

Impacts of Climate Change in Wildlife Economy in Southern Africa

Bartolomeu Soto - Regional Manager South PPF

Consultative Workshop of Eastern and Southern Africa
on the African Climate Change Strategy - Nairobi

Introduction



- The SADC region is expected to experience higher land and ocean surface temperatures, which will affect rainfall, winds, and the timing and intensity of weather events;
- The region has a number of climate sensitive sectors critical for economy and livelihoods and is, as a result, highly vulnerable to climate variability and change;
- The increase in the frequency and intensity of natural disasters such as cyclones, droughts, floods and other type of extreme weather conditions pose a serious threat to the country's economies, damaging infrastructures, destroying crops, disrupting livelihoods, causing life losses, displacing people and affecting coastal cities;
- Some SADC Member States are already reporting the impact of sea-level rise: eg: Seychelles, described that climate change has left the island in danger of losing its protective reef barrier and a sea-level rise could threaten its survival.

Impacts of Climate Change in SADC



- **Environmentally-induced migration** - Inside-- country migration, due to crop failure associated with recurrence of droughts subsistence farmers abandon their land and migrate into towns to seek alternative income generating opportunities;
- **Loss of Plant diversity** - An increase in temperature of about 1 to 2 degrees Celsius is expected to result in 50% loss of plant biodiversity richness. At the same time, an increase of about 2.5 degrees Celsius will mean a decline in the productivity of the savannah mainly caused by drying and an extinction of 10 % of endemic plants.
- **Negative impact on wildlife and tourism** - as the quality of rangeland deteriorates, the tourism in SADC Member States is predominantly wildlife based and this renders the sector even more vulnerable to climate change, particularly that the climate change is already impacting on the populations of key wildlife species, eg: birds suffers severe losses on cyclones, mammals loses habitat.
- **Impacts on agriculture** - High temperatures, causes heat stress on crops and livestock; as well as by providing a more conducive habitat for pests and pathogens.
 - Eg: With a 2°C increase in temperature and a 10% reduction in rainfall the maize yield for South Africa, is expected to experience a reduction of 0.5 t/ha

SADC Measures to Face Climate Change



- Like other African regions, SADC makes very emissions, opting for adaptation as a way to face the climate change. The region is committed to several international conventions and programs on climate change. All SADC member States are party to the following conventions:
 - **The United Nations Framework Convention on Climate Change** - which advocates for reduced emissions toward lowering global temperatures and offers guidance on coping with impacts of climate change;
 - **The Ramsar Conventions on Wetlands** - which specifically targets the preservation of internationally important wetlands; it also contains a resolution covering climate change impacts, adaptation, and mitigation; and
 - **The Convention on Biological Diversity** - which has resulted in numerous decisions and technical papers describing the links between biodiversity and mitigation of climate change effects.

SADC Measures to Face Climate Change



- SADC Agriculture and Food Security Ministers, in 2009 acknowledged that climate change affects food security. Then SADC took the following actions:
 - Signing a MoU with the World Food Program highlighting adaptation to climate change as one of six main areas for cooperation;
 - Facilitating members states in the African Ministerial Conference on the Environment (AMECEN) which is developing the framework of sub-regional climate change programmes;
 - Jointly with the Common Market of Eastern and Southern Africa (COMESA) and the East Africa Community (EAC) facilitating the implementation of a Tripartite programme on Climate Change to unlock resources for promoting strategic interventions that sustain productivity and livelihood improvements for millions of climate-vulnerable people in the region.

IDAI CyClone - March 2019



- One of the worst tropical cyclones on record to affect Africa and the Southern Hemisphere;
- Caused humanitarian crisis in Mozambique, Zimbabwe, and Malawi, leaving more than 1,300 people dead and many more missing.
- Total damages from Idai across Mozambique, Zimbabwe, Madagascar, and Malawi were estimated to be at least \$2.2 billion. In Infrastructure was \$ 1 billion;
- In Mozambique it affected the Central Part of the country, the provinces of Manica & Sofala, where there are three Protected Areas:
 - Gorongosa National Park,
 - Marromeu Reserve and
 - Chimanimani National Park,
 - There are also 6 controlled hunting areas

Diverse and Rich Ecosystems in the affected Area

The Zambezi Regional Centre of Endemism

Semi-arid dry savannah and woodland with considerable local diversity including grasslands. The Zambezi River which accounts for 67% of Mozambique's total river discharge

Chimanimani National Reserve:

Recognized as key biodiversity area in the Eastern Afromontane Hotspot & part of TFCA. high level of plant, birds endemism, wildlife significant cultural heritage.

Miombo woodlands and forest

Largest dryland forest ecosystem in the world

Coastal Mangroves:

One of largest mangrove forests in eastern Africa, providing essential ecosystem services and contains large carbon stocks, fish spawning area.

