Enhancing Biodiversity Conservation in Ngong Hills Forest: Empowering Local Communities Through Increased Awareness and Monitoring Efforts

Project Update

We undertook a detailed monitoring and assessment of the Ngong Hills restoration site, where our adopted Forest of one hectare was planted in 2023. The objective was to evaluate the survival, growth, and species composition of the young forest while identifying threats and opportunities to strengthen restoration outcomes.

A monitoring survey was carried out on the one-hectare site planted in 2023. Importantly, this was not only a scientific exercise but also a training opportunity for local youth and community members. Participants were guided through field techniques, including identification of invasive species, estimating their coverage, and measuring tree height, girth at breast height (DBH), canopy cover, leaf litter, and ground cover. This hands-on approach ensured that community members contributed to the data while simultaneously building their skills in ecological monitoring.

Figure 1. A trainer-of-trainees learning biodiversity monitoring techniques — strengthening local expertise and creating a multiplier effect as skills are transferred to community members involved in restoration

The survey, which covered 10 percent of the planted area, revealed encouraging results. A total of fifteen species were recorded, with *Markhamia lutea* emerging as the most abundant and widely distributed, followed by *Croton megalocarpus*, *Acrocarpus*

flaxinifolius, and *Vachellia tortilis*. Several ecologically and culturally valuable species, including *Cordia monoica*, *Warburgia ugandensis*, and *Podocarpus falcatus*, were also observed. This diversity reflects a strong foundation for a resilient and mixed forest community.

In terms of structure, most trees now fall within the two-to-five-meter height range, signaling a healthy, even-aged young stand. Some individuals, particularly *Markhamia lutea* and *Vachellia tortilis*, have already surpassed six meters in height, an excellent indicator of both favorable site conditions and appropriate species selection. Early signs of natural regeneration were noted, with *Podocarpus falcatus* seedlings appearing in the understory, suggesting the forest is beginning to support its own renewal processes.

The survey also highlighted areas of concern. The invasive shrub *Euryops chrysanthemoides* is spreading aggressively across the site, posing a serious risk of suppressing seedling growth. This was cleared and managed at the beginning of long rains through slashing. Rare and threatened species like *Warburgia ugandensis* and *Podocarpus falcatus* remain underrepresented and will be prioritised in the enrichment planting to secure their place in the recovering ecosystem.

Figure 2: Top: Community trainees identifying the invasive species Euryops chrysanthemoides during monitoring — an important step in citizen science learning. Although cleared earlier in the year, the species shows rapid regrowth, highlighting the need for continued vigilance. Bottom: Assessing propagation and restoration areas in Ngong Hills, strengthening local capacity to monitor and manage the site.

Alongside field monitoring, we continued to invest in community awareness and capacity building. In Olteyani, we collaborated with partners to establish a large-scale nursery with the capacity to raise 20,000 seedlings. More than thirty men and women participated in hands-on training covering seed collection, potting, transplanting, and nursery management. Practical demonstrations were held on seed collection and propagation techniques, empowering the community to take an active role in conservation. From this effort, over 10,000 seedlings have already been raised for the next phase of planting.

Figure 3: Community members in Olteyani actively participating in training on seed collection, seedling propagation, nursery construction, and nursery management — building local skills and ownership in forest restoration.

Figure 4: Seeds collected by local community members for propagation in the nursery — a practical step in building skills, fostering ownership, and ensuring a sustainable supply of native species for restoration.

During the reporting period, we also expanded restoration efforts by carrying out infilling of seedlings during the long rains to improve survival rates. Looking ahead, we plan to scale up to two hectares, with a strong focus on enrichment planting of underrepresented native species.

The path forward is clear. Immediate efforts will concentrate on controlling invasive species like *Euryops chrysanthemoides* before they suppress native regeneration. Progressive thinning of exotic species will be necessary to ensure canopy space remains available for indigenous trees. Enrichment planting with rare and culturally important species such as *Warburgia ugandensis*, *Podocarpus falcatus*, and *Cordia monoica* will strengthen biodiversity and resilience. Importantly, community members will remain central to these efforts, both in managing threats and in protecting the seedlings that are beginning to transform this landscape.

Overall, the Ngong Hills restoration site is showing remarkable progress. Survival and growth rates are strong, species richness is moderate yet promising for such a young site, and the active engagement of local communities provides a strong foundation for long-term sustainability. With continued management, the site is well on its way to becoming a thriving, biodiverse forest that restores ecological function and supports both people and nature.

Key highlights:

- Establishment of a 20,000-seedling nursery, serving both restoration and training purposes.
- 30+ community members trained in seed collection, propagation techniques, and nursery management.
- Integration of citizen science in biodiversity monitoring, with local trainees actively identifying invasive species and measuring tree growth.
- Strong ecological progress, with 15 species recorded and several individuals exceeding six meters in height.
- Expansion of restoration with a target of two hectares in the upcoming phase.