# Final Technical Report

*Please write in a short and condensed manner. The report should be written in English or French.*

## 1. Project information

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| **Project Title:** Conservation of threatened tree species in three Tropical Important Plant Areas (TIPAs) of Guinea |
| **Organisation:** Royal Botanic Gardens Kew |
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| **Contract Period**: 01 October 2020 to 30 November 2023 |
| **Grant amount & currency:** £ **272,446** |

## 2. Project Progress

(Provide a brief summary of progress toward your stated objectives and any key accomplishments achieved during this project - *max. 2000 words)*

Despite the setbacks this project has incurred from starting during the Covid-19 pandemic when there were travel restrictions both in-country and globally which meant the project officer was not allowed to travel to Guinea for the first 18 months, to the military coup in Sept 2021 which first closed the country and subsequently has left the government in a state of instability from which it is only now emerging, the project has achieved a great deal over its three years.

**Village nurseries and school gardens**

Three village nurseries were installed in Guinee Maritime to produce threatened trees by 2023. In 2023 175 plants of five CR or EN species and 487 plants of six VU species were planted out in the buffer zones of the 3 TIPAs. Over the three years of the project, a total of 686 saplings have been planted of 6 CR or EN species, with 781 saplings of 6 VU species and a further 393 saplings of indigenous useful species in the target areas. With assistance from matched funding (GCBC), a fourth nursery in Guinee Maritime was added and 5 nurseries on the Franklinia project model were added in Guinee Forestiere, extending the reach of the project. The five nurseries in Guinee Forestiere produced 601 threatened tree saplings of 5 species (571 EN or CR) and 6526 saplings of indigenous useful species which were planted out in the buffer zones of 2 TIPAs in sites identified by the communities. A fire break has been installed and maintained around the Kakiwondi forest TIPA; a fire break of a different type is being worked on at Konde Khouré (Mt Gangan TIPA). The area is quite open, we are putting in a fire protective barrier of native fast-growing tree species that will slow any grassland fires from spreading rapidly (the main risk to high conservation value forest fragments). We will also be doing more awareness training with communities in the area around fire risks, prevention and suppression.

Over the course of the project, we have made targeted seed collection expeditions based on the phenology data that we have assembled. A total of 6078 seeds of EN or CR species and 4883 seeds of VU species have been collected. Due to seasonal abnormalities in 2023 we lost out on seed of *Fleurydora felicis* as when we got out to the site at the usual seeding time, the seed had already dispersed. Some other species have not been found in fruit at all during the 3 years of the project (*Cola angustifolia*-it could be that it seeds only at intervals of years) and one species we have not been able to locate despite targeted searches, which could mean it is now extinct in Guinea (*Cola lorougnonis*).

Seed collection training was given by Xander van der Burgt (formerly Millenium Seed Bank project officer) and Gbamon Konomou (National Herbarium of Guinea) to project partners in Guinee Maritime and Guinee Forestiere to enable improved seed collection practice.

The construction of the five school gardens is underway, delayed due to the later start (covid, military coup) of the programme. Tools have been delivered to the five school Eco-clubs. One school eco-club has already located several species of threatened tree (identifications verified by the project team in November 2023) and are monitoring them to collect seed to grow in their school garden.

One highlight for the nursery teams, was the visit of Silke Strickrodt horticulturalist from the tropical nursery, Kew Gardens to deliver basic training. We have been in discussions for over a year to get a member of the horticulture team out to Guinea and finally it happened in November. It was great to have increased insight into the different components to use in soil mixes and to discover that the sand we have is not ideal to use as a potting substrate. Silke was also able to instil in the group the importance of having a clean nursery and cleaning your tools and some best

practice advice for taking cuttings. The trainees came from our partner organisations: Guinee Ecologie, AGEDD, HNG and CFZ, all of whom will take this knowledge back and pass it on to the village nurseries and colleagues.

**National Conservation Action Plan (**NCAP**) for Threatened Trees of Guinea**

Following two participatory workshops in March and October 2023, a final version of the NCAP for threatened trees of Guinea was handed over to the Ministry of Environment and Sustainable Development (MEDD) on 27th November. The workshops followed the IUCN Conservation Planning Specialist Group (CPSG) format with facilitation from Saliou Diallo (Guinee Ecologie), Charlotte Couch (representing Kew and IUCN West Africa Plant Specialist Group, WAPRLA) and Michael Dieng and Lucien Solie (CERE). Groups worked on defining a vision, objectives, actions and indicators for the plan. The agreed vision is: *By 2050, Guinea's threatened and endemic tree species and forests are better known, resilient to climate change and sustainably protected by local communities, government services and all stakeholders, including NGOs and the private sector.* The vision is supported by six goals and associated actions to deliver it, with indicators to mark the success of objectives towards reaching the vision.

