EthioTrees Quarterly Activity Report 2019

September 2019

1) Introduction

In this short quarterly report, EthioTrees presents its most relevant activities over the previous quarter. The aim is non-technical: for the technical summaries, we refer to the annual reports of Plan Vivo.

We will present the following aspects of the project:

(i) Community meetings

(ii) Reservoir construction

(iii) Tree planting, soil and water conservation and water harvesting

(iv) Feeding boxes

(v) Gender equality and empowerment

(vi) School construction

In addition to these aspects, the following achievements were made:

- Further developments of the scientific VLIR-South Initiative between Ghent University (Belgium) and Mekelle University (Ethiopia) over the course of 2019. The aim of this 2-year SI project is to estimate the valorization potential of ecosystem services from exclosures in the Tembien Highlands. The project analyses different ecosystem services and estimates their potential for involvement in the Plan Vivo scheme. The project is also investigating whether sustainable essential oil production can increase the cash income of landless farmers. In so doing, the project (i) gives scope for future valorization of ecosystem services in larger parts of north Ethiopia (thus outreaching to include other potential exclosures), and (ii) enhances the capacity of the Departments at Mekelle University (Business, Environmental Management and Chemistry), including their capacity to conduct participatory action research. Over the course of 2019, five Ethiopian MSc. students and 2 Belgian MSc. students enrolled in the South Initiative programme, supported by EthioTrees. Final results are expected by December 2019.

- At the beginning of January 2019, the EthioTrees project was showcased on Tigray Television – the regional television station – thus presenting the project mission to a broad audience across Tigray.

- EthioTrees cooperated with the Springer (publishing house) initiative to finalize a “tourist” GeoGuide for the Tembien Highlands. The GeoGuide series publishes travel guide type short monographs focused on areas and regions of geo-morphological and geological importance including Geoparks, National Parks, World Heritage areas and Geosites. The GeoGuide of Dogua Tembien was published in May 2019. To date, a network is being created to support the recognition for Dogua Tembien as an official UNESCO Global Geopark. *UNESCO Global Geoparks are single, unified geographical areas where sites and landscapes of international geological significance are managed*

with a holistic concept of protection, education and sustainable development. Their bottom-up approach of combining conservation with sustainable development while involving local communities is becoming increasingly popular (UNESCO, 2019).

2. Community meetings

The project works closely with rural households near young exclosures in different villages in Dogua Tembien. During the **first phases** of the project activities, awareness, acceptance and participation of these rural communities in the project are assessed and ensured by the local coordinator. At each exclosed area, the project engages a group of 10-40 landless farmers of different gender and age. A landless farmer represents a household without valid land certificate. The project aims to engage farmers under a 50-50% gender balance.

As all participating farmers are 'landless', they are often relatively young (20-40 years old). The landless farmers are often organised in exclosure associations. The associations elect a representative through a democratic election. The members of the association are 'under rotation' responsible to manage a part of the exclosure (including the patrolling process and the daily management) and are able to benefit from ecosystem services from the exclosure.

After **'plan vivo' maps** are established, EthioTrees organizes discussions sessions and **trainings** to optimally manage a part of the exclosure (guarding proccess, enrichment planting of trees, soil and water conservation, honey production, frankincense cultivation, limited timber production, grasses for livestock feeding in stable). In addition, at least once a year, a discussion session per exclosure is organized, in order to **decide on the investments** coming from the Plan Vivo sales.

We refer to the "passport of exclosures" file for the list of meetings per exclosure group; below we add some examples with photographs of meetings that took place.

To illustrate the impact of training on NTF production, the price evolution of frankincense (before and after project intervention) evolved from 28 ETB /kg to 50-60 ETB/kg. With an average of 4500 kg / association, this delivers an added value of + 144 000 ETB/year (association).

The price of honey went from 200 to 400 ETB/kg with the installation of an extractor machine (while 1 beehive delivers app. 50 kg / year).

Figure 1: Meeting with community in Meam Ataly (dd. 07/02/2019). One main purpose was how the participants could keep the exclosure free of livestock and cutting. Discussions continued on how to clear the soil from the new pond.

Figure 2 (a & b): Meeting with community in Endaslassie society (Gereb gunful, Adiy meles and Chelaqo). A main purpose of the meeting was to have common understanding between EthioTrees and the participants with regards to the exclosure, how Ehiotree could deliver benefits, and how to prepare plan vivo maps.

Figure 3 (a - d): Further meeting with the community in Endaslassie society (Gereb gunful, Adiy meles and Chelaqo), when the focus group was preparing plan vivo maps.

