

Project Update: June 2019

This project focus on the following main objectives at Menz Gera District, Central Ethiopia:-

1. Forest ecology of Yegana and Gajilo natural forests.
 - 1.1. Floristic Composition of the natural forests.
 - 1.2. Density, Diversity, Structure and community of the natural forests.
 - 1.3. Natural regeneration of tree species in these natural forests.
2. Ethno-botanical study of traditional medicinal plants based on the indigenous knowledge of the local community.
 - 2.1. Collection and Identification of the traditional medicinal plants with the help of key informants of the local community.
 - 2.2. Analysis of plant parts used, mode of preparation and application.
 - 2.3. Documentation and analysis of other uses of those traditional medicinal plants cited in this study.
 - 2.4. Understanding of ways of indigenous knowledge transfer, source of the medicinal plants and status of their conservation.
3. *In-vitro anti-microbial* test of some selected traditional medicinal plants those of with high informant consensus factor for healing diseases in the study area.
 - 3.1. Extraction of the selected traditional medicinal plants for crude extract.
 - 3.2. Dilution of the crude extract for in-vitro anti-microbial application against different pathogens.

All the primary field and laboratory data were collected and entered to the Excel data sheet for further analysis and decisions. Basically in the second fund maximum data for medicinal plant and seedlings and saplings of indigenous and endemic trees were collected in a very smooth way. Here selection of traditional medicinal plants with high informant consensus values were analysed and selected by considering former related works to minimise duplication of works on the same plant and same experiment.

The following activities were done:-

1. Data of seedling and sapling were well collected, analysed and it is under final writing.
2. Laboratory experiments were done from eight traditional medicinal plants against five pathogens (two gram negative bacteria, two gram positive bacteria and one fungus).
3. Ecological data were analysed and it is under preparation for manuscript publication.
4. Total data entry were finalised and it is under final dissertation writing.

Coming activities

1. Writing up of the final dissertation and preparing of articles for publications at repeatable journals.

2. Final dissertation defence and research based project development for intervention for conservation of the natural forest and indigenous knowledge of the local community.

Acknowledgment

- ✓ Rufford Foundation for their financial support of Small Grant 1 and 2.
- ✓ Debre Berhan University and Addis Ababa University for their sponsorship, logistic and financial support.
- ✓ Local community and local administrates and governmental experts for their all-round support and allowing me to study this project.



Left: *Podocarpus falcatus* (Thunb.) R. B ex Mirb. sapling for natural regeneration. Right: *Hagenia abyssinica* (Bruce) J.F.Gmel. Seedling for natural regeneration.



Left: *Inula confertiflora* A. Rich. extracted for anti-microbial test. Right: Natural Protected area at Menz Gera District.



Left: *Podocarpus falcatus* (Thunb.) R. B ex Mirb. mature tree. Right: Anthropogenic impact of trees at Yegana natural forest.



Left: Plant specimen extract application against pathogens at Laminar hood. Right: Drying specimen for extraction at room temperature.



In-vitro anti-microbial test of 3 medicinal plants inhibition zone.