At the first workshop in March, it was evident that this was the first time many of the participants had been part of a workshop of this type and it generated a lot of discussion, ideas and collaboration. It was also new for the organisers, so there was a lot to be learnt. The workshop was supported with funds from an IUCN SSC small grant to enable payment of facilitators and enabled participation from the co-chairs of the West African Plants Red List Authority (WAPRLA) Fatima Niang Diop, Martin Cheek. The document is available to download from the project page of the HNG website (https://www.herbierguinee.org/conservation-des-arbres-menacees.html). There was also some good publicity generated around the workshops, which has helped to highlight threatened plants and push them up the agenda of the government. It was very encouraging that the British Ambassador was asked about the NCAP for Threatened Tree species on his first meeting with the Minister of Environment and Sustainable Development.

In addition, we presented the Vascular Plants Checklist for the Republic of Guinea to the secretary general of MEDD alongside the NCAP. This document is particularly important for updating the legislation for threatened trees and other threatened species as it is an up to date taxonomically verified list of plant species, which will replace all other documents referring to plant species in Guinea, most of which are woefully outdated. The Secretary General of the Ministry was so pleased with these documents and what they represent that he has asked for workshops to popularise them with the technical services of the Ministry be convened in the coming weeks. Given the state of flux in the government following the September 2021 coup, this was a very satisfying outcome. Both these documents are collaborations between national and international practitioners and researchers and demonstrate the wealth of knowledge and willingness to work together to deliver sciencebased outcomes on solid data that can be incorporated into policy.

**Public awareness**

With funds from GCBC to support a dedicated team member from our partner Guinee Ecologie, we overcame an initial delay in our schools programme and now have 10 schools engaged in the areas close to our three TIPAs: 3 in Coyah, 3 in Moussayah and 4 in Kindia. They are primary schools (8) and secondary (2)schools. A new teacher's booklet and teaching materials were designed by Kadiatou Barry, Saliou Diallo and Charlotte Couch. The previous version, written during the Darwin Initiative project in 2019, was at a level that was higher than that of primary and secondary schools in Guinea. A prototype booklet was distributed initially to the 10 schools with posters, discussion cards and a board game to engage the schoolchildren. The booklet also outlines how to conduct a nature walk with the children and includes pictures of the threatened tree species of the area. The Guinee Ecologie led team went into the schools and demonstrated how to use the booklet and the materials. A guide to setting up the eco-clubs was produced which includes ideas for activities for the groups. These eco-clubs have been and are responsible for setting up and maintaining the school gardens. Following discussions with the Department of Education in Kindia, and agreement from Franklinia, a workshop was organised to reach more schools around the Mt Gangan TIPA. A train the trainers' workshop was organised in November 2023 with 38 teacher participants from 24 schools. A final, revised, more robust version of the booklet was produced for the workshop. Each person was given a booklet, a set of the discussion cards and a threatened tree conservation based "snakes and ladders" game. The workshop focussed around how to incorporate the lessons in the booklet into the general lessons being taught in schools and also the curriculum, and used working groups to achieve this. We were also fortunate that the British Ambassador in Guinea was able to attend the end of the workshop, play some "snakes and ladders" and present certificates of attendance to the participants. This was a great boost for the schoolteachers and demonstrated to the Department of Education that Kew and our Franklinia funded project partners are valued and supported. This workshop was very successful and one that we will endeavour to replicate in Coyah and Forécariah in future projects.

## 3. Project Components

*(Report on results by project components (Objectives and Results). Reporting should reference specific outputs/deliverables from the approved project design and other relevant information. Add or remove components if required)*

**Objective 1**: By growing trees at the HNG-UGANC nursery and in school and village nurseries, increase by 10% in 3 yrs, the numbers of known individuals of, and reduce threats by fire to species by 50% for 13 globally EN/CR tree species in three Tropical Important Plant Areas in Guinea.

