Indigenous Tree Species for Enhancing Farm Productivity and Livelihood Improvement

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Introduction:

While indigenous tree species contribute to a cleaner environment through carbon sequestration, they are also a source of livelihoods to households through provision of tree products like fruits, nuts, medicine, fiber, construction poles, firewood, timber, sap and resins. Indigenous tree species also play service roles including beautification, provision of shade, wild life habitat, soil and water conservation and soil fertility improvement. However, unsustainable use and management practices are a threat to indigenous trees, thus calling for interventions to abate this situation and therefore promote their use for the different purposes. The increasing demand for tree products will be met by increased levels of tree planting, not only of the exotic species but also of the indigenous species which for decades have supported human livelihoods and are more adapted to local environments.

Study objectives:

1.To determine socioeconomic attributes of indigenous tree species and their contribution to livelihood improvement

2.To develop sustainable harvesting and processing methods for products from indigenous tree species

3.To assess the effect of indigenous trees on land productiv

So far achieved:

- Key indigenous tree species prioritized by farmers in four AEZs of Uganda include *Markhamia lutea, Ficus natalensis, Dracaena stuedneri, Albizia coriaria, Vitex doniana, Piliostigma thonningii, Annona senegalensis, Erythrina abyssinica, Markhamia lutea, Bridelia micrantha*
- Six key use values attributed to indigenous trees identified as Medicinal (85%), Firewood (70%), Charcoal (40%), Timber (30%), Construction poles (35%), Fruits for nutrition (28%)

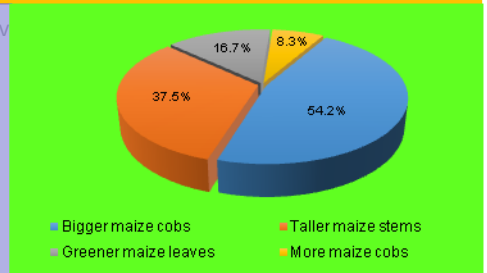

Fig 1: Effect of *Markhamia lutea* on maize growth performance



Fig 2: A vigorous maize crop growing where *Markhamia lutea* trees had been growing and the resprout can be seen in the foreground.

- Farmers in Tororo district (Kyoga plains AEZ), deliberately integrate *Markhamia lutea* trees within farm land to enhance soil productivity hence improving maize crop performance (Fig 1).
- Alternate debarking and selective root harvesting recommended as sustainable harvesting methods for indigenous medicinal tree species as opposed to traditional practices of ring barking and complete digging out of roots.

The road map:

- Assessment of the effect of *Markhamia lutea* and *Albizia coriaria* on crop yield and soil chemical and physical properties for enhancing crop productivity and income generation
- Farmer capacity enhancement in (i) multiplication and handling of indigenous tree germplasm (ii) management of tree-crop interactions on farms to enhance productivity and natural resource base
- Promotion and Scaling up the growing of indigenous trees through agroforestry for food security, climate change adaptation and mitigation.

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