TerraFund for AFRI100 Project Half-Year Report

July – December 2025

1.0: General Progress

1.1 General summary and project goals

The overall goal was to plant 700,000 trees and 1 million Aloes and help in restoring a total land area of at least 500 hectares. In order to achieve our goals, we enlisted 800 farmers. Of these, 112 adopted Farmer Managed Natural Regeneration (FMNR) practices, while over 688 farmers were engaged in direct seedling planting on farms.

We ensured consistent supply of seedlings to target farmers by raising aloe and tree seedlings at KEFRI Baringo Forestry Research Sub-centre and Kabarnet KFS tree nursery. The raised assorted tree seedlings and aloe seedlings were distributed to the target farmers during the reporting period.

1.2 Progress so far including the current reporting period

Since the start of the project, we have planted a total of 781,668 trees and 30,865 Aloes in the 4 planting phases, (April – June 2024, September-December 2024, April – June 2025 and September-December 2025), restoring 781.5 hectares comprising 494.7 hectares in Tenges Ward, 274.0 hectares in Marigat Ward and 12.8 hectares in Mogotio catchment.

In the first reporting period (Jan-June 2024) we planted 169,115 tree seedlings and 30,500 aloes in the two wards restoring a total of 169 hectares, 100,000 cypress seedlings in Tenges Ward and 69,115 assorted seedlings in Marigat Ward. In the second reporting period (July-Dec 2024) we planted 23,093 tree seedlings and 365 aloes, 21,701 seedlings in Marigat Ward and 1,392 seedlings in Tenges Ward restoring 22 hectares in Marigat Ward and 1.3 ha in Tenges Ward. In the third reporting period (January - June 2025) we planted 318,014 tree seedlings in the two wards together with Mogotio region restoring about 318 hectares. It was achieved by planting 144,619 assorted tree seedlings in Marigat Ward, 160,600 assorted tree seedlings in Tenges Ward and 12,795 tree seedlings in schools and a college in Mogotio bordering Marigat Ward, thus restoring 144.6 ha in Marigat Ward, 160.6 ha in Tenges Ward and 12.8 in Mogotio respectively.

In the fourth reporting period (July - December 2025), we planted 271,446 tree seedlings in the two wards restoring about 271.4 hectares. This was achieved by planting 38,606 assorted tree seedlings in Marigat Ward, 232,840 assorted tree seedlings in Tenges Ward and Kabartonjo Ward in Baringo North, thus restoring 38.6 ha in Marigat Ward, 232.8 ha in Tenges Ward and Kabartonjo Ward. The seedlings distributed to the target farmers were obtained from our central nursery at Marigat and Katimok tree nursery. Additionally, it is important to note that seedlings from the Farmer Managed Natural Regeneration (FMNR) plots are continuing to emerge. As a result, the areas restored through this natural regeneration process will be incorporated in the overall restoration figures by the end of the next reporting

period, when they will have fully emerged. We are also making good progress in assessment of tree and Aloe seedlings survival, working with farmers to maintain and take good care of the planted seedlings.

Meanwhile, we updated the list of farmers in Tenges and Kabartonjo wards to give Top Bar bee hives and train them on the management of bees colonies and on clean honey processing and handling. These hives will be purchased in the subsequent reporting periods when budget will allow. We have also taken additional scoping inventory of mature *Tamarindus indica* trees spread over Marigat, Tenges and Kabartonjo Wards from which fruits will be collected to process high quality nutritious Tamarind juice. In addition, the distribution of the major population strata for *Senegalia senegal* across the woodlands in Marigat Ward has also been updated. The species produces gum Arabic for industrial use. Optimizing the production of gum and methods of their grading and pricing will form part of the training. It has been established that gum arabic remains an unknown commercial commodity in Baringo County. Part of the training will therefore include the introduction on the commercialization of the product, and to link these communities to gum traders. During the reporting period, a meeting with the Chinese investor was made to introduce the farmers who have cultivated Aloes in Marigat ward. The investor showed the interest to visit the farmers to see the status of the planted Aloes and initiate a business enterprise with them.

1.3 Plans for the next 6 months

In the next six months, we will enhance comprehensive training sessions on proper tree tendering and care techniques to the farmers. These trainings will equip farmers with the necessary knowledge and skills to maximize seedling survival rates and promote healthy growth on their farms to enjoy benefits of tree growing. Additional farmers will be recruited under the assisted natural regeneration practice. Aloes are very slow-growing when planted outside green houses, so the existing ones will be maintained in the tree nursery to be planted in the next 2 reporting periods.