**Planned results:**

**R.1.1 Three tree nurseries established in schools and villages of local communities that border each of the three target TIPAs, and the nursery enhanced at HNG-UGANC, by end Yr 1, end Y2.5 (communities), Y3 (schools).**

**R.1.2 Seed collecting of 13 EN/CR tree species delivers 1800 seeds for propagation in nurseries by end Y2 and end Y3.**

**R.1.3 Tree nurseries produce 250-300 seedlings of EN/CR trees annually at yr 1.5 and yr 2.5 for enrichment planting with protection from firebreaks in habitat, for incorporation in reforestation programmes, for planting in arboreta, botanic gardens, local schools (with interpretation to educate), and for sale to the gardening public.**

**R.1.4 Fire breaks installed and maintained to protect further losses at key sites of CR/EN trees species within the 3 TIPAs in the first 6 months and monitored annually in November before the main fire season.**

**Actual at completion**:

Despite the pandemic and military coup in Guinea we mainly exceeded this objective. Overall, we produced more new nurseries, more seed collected, more young plants of target EN/CR species produced, in more (3+2 = 5) TIPAs and increased numbers of know individuals by more than the target amount. However, we tried but did not win in collecting and germinating seed of 4 of the 13 target species. Some of the firebreak construction is ongoing.

**R.1.1:** Five plus five village (ten) nurseries have been established, in Guinee Maritime: two around Kakiwondi TIPA, one at Kounounkan TIPA and one at Mt Gangan TIPA. The second nursery around Kakiwondi was added after an issue with water supply occurred in 2022. The fifth nursery at Yattarayah was set up in 2023 with GCBC funding. This had a flooding issue in July and the nursery was moved to higher ground, subsequently plants at this nursery were too small to plant out this year. The village nurseries have been relatively successful, but not without challenges (see below successes and challenges section). A further 5 nurseries were constructed in Guinee Forestiere with GCBC matching funds.

The HNG nursery was upgraded to a metal structure due to termite damage of the original wooden construction, better fencing was installed for security, new propagation bench and tables were made, and a water tower with a tank installed to assist with watering in the dry season.

**R.1.2:** 6078 seeds were collected from 10 of 13 EN/CR target species. One species, *Cola lorougnonis*, appears to be extinct in Guinea. *Fleurydora felicis* we unfortunately missed this year; however, we are going to test the seed in the seedbank to check if it is still viable in order to use that post project. We have been monitoring trees of *Cola angustifolia*, for the past 2 years but have yet to find it in fruit. Additionally, 1228 seeds of 3 CR/EN species were collected in Guinee Forestiere. Propagation protocols have been recorded for 10 threatened tree species grown.

**R.1.3:** The four Guinee Maritime tree nurseries have produced 358 plants of EN/CR species from seed and 394 plants from cuttings, the HNG nursery has produced a further 386 plants of EN/CR species. A total of 1031 plants of eight species. A further 610 plants of 10 VU species have been raised across all four nurseries, some of which are useful species and others are dominant trees in the forest makeup. In Guinee Forestiere, the five nurseries produced a further 571 plants of 3 CR/EN trees and 6556 plants of socioeconomic species including, 1730 plants of 4 VU tree species.

Germination has been challenging for several EN species, notably *Diospyros feliciana* and *Ternstroemia guineensis*. *Dactyladenia smeathmannii* seed has been sown, but no germination has occurred yet. We have a master's student who is experimenting with germination techniques for *D. felicana* and *T. guineensis* as part of his thesis project. The sending of problem seed to Kew to be addressed has been delayed due to a change in UK and Guinea government policies. Kew Horticultural botanist Silke Strickrodt visited to give training on nursery propagation practices which has been very useful to help work out some of the issues incurred with these and other species. The long-term aim of producing enough plants to sell to reforestation programmes has not been achieved due to the delays at the start of the project and above all changes to government (removal of forestry post holders who were to have expedited our project). Low quantities of available seed and challenges with successful germination rates also meant that producing enough plants for reforesting locally as well as producing a surplus was challenging during the 3-year period.

**R.1.4:** A firebreak has been installed at Kakiwondi TIPA on the southern side to prevent fires invading the forest patch from agricultural field clearance practices. This was established in 2022 and has continued to be maintained and effective. No fire has entered the forest since it was installed. The other side is not threatened by fires since the

community on that side have agreed not to set them in the vicinity of the forest patch. Fire protection implementation is ongoing (see above) at Koundé Khouré in the area newly plantedwith threatened trees.

**Objective 2**: Through ongoing close cooperation with the Guinean government's Ministère de l'Environnement des Eaux et Forêts (MEEF, now MEDD) and our other in-country partners, achieve policy change on in situ conservation of globally threatened tree species in Guinea through the creation and acceptance of a National Action Plan which will provide official protected status for the 27 globally threatened (CR and EN) tree species in Guinea, and which will include them in forest reforestation programmes. As part of the proposed project, we will ensure direct implementation of this National Action Plan in the Guinée Maritime region.