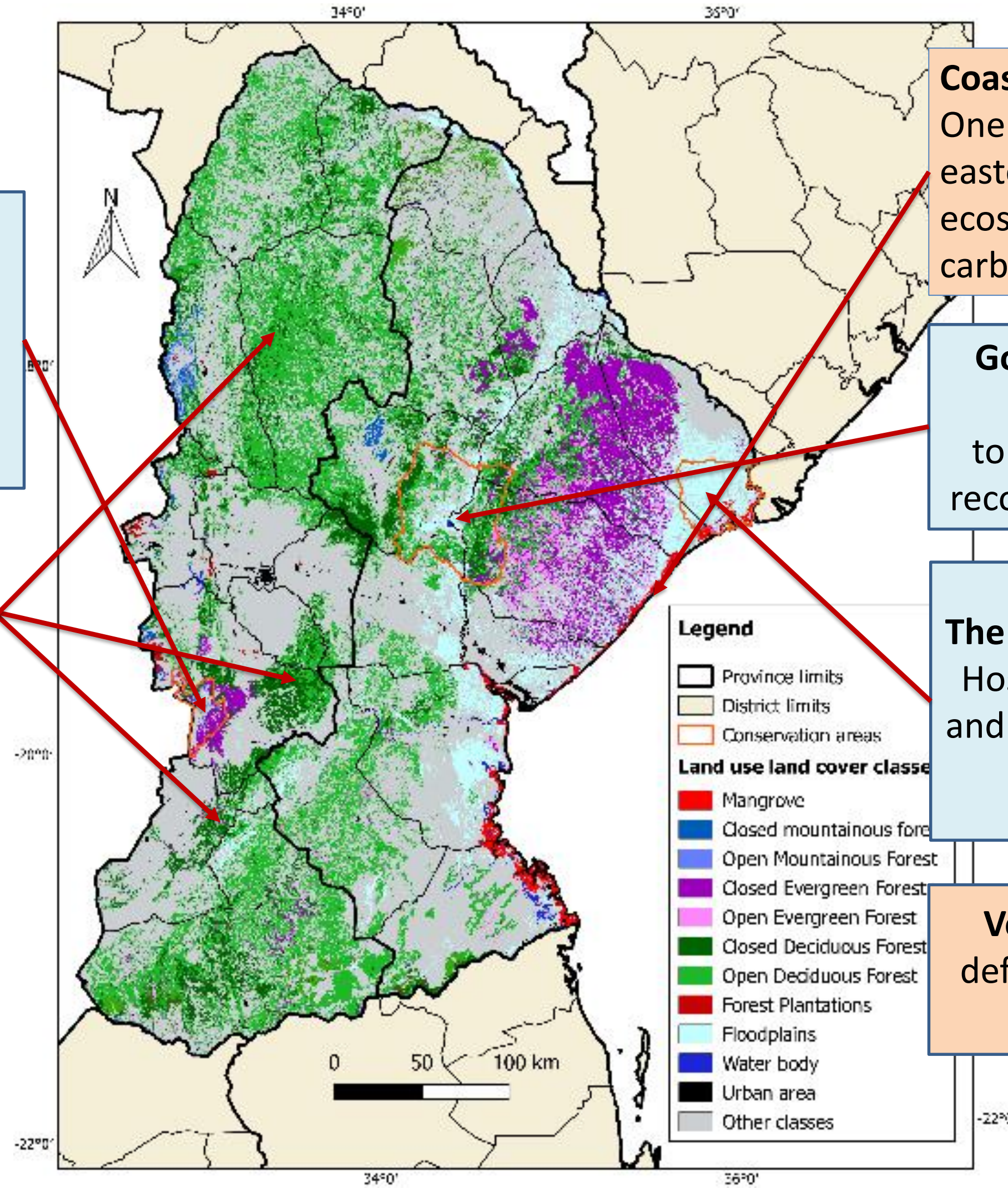
Gorongosa National Park:

Ecosystem composed by 4 interconnected topographical environments. Globally recognized for restoration achievements

The Marromeu Complex (RAMSAR Site).

Hosts the largest buffalo herd in Africa, and populations of other wildlife; vibrant fishing activity and small villages.

Vegetated Coastal Areas: Important defense against disaster, and habitat of biodiversity



IDAI CyClone –Mozambique



- Environmental damage of idai was estimated in \$5 million USD. In the protected Areas the damage were:
 - Infrastructure and Equipment eg: buildings for operations, community headquarters, bridges, roads, vehicle, generators, etc;
 - Destroyed habitats: defoliated and fallen trees, mangroves were destroyed;
 - Lives of local communities withing and around the protected areas were lost
 - Community development program affected, eg: destroyed schools, hospitals and farms supported by the Parks for the people livelihoods
 - Wildlife affected eg: animals drowned (waterhogs); fallen trees destroyed the birds' nests, food scarcity of wildlife period after flood, etc

IDAI Cyclone -Mozambique



Nature Based Tourism was affected:

- Destroyed the tourism business – buildings such as the lodge of Gorongosa, the tented camps of Chimanimani along the river was washed,
- Tourist cancelled their visits



Infrastructure Damage: Examples from Chimanimani National Reserve



Mussapa River Bridge



Access Roads



Tourism camp





Impacts in mangrove and Wildlife



Mozambique - Environment Recovery Plan -IDAI



- The Recovery Plan was estimated in 35 million USD which would cover among others the following:
 - Rebuild Infrastructures/equipment of Parks and Reserves in a basis **Build Back Better**, by planning climate resilient infrastructures, drawing lessons from the current disaster;
 - Restoration of degraded land in priority areas (riparian forests, steep slopes, sensitive habitats) by providing access to planting material, or fencing material (for assisted natural regeneration) to landholders;
 - Includes supporting operations of Protected Areas and Forest Management Authorities to monitor forest areas;
 - Issue Land Use Rights to priority plots, and conduct community land delimitation in vulnerable areas, including preparation of simplified risk management plans;
 - Strengthening local rights to lands and promoting income-generating activities, such as tourism, establishing community protected areas as a tool to reduce threats to natural resources.



Recommendation for the Climate Change Strategy

- Consider PA as key to support ecological processes and ecosystem functionality – African countries must declare additional PA to meet the recommendation of Biodiversity convention (both terrestrial and marine);
- Improve Management of PA to enhance their capacity to sequester Carbon by:
 - Promoting PPP to bring additional financial resources which is one of the weakens to face climate change in Africa;
 - Promote inclusive Policies that provides incentives to local communities to manage and develop protect areas

Thank You

