Project Update: May 2020

The objective of this study was to investigate the restoration potential of the Hirmi forest, identify the major threats to the forest and the way forward on to rehabilitate the degraded area of the ecosystem through public participation and recommended scientific way. In the last 5 months all the required data was collected from the field. About 128 soil samples from four land-use types were collected for soil seedbank germination in the Ethiopian Biodiversity Institute greenhouse. Side by side with the soil seedbank data collection, observations and community interviews were conducted on how the local people use, conserve and rehabilitate forests in their vicinity and human and livestock intervention impacts on the forest.

The detail activities are indicated here below:

Soil seedbank data collection

- A reconnaissance survey was conducted to identify land-use types in the study area. Based on that, four significant land-use types (forest, shrubland, grassland and bare land) were identified.
- The soil seed bank was collected to assess the restoration potential, vertical distribution and composition of species in the study area by collecting soil samples from the four land-use types.
- Samples were collected from eight points in each land-use type and from four successive layers (i.e. litter, 0-3 cm, 3-6 cm and 6-9 cm)
- Each sample was taken from five points covering 15 x 15 cm (225 cm^2).
- Soil samples from identical layers of the five subplots were mixed to form composite samples and to reduce heterogeneity within the quadrats.
- Later on, the composite samples were divided into four equal parts out of which one will be randomly chosen as the working sample for the study.
- In total, 128 soil seedbank samples (four layers x four land-use types x eight points for each) were collected.
- In each sample plot human and livestock impact were assessed by considering parameters such as of intensity of grazing, presence or absence of tree logging, charcoal production signs, debarking and firing.
- The soil samples were transferred to cotton bags and brought into the Ethiopian Biodiversity Institute greenhouse in Addis Ababa for seed germination.
- The prepared soil seedbank was spread in a soil perforated tray for the seed germination. The table below shows partial activity done both in the field and greenhouse.

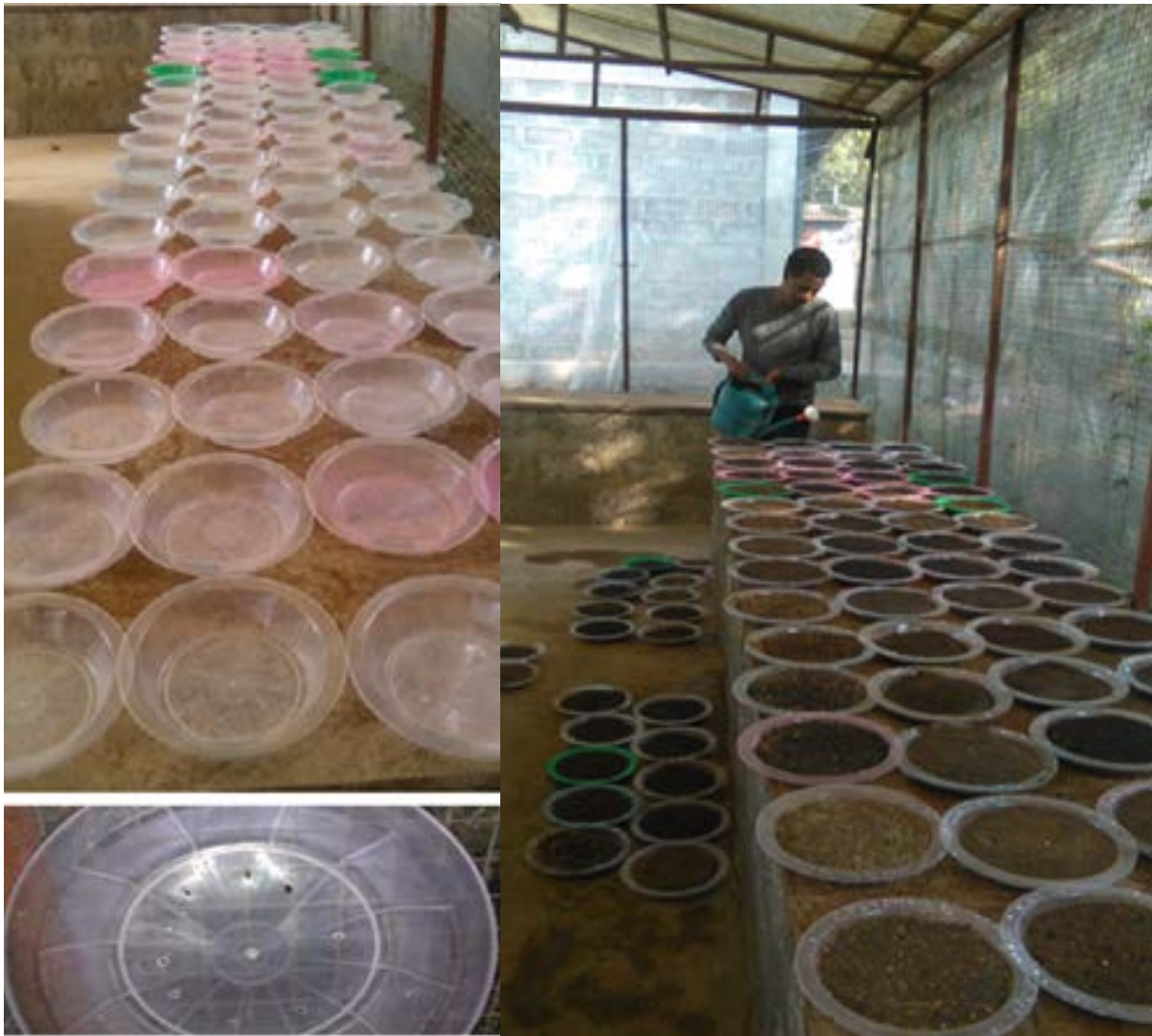Soil seedbank sampling from various land-use types.

Farmland

Shrub land

Grassland

Bare land

Left: Prepared (perforated) tray for seed germination. Right: Soil seedbank already sow on greenhouse.

Data collected from interview and observation

☞ The reconnaissance survey was important to identify relevant communities we intended to include in the interviews.

☞ From the 12 small local administrations existing around the study area, 50% of them who are closer to the study forest were included in the interviews discussing perception and leading to experience sharing on forest management and utilisation. Also, village meetings, group discussions, and participatory rural appraisal were implemented.

Discussions and interviews with local communities