**Planned results**:

**R.2.1 National Action Plan to recommend inclusion of indigenous tree species including EN/CR species nationwide in reforestation programmes, by end Yr3**

**R.2.2 Inclusion of indigenous CR/EN tree species in three Guinée Maritime province tree replanting programmes, agreed with managers, by end Yr 3.**

**R.2.3 Validation of the National Conservation Action Plan for threatened trees of Guinea by government with agreement to incorporate into policy protected status for the list of 30 EN/ CR threatened trees. Y3 Q4/ Y4 Q1**

**Actual at completion**:

The Guinea TIPAs partnership has maintained close cooperation with the government Ministry of Environment and Sustainable Development (MEDD) despite the upheaval caused by the military coup in Sept 2021. The original objective was modified because of this, since it could not be guaranteed that the current government would be working to their previous timetable for updating the National Biodiversity Action Plan (NBAP or Monographie Nationale) for example. The new threatened tree action plan (NCAP) developed using a participatory methodology will form the basis for current policies to be updated.

**R.2.1 & 2.3:** A National Conservation Action Plan (NCAP) for threatened trees of Guinea has been produced. This includes 26 species CR/EN and 24 VU species. The plan excludes timber species which are often widespread and already have (different) legislation associated with them. The vision and objectives of the NCAP recommend that indigenous threatened species of tree are promoted and used in tree planting schemes, following the 10 golden rules (di Sacco & Hardwick et al, 2022). There are six nationally endemic trees to Guinea, which have also been detailed in the plan. Twelve species associated with the project have individual conservation action plans detailing the information known and conservation measures in place, including all the endemic species. The NCAP was developed through participatory workshops including members of government, research institutions, NGOs and the private sector. It was validated during the workshops and has been delivered to the Ministry of Environment who plan to widely disseminate the plan and use it to inform changes to policy. The forestry code is in the process of being revised and this document will feed into this process. In addition, the Vascular Plants Checklist for the Republic of Guinea was published in early 2023 was also shared and it is recommended by the National Herbarium and Kew that this should now form the basis of all plant names used in official documentation in Guinea from this point onwards. This was very well received by the secretary general who has suggested that workshops be held in the coming months with the technical services to disseminate this information.

**R.2.2:** This part of the project has not been possible due to the government reorganisation following the 2021 coup. Forestry staff previously with the replanting programmes have been removed. Their replacements are fearful of initiative. However, once the NCAP receives official status we expect this to change. However, in the extension part of our project in Guinee Forestiere, we have a close working relationship with Centre Forestier Nzérékoré as a result of our CEPF and GCBC projects. This has enabled us to encourage the forestry department to move away from using exotic species for reforestation, particularly in the TIPAs. They are now actively involved with the community nurseries and also have a project funded nursery at the forestry centre which has increased their confidence in being able to grow native species and has been a source of pride, having now received many positive comments from their peers and local NGOs.

**Objective 3**: Create public awareness, especially amongst schoolchildren, to the fact that: (1) Guinean rare and endemic tree species exist, and (2) are highly threatened by human activities and should therefore be protected to ensure a healthy environment which provides ecosystem services.

**Planned results**:

**R.3.1 Incorporation of key facts on Guinea's 27 EN/CR tree species in a new expanded and revised edition of the Guide to the Threatened species and Habitats for Secondary School Teachers, by Yr 3, Q3.**

**R.3.2. Awareness built in local schools and communities by creating gardens of rare plant species and distribution of improved cook stoves.**

**Actual at completion**:
Awareness has been built with the communities around 5 TIPA sites and in 10 local primary and secondary schools about the existence of threatened and endemic tree species in Guinea. A total of 1021 people have been engaged in awareness raising activities. Large permanent posters have been erected near the 3 TIPAs to highlight the threatened trees in the local Susu language, with 2 additional posters at 2 TIPAs in Guinee Forestiere in Guerzé and Manika languages. Most of the poster boards are on main roads which have considerable traffic going past so are widely viewed.

**R.3.1:** A new and expanded version of the Teacher's Guide to environmental education incorporating the threatened trees has been produced for primary and secondary schools. The initial plan was just to include secondary schools in the project area; however, it became clear when visiting the schools closest to the TIPAs that the majority were primary schools. The decision was made to include both, which meant that the teacher's booklet needed to be aimed at both levels. It was noted that the previous booklet based on a version done for schools in Cameroon, was at a higher level than that of Guinea. The new booklet needed to start with the basics of environmental education and build up to the topics we want to cover. Our partners at Guinee Ecologie put together the information for the booklet based on their experience with local schools, we added in the discussion cards developed and trialled in one of the local primary schools at Tomboya in Coyah Prefecture, and pictures of the threatened trees found in the Guinee Maritime region. This formed the basis for the final booklet, prepared in InDesign by the project officer Charlotte Couch. 200 copies were printed in the UK and taken out to Guinea by Charlotte in October. An additional workshop requested by the Department of Education in Kindia and agreed with Franklinia, was delivered in November 2023 to train 38 teachers and head teachers from 24 schools around the Mt Gangan TIPA on how to use the booklet and incorporate the lessons and materials into the current curriculum. This workshop enabled teachers to interact and discuss among themselves the best way to incorporate the material, it also gave us the opportunity to really engage and make them understand why the threatened trees are important and need protection so they can pass that onto the schoolchildren. The discussion cards and games gave them new techniques to use to get the kids interested.