We will also enhance the documentation of the remaining participating farmers through the use of polygons, as well as monitoring and evaluation activities. This will ensure that we are in touch with them and address their needs as requested at the same time implementing project activities as planned.

Visits by the representatives of the Aloe factory to Aloe farmers in Marigat and Tenges wards will be arranged. This will help to link the two parties so that they can actively trade together.

For participating farmers who are actively practising bee keeping, training needs assessment will be conducted. Consultations will be made with the Kenya Agriculture and Livestock Research Organization (KALRO) at Marigat. KALRO Marigat houses the Apiculture and Beneficial Insects Research Institute - ABIRI. The institute undertakes a wide range of

training to farmers on bee keeping. Efforts will be made to include the project participating farmers in the on-going training activities during the period.

2.0 Progress made toward the project's Socio-economic Development and Social Equity Goals

2.1 Overall Socio-Economic and Social Equity Goals

To date, 352 individuals have directly benefited from the project's activities through employment. This includes 304 individuals involved in tree nursery establishment and management, 14 enumerators who assisted in collecting baseline data during the identification of target farmers, 21 volunteers which include 8 in the first year, 3 volunteers in the last reporting period, 10 volunteers in the current reporting period and 23 local administrators who served as contact persons between the project farmers and the project technical team.

The individuals engaged in nursery establishment and management participated in a variety of tasks, including but not limited to seed collection, extraction and cleaning of seeds, site preparation, soil mixing, potting, pricking out, watering, and overall seedling care in the nursery. Since the inception of the project 239 women out of 352 individuals employed so far have been involved in the project activities while 252 youths out of 352 employed have been youths representing 67.8% and 71.5% respectively. 2 out of the 10 volunteers engaged in the current reporting period were from the marginalized communities.

2.2 Addressing community priorities

During the reporting period, many farmers were desirous to diversify their incomes from tree products that exist within their landscape. The current economic challenges experienced across the country is affecting many of the participating farmers, especially those with schooling children. They are therefore very keen to plant trees that will provide income in short rotations of about 5 years to make them realize their investments quickly. For example, farmers in Tenges highlands have shown a high preference for the planting of Cypress and Eucalyptus species that give returns (poles, commercial firewood, timber) in less than 8 years. They benefited greatly from 2018 to date, when the Government of Kenya imposed the logging ban on Government forests, and traders bought the wood from farmers at excellent prices. Kabarnet KFS tree nursery at Katimok has therefore specialized in producing the two popular species for distribution to farmers in the highlands where the trees grow very well due to the high altitudes, high rainfall, and cold temperatures.

Farmers in the arid and semi-arid lowlands of Marigat Ward on the other hand prefer fast-growing multi-purpose trees such as *Terminalia brownii*, *Azadirachta indica* (Neem), *Senna siamea, Tamarindus indica, Moringa oleifera, Grevillea robusta, Ziziphus mauritiana* and *Senegalia senegal* among others. They are happy with the prospects of harvesting and processing commercial commodities from these trees with support from the project.

Bee keeping is a common activity carried out by nearly all the households in Baringo County, and remains an important income stream to them. The county Ministry of Agriculture is working closely with KALRO's Apiculture institute to undertake a wide range of training of communities on sustainable bee keeping and hygienic handling and processing of honey and honey products. Most of the participating farmers are active bee keepers, and the trees that we have given them will enhance the population of popular bee forage species and the production of more honey. Efforts will be made to link our participating farmers to the Apiculture Institute so that they can be included in the on-going community training programmes, especially those who have not yet benefited from the training programme.

2.3 Community involvement in decision-making

We consulted the target farmers through a series of community meetings convened by chiefs, Assistant chiefs and our champions, on the the range of areas to be covered for training, and identification of other activities that they would like the project to cover in the remaining time for the project. Most of them underlined the training on technologies that produce high quality charcoal, biochar and briquettes from some of these trees and branches that they harvest frequently from tree management operations such as pruning and thinning. They understand that biochar and briquettes are increasingly getting markets from the local trading centres and towns, hence an excellent source of alternative sustainable income. In addition, they requested to be trained on how to benefit from carbon credits from the use of biochar as a soil conditioner by applying them on their farms, as they have often read from press, media and other forums. We promised to cover some of these topics in the training sessions in the next subsequent reporting periods.

