Landscape Restoration in Kenya

Stocktaking of Key Innovations and Strategies

1. Introduction

In Kenya, forest and landscape restoration (FLR) is a high priority on the government's agenda, reflected by the large number of initiatives, legislations and policies associated with addressing degradation. These government policies, when implemented with strong communities' participation, can also be part of a national strategy to implement the Sustainable Development Goals (SDGs). While these initiatives demonstrate a strong commitment to FLR and associated ecosystem services, implementing them at scale requires proper planning and assessment of the existing opportunities and resources. Towards this end, the Government established a multi-stakeholder Landscape Restoration Technical Working Group (LRTWG) in 2014 led by the Kenya Forest Service (KFS) to spearhead this planning and assessment processes.

The LRTWG carried out an assessment of potential restoration opportunities and identified the most pressing land use challenges, restoration options and opportunities. This study is part of this process and sought to undertake a survey of a selection of successful FLR projects in Kenya, from which lessons can be drawn and scaled up to the national level. With a focus on key innovations, this work aims at providing a key building block towards a National Restoration Strategy, which will drive Kenya's stated ambitious goal of restoring 5.1 million hectares of land – including forests, rangelands and croplands – by 2030.

2. Process

2.1 Project selection

This process set out to undertake a national survey of restoration initiatives that are considered successful from which lessons on key ingredients for successful restoration, particularly scalable innovations, could be learnt. Ideally, the process sought a good mix of the following key aspects:

- **Land tenure:** ideally a mix of public, communal and private lands
- **Spatial scale:** preferably bigger, but about 10 ha restored area
- **Temporal scale:** preferably longer, but a minimum of three years of operation
- **Restoration goal:** ideally a mix of environmental, economic, socio-cultural goals
- **Geographic and administrative coverage:** preferably covering multiple eco-agricultural zones and diverse habitats, straddle several counties
- Nationally-determined landscape restoration options: ideally have a representation of most if not all seven options: Afforestation/reforestation, Rehabilitation, Agroforestry, Commercial plantation, Silvicultural/rangelands, Waterbodies/riparian, and Roadways.

Based on these criteria, the following 11 projects were selected for inclusion in this exercise (Table 1). They had a relatively good national coverage, included the three sectors (cropland, forest and rangelands) and covered six of seven areas of the National Landscape Restoration Options (only Roadways were not represented). In addition, a short case description of one of the ongoing REDD+ projects in Kenya – the Kasigau Corridor REDD+ project was included. Although this is a forest protection and not a restoration programme per se, it was felt that there were some similarities and important lessons, especially around community engagement and payment for ecosystem services (PES) that could be shared from this programme to enrich the FLR discussion in Kenya towards the achievement of national target.

2.2 Indicator selection

The key question for scaling up is what determines the success or failure of landscape restoration efforts. These key drivers have been classified into three thematic areas which were used to formulate the indicators for this study:

1. **Clear motivation:** all key stakeholders aware of the need for landscape restoration and be inspired or motivated to support it, i.e., have a shared vision.
2. **Enabling conditions:** ecological, policy, legal, social, and/or institutional conditions need to be in place to create a favourable context for landscape restoration at scale.
3. **Effective implementation:** adequate capacity and resources need to be mobilised to implement the restoration activities on a sustained basis on the ground.

Table 1: The key elements of the 10 projects included as Case Studies in this stocktaking exercise

Case#	Project Name	County	Land Tenure	Area (Ha)	Yrs	Habitat	NLR Option
CS01	TIST	Meru	Private	15,000	14	Cropland	Agroforestry/ Afforestation
CS02	Naibunga Rangeland	Laikipia	Community	47,000	14	Lowland savanna	Rehabilitation
CS03	Bathi River Rehabilitation	Kiambu	Mixed	16	6	Highland forest	Riparian
CS04	Tupande Pamoja Initiative	Kiambu	Public	30	7	Highland forest	Rehabilitation
CS05	Mikoko Pamoja	Kwale	Mixed	117	7	Mangrove	Afforestation/ Reforestation
CS06	PELIS-Geta Forest	Nyandarua	Public	863	9	Highland forest	Commercial plantation
CS07	FMNR-World Vision-Mogotio	Baringo	Private	2356	6	Cropland	Silvicultural/ Rangelands
CS08	Kenya Agricultural Carbon Project	Bungoma& Kisumu	Private	45,000	9	Cropland	Rehabilitation/ Agroforestry
CS09	Komaza Forestry	Kilifi & Kwale	Mixed	3800	10	Lowland dryland forest	Agroforestry/ Afforestation
CS10	Sondu Miriu River Afforestation	Bomet	Public	156	5	Lowland forest	Afforestation/ Reforestation
CS11¥	FMNR-Samburu-SAPLIP	Samburu	Mixed		3	Cropland	Rehabilitation/ Agroforestry

¥ This World Vision project was provisionally included and visited in Samburu, but the proponents were unable to furnish the required information for the full Case Study description