**R.3.2:** We have been engaging with communities to distribute our improved cookstoves since Y2 of the project. Initially, we had some issues with supply and the cost of materials rose significantly. In 2022, 65 stoves were made and distributed to seven villages, a further 103 stoves were distributed once the Kindia nursery was up and running in 2023. We have received good feedback about the efficacy of these stoves and how easy they are to use. A further 200 stoves were commissioned to increase our outreach with funds available from a predicted underspend. The majority of these stoves have been distributed to members of the new groups being set up following lesson learnt during the setup of the nurseries in Guinee Forestiere. This model creates a formal structure to manage the nursery activities and introduce some extra revenue generating activities in the form of market gardening.
Several of the schools have started to prepare areas for a school garden and some have started activities such as planting some fruit trees in the school grounds. One of the schools has also started to make compost to help with tree planting activities. Most of the schools have bare areas of ground with no shade for the schoolchildren and so are being encouraged to plant trees for this purpose. Eco-clubs have been started in the 10 local schools in March with some activities such as nature walks taking place. However, the school holidays started in July for three months (over the rainy season) and so they hadn't been well established enough to run a competition to design an emblem for the groups. Tools have been delivered to start the school gardens, progress will be monitored through phone calls and a follow up visit in the new year.

## Were any components unrealised? If so, how has this affected the overall impact of the project?

The aspects of the original project plan that involved the government and changes to legislation have not been possible due to the reorganisation and volatility of the government after the Sept 2021 coup. For example, the National Biodiversity Strategy update has been delayed and so activities relating to getting the 27 threatened trees added to the NBAP with protected status has not been achieved. The project also was unable to get an agreement in place to include threatened indigenous tree species into plantation mixes. However, this and many other aspects were discussed and included in the National Conservation Action Plan (NCAP) for threatened trees which was developed with government partners, researchers, NGOs and the private sector which will have a wider impact. Due to the changes in government and many people being retired, there have been changes to the Working Group and fewer meetings then planned have taken place over the past 2 years. Yet, the group was responsible for organising the workshops for theNCAP. Individual Conservation action plans (CAPs) have been written for19 of the 27 threatened tree species. Species identification sheets have been produced for the majority. Individual CAPS exist for all the 13 project target species, and several are included in the Site-specific CAPs for plants of Mt Bero and Diécké TIPAs

produced under the CEPF funded phase. All 27 species are included in the wider NCAP for threatened trees. The time taken to write individual species CAP assessments made it more efficient to combine them in the relevant site-specific CAPS. The NCAP has already had a greater impact for policy than the individual CAPs.
Some activities were delayed and are ongoing due to delays during the project already reported, such as the creation of school gardens. These did not affectthe overall impact of the project. The schools are very engaged and keen to continue their activities.

**Products** *(Please describe and submit (electronically if possible) any tools, products, or methodologies that resulted from this project or contributed to the results)*

- Eighteen identification sheets have been written for CR and EN species.
- Nineteen individual Conservation Action Plans have been written for threatened trees of Guinea including all the national endemic species.
- National Conservation Action Plan for Threatened Trees of Guinea has been written, validated and delivered to the Ministry of Environment and Sustainable Development (MEDD).
- Vascular Plants Checklist for the Republic of Guinea has been published and delivered to MEDD for validation and dissemination among the technical services.
- Teaching booklet on Environmental Education and threatened trees has been produced for Guinee Maritime and Guinee Forestiere (500 copies of each).
- Discussion cards on threats and ecosystem services for schools developed and 50 sets printed and distributed along with a conservation teaching tool "snakes and ladders" game developed for schools; available to download from the HNG website.
- Reports for fieldwork and workshops
- Propagation protocols for 10 (EN/CR threatened trees have been developed.
- Methodology for establishing cooperative community threatened tree nursery groups has been developed in Guinee Forestiere and has been applied to the Guinee Maritime sites.

