

Reshaping the terrain

Landscape restoration in Tanzania

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Introduction

Landscape degradation in Tanzania has occurred since the era of imposed colonial administrative policies, compounded by unsustainable environmental and land management practices due to local demand for agricultural land and fuel wood. For example, in the 1920s, the colonial administration instituted a programme in Shinyanga Region, which demanded local people to cut down large areas of the Miombo and Acacia woodlands to eradicate tsetse flies, opening up grazing land for the Wasukuma agro-pastoralist tribe. Although this program was successful in terms of its aims, it led to regional landscape degradation. As human and livestock populations increased, demand for fuel wood and farmland for food and cash crops grew in tandem, leading to large scale deforestation (Barrow et al. 2004).

Similar land degradation activities were taking place in various parts of the country, including Kondoa District in the Dodoma Region and some parts of the Arusha Region independently of colonial influence.

To reverse the situation, in the 1940s and 1950s the colonial administration launched anti-erosion measures to reduce continued soil erosion in Kondoa District. However, these efforts were unsuccessful because they were not participatory. There was no incentive for local people to get involved. They were simply required to do what the administrators dictated. For example, farmers were ordered to plant sisal (*Agave sisalana*) on their farms to save whatever arable land remained from further destruction.

“On Monday 13th August, 2018 Tanzania committed to restore 5.2 million hectares by 2030 as part of the country’s contribution to AFR100.”

After independence, similar detrimental practices continued throughout the country leading to severe deforestation, soil and landscape degradation. As early as the 1970s and 1980s the government initiated projects to rehabilitate more than 120,000 and 350,000 hectares in Kondoa and Shinyanga respectively. Additionally, ongoing rehabilitation efforts occurred elsewhere in the country, especially in Northern Tanzania. These donor supported interventions aimed to preserve the remaining arable land as the economy of the country has been dependent on agricultural production since



Well-rested landscape through tree planting

the colonial era. Interventions ensured the country could produce enough food and stimulate enough economic activity to cater to the growing population and industries. Therefore Landscape restoration is regarded as one of Tanzania's key efforts to fight poverty.

Restoration efforts

By 1977, estimates indicated that more than half the total land area of Tanzania was degraded and required remedial measures (Mng'ong'o 1990). Since 2000, government led efforts to restore the land have included a national tree-planting program, which requires every district to plant 150 million trees every year. Reports show that since then more than 200 million trees have been planted annually. However, the survival rate of the planted trees is only 65 percent.

Through the Tanzania Forest Services (TFS Agency, the government has increased the number of its forest plantations from 16 in 2010, to 23 in 2018. In the same period, TFS expanded the area planted with trees on forest plantations from 85,000 hectares to 112,000 hectares (TFS, 2018). In its five year Strategic Plan (2014-2019), TFS set an annual plantation tree planting target of 10,000 hectares. By June 2018, 90 percent of the target was achieved (TFS 2018).

These current landscape restoration efforts in Tanzania aim to increase tree-cover, restore degraded land and contribute to global efforts to tackle climate change challenges detailed in the U.N. Sustainable Development Goals – including the Life on Land, Climate Action and Sustainable Cities and Communities targets. These efforts will also contribute to Tanzania's recent commitment to restore 5.2 million hectares by 2030 as part of the AFR 100.

In Tanzania landscape restoration occurs in almost every part of the country, ranging from the coastal area where mangrove replacement is occurring all the way to the severely deforested central semi-arid ecosystems, to the higher altitude areas of the Eastern Arc Mountain Forests and at the foot of Mount Kilimamjaro, the highest mountain in Africa. However, the latest national forest resources monitoring and assessment (NAFORMA) report shows that the southern highland regions of Iringa, Njombe, Mbeya, Songwe and Rukwa have higher tree-planting interventions compared to other parts of the country. In these regions, trees are planted as a cash crop.

Other areas with significant woodlots include the regions of Kagera, Mwanza, Shinyanga and Mara around Lake Victoria where trees are planted as part of agroforestry practices. These regions are highly populated because their soils are fertile.

