**Project Update: January 2020**

This report covers the activities undertaken during the 2nd RSG project. Each activity had two specific objectives. The first two activities targeted traditional medicinal practitioners and the young generation respectively. The third activity involved the local community in general including traditional healers, farmers, government officers, youth, children, etc.

In this report, I describe the activities, highlighting specific objectives in each activity as well as the fundamental elements that were identified during the previous project. I also explain the awareness messages/conservation interventions implemented in each activity which will:

a) Improve the status of locally available medicinal wild plants.
b) Create new knowledge about the significance of medicinal wild plants and their associated habitats.
c) Change awareness and attitudes of local people towards medicinal wild plants.
d) Change resource use practices of local people regarding medicinal wild plants.
e) Change land and resource use policies regarding medicinal wild plants.
f) Reduce threats and promote conservation of locally available medicinal wild plants.

**Activity 1: Sensitising/Enlightening traditional medicinal practitioners about their role in conservation of medicinal plants**

Specific objectives:

i. Ensure that at least 50 traditional medicinal practitioners understand threats to medicinal plants.
ii. Ensure that at least 50 traditional medicinal practitioners are aware of their role in promoting conservation of medicinal plants.

Target audience: Traditional medicinal practitioners
An ethno-botanical study undertaken during the first project established that the Tugen community in Baringo continues to rely upon the practical skills of the traditional medicinal practitioners whose botanical knowledge of plant species and their ecology and scarcity are invaluable.

The following were the important elements identified during the first project in relation to the conservation of medicinal plants:

a) That most of medicinal plants were obtained from wild.
b) That herbal remedies were/are enjoying widespread popularity.
c) That the roots and bark are major parts widely employed by local healers in drug preparation.
d) That threat to the destruction of medicinal plants is high as these limits the natural/wild plants regeneration.

e) That dependency of herbalists on fresh materials with limited chance of preservation aggravates the decline of rare medicinal wild plants.

The second project therefore analysed the above elements based upon clear understanding of the locally available medicinal plant use and management in order to identify constructive resource management strategies and conservation actions. It was apparent that if effective action is to be taken to deal with threats to medicinal plants, traditional medicinal practitioners have to be incorporated and engaged in conservation education to ensure a clear understanding of the scale and complexity of the threats. An education and sensitisation meeting was organised with relevant stakeholders, traditional medicinal practitioners and other interested parties. The aim was to educate/sensitise the concerned stakeholders concerning threats to medicinal plants and ensure they become aware about the significance of medicinal wild plants, their threats and what role they can play to promote their conservation.

In summary, the education session focused on the following critical questions:

a) What are the reasons behind the depletion of wild populations of locally available medicinal wild plant species?
b) Which species are of particular concern (based on threats) and that should be given priority for conservation action?
c) What can be done to ensure the effective conservation of all locally available medicinal wild plant species?

**Table 1: Summary of Education Sessions (Threats, Priority Species and Future Plans)**

| **Reasons for depletion of medicinal plants.** | **Species of particular concern for conservation priority/action** | **Constructive resource management.** |
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| 1. Over-harvesting.<br>2. Selective harvesting.<br>3. Destructive harvesting.<br>4. Agricultural activities e.g. grazing and land clearing.<br>5. Forest fires (accidental or intentional).<br>6. Genetic erosion.<br>7. Invasive species (introduction of exotic species). | 1. Medicinal plants that have suffered from destructive/over-harvesting for example:<br><br>a) Those that have multiple uses i.e. used as medicine and as timber/firewood e.g. *Juniperus procera, Olea africana, Podocarpus falcatus, Warbugia ugandensis*, etc.<br>b) Those that are known to treat diseases that are prevalent in the local community e.g. *Toddalia asiatica, Erythrina abyssinica, Clausena anisata, Duranta erecta, Croton megolocarpus, Bersama abyssinica, Senna accidentalis, Balanites aegyptica, Vangueria* | 1. Education, training and awareness creation to promote/ appreciate medicinal plants and encourage sustainable harvesting.<br>2. Area zoning to reduce overharvesting and selective harvesting.<br>3. Restrictions and regulations to reduce commercial |

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| | *madagascariensis, Osyris lanceolata, Teclea nobilis*, etc.<br><br>2. Medicinal plants that are selectively harvested for example:<br><br>a) Those that have high cultural significance e.g. *Acocanthera schimperi, Euclea divinorum*, *Periploca lineurifolia*, etc.<br><br>b) Those that are known to cure diseases like cancer, heart problems, liver e.g. *Garcinia buchananii, Croton dichogamus, Bersama abyssinica, Toddalia asiatica*, *etc.*<br><br>3. The most locally vulnerable medicinal plant species i.e. slow growing or slow to reproduce, or species with particular habitat requirements and a limited distribution e.g. *Garania livingstonei, Garcinia buchananii, Mimusops kummel, Syzygium guineense*, etc. | harvesting.<br>4. Harnessing indigenous knowledge i.e. existing taboos adhered by local people to live harmoniously with nature.<br>5. In-situ conservation.<br>6. Ex-situ conservation. |