Examples have been sent for the ID sheets, individual CAPs, and propagation protocols, the full sets along with all the reports are all available to download from the HNG website under the resources page. www.herbierguinee.org

## 4. Conservation Impacts – Species and Habitats

*(Please use this section to summarise the overall impact of your project. Present results in terms of overall impact of the project (section 4.1 below); project activities' impacts on species/habitat status, population size and trajectories, critical habitat condition, major threats, and enabling conditions for effective conservation (section 4.2 below).*

### 4.1. Overall impact

**Planned Impacts** *(As stated in the project logical framework)*

Improve the in-situ conservation status of all 27 globally threatened (CR and EN) tree species in Guinea, by focussing on 13 target tree species which occur in three Tropical Important Plant Areas (TIPAs) in Guinea.

**Actual Progress towards impacts at completion**

For the first time Guinea has a National Conservation Action plan for Threatened trees of Guinea with a strategy for conserving the 27 CR/EN tree species in-situ and ex-situ. It has been accepted by the relevant Government Ministry. This will give foresters and policymakers the tools and information, and the authorisation, to protect on the ground these threatened species.
We have a modus operandum to work with communities to protect the thirteen target species in the three tropical important plant areas, which was extended to two other TIPAs in Guinee Forestiere. We intend in future to scale up to include other communities around those these TIPAs, and also other identified TIPAs in Guinea.

**Success / Challenges** *(Describe the success or challenges of the project toward achieving its short-term and long-term impact objectives. How could it have been improved?)*

Challenges incurred in this project have been mostly outside of our control such as the global pandemic which restricted travel of the project officer and other Kew staff to Guinea until the beginning of 2022, and also restricted movement of our partners inside Guinea for the first six to nine months of the project. As a result, we focussed on getting one village nursery established in the first year and built up to 2 in second year and three in year 3. By doing this we were able to focus on getting one nursery up and running with seeds and seedlings so that we would be able to plant trees in the following rainy season.

Community work can be unpredictable, and things can change quickly. We had a few issues at the start of the project when talking with the communities about the project and what we would like to achieve with them. At Tomboya

everything was going well until a relative came to the village and for some reason decided that we couldn't possibly be there just to work on the plants and there must be some ulterior motive. This was resolved after a meeting with the village elders. We later had an issue with the villagers at Khoundindi, Moussayah, who had started to clear an area for agriculture within the boundary of the national park and another villager who rented out his land and the tenant cut the trees down and made charcoal, adjacent to the area we had just replanted. The local authorities were with the team when this was discovered, and the parties involved were referred to the prefecture. However, it made us concerned that the communities have still not understood the messages that we have been conveying. We have continued to work with them choosing to do more awareness training to improve their understanding. The methodology used in Guinee Maritime has only 2 people responsible for the plant nursery, though the communities have benefitted from the improved cookstoves, perhaps there is less buy-in to the activities than we would like. Our recent extension funded by GCBC to Guinee Forestiere used a different methodology of putting in place groups of 15-20 people with a structure (president, secretary, treasurer, advisor) who are responsible for maintaining the nursery and have been encouraged to do other activities together e.g. market gardening. They signed a contract between themselves, the forestry centre with the Mayor or Prefect countersigning (see lessons learnt below). The Guinee Forestiere methodology seems more effective in delivering results and sharing benefits.

The military coup in September 2021, though relatively non-violent, it did mean that this also restricted movement within country. Following the installation of a new government, the installation of military commanders at prefecture level took some time and until this was finished, no fieldwork was able to take place, since all mission orders have to be stamped by the local authorities.
In the two years since the coup, changes of minister, ministries and new processes have been introduced often at short notice, causing disruption to project activities. In October 2022, the process of issuing mission orders changed to having to pass through the ministry for issuing. This initially only affected the National Herbarium as they are a research institute under the Ministry of Higher Education and Scientific Innovation (MESRI). A few months later, NGOs suddenly had this imposed overnight without warning and so teams who had already left for the field, were refused permission to carry out work by the local authorities, this happened to our partners AGEDD and Guinee Ecologie. This new system is very inefficient, particularly for the NGOs as the Ministry they are attached to is very slow in turning around these mission orders. To get around this, all the mission orders have gone via the National Herbarium as at least MESRI is a bit quicker at processing them, enabling us to be able to continue to carry out project activities with the local schools and communities.

Due to the volatility of the government and certain posts changing frequently, the parts of the project that were involved with policy and working with the government have not been achieved as the processes have been significantly delayed. There are signs that this is changing and improving, and the forestry code will be updated soon. We have raised the profile of the National Herbarium (HNG) significantly over the past few years which has enabled them to be part of the steering committee for CITES and have been recognised as holding the plant data and knowledge for the country. The highly successful recent delivery of the project delivered National Conservation Action Plan for threatened trees of Guinea and also the Vascular Plant Checklist has reinforced the HNG role as champions of the flora data. This will help significantly towards achieving the goal of protection for the 27 CR/EN tree species as well as the 270+ threatened plant species of Guinea.