3 Key findings and recommendations for the National FLR Strategy

There was widespread agreement on most of indicators for the selected projects, and despite their variation in activities and desired end-points, all the project implementors felt that their restoration programmes could be considered successful. Tellingly, success was determined by effective implementation of project activities because they did not have a pre-defined ecosystem or social end-states they were aspiring for. Further, all the projects had some key hallmarks of sustainability including policy backing, strong motivation driven by both need and benefits, multiple stakeholders working in partnership, innovative mechanisms, dedicated champions/leaders and stable funding. Some projects were predetermined in their areas of operation (e.g., based on forest reserve or group ranch sizes), while others had no predefined areas selected for restoration and were designed to grow organically. Both models—predetermined and indefinite—will be crucial when scaling up as national restoration efforts will need to embrace either strategy in different contexts. The key findings worth considering when scaling up restoration efforts were grouped into five main categories:

3.1 Major innovations

Amongst the strategies the projects employed, all had one that they considered as the primary innovative feature of their restoration programme. The key five main innovations were:

3.1.1 Payment for Ecosystem Services (PES)

This was mainly through certification and sale of carbon credits and was a potent restoration motivator that propelled reforestation especially on private and communal land. However, revenues from carbon sales were generally low, so this had to be carefully promoted to communities to manage expectations. Nonetheless, there seems to be a positive outlook for smallholder carbon payment schemes and projects where besides the carbon, farmers are helping control soil erosion and improve soil fertility leading to improved productivity which ultimately results in improved food security and improved livelihoods for rural people. Kenya can earn a lot in this PES area from the Kasigau Corridor REDD+ Project (Annex 1: Case Study 10 in the detailed report) which has been actively selling verified carbon credits in the voluntary market for close to 10 years now.

3.1.2 Plantation Establishment and Livelihood Improvement Scheme (PELIS)

This is a programme where communities are engaged in rehabilitation and reforestation activities on public land. They are offered a piece of land for farming for free (in gazetted forest areas) and in return provide labour for planting and nurturing for seedlings until they form a closed canopy after which they stop farming and let the forest establish. With proper management to ensure the system was not abused, e.g., by the farmer not planting or tending the trees in the right way, this offered a low-cost way to achieve reforestation and improve local livelihoods.

3.1.3 Commercial forestry

This provided a strong economic incentive for reforestation. While trees are primarily grown for timber products, it could be structured in a way that also enhances the environment and provides some social goals too, like soil improvement and livelihood support from fodder, fruit and nuts.

3.1.4 Farmer-managed Natural Regeneration (FMNR)

This is essentially a farm-based forestry or agro-forestry approach that the farmers can apply on their private lands for multiple benefits including wood products, fodder and soil stabilisation. It is a low cost, replicable laissez faire approach to restoring and improving agricultural, forested and pasture lands through letting trees and other natural vegetation regenerate without much replanting. When planned well, this is compatible with the farmers' normal farming activities and thus has minimal opportunity cost for the participating farmers; it can also be augmented by planting which will move towards EverGreen Agriculture in croplands[1].

3.1.5 Livestock bunching or pooling

This was a unique innovation for rangeland restoration which involved setting aside areas for settlements, livestock and wildlife to manage numbers and avoid conflicts and degradation from overstocking. It can incorporate assisted natural regeneration of the rangelands (akin to FMNR as described above) whereby some areas were fenced off and not grazed during the wet season to enhance vegetation recovery and provide dry season fodder[2].

1 www.worldagroforestry.org/evergreen_agriculture or Garrity et al 2010. Evergreen Agriculture: a robust approach to sustainable food security in Africa. Food Security 2(3): 197-214

2 A similar restoration example was described in Tanzania (Buckingham and Hanson, 2015. The Restoration Diagnostic. Case Example: Shinyanga Region, Tanzania, WRI): A core aspect of the program has been the revival of a traditional practice called "ngitili," a Sukuma tribal word meaning "enclosure" or "fodder reserve". Ngitili involves closing off from livestock an area of standing vegetation—including grasses, shrubs, and trees—from the onset to the end of the rainy season. The ngitili area is only opened up for grazing at the peak of the dry season

3.2 Key strategies

3.2.1Dealing with previous degradation drivers

Most of the restoration initiatives had to deal with more than one driver of degradation and thus required different strategies for addressing them. The drivers of degradation identified were predominantly associated with overuse (overharvesting and overstocking) which was mostly addressed by a combination of awareness and replenishing the resource rather than removing the threat per se. A wide variety of restoration actions were undertaken for the selected projects, which was expected because different stages of degradation call for different strategies and actions, ranging from abiotic, to biotic or management-related. For these projects, most of the degradation was at the biotic barrier level, mainly requiring biotic and management-related interventions for restoration. There were only few projects that involved abiotic level actions, mainly soil stabilisation. This points to the importance of any national restoration efforts understanding the nature of the degradation factors they were trying to address before designing the restoration strategy.