3. Reservoir construction

Access to safe drinking water is one of the most pressing issues in the villages of the North Ethiopian Highlands. Several communities decided to address this issue by investing the Plan Vivo credits in drinking water reservoirs. Excavation of two ponds took place in Adilihsti (Hizaety Gidmy and Horeyo Gidmy). EthioTrees started with a labor force that included around 80 people of the community. The plan was for them to directly participate during the excavation and get benefits of the pond. As it turned out, this was quite heavy work. Therefore, a tender document was prepared and was given to a contractor through a least bidding system. Digging was done through machine (excavator and dump track).

Figure 4 (a & b). Excavation with labor force at Hzaety Gidmy (Adilhtsi).

Figure 5 (a & b). Final excavated pond of Hizaty Gidmy.

Figure 6 (a & b). Excavated pond of Horeyo Gidmy (before and after installation)

For illustration purpose, the dimension of one pond in Adi Lehtsi is 3119 m^3 while the other pond is 2390 m^3.

Another pond was expanded in Gdmi Gestat with machine. In Gedmi Gestate (Adi keshefo) the dimensions include 26.5 x 15 x 4.4m and 8 x 1.6 x 0.6m.

Figure 7 (a -c). Excavation of pond at Adikeshefo.

Also at the Mean Atali site, a pond was expanded with machine. The dimensions included 31 x 10.5 x 3.1 m and 9 x 7 x 1.65 m.

Figure 8 (a - d). Excavation of pond at Adikeshefo. The upper left side is at the start; the upper right side shows the excavation after the works. After some rain and at end of the rainy season, the pond is happily full of water.

4. Tree planting, soil and water conservation and water harvesting

The project further coordinated and supported the associations of landless farmers in maintaining the exclosures, including implementing soil and water conservation activities and planting additional trees to further support the natural regeneration.

The project assists the natural regeneration of the indigenous vegetation, partly through improved management and partly through enrichment planting activities. Enrichment planting to further support the forestation activity and to support biodiversity improvements focusses on indigenous vegetation (Olea, Juniperus, Dodonea, Cordia, Celtis, Acacia); Eucalyptus is not planted in the project areas. The project also implements soil and water conservation activities, including stone bunds, soil bunds, percolation ponds and moisture harvesting structures such as ‘half moons’ to trap runoff

water. The project continuously monitors biodiversity, including both plants and trees as well as (qualitatively) animals (mammals and birds). The survival rate of planted seedlings in 2018 is 50.4%

*Figure 9 (a – d). Moisture harvesting activities at Meam Atali. EthioTrees started to excavate 2 big (6*3*2 m) percolation ponds and 25 moisture harvesting trenches (3*1*1 m) as moisture harvesting structures in the exclosure.*

Figure 10 (a-c). Seedling planting at May Genet (pictures at 17/06/2019) with training of youngsters focusing on small pit excavation for planting seedlings in the exclosure, as well as micro-irrigation.

Figure 11. Irrigation trenches at Sesemat (up), Maibaati (middle) and Gemgema (down). About 20-24 percolation ponds were installed at each site – spatially separated as it provides a good advantage to capture the run off water for infiltration.

5. Feeding boxes

As indicated in all PES agreements, both the associations, other customary NTFP users and the village councils pledge to monitor and counter potential displaced grazing. Livestock feeding in the stable (i.e. through feed boxes) is thus stimulated through trainings, installation of feeding boxes and drinking boxes. Observations of displaced grazing are reported.

EthioTrees selected 40 people from Adi Lihitsi and Meam Atali and provided them with 1.5 quintal - 2 quintal cement and plaster. The participants collected sand and stone masonry to construct feeding boxes at the side wall of their houses.

Figure 12. Making a cattle drinking spot near the reservoir of Meam Ataly with supporting cement – in order to save the animal fodder from wastage; and different feeding boxes near the houses.

Figure 13. Importance of keeping the cattle in the stable and out of the forest, illustrated throught the difference between grazing lands and exclosure lands in Gemgema.

6. Gender equality and empowerment

As an experiment, EthioTrees organized an awareness creation session with regards to the plan vivo planning of the project separately for men and women committees in May Genet. Thus, the village existing map and the future map were designed in separate groups, showing the impact of gender on the spatial planning priorities of the village.

Figure 14. Focus groups preparing plan vivo maps for women and men separately.

7. School construction

In all sites there was participation of community members on road maintenance, water and soil conservation. In Afedena specifically, the community decided to invest part of the plan vivo credits for the construction of the school. EthioTrees helped to transport 9 trucks with stones from the surroundings.

Figure 15. Collecting stone masonry to construct the school and excavation of the foundations.