2.4 Equitable Opportunities for Women + Youth

In the current reporting period, activities in the nursery mostly involved female, that is 8 women out of 11 employed nursery workers representing 72% and 8 youths out of 11 people representing 72%. It was noted that at the household level women and youth were often involved in site preparation, tree planting and tree seedlings maintenance, thus underscoring their importance in landscape restoration. During seedlings collection, monitoring and evaluation exercise women and the youths were available on most occasions and this contributed to successful implementation of the project activities.

2.5 Outcomes feedback, and future plans

During the reporting period, the communities have prioritized a number of training activities that include technologies for charcoal, biochar and briquettes production and carbon credits arising from the use of biochar as soil conditioner. They also had an interest on how to calculate the quantities of carbon sequestered by the planted trees and the approximate potential earnings from the trees that they grow. This is in addition to processing of Aloes into herbal soap and shampoos, honey handling, Tamarind fruits into juice, and optimization of the production of Gum Arabic from *Senegalia senegal*.

3.0 Top 3 Successes

During the past six months, tree planting activities have been successfully concluded. The capacity building of the participating farmers on land preparation, planting of seedlings and post planting management as well as their role in environmental conservation and how to conduct assisted natural regeneration effectively have been well covered in the last two years of the project as intended. During the current reporting period, the project implementation team documented a total of 202 farmers where polygons were recorded and uploaded. Documentation of the remaining farmers is on going. This is an important achievement to the project since it ensured the technical team provided necessary technical support to the farmers and also built trust among them.

The positive impact that the project has made to the participating community members has continued to attract their neighbours across the project jurisdiction and beyond. We enrolled new members each time we distributed seedlings in various localities, even in neighbouring wards and counties. We continue to get fresh requests for seedlings long after the tree planting programme ended. The project management could consider a one or two years extension of

the tree planting activities (with an appropriate budget) to satisfy the growing demand. This is inline with the existing tree nursery infrastructure that the project successfully installed in the first year at Marigat and Katimok nurseries.

4.0 The most significant change observed as a result of restoration work during the past six months

The major change noted during the reporting period was the positive perception of the farmers on eucalyptus tree growing especially farmers visiting Katimok forest tree nursery from Baringo North area to pick the tree seedlings for planting. This is totally a different trend from Tenges in Baringo Central where the demand for eucalyptus is low despite being a highland species and also considering its economic value. This trend on eucalyptus demand by farmers in Baringo North was observed as a significant step in the restoration efforts by the project. The project has since created a huge momentum for tree growing. As the information on the free issuance of high quality tree seedlings is spreading widely in the region, farmers from Baringo North visited Katimok nursery for collection of seedlings. There was also increase in demand for trees with medicinal value such as *Melia azedarach* and *Azadirachta indica* observed especially from the farmers who were visiting the nursery from within Marigat. Baringo County is famous as a source for herbal medicine where farmers with medicinal trees accrue substantial benefits from sales of tree barks, roots and sometimes fruits of herbal trees that include Neem.

It has also been observed that farmers who participated in the first year in tree planting have already observed very encouraging landscape changes within their homesteads and farmlands. Fast growing trees are already providing shade, fodder and soil conservation. Many of their neighbours have requested to be enlisted so that they may also benefit from the seedlings donation and training programmes. Many participating farmers have also requested that the tree planting programme should continue for the next two years to cover many more additional farmers to realize significant positive changes on their environment that has been degraded for many years in the past

5.0 Challenges faced and impact on the project

5.1 Challenges faced

During the period under review, the project team experienced some financial challenges that affected a number of planned activities. These include;

i. Purchase and distribution of bee hives to selected participating farmers. This activity therefore remains pending, and is envisaged to be carried out in the subsequent periods when funds are sufficient.

ii. Documentation of farmers through the use of polygons. Documentation of farmers is a labour intensive exercise. During the period under review, the project team experienced transport and staff challenges owing to other on-going activities. This activity is on-going and is envisaged to be completed in the next reporting period.

iii. Capacity building of communities on processing and handling of Non Timber Forest Products (NTFPs). This activity (output 3) was scheduled to be carried out during the last reporting period but was rescheduled.

