

ETHIOPIA TIGRAY

COMBATING DESERTIFICATION IN NORTHERN ETHIOPIA
November 2016 Report



HECTARES FINANCED

45



TREES FINANCED

32,380



TONS CO₂ SEQUESTERED¹

1,736



BENEFICIARIES

573

A total of 32,380 trees have been financed thanks to the support of donors and sponsors

THE PROJECT

In June 2016, WeForest launched a new community-driven project in the highlands of northern Ethiopia, a region highly vulnerable to land degradation and climate change. In partnership with Trees for Farmers, WeForest restores areas of non-productive land identified as exclosures ("no-go" zones) by the local community. These areas are protected from agricultural practices and grazing and are restored through the planting of native tree species. Here, increasing forest cover is key to restoring ecosystem services, delivering water to downstream croplands that can stimulate livelihood improvement, and creating a micro-climate. Surrounding rural communities are also engaged in livelihood schemes to secure a sustainable income.



KEY DETAILS:

Location: Tigray region, Misraqawi zone

GPS: 13°35'29.06"N/39° 8'18.78"E

Restoration approach: Framework planting² and assisted natural regeneration

Partners: Trees for Farmers, Mekele University

¹The total above-ground biomass is estimated to average 32.66 tons of CO₂ per hectare over a period of 20 years . Mekuria, W., et al. 2010. Economic Valuation of Land Restoration of exclosures established on communal grazing lands in Tigray, Ethiopia

²Framework planting is a technique that involves planting species in ways that promote the natural succession of the forest

PLANTING UPDATE

KEY PLANTING FACTS

- Seret site identified and discussions with community leaders conducted
- 45 ha identified for restoration
- Main tree species identified: *Olea europaea*, *Juniperus procera*, *Acacia abyssinica*, *Sesbania seseban*, *Scinus molle*, *Dodonaea angustifolia*, *Rahmnus prinoides* and *Acacia etbaica*



The project has identified its first intervention site, around the village of Seret. This site is located in the highlands of Central Tigray, on a steep slope about 2,800 meters above sea level. Most of the topsoil and parts of the subsoil have already been washed away by erosion. The site is highly degraded and only around 10% of forest cover is left.

Figure 1. Polygon of Seret site

There are very few physical structures at the site to prevent erosion and landslides, and little vegetation cover, making this site extremely vulnerable to erosion. Indeed landslides occur frequently here, destroying houses and crops of communities downhill. Restoring the Seret enclosure is therefore not only beneficial for forests and biodiversity, but for communities' livelihood resilience as well. The scarce vegetation is predominantly *Acacia abyssinica*, *Acacia etbaica*, *Dodonaea angustifolia* and scattered Eucalyptus trees.



Figure 2. Degraded lands at Seret site



Figure 3. Community members overlook the degraded landscape

The community members, districts officers and *kebele* (neighborhood) representatives convened to discuss the restoration of the Seret site. Among the topics discussed, community representatives listed the people's preferred species. They listed species which grow well in the area and are valuable income sources, including *gešo* (*Rahmnus prinoides*), the crop used to make local Ethiopian beer. These species will be among those planted. Currently 20 community members are participating in seed collection. Local seeds are being collected from the surrounding areas and bought on the market. Following this, a seedling production center will be established. The *My'sehe* nursery is being set up and will be run by 19 community members. 40,000 seedlings will be grown for the first planting season when the next rainy season begins in June to August 2017. See figure 7 for the project timeline.



Figure 4. A nearby nursery represents what the project's nurseries will look like



Figure 5. The landscape scattered only with Eucalyptus



Figure 6. A nearby area restored for 5 years demonstrates the potential the project to restore forest cover