1. Landscape Restoration Approaches

The main landscape restoration approaches employed in Tanzania include:

- **Conservation of the natural forests:** Natural forest conservation is assured by intensifying law enforcement and planting indigenous tree species in degraded natural forests owned by central, local and village governments
- **Participatory forest management (PFM):** This concept is implemented through (a) *Joint forest management (JFM)* in which local communities living in close proximity enter into agreement with either the central or local government to collectively manage government owned forests. This allows local communities to collect dead trees for firewood, and edible fruits and vegetables. They also get 40 percent of revenues accrued from selling forest products if the jointly managed forest reserve is a product forest. (b) *Community based forest management (CBFM)* approach encourages residents to set aside part of their village land for forest conservation during land use planning. Villagers have full mandate on how to use the forest resources under CBFM, while the government acts as adviser on how best the forest should be managed and utilized.
- **Tree planting:** Tree planting is done by different stakeholders in Tanzania including local and national governments, local communities, non-governmental organizations (NGOs), and private individuals. Under this approach, trees are planted for various purposes including to provide timber for sale, wood fuel, environmental conservation, climate change mitigation and carbon trading. Estimates indicate that of Tanzania's approximately 500,000 hectares of woodlots and forest plantations, about half is owned by the central government. Additionally, farmers are encouraged to practice agroforestry and demarcate farm boundaries by planting trees.
- **Changing highly degraded natural forests to forest plantations:** Through TFS, the central government has decided to transform its severely degraded natural forest reserves into forest plantations. Between 2010 and 2018, TFS



switched five natural forest reserves, namely Biharamulo (134,680 hectares), Iyondo Msimwa (12,053 hectares), Pagale (12,950 hectares) and Korogwe Fuel (10,805 ha) to forest plantations.

- **Extension services:** Forest extension officers conduct education programs in villages and educational institutions to share knowledge and skills on the importance of forest to human livelihoods and the county's economy. Extension services are conducted through radio and television programs, publication of articles in newspapers and newsletters, and site visits where discussions are conducted at public meetings.

The government of Tanzania has so far considered that the effectiveness of restoration approaches is dependent on the reason behind the initiative. Some participants conserve natural forests for traditional use (worshipping, cemetery use), fuel-wood production (charcoal and firewood), and timber production while others restore the landscape for climate change mitigation and carbon trading. However, in practice, PFM, tree planting, law enforcement and extension services are critical factors in the success of landscape restoration in Tanzania.

2. Constraints to forest and land restoration

Landscape restoration in Tanzania is constrained by the following factors:

- **Financial:** Landscape restoration programs are expensive undertakings especially in developing countries. In Tanzania most landscape restoration interventions have been donor supported and experience shows it is difficult to sustain such innovations after support is terminated.
- **Population growth:** Annual population growth in Tanzania stands at 2.7 percent, exerting continuous pressure on land and natural resources through forest clearing and land degradation if land restoration measures are not taken.
- **Unimplemented land use plan:** Tanzania has a national land use plan, which requires every village to map and apportion their village land to different uses. However, this national policy is very difficult to implement because of the size of the country and insufficient finance for implementation
- **Lack of local community awareness on the importance of forests:** Most local community members still believe that trees are a God given gift and that they are to be used without concern for development and protection.

- **Effects of climate change:** Landscape restoration is also constrained by the impact of climate change on the environment, causing difficulties in establishing woodlots and forest plantations. More research is needed into this matter.
- **Non-compliance of the conservation laws:** The majority of local community members illegally farm, reside in and burn the forests. Animals are allowed to graze and mining is undertaken in reserve lands.
- **Uncoordinated forest resources management:** Forests in Tanzania are owned and managed by different authorities and unfortunately these owners are not coordinated through a central body. This may lead to conflicting resource use resulting in continuous degradation of landscapes and soils.

3. Enabling conditions

- **Political will:** The government of Tanzania is committed to restoring degraded landscapes by implementing such strategies as annual tree planting, coordinated by the office of the Vice Presidents (Environment)
- **Availability of trained conservators:** The many trained, but unemployed natural resources conservators in the country could contribute to official restoration efforts if their skills were formally entrenched in government's restoration activities through employment



Grazing in a well restored Ngitiri in Shinyanga Region

- Availability of research institutions and materials
- Success pilot project to learn from new technologies
- Media house to support extension services programs
- Willingness of other government mechanisms and the police to support law enforcement

Tanzania's restoration commitment

On 13th August 2018, Tanzania announced that it will restore 5.2 million hectares of degraded and deforested land by 2030 as part of its commitment to the African Forest Landscape Restoration Initiative, AFR 100. While plans for fulfilling the AFR 100 commitment are underway, the following steps are being taken for the country to fulfill its current commitments.

- Tanzania Forest Services Agency entered into an agreement with local government on how to better and jointly manage forest resources under local government jurisdiction.
- The government also has embarked on a nationwide program to map and develop village land use plans in every village, including eviction from encroached forests, converting highly

degraded natural forests to forest plantations involving other government machineries in efforts to restore degraded landscapes and encouraging investors to invest in the forest sector.

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