Project Update: September 2022

Activity 1: Project inception and reconnaissance

We conducted a 2-day reconnaissance survey to familiarise ourselves with the five study sites, locate the five target medicinal plant species and meet the local community who are stakeholders in this project. We introduced the project objectives and goals to the locals as well as highlighted the stakeholder's roles in the project. In line with this, we introduced the five target medicinal plant species (Figure 2), namely, *Terminalia brownii* Fresen*, Fuerstia africana* T.C.E Fries*, Capparis tomentosa* Lam*, Maytenus putterlickioides* (Loes) Exell & Mendonça, and *Dorstenia arachniformis* I. Malombe, K. Matheka, T. Mwadime & G. Mwachala. Further, a project team was established and trained. We sensitized the locals on the importance of conserving medicinal plant species and sustainable harvesting methods.

Figure 1: Training of the project team

Activity 2: Fieldwork

After training members of the project team on seed collection and propagation, a pre-visit was conducted within all the study sites to locate target plant species with mature seeds. This exercise was conducted within Mukaa and Makueni sub-counties in Makueni County. These areas were prioritised for seed collection as they contain other unique plant species with additional medicinal benefits apart from the five targeted in the present study. We encouraged the trained members to extend the acquired knowledge to other members of the community.

Figure 2: Target medicinal plant species. **A**-*Maytenus putterlickoides,* **B-***Capparis tomentosa* **C-***Fuerstia africana*, and **D-***Terminalia brownii*

Unfortunately, in one of the known population sites visited, the team did not locate any individual of *Dorstenia arachniformis*, (one of the five target medicinal plant species), perhaps because the visit was conducted during the dry season. Further, we plan to make more visits during the rainy season so as to collect samples for propagation.

We conducted a seed collection exercise in conjunction with a local member with vast knowledge of medicinal plants of each particular site. The team only collected seeds from mature and healthy mother plants. We selectively, through handpicking, collected mature and healthy fruits and stored them in separate bags to avoid loss and mix-up.

Unfortunately, at the time of seed collection some had no mature seeds or no seeds at all., e.g *Maytenus putterlickioides,* therefore we obtained stem cuttings for propagation. The collected seeds were sun-dried to facilitate fast drying and some were peeled to enhance germination. We repeatedly collected the seeds from the selected populations to maximise the seed yield of the target medicinal plant species.

Figure 3: Seeds collection exercise within selected areas

Figure 4: Collected seeds/fruits of some medicinal plant species

Activity 3: Propagation of the medicinal plant species

We constructed two nurseries using dry wood logs and other locally available materials to minimize further cutting of trees. The two propagation nurseries each measured 5 by 8 m.

A green 75% shade net was used to cover the two nurseries to prevent much sunlight penetration, minimising water loss and thus less irrigation frequency. Grass mulching was also used to cover the nursery beds to minimise further water loss. Besides, all the nursery beds were lined with polythene to reduce water seepage and hence reduce excess water loss.

We used forest soil mixed with some manure as the germination media for the target medicinal plant species. The media was left in the sun for a week to eliminate unwanted pathogens. The same germination media was used on the fresh cuttings of *Maytenus putterlickioides*.

We used rootex hormone powder to enhance the rooting of the cuttings. A portion of it was transferred in a clean plastic container from where the fresh cuttings were dipped and slightly shaken to remove excess hormone residues before planting them in potting tubes.

Figure 5: Two (2) established propagation nurseries covered with a 75% mist shade

Figure 6: Local members participating in a propagation exercise