition of EbA

'the use of biodiversity and ecosystem services to help people adapt to the adverse effects of climate change'

'sustainable management, conservation and restoration of ecosystems, as part of an overall adaptation strategy that takes into account the multiple social, economic and cultural co-benefits for local communities'.
What are the benefits?

The benefits speak for themselves

Goods:
- Timber
- Fish
- Meat
- Fruit
- Fibre
- Fodder
- Thatch
- Cultural items

Plus
- Pilots exist
- Cost effective
- Low/no regret
- Disaster risk reduction

Services:
- Water flows
- Pollination
- Carbon sequestration
- Pollution control
- Flood & storm surge protection
Why does this not happen more often?

- Benefits take time to accrue
- Limited awareness – mindset change
- Needs to take place over a large scale
- Limited finance
Credibility is paramount, but it means different things to different groups.

Long-term research and awareness are important
Examples of EbA

- Spekboom into Eastern Cape Thicket
- Mangroves into Djibouti
- Forests in Cambodia
- Rwandan forests
- Comoros forests
- South American forests & Sri Lankan home gardens
Concrete example from the subtropical thicket vegetation, Eastern Cape, South Africa
What Is The Problem?

Changing the micro-climate through inappropriate herbivory for meeting economic objectives.
EbA in subtropical thicket
<table>
<thead>
<tr>
<th></th>
<th>Above ground</th>
<th>Litter</th>
<th>Roots</th>
<th>Soil</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>40 ± 3</td>
<td>11 ± 1</td>
<td>25 ± 1.3</td>
<td>133 ± 27</td>
<td>209 ± 28</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>M&amp;E. Bio-physical</th>
<th>t C ha⁻¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key finding: carbon stocks in thicket rival rainforests</td>
<td>7 ± 1</td>
</tr>
<tr>
<td>and falling?</td>
<td>1 ± 0.4</td>
</tr>
<tr>
<td></td>
<td>11 ± 0.7</td>
</tr>
<tr>
<td></td>
<td>95 ± 15</td>
</tr>
<tr>
<td></td>
<td>114 ± 14</td>
</tr>
</tbody>
</table>

Mills et. al. (2005) Austral Ecology
2008: thicket-wide plots: 300 sites across Eastern Cape

M&E. Social
A hypothetical 4000 hectare case study:

Carbon credits over 40 years: 2 million
Rands over 40 years @ R60/credit: R120 million
Cost to restore and generate carbon: ~R20 million
Number of full time jobs in first 5 years: 100
Van der Vyver ML, Cowling RM, Campbell EE and Difford M 2012. Active restoration of woody canopy dominants in degraded South African semi-arid thicket is neither ecologically nor economically feasible. *Applied Vegetation Science* 15, 26-34.


2004: Department of Environment Affairs thicket restoration project.
Budget today: $1-2 million per annum.
Aim: catalyse large-scale restoration in private sector.

Embed in governmental processes.
Multi-sectoral nature of EbA.

Knowledge sharing.
Capacity building.
Participatory approach.
Benefits of restoration

- Landscape aesthetics
- Tourism
- Beekeeping
- Livestock/game carrying capacity
- Job creation
- Land reform opportunities
- Carbon stocks
- Biodiversity
- Soil stabilisation
- Reduced siltation of dams
- Base flow in rivers

Quantify and then use co-benefits to upscale.
Project Design

Objective: to increase the capacity of government and local communities living nearby the KVLS to adapt to climate change using an integrated suite of adaptation interventions, including EbA.

Outcomes:

1: Increased national/local technical and institutional capacity to address climate change risks in coastal areas through adaptation interventions including EbA.

2: Reduced vulnerability of communities living nearby the Kune Vaini lagoon system to climate change-induced extreme events through pilot adaptation interventions including EbA.

3: Increased awareness of local and national stakeholders to climate change risks and the potential of EbA to increase the resilience of local communities to climate change.
## Kune-Vaini Project Design

<table>
<thead>
<tr>
<th>Component</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component 1: Technical and institutional capacity to address climate change risks through EbA</td>
<td>300,000</td>
</tr>
<tr>
<td>Component 2: Climate resilience through demonstration of best practice and concrete EbA and other adaptation interventions in the Kune-Vaini lagoon system.</td>
<td>1,083,300</td>
</tr>
<tr>
<td>Component 3: Awareness and knowledge on effective EbA.</td>
<td>239,000</td>
</tr>
<tr>
<td>Project Management</td>
<td>172,500</td>
</tr>
<tr>
<td>Monitoring and Evaluation</td>
<td>108,000</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1,903,000</strong></td>
</tr>
</tbody>
</table>
Project Design

Component 1: Technical and institutional capacity to address climate change risks through EbA

Outputs:

Output 1.1. Training conducted for national and local government representatives on EbA.

Output 1.2. Technical guidelines produced on implementation of climate change adaptation actions using EbA, and training conducted on the application of these guidelines.

Output 1.3. A technical working group on climate change and EbA established to facilitate national dialogue on coastal adaptation through EbA and mobilise funds for the implementation of EbA at the national level.

Output 1.4. Technical support provided for the development of a strategy to upscale, sustain and replicate climate-resilient development using EbA.
Project Design

Component 2: Climate resilience through demonstration of best practice and concrete EbA and other adaptation interventions in the Kune-Vaini lagoon system.

Outputs:

Output 2.1. An integrated suite of adaptation interventions including EbA implemented in the Kune-Vaini lagoon system.

Output 2.2. Long term strategy for: i) monitoring EbA interventions developed; and ii) technical reports produced.

Output 2.3. Training of local communities on EbA and additional livelihoods including ecotourism.
Project Design

Component 3: Awareness and knowledge on effective EbA.

Outputs:

Output 3.1. Knowledge management plan developed to capture and share information on climate change impacts and lessons learned to inform future EbA interventions.

Output 3.2. Awareness-raising campaign conducted on the advantages of EbA to increase resilience to climate change impacts.

Output 3.3. Scientific reports produced on the performance of implemented EbA interventions and research projects underway.

Output 3.4. A web-based platform established to share information and provide access to project products.
Thank you
Forest restoration in Cambodia
Approach A: Extensive EBA interventions

**Grow:** climate-resilient home garden tree species.

**Result:** High-value, multi-use & climate-resilient forests.

**Benefits:** NTFPS (e.g. fruit, fibre, rattan, resin, medicines, forest meat, fodder), timber, soil protection, pollination & water infiltration/flow.
Livelihoods can be climate-proofed on trees.

Appropriate selection, propagation and establishment of selected tree species *(detailed protocols).*
Approach B: intensive EBA interventions

Resilient rice.

Intensify production.

Resilient, multi-use, border trees.

Climate-smart, conservation agriculture (e.g. contouring, water-harvesting)