Background

Disasters in Africa have increased over the past few decades with increased reports of disasters caused by natural hazards, despite concerted disaster management efforts. Africa’s disaster profile is characterised by extreme hydro-meteorological events with floods and droughts being the most common reported natural hazards. A total of 1,517 disasters were recorded between 1980 and 2016 in Africa resulting in more than 610,000 losses in human lives, injuring close to 82,000 people, leaving more than 450 million people needing immediate assistance and leaving about 8 million people homeless. Total economic losses for the same period were estimated to be close to US$29 billion. Of these 1,517 events recorded, 59% were caused by hydrological hazards, which are likely to increase in frequency and magnitude due to climate change. While taking up approximately 22% of the world’s total lands mass, half of the countries with high risk profiles in the world are found in Africa. High exposure to hazards, high vulnerability and low coping capacity all contributes to the continent’s high disaster risks. An increase in frequency of natural hazards does not have to coincide with increased number of disasters and increased impacts on society.

If communities are resilient and more proactive investments are made towards managing and reducing disaster risks, not every hazard will turn into a disaster and harm people. However as highlighted by the 2013 and 2015 Africa Status reports, more is spent on response than risk reduction and reducing underlying risk factors are among the most challenging aspects of disaster risk reduction in the continent. Recent policy developments including the adoption of the Sendai Framework for Disaster Risk Reduction 2015 - 2030 which put the focus on managing risks versus managing disasters, present an important opportunity to re-think current and future measures for disaster risk reduction and to invest in risk-informed, proactive and innovative efforts.
2) Healthy ecosystems and sound management enhance resilience to disasters

Ecosystems such as mangroves, coral reefs and sand dunes, if they are sustainably managed and healthy, can provide physical protection from the direct impacts of natural hazards and they can also reduce underlying vulnerabilities of communities through provision of subsistence, livelihood options and safety nets. In Africa, healthy soil ecosystems enhance resilience for example to slow-onset hazards like droughts. With land degradation challenges, nature-based solutions such as sustainable land management are important to sustain land resources, land productivity and livelihood resilience. According to UN Environment, Africa would generate about US$71.8 billion if all countries were to invest in sustainable land management interventions.

“The economic benefits of taking actions against land degradation in Africa are worth 7 times the costs involved.”
UN-Environment, 2015
Ecosystem-based Disaster Risk Reduction (Eco-DRR) has a key role to play in Africa by providing proactive solutions to effectively shift from responses to prevention; particularly since environmental degradation and declining ecosystems have been identified as one of the biggest disaster risk drivers across the continent.

**What is Ecosystem-based Disaster Risk Reduction?**

Ecosystem-based disaster risk reduction (Eco-DRR) can be defined as the “Sustainable management, conservation and restoration of ecosystems to reduce disaster risk, with the aim of achieving sustainable and resilient development.” It promotes the use of ecosystem management approaches in reducing risks through one or more of the following:

- Sustainably using and managing natural resources to derive services;
- Protecting and conserving intact ecosystems that can play a critical role in risk reduction;
- Restoring degraded ecosystems in order to reduce risks.

**Eco-DRR: a mean to translate the Sendai Framework commitment into actions**

With seven global targets and four priorities for action, a key feature of the Sendai Framework is the shift in focus from managing the aftermaths of disasters to managing the causes of disasters. It also recognises and promote the role of ecosystem management in disaster risk reduction for example by highlighting poor land management, unsustainable use of natural resources and degrading ecosystems as underlying drivers of disaster risk. Ecosystems will now need to be taken into account in undertaking risk assessments (Priority Action 1), in risk governance (Priority Action 2) and investing in resilience (Priority Action 3).

In 2016, African states adopted the Programme of Action for the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 in Africa. The Programme of Action recognises the environment as a key asset that needs to be protected in order to manage and mitigate risks. In the table of actions, the following priorities are identified:

- Priority 2 (Regional): Develop harmonized mechanisms to identify ecosystems critical for transboundary DRR and modalities for their protection and management;
- Priority 2 (National): Develop national mechanisms to identify ecosystem critical for DRR and modalities for their protection and management.

**Investments in Eco-DRR actions can not only form part of disaster risk reduction solutions but they can be used as indicators of countries’ progress against the Sendai Framework for Disaster Risk Reduction.**

**DRR+: the added benefits of ecosystem-based disaster risk reduction**

Some of the biggest barriers to the uptake of Eco-DRR are a lack of trust in these approaches and the need for immediate results. Eco-DRR is indeed not a solution that fits all contexts; benefits may take time to manifest and as there are multiple drivers of disaster risks, it needs to be part of a larger strategy that can consist of a combination of approaches. However ecosystem management are too easily dismissed in risk reduction strategies, even when ecosystem degradation is one of the root causes of vulnerability. It is important to value Eco-DRR investment as an approach towards DRR and one that also provide multiple benefits:

- Eco-DRR as a cross-cutting theme can provide multiple co-benefits beyond disaster risk reduction including livelihoods, food and water security and biodiversity conservation;
- Eco-DRR for disaster risk reduction can simultaneously contribute to conservation efforts, risk reduction, sustainable development, gender equity, climate change adaptation and food security. It can thus ensure the achievement of multiple goals and commitments in a more cost-effective way;
- Eco-DRR is a “no regrets” option that can provide multiple benefits, regardless of a disaster occurrence.
Transforming disaster risk reduction with ecosystem management: where do I start?

Integrating knowledge on ecosystem status in risk and vulnerability assessments: understanding risks and vulnerability assessments are the essential steps towards the implementation of effective DRR. Given that ecosystem degradation is a key driver of disaster risk, it is also important to integrate ecosystem assessments in efforts to understand risk (Priority Action 1) by identifying:

1. Which ecosystems provide important services for disaster risk reduction?
2. What is the health status of these critical ecosystems?
3. What are the current and future threats to these ecosystems?

The knowledge generated will help identify where Eco-DRR is an important investment for effective disaster risk reduction.

Recommendations for Eco-DRR actions:

- Eco-DRR actions need to be mobilised and scaled-up in priority areas where disaster risks and ecosystem degradation overlap.
- Multi-sectoral engagement and collaboration need to be promoted and strengthened to enable mainstreaming of DRR and Eco-DRR in other sectors for joint and cost-effective actions.
- It is important to establish and enforce mechanisms to protect healthy ecosystems that provide regulatory ecosystem services so as to avoid the creation of new disaster risks.
- Disaster risk reduction and management efforts including engineered grey infrastructure, recovery and reconstruction processes need be implemented without affecting the integrity of natural ecosystems.

Eco-DRR in practice

Country: Burkina Faso.
Hazard addressed: Droughts and floods.
Ecosystem-based approach: Sustainable land management to strengthen local resilience to floods and drought.
Field interventions:

- Assisted natural regeneration and reforestation was carried out to increase tree cover and improve soil quality;
- Endogenous land practices like stone lines and Zaï that conserve water were implemented over more than 3000 hectares of land to strengthen its productive capacity and increase agricultural output.

Lessons learned: Involvement of communities in vulnerability assessments, identifications of solutions to risks, project management and implementation, 1) ensures that the Eco-DRR responses are relevant to the local challenges and 2) leads to community ownership.

References