



## Convention on Biological Diversity

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### SUBREGIONAL WORKSHOP FOR ANGLOPHONE AFRICA ON THE INTEGRATION OF CLIMATE CHANGE AND ECOSYSTEM-BASED ADAPTATION IN NATIONAL BIODIVERSITY PLANNING PROCESSES

Dar es Salaam, United Republic of Tanzania  
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#### CASE STUDIES FROM THE REGION

The following document provides examples of ecosystem-based approaches to adaptation (EBA) in sub-Saharan Africa. Examples include dedicated EBA projects (section I), National Adaptation Programmes of Action (NAPAs) with EBA elements (section II), and National Biodiversity Strategies and Actions Plans (NBSAPs) with EBA elements (section III).

It is worth noting that the extent of integration of EBA elements within NAPAs is significantly higher than within NBSAPs although a number of additional NBSAPs (such as those from Uganda and Zambia) do identify climate change as a significant threat to biodiversity.

#### **I. Ecosystem-Based Approaches to Adaptation Projects**

##### General Biodiversity

##### ***Tanzania: Study of livelihoods, vulnerability and adaptation to climate change<sup>1</sup>***

In the Morogoro region of Tanzania, reduced river flow and increased flooding has been attributed to deforestation in the mountains, and it has been suggested that effective management of soil, forests and water resources are needed as adaptation measures, along with improved social capacity.

##### ***Madagascar: Assessing the impacts of climate change on Madagascar's biodiversity and livelihoods<sup>2</sup>***

<sup>1</sup> Paavola, J. (2008) Livelihoods, vulnerability and adaptation to climate change in Morogoro, Tanzania. *Environmental Science & Policy*, 11, 642-654

<sup>2</sup> <http://unfccc.int/files/adaptation/application/pdf/19eba.pdf>

A workshop was held to assess the threats from climate change to livelihoods and marine and terrestrial biodiversity in Madagascar. The meeting recommended strategies to address these threats and build resilience in natural and human systems to cope with climate change. These include, for example, ecological protection and restoration, integrated coastal zone management, ecologically sensitive agricultural intensification and diversification, integration into governmental policy frameworks.

***South Africa: Ecosystem-based planning for climate change<sup>3</sup>***

The project aims to maintain sufficient intact natural habitat in an optimal configuration for climate change adaptation as identified through systematic biodiversity planning. Activities include producing biodiversity maps and guidelines in several provinces and municipalities that feed into spatial and development planning; and developing a national strategy for expanding protected areas.

**Marine and Coastal Ecosystems**

***Kenya: Mangrove conservation and crab and fish farming project<sup>4</sup>***

The Kwetu Training Center in Mtondoni trains villagers to stop mangrove harvesting and instead to raise mangrove seeds and initiate crab and fish farming projects. Villagers have reclaimed more than two acres of beach land, and have begun to explore methods of sustainable mariculture. The center also processes herbal products and remedies from the Neem tree, a natural and renewable resource.

***West Africa (The Gambia): Responding to shoreline change and its human dimensions through integrated coastal area management<sup>5</sup>***

The project promotes adaptation to climate-induced coastline erosion through integrated coastal area management planning. Activities include demonstration projects, the mainstreaming of climate change into coastal management policies, capacity building, climate and coastline erosion monitoring mechanisms, and the promotion of regional cooperation.

***Ghana and Kenya: Achieving triple wins: identifying climate smart investment strategies for the coastal zone<sup>6</sup>***

This global project researches and identifies potential co-benefits (and possible risks) from climate change adaptation and mitigation activities. Outputs include a set of case studies and a set of policy briefs for national coastal managers, in order to establish an outline proposal for funds to develop an investment planning toolkit.

***Tanzania: Developing Core Capacity to Address Adaptation to Climate Change in Productive Coastal Zones<sup>7</sup>***

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<sup>3</sup> [http://www.worldresourcesreport.org/files/wrr/wrr\\_case\\_study\\_south\\_africa\\_ecosystem\\_based\\_planning.pdf](http://www.worldresourcesreport.org/files/wrr/wrr_case_study_south_africa_ecosystem_based_planning.pdf)

<sup>4</sup> Equator Prize Recipient.

<sup>5</sup> <http://projects.wri.org/adaptation-database/west-africa-responding-shoreline-change-and-its-human-dimensions-through-integra>

<sup>6</sup> [http://www.southampton.ac.uk/geography/research/projects/coastal\\_climate\\_investment.page](http://www.southampton.ac.uk/geography/research/projects/coastal_climate_investment.page)

This objective of the project is to address the impacts of climate change on coastal zones, especially sea-level rise and changes in precipitation patterns. Activities include the restoration of coastal protections, the rehabilitation of vital infrastructure, capacity building at the district level and stakeholder engagement.

Agricultural Areas

***Malawi: Climate Adaptation for Rural Livelihoods and Agriculture (CARLA)***<sup>8</sup>

The objective of the project is to improve resilience to climate variability and climate change by developing and implementing adaptation strategies to improve agricultural production and rural livelihoods. Activities include community level pilots and targeted capacity building for relevant national and district stakeholders.

***Zimbabwe: Coping with drought and climate change in the Chiredzi district***

Within the district, the project worked with rural farming communities to reduce their vulnerability to climate change. Specific activities include crop diversification, grazing management, woodland management, community seed producers' networks, training of communities in pasture management, and the conservation of wetlands and forests.

***Zimbabwe: Scaling up Adaptation in Zimbabwe, with a Focus on Rural Livelihoods, by Strengthening Integrated Planning Systems***<sup>9</sup>

The project aims to reduce the vulnerability of rural livelihoods and the agricultural sector to the impacts of climate change. A key activity will be pilot projects which may include: conservation agriculture, soil moisture conservation, diversification of crops, agroforestry, better ecosystem management, protecting and enhancing ecosystem services, and improved pasture management.

