Wendo Genet Medicinal Plants Field Gene Bank

Introduction

Ethiopia is endowed with rich flora and funa, due to its' physical and climatic diversity. The total number of vascular plants is estimated to be more than 6500 species out of which an estimated 10% are endemic and about 14% are used as medicinal plants. The deforestation rate of the high forest ranges from 150,000 to 200,000 ha per year. Being part and parcel of the ecosystem, medicinal plants are being lost probably with the same rate of destruction. In order to salvage the medicinal plants, a Field Gene Bank (FGB) was established in August 2001 at Wendo Genet to conserve threatened, endangered and rare medicinal plant species.

Wendo Genet Field Gene Bank

Wendo Genet Medicinal Plants' Field gene Bank (FGB) is situated around 264 km South of Addis Ababa. It is located right at 07^0 05'25" N and $038^0$38'o4" E. The altitude of the site is around 1830 meters above sea level. The area of the FGB at present is 16016 m^2 (1.6ha), with possible expansion up to 5 ha.

Three Institutions, Institute of Biodiversity Conservation (IBC), Essential Oils Research Center (EORC) and Ethiopian National Traditional Medicine Preparation and Study Association (ENTMPSA) have been actively participating in the establishment and follow up of the FGB; which is being coordinated by IBC.

Front view of Wendo Genet FGB Building (office, store and drying room)

The site is easily accessible and has a surface irrigation facility. The garden is subdivided into blocks to accommodate plants with different habits i.e., annual and perennial herbs, shrubs and trees. There are also blocks for nursery and shade loving plants.

Achievements

The stakeholder institutions prioritized medicinal plant species and the sites from which the medicinal plants were to be collected. Thus, priorities were given for:

- Medicinal plants used for the treatment of three human and three livestock diseases mentioned in the project document of Conservation and Sustainable Use of Medicinal Plants Project (CSUMPP). The three major human diseases are tapeworm, bronchopneumonia and hypertension and of the livestock are tapeworm, mastitis and dermatophilosis. Some of the proposed species, which have got priority of collection, includes: *Dodonaea angustifolia* L. f., *Lupinus albus* L., *Glinus lotides* L., *Plumbago zeylanica* L., *Rumex abyssinicus* Jacq. *and Rumex nervosus* Vahl.
- The area where there is fast deforestation is another criteria to choose collection sites.
- From the traditional healer's perspective, areas that serve as a major source of material for traditional healers in major towns were also included in the collation sites.
- Wendo Genet and its surrounding were also included in the collection sites to create link with the communities in the vicinity.
- Medicinal plants that are endemic to the country and grows at an altitudinal range 1500-2500 masl were also collected assuming these plants will survive at an altitude of 1830m.

- The Medicinal Plants Genetic Resource Department in collaboration with the two stakeholders collected and conserved 320 threatened, endangered and rare medicinal plant accessions while it was supposed to collect 300 medicinal plants in the project documents. Of the 320 accessions of medicinal plants so far collected and conserved in Wendo Genet Medicinal Plants Field Gene Bank, 31 accessions of annual medicinal plants were harvested and stored as seed in cold room. 118 accessions were identified at species level, 51 at genus level, 11 at family level and 85 accessions were not being identified at any level. However, currently more than 84 samples are collected and handed over to the National Herbarium, Addis Ababa University, for taxonomic identification and authentication.

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Future plans of the FGB are to:-

- Expand the existing 1.6 ha. holding and to conserve more endangered, threatened, rare and vulnerable medicinal plants of the country.
- Popularize the FGB to various stakeholders in order to strengthen and foster the integrated and sustainable utilization of medicinal plants genetic resources of the country.
- Complete the taxonomic identification of all medicinal plants conserved in the FGB.
- Conduct more germplasm collection, characterization and evaluation of selected medicinal plants.