5.2 Impact on the project

- Delayed purchase and distribution of bee hives is a loss of earnings from sale of honey. Baringo County is famous for the production of high quality organic honey from natural woodlands. Bee occupation of hives usually occurs at the end of the rainfall season (July – October) and harvested after 3 months (December/January).
- Delayed documentation of the participating farmers through the use of polygons may give a false impression of low impact of the project in the numbers of trees planted and participating farmers
- Several community groups that have been identified and considered for NTFP capacity building on product processing and handling were ready to hit the local products market immediately. The delays have led to lost opportunities for income generation and diversification.

6.0 Lessons Learned

One of the lessons learned is the need to fully create awareness among target farmers on the importance of planting certain species of trees, especially those with socio-economic potential. We undertake regular monitoring and evaluation of the activities to have accurate data and information for better decision-making. Regular farmer visits and contact through chiefs also ensured the seedlings were well taken care of during collection, planting and maintenance on farms. We also learned that there is a need to distribute seedlings before the onset of rains, especially to farmers in remote areas. It is therefore critical that nursery

activities must begin early enough to ensure that seedlings attain plantable sizes before the wet season.

We also realized that farmers are gradually appreciating that trees provide a sustainable source of income, as important sources of commercial tree-based commodities such as poles, industrial firewood, charcoal, briquettes, biochar, and carbon credits. All these commodities require that a high population of trees is maintained on the farm to harness their utilization and land restoration and environment conservation objectives fully. We have noted the knowledge gaps that exist in processing some of the commodities, such as briquettes and biochar, that do not necessarily require felling of mature trees, except branches and thinnings from management operations of planted trees. Non-consumptive use of trees, such as carbon credits, is increasingly becoming a popular topic that is generating interest among farmers as a potentially new stream of one of the leading sustainable sources of income.

7.0 Future application

The production and the use of biochar directly by the farmers on their land as a soil conditioner and subsequent link to carbon markets should be explored by the project. In addition, a more sustainable non-consumptive use of the planted trees through carbon credits arising from carbon sequestration by the planted trees needs to be considered by the project in order to consolidate the restoration and conservation objective of the tree planting initiative that forms the main goal of the project. This way, an additional criteria for choice of the most suitable tree species needs to be considered that optimizes carbon sequestration characteristics and other non-consumptive products (e.g, fruits, herbal medicine, etc).

On seedlings production, timely production of tree seedlings and distribution is key. The project implementation team ensured farmers visited the tree nurseries to collect seedlings of right size in time for planting and also sensitized them on proper seedlings handling before and after planting.

In the last two years of active tree planting activities, tree nursery infrastructure was set up at Marigat and Katimok nurseries. These are now largely idle. The project may continue to use them to produce additional seedlings for other TerraFund projects in the neighbouring counties such as Nakuru, Laikipia, Samburu, Elgeyo Marakwet and West Pokot among others. Baringo is centrally located and transportation of seedlings to these counties is economical.

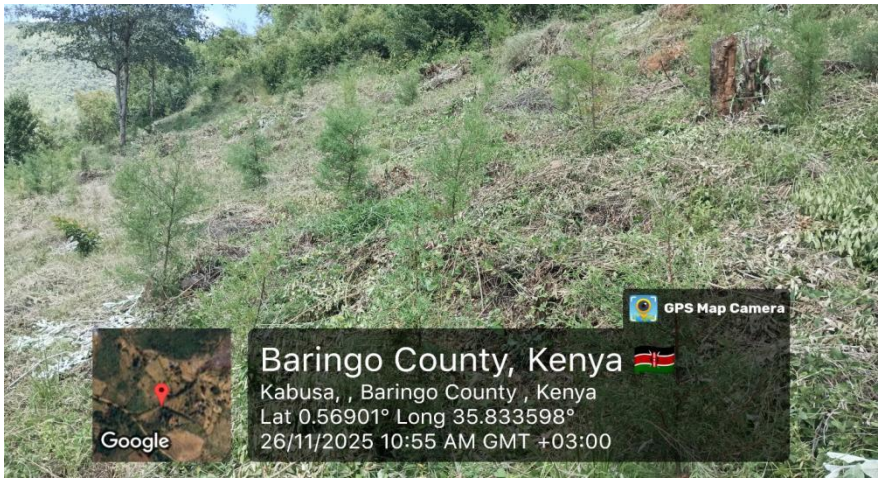

Figure 1: Cypress woodlot in Moigutwo Sub-location, Marigat Ward

Figure 2: Trees at Lowlands Secondary School in Marigat Ward

Figure 3: ANR plot in Kabusa location, Marigat ward