Availability of seed has been a challenge for some species. Some species we have had few seeds collected as the subpopulation is quite small, so low quantities of seed were collected so that the natural regeneration potential was not damaged. Other species produced low numbers of seed, or even none at all during the lifetime of the project. Few seeds of *Napoleonaea alata* have been collected for example, but the germination rate was particularly high. Cuttings taken of this species however didn't work at all. Whereas cuttings of *Tarenna hutchinsonii* worked well, we know seed works well as other colleagues have germinated it, but we had difficulty getting seed before it was attacked on the plant, probably by ants.

**Were there any unexpected impacts** *(positive or negative)***?**

- The World Bank is highly enthusiastic about our Franklinia project. We had a 3hr long meeting with them in Conakry inMarch 2023 at their request. They are particularly interested in the village nurseries in TIPA buffer zones and working with communities to address biodiversity conservation and carbon capture in partnership with Guinean NGOs and using Kew's plant expertise. They are interested in how this method could be scaled up particularly in relation to the new national parks network based on our TIPAs. They have suggested a mechanism for this, which has yet to materialise.
- Following a visit to the primary school at Tomboya (Kakiwondi TIPA) in Oct 2022, the project partners raised funds separately (through a GoFundMe page) to assist the local primary school to finish its new building after their current one was damaged in the rainy season in 2022. This has encouraged the school to start cultivating a school garden and has also helped to show the village that we want to support the community.

### 4.2. Specific impacts

**Did the project stabilise or improve the conservation status of the target species/habitat?** *(Provide quantitative data, if available)*

During a three-year project, it is difficult to have an impact on the IUCN conservation status of a species. To our knowledge, in the last three years, none of the known sub-populations of the 13 target species have been damaged in the three TIPAs. Though our counts of the number of individuals is not exact, it is based on IUCN data, GBIF and personal observations, we are confident that we have increased the number of individuals (by planting out by trees in TIPA buffer zones) by more than 10% for *Tarenna hutchinsonii* (54%), *Talbotiella cheekii* (14.5%), *Napoleonaea alata* (23%) and *Apodiscus chevalieri* (12%). *Keetia susu* (4.5%) and *Gilbertiodendron tonkolili* (5.5%) also fall short of the 10% increase planted out, but there are plants in the nurseries which were too small to plant out in the previous planting period, yet this will dramatically increase the numbers of these species once they are planted out next season. Knowledge of these species and habitats have been raised both locally and at government level particularly with the workshops for the NCAP, supporting their ongoing protection.

**Did the project improve the quality or condition of a threatened species' critical habitat within the project target area?** *(Provide quantitative data, if available)*

Certainly, the actions taken by the project e.g. firebreak at Kakiwondi, have already contributed to the protection of habitat of the 5 CR/EN species found there. Planting the threatened species into the buffer zones of these areas has improved the habitat quality and natural regeneration is being encouraged through reduction in both fire and agriculture clearance. The data generated by the project has supported the proposed national park status of the Kounounkan Massif and Plateau TIPA as part of the wider Haut Plateaux National Park, which affects the 5 CR/EN species found there. It has also made the local authorities and conservators aware of these species of which they previously had no knowledge. This was not a specific original target of the project.

**Did the project stop or reduce important direct threats to the target species/habitat within the project area?**

Firebreak Kakiwondi and planned one at Mt Gangan. The chief of the village at Laminata close to the Mt Bero TIPA has imposed a ban on the villagers entering the TIPA to cut trees or clear areas for plantations (a problem previously) to protect the forest and the threatened species contained.

**Did the project contribute to improving, having no impact on, or worsening the local socio-economic, political, and cultural conditions that facilitate successful conservation for threatened species and habitats?**

Improved cultural conditions with the distribution of the improved cookstoves, reducing the need for large quantities of firewood collection for cooking and giving faster cooking times enables women to do other activities. Payments to communities for building and maintaining nurseries, clearing and maintaining firebreaks, collecting seed and planting out seedlings and maintaining planted areas.
Installation of posters with threatened trees in local languages, improved local school teaching resources and establishment of school eco-clubs to teach the next generation about the importance of protecting the environment. This will facilitate the schoolchildren teaching their parents about the importance of conservation and protection of the environment.