**Project photos 1:** A seminar organized in collaboration with Baringo County Government to educate/sensitize relevant stakeholders, interested parties and traditional healers about Indigenous Knowledge documentation and conservation of medicinal wild plants at Kenya Forestry and Research Institute (KEFRI), Marigat-Baringo County.

**Activity 2: Educating young scholars about Ethno-botany and its application in plant conservation**

Specific objectives:

i. Ensure that at least 1000 young scholars receive education in ethno-botany.
ii. Ensure that at least 1000 young scholars understand ethno-botany and its application in plant conservation.

Target audience: Young scholars

The first project established that indigenous knowledge, practice and skill pertaining to medicinal plant resource is gradually being eroded and lost due to urbanisation, industrialisation, mobility of young generation from rural to urban settings and especially as differentiated by the intergenerational nature of how this indigenous knowledge is passed on. The study noted that modernisation is encroaching on traditional practices and eroding the local knowledge. Again, it was realised that westernisation has brought the introduction of new plant species and indigenous plants (including medicinal species) are communities are now suffering a double tragedy; genetic erosion and loss of traditional knowledge on how to grow, manage and utilise.

In this activity, the following were the fundamental elements identified during first project concerning young generation in relation to medicinal plants and associated indigenous traditional knowledge:

a) That significantly higher number of medicinal plants including the traditional knowledge associated with their utilisation were mostly understood by the older generation.
b) That traditional botanical knowledge is diminishing from older to younger generations.

c) That majority of the elders expressed a great desire to understand how to harvest, process and prescribe medicinal plants.
d) That the young generation showed low participation in all aspects.

In the second project, the team members increased awareness creation among young generation about ethno-botany, its significance and its application in conservation of medicinal plants. Young scholars were encouraged to take time to learn from the older generation and keep alive indigenous knowledge about medicinal plants, local names, uses and pass this knowledge onto other young children and document. The young children were educated especially about the significance of documentation in ethno-botany and that documented ethno-botanical information is intended to safeguard this vital resource and knowledge before it is lost through the various changes in land use and traditional practices. Young scholars were made aware that documentation of traditional botanical knowledge of plant resources is important and can be applied in promotion of habitat for resource conservation and for preserving the local indigenous knowledge base.

**Project photos 2:** Knowledge sharing and educating young scholars about culture, indigenous knowledge, ethno-botany and its application in plant conservation

**Activity 3: Community awareness about conservation of medicinal wild plants; re-forestation and agro-forestry.**

Specific objectives:

i. Sensitise local community about significance of conserving medicinal wild plants and associated habitats.
ii. Ensure that at least 2500 seedlings of medicinal plants are propagated and transplanted through programmes such as reforestation and agro-forestry.

Target audience: Local community

Once again, the activities in this objective were guided by elements established during first project which indicated:

a) That few of medicinal plant species were cultivated in farmlands.
b) That many were found in the wild, harvested and left under wild stands.
c) That anthropogenic pressure had resulted in local extinction of medicinal wild plants.

The education component in this activity focused at the local communities in general. They were sensitised that each and every individual has a responsibility to maintain the maximum possible diversity in the locally available medicinal plant species. The locals were encouraged to utilise the plants sustainably for present and future generations. The locals were also encouraged to document indigenous knowledge where possible as the documented information would be crucial for evaluating conservation areas and their surrounding habitats for biodiversity conservation. A tree nursery was established in Tugen Hills and over 2500 plant species propagated (including vulnerable, potentially high valuable medicinal wild plant species, fast growing exotic species). Although only 1537 seedlings matured, it was realised that propagating medicinal plants is challenging. First, it is difficult to find seeds as some take a long time to germinate, while others die immediately after germination or fail to germinate completely. The reforestation and agro-forestry exercises involved traditional healers

who were carefully selected on the condition that each has a fenced farm. This was in regard to the time and effort taken to propagate seedlings and the intention to ensure that every seedling transplanted would have the best chance of growing without disturbance especially from browsing animals.

**Project photos 3:** Tree nursery-Tugen Hills, public participation for indigenous knowledge documentation and conservation of medicinal wild plants, and reforestation/agro-forestry at grass root community levels.