EthioTrees Quarterly Activity Report Q4-2019

December 2019

1) Introduction

In this short quarterly report, EthioTrees presents its most relevant activities in Q4-2019. Working towards an annual report for 2019, we built on the activity report from September (Q3). This approach allows progressive insights on ongoing activities, without losing the overall context of the running project activities. To highlight the new activities, text reporting from the previous report (Q3) is represented on the left.

The aim is non-technical: for the technical summaries, we refer to the annual reports of Plan Vivo.

General and ongoing activities

Activity group and project aim	On track?	Achievement in 2019
Dissemination of project results		
EthioTrees tries to share its project insights both locally and internationally, in order to create a broad support base and awareness beyond the boundaries of the project zone.	OK!	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. In December 2019, the "regreening Ethiopia" piece is going out at various times on BBC World News, featuring Seifu Gebresillasie (EthioTrees) – here is a link to the online version: https://www.bbc.co.uk/news/av/science-environment-50693249/making-ethiopia-green-again

		Please spread the news!
EthioTrees cooperates with the Springer (publishing house) initiative to finalize a "tourist" GeoGuide for the Tembien Highlands. We support the creation of a network to win the recognition for Dogua Tembien as an official ***UNESCO Global Geopark****.*	Ongoing	The Geo Guide book was officially launched in Dogua Tembien (Hagereselam) on 28/11/2019 with the help of the Woreda administration. The launch was broadcasted on Tigray Television and Dmtsi Weyane TV – both regional television stations. See the linkages from: https://www.youtube.com/watch?v=S9qbhw_8Xvc starting at 32.17-35.54 minutes; https://www.youtube.com/watch?v=jiQxGg0R4ww by DW; started at 0:37-5:15.
Scientific collaborations		
Further developments of the scientific VLIR-South Initiative occur between Ghent University (Belgium) and Mekelle University (Ethiopia). 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.	OK	Over the course of 2019, five Ethiopian MSc. students and 2 Belgian MSc. students enrolled in the South Initiative programme, supported by EthioTrees. All 7 students performed field work in the EthioTrees sites. In Q4, two Ethiopian scientists (Dr. Abraha and Dr. Etefa) had a short-term research visit in Ghent, Belgium. In addition, in October and November 2019, two Belgian college students performed a research stay in Dogua Tembien, with a focus on water quality sampling and drinking water purification methods.

EthioTrees holds regular platform meetings with stakeholders such as government and non-government actors, to integrate a shared understanding on project activities and to develop common plans.	OK	In 2019, EthioTrees held platform meetings with stakeholders from the regional bureau of agriculture, regional REDD+, SLM, Caritas and WeForest, Trees For Farmers, as well as the agricultural office of the Woreda (natural resource protection).

Figure 1: Presentation and field visiting at platform meeting (Q4).

2. Community meetings

Activity group and project aim	On track?	Achievement in 2019
Plan Vivo mapping		
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. Plan Vivo maps are constructed. 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.*	OK	By 2019, all EthioTrees exclosures have Plan Vivo maps!

Figure 2 (a & b): Meeting with community in May Genet and 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.

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. Results and follow-up will be discussed in February 2020.

Figure 3: Focus groups preparing plan vivo maps for women and men separately.

Trainings		
After 'plan vivo' maps are established, EthioTrees organizes discussions sessions and trainings to optimally manage a part of the	On track	In 2019, we focused on the following training sessions:

exclosure (guarding proccess, enrichment planting of trees, soil and water conservation, honey production, frankincense cultivation, limited timber production, grasses for livestock feeding in stable). We aim for (minimum) one training per exclosure per year.		(i) <u>Exclosure management</u> A main purpose is to learn how to keep the exclosure healthy and how to evaluate the guarding system. (ii) <u>Seedling planting</u> Here we focus on pit excavation for planting seedlings in the exclosure and how we can manage young seedlings to improve the survival rate. (iii) <u>Social trainings</u> In this training, we learn how young landless farmers can gain income from NTFP.
EthioTrees aims for training sessions that have direct economic impact, especially related to NTFP.	Ongoing	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 4 (a & b): Training session with the community of Afedena

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

Activity group and project aim	On track?	Achievement in 2019
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	Ongoing	The project 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 monitors

focusses on indigenous vegetation (Olea, Juniperus, Dodonea, Cordia, Celtis, Acacia); Eucalyptus is not planted in the project areas. *We aim for an implemented high-quality guarding system in every exclosures, and aim to install SWC in every exclosure every year.*		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 5 (a – b): 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 6: Seedling planting at May Genet (pictures at 17/06/2019: start of the rainy season) when simultaneously a training of youngsters was organized focusing on small pit excavation for planting seedlings in the exclosure, as well as micro-irrigation.

Figure 7: 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 runoff water for infiltration.

Figure 8: Seedling planting at May Genet site.

4. Socioecological investments

Activity group and project aim	On track?	Achievement in 2019
Reservoir construction		
EthioTrees aims to support at least one socioecological investment per village per year. *Access to safe drinking water is one of the most pressing issues in the villages of the North Ethiopian Highlands. Several communities decided*	Ongoing	Excavation of ponds took place in different villages. In all sites, there was participation of communities (on road maintenance and soil embankments arrangements to access the sites by machinery).

to address this issue by investing the Plan Vivo credits in drinking water reservoirs.		<u>Adi Lithtsi</u> 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). For illustration purpose, the dimension of one pond in Adi Lehtsi is 3119 m^3 while the other pond is 2390 m^3. <u>Gidmi Gestat</u> 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. <u>Meam Atali</u> 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 9 (a & b). Excavation with labor force at Hzaety Gidmy (Adilhtsi).

*Figure 10 (a & b). Final excavated pond of Hizaty Gidmy, constructed by stone walls with 1 meter height * 0.6 meter width * 188 meter length.*

Figure 11. Excavation of pond at Adikeshefo.

Figure 12 (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.

Water quality experiments and investments		
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 better quality drinking water.	Ongoing	Several community meetings took place in Meam Atal with the two Belgium students on how to assess the problem of water quality and how to solve such issues on household and village level. Fencing of ponds is important to keep cattle out, as these are important sources of water contamination. A fence was constructed in Adilihtsi. The circumference of the pond was fenced by stone walls with one meter height * 0.6 meter width *188 meter length. A first sand filter (water purification) is planned in Meam Atali in 2020.

Figure 13: Community meetings took place in Meam Atal to address the issue of water quality.

Homestead feeding		
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.	Ongoing	EthioTrees selected 44 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. EthioTrees allowed grass collection from exclosure by cut and carry system.

Figure 14: 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 15: All communities are taken grass equally from the exclosure and improve the fodder availability in their house. In Meam Atal 200 HHs and in May Hibo 30 HHs are benefitting.

School construction		
As indicated in all PES agreements, investments can be made to tackle pressing social issues, as long as the environmental regeneration in the exclosures is well addressed by the village.	Ongoing	In several sites there was participation of community members on road maintenance, soil and water conservation and school construction works. In Afedena especifically, the community decided to invest part of the plan vivo credits for the construction of the school. EthioTrees helped to transport 17 trucks with stones from the surroundings and started building.

		EthioTrees also constructed two classes buildings in the Amanit school with the plan vivo credit payments.



Figure 16 (a-d): Collecting stone and excavation of the foundations; and masonry wall of the school under construction.

Under construction
Amanit school

Current school Amanit

Figure 17 (a and b). Constructing masonry wall of the school and the current grade four class on teaching time.