## 5. Lessons Learned

*(Describe any lessons learned during the design and implementation of the project, as well as any related to organisational development and capacity building)*

**Project Design Process** *(Aspects of the project design that contributed to its success)*:

Having strong and trusted local partnerships, this enabled work to be continued at a distance during the pandemic. Partnering with local organisations who have a good understanding of local communities and how to coordinate the activities and who have good links to government ministries both environment and early years education.

Having good data available on the plant species to understand the phenology and facilitate seed collection .

**Project Implementation** *(Aspects of the project execution that contributed to its success/shortcomings)*:

The methodology used in Guinee Maritime means that only 2 people responsible for each plant nursery benefit financially, perhaps not maximizing the motivation of the whole communities for the activities. This shortcoming was mitigated though the distribution of improved cookstoves and the payments to communities for clearing an maintaining the firebreak.

**Other lessons learned relevant to the wider conservation community**

Our recent extension funded by GCBC to Guinee Forestiere used a different more successful model for community engagement to that of Guinee Maritime with tree nurseries. This involved putting in place cooperative groups of 15-20 people with a structure (president, secretary, treasurer, advisor) who are responsible for maintaining the nursery and have been encouraged to do other income generating activities together e.g. market gardening. They signed a contract between themselves and the forestry centre, with the Mayor or Prefect countersigning. This has worked really well with the groups monitoring their members and anyone who is not fulfilling their role has been asked to leave the group. This makes them more engaged and successful delivering project activities. These nurseries have also grown more indigenous socioeconomic species, which was lacking in the Guinee Maritime nurseries, which has been seen as a benefit by all. We will roll this format out to the Guinee Maritime villages in a future project to see if this will enhance community engagement.

## 6. Additional Funding

*(Provide details of any additional funding that supported this project and any funding secured for the project, organisation, or the region, as a result of Fondation Franklinia's investment in the project)*

Additional funding from two sources to expand the output of the Franklinia project was agreed with encouragement from the Franklinia secretariat.

In 2021-2022, funding from CEPF offset partial salary costs for the project officer which allowed for an increase in salary for the horticulture assistant enabling us to retain staff. This project involved consultations with communities in the buffer zones of the Diécké and Mt Bero TIPAs (Guinee Forestiere) to validate the management plans for those areas and to work towards protection of these areas in collaboration with local communities. This is a novel approach for Guinea and was welcomed by both sides and helped to build trust between the communities and the forestry service. The project also produced conservation action plans for plants for these two areas, and a draft version for Ziama, due to the lack of consideration for threatened plants in the original management plans. It was agreed with the government committee in charge of delivering the plans, that a resume of the plant conservation action plans would be included in the management plan documents.

The final workshop for CEPF brought together community representatives, local NGOs and the forestry service to discuss the products of the project and also what aspects could be built on, if funding was available. The communities requested more awareness training and collaboration around the protection of the forests.

This led to the additional funding from the Global Centre for Biodiversity for Climate (GCBC) in 2022-2024 which helped extend the reach of the Franklinia project, mainly in Guinee Forestiere. The GCBC project funded a second nursery at Yattarayah for Kakiwondi TIPA (Guinee Maritime), a dedicated Environmental Education officer with our partner Guinee Ecologie. A pilot nursery at the Forestry centre at Nzérékoré in 2023 led to four village nurseries being installed in the buffer zones of the Mt Bero and Diécké TIPAs. It also funded a pilot agroforestry project with IRAG to look at incorporating threatened trees into agroforestry plantations using a local coffee variety 'Café Ziama'. The project assistant's offset salary cost was continued through this project.

The Fondation Franklinia funding also enabled us to leverage funding from a small family trust to continue with some activities after the end of the project, before further funding is available, and to pay the project assistant's salary for the next 3 years which will reduce salary costs in future funding proposals.

## 7. Sustainability/Replicability

*(Summarise the success or challenge in achieving planned sustainability or replicability of project components or results)*

Our Franklinia Guinea Threatened trees project has great potential to be replicated in other countries in Tropical Africa, especially those with TIPA programmes where all threatened tree species have been assessed for their extinction status and have been mapped so that they can easily be prioritised for action. The RBG, Kew TIPA programme team in Mozambique, for example, are keenly interested in doing a similar project there and have asked to have a copy of this report.

The greatest challenge to our sustainability plan in Guinea was the military coup of 2021 and its aftermath. The forced retirement by the junta of many experienced senior officials in government removed key people in the Forestry Dept who were responsible for forest restoration programmes which have now been disrupted. Those Forestry Dept staff were crucial to our plan to provide post project sustainable income to our TIPA communities nurseries through sale of seedlings of threatened tree species for their planting programmes.

## 8. Additional Comments/Recommendations