

## **Project Update: April 2017**

**Activity 1:** Interviews and administration of questionnaires. (October 2016-December2016)

**Objective:** Investigate and document traditional medicinal plants used by indigenous people for the treatment of human and livestock ailments.

The project team members worked with local leaders, community elders, church leaders and other stakeholders to identify traditional medicinal herbalists and convince them to volunteer the information on medicinal plants, disease treated, methods of preparation and modes of administration. Semi structured interview questions was used to collect information on traditional knowledge from herbalists. Ethno-botanical data was collected from herbalists, both men and women across the entire study areas. The following information was recorded; plants species used, human/livestock diseases treated, part of the plant used, method of drug preparation and administration.

**Achievement:** We recorded over 70 plants treating human ailments and 5 plant species used for treating livestock diseases. A checklist of medicinal plants in Baringo County-Kenya is currently being compiled. Photography of the medicinal plants is underway for production of PDF.

## **January 2017-March 2017**

**Activity 1:** Vegetation sampling season 1.

**Objective:** Search for medicinal plants in suitable habitats in all project sites, document threats to biological diversity of medicinal plants.

**Activity 2:** Awareness creation.

**Objective:** Create awareness to primary school children about the importance of grasping medicinal indigenous knowledge and significance of their conservation.

The first vegetation sampling started in January, 2017. However, insecurity, attributed to illegal guns and cattle rustling intensified in some parts of Baringo North and South disrupting field schedules. In the areas covered, observations were used to collect and assess present state of affairs of traditional medicinal plants, current and potential threats. Threats directly affecting populations and species of medicinal plants were identified, threats affecting specific habitats for the same species and severity and causes were also assessed and documented.

**Achievement:** Major threats to medicinal plants were identified. Conservation strategies of medicinal plant species (mitigation measures) is being organised with the support of local communities.

Three primary schools (one per project site) were identified for involvement in the outreach. However, due to insecurity more than 20 primary and secondary schools were closed in Baringo North and South. This negatively impacted our outreach efforts. Beginning early next term (May 2017), pupils will be introduced about general information on ethno-botanical facts about traditional medicinal plants, their significance, and threats and involved in seed germination in nursery beds for eventual restoration ecology of native (degraded) habitats. The designed outreach programme (curriculum based education materials) includes engaging pupils in botanical art work, expedition for plant exploration. T-shirts for the Nature Club pupils have been printed and equipment has been purchased for regular maintenance of established tree nursery beds.

### SUMMARY OF VEGETATION SAMPLING SEASON 1

PROJECT SITES	HABITAT DESCRIPTION	VEGETATION SAMPLING METHOD USED.	VEGETATION SAMPLING EFFORT.	REMARKS
1. Tugen Hills. A. Kinyo forest reserve B. Morop-Tarambas forest reserve.	Tugen hills rise over 2300 m above sea level and are mainly forested. Most of the trees are indigenous plant species. Tugen hills are significant water catchment areas for Lake Baringo and the Kerio Valley.	Simple Random Sampling	Sampling was done in the company of different herbalists and an elderly villager to ensure that no medicinal plant species was missed. They were selected based on reputations and traditional ecological Knowledge.	Conservation awareness is gaining attention especially in the Tugen Hills. This project, being the first of its kind; and the fact that we were easily able to communicate in the local dialect, community reception was very positive and we were able to collect valuable information.
2. Lake Bogoria and environs.	Plant diversity is particularly luxuriant and varied especially along river channels. Stunted trees, shrubs, succulents ( <i>Sansevieria</i> spp.), and myriad of plants grow here in profusion.			
3. Lake Baringo and environs.	Dominated by <i>Acacia tortilis</i> , <i>Acacia reficiens</i> , species of <i>Boscia</i> , <i>Cormiphora</i> , <i>Terminalia</i> and <i>Balanites</i> woodland intermingled with small bush-covered hills, gorges and cliffs. Some sections are open flat bushland interspersed with dry river beds and stands of <i>Acacia elatior</i> .			



It is in the best interest of this project to encourage healthy harvesting of medicinal plants to avoid destruction. This photo of excessively debarked (completely removed, causing the death of the tree) of *Garcinia jonstonii* (locally known as Muikutwe) in Kinyo Forest, Tugen Hills. The bark of this plant is used for treating heart diseases. Its medicinal value has left the plant vulnerable to local extinction. The bark of mature plant is generally preferred. Therefore, as the plant matures, so does the rate of its exploitation as demonstrated in IMG-4 (a), (b), (c) and (d).





Traditional herbalists accompanying project team members in the field; demonstrating modes of harvesting.



Interviews- Collecting ethno-botanical data from traditional herbalist.



Haphazard harvesting (Illegal or licensed logging) of the E.A. Cedar (*Juniperus procera*), E.A. Olive (*Olea capensis*), Podo (*Podocarpus falcatus*) and E.A. Green heart (*Warburgia ugandensis*), for their high quality building material and high quality furniture production and the increasing commercialization of *Osyris lanceolata* (E. A. Sandalwood), have made these plants vulnerable.



Forest fires (caused by charcoal burning and honey harvesting), firewood collection, and land conversion to agriculture were also recorded as the major threats to medicinal plants. Overgrazing and charcoal burning is a major environmental problem in Lake Bogoria and environs and has resulted in gradual changes in the vegetation species, with a consequent reduction in diversity and loss of some native species.



Large numbers of medicinal plant species exist in natural stands, so it is a perfect seed source, giving genetic variety with a substantial number of plants to collect from. When properly managed and conserved; the rich and diversified flora of Baringo County-Kenya provides valuable storehouse of medicinal plants.



The Tugen Hills is a significant water catchment for Lake Baringo. The project will engage the local communities in awareness creation on the significance of conservation of these water catchments.



Gathering and recording material notes for E.A. Sandalwood (*Osyris lanceolata*) including altitude, GPS coordinates and habitat-Baringo County.



*Prosopis juliflora*.; introduced over 40 years ago as part of poverty alleviation is one of the world's most invasive alien species and has spread at an alarming rate hindering the growth of medicinal plants, Lake Baringo-Kenya.