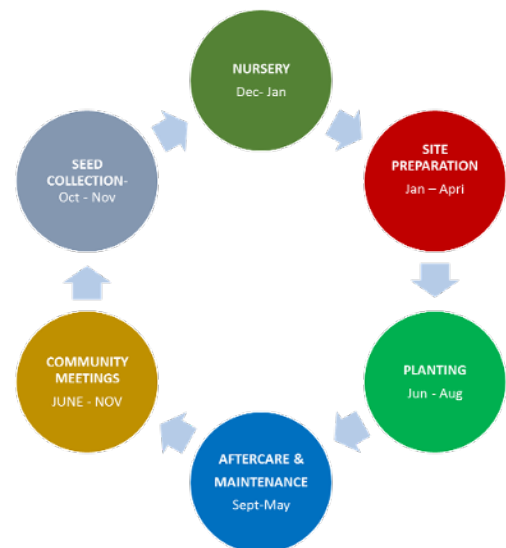


Figure 7. Project timeline

SOCIO-ECONOMIC UPDATE

KEY SOCIO-ECONOMIC FACTS:

- 3 community meetings took place
- 3 livelihood schemes identified
- A total of 573 community members will be engaged in project activities
- 39 community members currently engaged in seed collection (20 people) and nursery activities (19)
- A further 534 will participate in the project in planting (500 people), aftercare (30) and guarding the site (4)

In October and November, meetings took place with community representatives and government officials. More than 100 people participated. Empowering local communities to take ownership of the restoration efforts, a community by-law was agreed that describes the ownership of the site, the rights and obligations of the community and more. Vulnerable members of the community, including women, youths and landless farmers, will be targeted for project engagement. 39 people have already been recruited as the nursery establishment gets underway and a further 534 will be enlisted to carry out the remaining project activities, including planting and tree aftercare. The soil and water conservation structures will be carried out by community members who have committed to providing free labor to support this aspect of the project. Different soil and water conservation and water harvesting structures are being planned such as stone bunds and microbasins. There is the potential to build a small reservoir on site as well.



Figure 8. Preliminary meetings with community leaders



Figure 9. Community members convene to have their say

Three main livelihood options were favored by community representatives and *kebele* leaders. In order of preference these were honey production, animal fattening and timber construction from Eucalyptus woodlots. Honey production is the preferred livelihood activity and has the potential to be extremely profitable given the value placed on Tigray's honey in both local and export markets. A cut-and-carry system was agreed, which means that community members are permitted to harvest grasses from the enclosures for the purpose of livestock fattening. Grasses will be distributed amongst community members according to a predefined rotation system. Eucalyptus woodlots will be established outside the enclosure as a buffer plantation for fast growing timber species, providing an alternative to cutting down native trees for wood. In the long term, it is recognized that enclosures will increase water availability for downstream settlers and croplands, increasing land and agricultural productivity.

ETHIOPIA'S EQUIVALENT TO HOPS

Gešo (*Rhamnus prinoides*) is an African shrub with many uses in Ethiopia. It provides food and important ecosystem services in the form of erosion control and windbreaks when planted as a hedge. The fruits of this tree are edible and all parts of the plant are harvested and used for nutrition, medicine or religious purposes (Figure 10). In Eritria and Ethiopia, it is used in a manner similar to hops. The stems of the plant are boiled and the extract mixed with honey to ferment a mead called *mase*. Dried and ground *Gešo* leaves are also used in fermentation to brew *tella*, an Eritrean and Ethiopian beer (Figure 11).

WHITE HONEY

Ethiopia is by far Africa's largest producer of honey, which is highly ranked as one of world's most refined honeys. Honey is important in Ethiopian culture (e.g. when the Queen of Sheba went on her historic journey north to visit King Solomon she brought honey as part of the many gifts she took with her). It has traditionally been used in a variety of ways, as food, in the making of wine and as a medicinal aid. Honey is Tigray's only export item and the region produces a very distinctive white honey, made from a local blossom, labiate (Tshage family) (Figure 12). This white honey has a distinctive aroma, unique flavor and high market price. Due to the low rainfall and subsequent decline of the flowers that produce the white honey, bees are declining or feeding on other plants and producing yellow honey. Sometimes they are fed flour and sugar by farmers in attempt to prevent their decline. Combating climate change and restoring the remnant forest and forest corridors is vital for the survival of bee populations and, by extension, this important source of income for Tigray's communities.



Figure 10. Branches of the valuable gešo plant



Figure 11. Drinking *tella*



Figure 12. Tigray's famous white honey



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