3.2.2 Sustainability or exit plan

That most of these restoration projects were voluntary schemes not anchored on or required by any policy demonstrates that with the right set of incentives, people on private or communal land can freely engage in restoration towards the national target. To this end, it is important to align the restoration goals with the community or landowner's goals. This is important because several of the selected projects were designed to grow freely without a predetermined restoration area; they are driven by farmer-to-farmer learning which is based on aligned goals. It was also clear that there was a vital need for a restoration champion for each restoration site or exercise, and have a portfolio of funders for stability. While the selected projects all had strong champions behind them and consistent funding, the diversity of champions and funders demonstrates that the identity of the champion or funder is not as critical as their presence. Projects with a diversity of funding e.g., receiving private or public-sector pre-financing or donor grants to develop the proof-of-concept, then harnessing private sector funding including carbon markets seemed most stable and able to expand organically by attracting new participants.

3.2.3 Costs and benefits distribution

All selected projects had three major costs (funding, labour and some opportunity costs often involving use of land), but several also had Research and Development (R&D) costs. While the funding, labour and opportunity costs are often factored into restoration budgets, R&D costs should also be included as they sometimes play a vital supporting role that could make or break the restoration programme. Similarly, all selected projects had a combination of economic, social and environmental goals and benefits, and it was also clear that the structure should ensure benefits accrue to the lowest level (individual) before spreading to the household and eventually broader community and the other key stakeholders that were involved (Government, NGO, private sector). To implement this, there needs to be a simple but robust monitoring system that enables all stakeholders to benefit to the degree they participate or in proportion to their effort.

4 Potential models for scaling-up restoration

This study generated several important considerations for scaling up restoration across the different sectors and national restoration options towards achieving the national target. These were classified into the following three land ownership categories: public, communal and privately-owned land:

4.1 Public land: mainly forests

4.1.1 National landscape restoration option(s)

Activities under this category will largely fall under afforestation or reforestation, rehabilitation, waterbodies or riparian, and roadways, and to a lesser extent, commercial plantation, silvo-pastoral or rangelands and roadways.

4.1.2 Key motivations

These are characterised by having the environment as the chief restoration goal and a pre-defined restoration area. There are likely to be only a few opportunity costs brought in by the restoration initiative as the areas will have already be designated for their intended use.

4.1.3 Key enablers

These are typically linked to some government policy, and are likely to have a combination of government and donor (e.g., bilateral grants) funding. In addition, engagement with the local communities living around any target landscape will still be critical for their long-term success.

4.1.4 Keys to implementation

Programmes such as PELIS seem to present an opportunity for deep engagement with the community, building in social goals to the programme, and potentially cutting project costs and risks. Likewise, encouraging community participation e.g., by provision of labour or sale of seedlings seems to be a good way for these projects to build ownership and critical grassroot support.

4.2 Communal land: mainly rangelands

4.2.1 National landscape restoration option(s)

Activities under this category will largely fall under silvo-pastoral or rangelands and rehabilitation, and to a lesser extent, afforestation or reforestation, waterbodies or riparian, and commercial plantations.

4.2.2 Key motivations

These will be characterised by having multiple restoration goals, and often a pre-defined restoration area. These landscapes will predominantly be unprotected areas that are often organised as group ranches or similar other community land designation (former Trust Lands).

4.2.3 Key enablers

Although they will often not be linked to a specific government policy or legislation, they have potential for a cross-section of funding sources, spanning public and private sector, as well as donor (e.g., NGO) funding.

4.2.4 Keys to implementation

Restoration would need to combine socio-economic and environmental goals and there will be moderate opportunity costs, both land-related but also related to economic displacement. For long-term success, these projects will require a champion within the community who is committed to the initiative and helps mobilise support and funds for the project.

4.3 Private land: mainly croplands

4.3.1 National landscape restoration option(s)

Activities under this category will largely fall under afforestation or reforestation and rehabilitation (especially soils), and to a lesser extent, riparian zones, commercial plantations, and silvo-pastoral or rangelands.

4.3.2 Key motivations

Restoration initiatives in this category are characterised by having the socio-economic goals as the primary goal, and typically happen over an indefinite restoration area.

4.3.3 Key enablers

They will often not be linked to a specific government policy or legislation, but their open-endedness gives them immense potential for growth. They will often have a combination of private sector and donor (e.g., NGOs) funding, with great potential for government funds too.

4.3.4 Keys to implementation

Private lands introduce an important challenge due to their use: they are typically agricultural lands that are the primary source of livelihoods for the owners. As such, dealing with drivers of degradation will perhaps be most intricate in this category. This also means that restoration initiatives will have to work closely with the landowners from the outset to ensure that the restoration goals align with their objectives for the land, and that opportunity costs (which are high in this category) do not outstrip the potential benefits. For long-term success, these projects also require champions—often positive deviants within the community—who are committed to drive support for the project within their communities.

5 Conclusion

The restoration initiatives included in this stocktaking exercise provide a pointer of the major ingredients that should be considered when looking at scaling to sub-national levels. It is also worth remembering that depending on the land ownership, the goals, or at least primary focus, of restoration might be different to ensure acceptance and sustainability. Either way, based on the goals of the restoration initiative, there should be some monitoring effort to ensure progress is made and help adaptively improve the project during implementation because they will typically be long term projects. As such, in line with the national FLR roadmap, after the initial mapping, the current stocktaking and assessment of enabling conditions should naturally lead to the design of potential restoration strategies at the national level, including monitoring frameworks.

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