Inland Water Ecosystems

***Tanzania: The Pangani River Basin management Project (PRBMP)***<sup>10</sup>

The Pangani river basin is projected to be negatively impacted by changing water flows as a result of climate change. In response the project has supported climate change modeling and vulnerability assessments and has invested in adaptation through integrated water resource management approaches.

**II. Integration of Ecosystem-based Approaches to Adaptation into Climate Change Strategies**

Country	Plan	Project	EBA Actions
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<sup>7</sup><http://www.thegef.org/gef/content/ldcf-tanzania-developing-core-capacity-address-adaptation-climate-change-productive-coastal->

<sup>8</sup> <http://www.thegef.org/gef/node/3509>

<sup>9</sup> [http://www.thegef.org/gef/sites/thegef.org/files/gef\\_prj\\_docs/GEFProjectDocuments/Climate%20Change/Zimbabwe%20-%20\(4960\)%20-%20Scaling%20up%20Adaptation%20in%20Zimbabwe,%20with%20a%20Focus%20on/4-26-12%20%20ID4960%20%20RESUBMISSION\\_GEF%205%20PIF%20ZIM\\_SCCF\\_25April2012.pdf](http://www.thegef.org/gef/sites/thegef.org/files/gef_prj_docs/GEFProjectDocuments/Climate%20Change/Zimbabwe%20-%20(4960)%20-%20Scaling%20up%20Adaptation%20in%20Zimbabwe,%20with%20a%20Focus%20on/4-26-12%20%20ID4960%20%20RESUBMISSION_GEF%205%20PIF%20ZIM_SCCF_25April2012.pdf)

<sup>10</sup> [http://www.panganibasin.com/index.php/prbmp/activities/category/climate\\_change/](http://www.panganibasin.com/index.php/prbmp/activities/category/climate_change/)

Democratic Republic of the Congo	NAPA	Biodiversity conservation and restoration of Mangroves Marine Park	<p>Improving data on biodiversity and biodiversity-based livelihoods</p> <p>Outreach and education programme on climate change in the protected area</p> <p>Pilot projects on alternative livelihoods</p> <p>Promote the participation of women in development</p>
Kenya	Kenya's National Climate Change Response Strategy (NCCRS) Action Plan	Subcomponent 3: Adaptation Plan	<p>Vulnerability assessment of biodiversity (ecosystem level)</p> <p>Stakeholder consultation including with users of biodiversity and those reliant upon biodiversity based livelihoods</p>
Madagascar	NAPA	Implementation of erosion control measures through soil conservation techniques and dune stabilization	<p>Protection of watersheds</p> <p>Dune fixation</p> <p>Implementation of Gestion Conservatoire de l'Eau et du Sol (GCES) (Conservation management of water and soil)</p>
		Rehabilitation of degraded coastal areas	<p>Re-profiling of the coastal ridge</p> <p>Installation of nets and trapping windbreaks</p> <p>Filao and mangrove plantation</p> <p>Outreach and education programme on the impacts of climate change</p>
		Reforestation of rural areas with their specific reforestation	Development of reforestation plans

		plans based on locally appropriate species	Replanting of forests with adapted species
Rwanda	NAPA	Land conservation and protection against erosion and floods at districts level of vulnerable regions to climate change	Preparation and implementation of master plan for lands protection of agricultural zones, forestry and riversides threatened by erosion  Preparation and implementation of master plan for the protection of productive lands and vulnerable infrastructures threatened by landslides and floods
Tanzania	NAPA	Climate change adaptation through participatory reforestation in Kilimanjaro Mountain	Outreach and education on climate change adaptation, biodiversity conservation and afforestation through community participatory efforts  Promotion of community participation in conservation activities (including women's groups)  Establishing nurseries and replanting trees in the degraded areas  Support alternative sources of livelihoods
Uganda	NAPA	Community Tree Growing Project	Baseline surveys to identify constrains to tree growing in target communities  Develop and promote growing of suitable high value trees  Promote best practices in land use management  Develop seedling production

			<p>systems</p> <p>Develop and enforce bylaws for tree growing and</p>
		Land Degradation Management Project	<p>Sensitize and strengthen the enforcement of laws and bylaws</p> <p>Promote agricultural and land use best practices</p>
		Indigenous Knowledge (IK) and Natural Resources Management Project	<p>Document and validate climate related indigenous knowledge for natural resource management</p> <p>Develop and implement community based strategies for effective NR management</p> <p>Train communities in integrated NR management</p> <p>Promote use of appropriate indigenous knowledge in natural resources management</p> <p>Strengthen collaborative management of NRs</p> <p>Identify and promote alternative livelihoods</p>
Zambia	NAPA	Management of critical habitats	<p>Collect data to establish critical habitats in National Parks</p> <p>Sink boreholes for watering points for animals in the parks</p> <p>Dredging of watercourses and lagoons of sand to increase volume of available water to animals</p> <p>Construct/improve tracks to</p>

			act as firebreaks in parks
		Promote natural regeneration of indigenous forests	Promotion of natural regeneration of indigenous woodlands  Prevention of wild fires by building fire barriers

### **III. Integration of Ecosystem-based Approaches to Adaptation into Biodiversity Strategies**

#### ***South Africa: NBSAP***

- Recognizes climate change as a threat to biodiversity
- Linked the NBSAP to the Climate Change Response Strategy and the National Action Programme to Combat Land Degradation and Alleviate Rural Poverty
- Includes outcome 3.4: “An integrated national programme facilitates adaptation to the predicted impacts of climate change on biodiversity across the landscape and seascape”