

### Project Overview

**Project Title: Enhancing data access to transform Guinea's capacity to identify and protect its threatened plant species**

**Lead Organization:** Royal Botanic Gardens, Kew

**Lead Organization Country:** UK

**Date Proposal Submitted:** 12 October 2022

**Lead Investigator name (and attach CV):** Charlotte Couch

**Co- or Alternate Investigator name (and attach CV):** Dr Sekou Magassouba

**Primary Contact Email:** c.couch@kew.org

**Authorized Institutional Representative / Primary Signatory of the Grant Agreement**

**Letter:** Prof. Alex Antonelli, Director of Science

**Does your institution have a functioning accounting and grants management system that will be used to track this grant?** Yes

**What system does your institution use?** Agresso

**Does your institution commit to using a separate bank or ledger account to manage grant funds for this project?** Yes, it is Kew's policy to use a separate ledger account to manage grants.

**Have you or your organization previously applied to or been funded by JRS? If so, provide the principal investigator/title/years of the project.** Yes, Dr Steve Bachman "Enhancing conservation capacity through Red List assessment of Madagascan plants" 2014-2016

**If your proposal includes key partners, please describe them here:**

- **Royal Botanic Gardens, Kew** is a world-leading centre for plant science and conservation. Our mission is to understand and protect plants and fungi for the wellbeing of people and the future of all life on Earth. Kew has a long history of working with partners in over 100 countries to deliver projects. Kew has been working in Guinea since 2005, initially with botanical students from Guinée Ecologie. In 2008, Kew initiated the process to establish a national herbarium at the Université Gamal Abdel Nasser de Conakry with whom we have a Memorandum of Collaboration (MoC). Kew continues to train local botanists in the field and lead teaching on the Herbar National de Guinée Masters in Biodiversity and Sustainable Development to train the next generation of researchers. We established a project partnership with Herbar National de Guinée, Guinée Ecologie and the Guinea government in 2016 that continues to flourish. Working with these local partners, Kew has used the practical but rigorous Tropical Important Plant Areas (TIPAs) methodology to identify and document priority species, habitats and sites for plant conservation, using threatened plant

species data to inform our decision making. The project resulted in 22 sites being designated as TIPAs which the national authorities agreed to add to the statute books as new protected areas, the first to be recognised in Tropical Africa. Kew will deliver training and capacity building to partner organisations and lead on the publication of the identification guide for threatened plants of Guinea.

- **Herbier National de Guinée (HNG)**, Université Gamal Abdel Nasser de Conakry (UGAN), supported by RBG Kew, leads botanical exploration and site-based conservation prioritisation in Guinea, and manages plant specimen data for Guinea. The director, Dr Sekou Magassouba, is passionate about training the next generation of botanical and mycological researchers. HNG started a Masters course in Biodiversity and Sustainable Development in 2012 and many of their staff have completed the course. HNG early career researchers, Denise Molmou, Gbamon Konomou, and Kaman Guilavogui are now undertaking their PhDs. There is a long-standing MoC between Kew and HNG. HNG staff have experience in georeferencing specimen data and will be trained in Red Listing. Tokpa Seny Dore, head of the specimen conservation unit and masters graduate, recently participated in IUCN Red List assessment training through West African Plants Red List Authority (WAPRLA). HNG will coordinate with in-country partners to deliver the project objectives.
- **Guinée Ecologie (GE)**, a local environmental NGO established in 1989, promotes protection and sustainable management of the environment. They train students in environmental studies. Guinée Ecologie will provide training in KoboCollect for collection of threat data and participate in capacity building activities. Botanical trainees benefit from training with HNG field staff as part of joint projects. GE will also participate in workshop activities.
- **Ministère d'Environnement et Développement Durable (MEDD)** Responsible for implementing Tropical Important Plant Areas (TIPAs) and protected areas legislation, protection and fulfilling CBD and the Nagoya Protocol commitments. MEDD are involved in elaborating the National Plan for Economic and Social Development in which the 30x30 goals and aspirations are laid out. The previous PNDES 2016-2020 sets out certain aspirations under Pillar 4.1, however the new strategy has yet to be published. Due to changes in the government, there has been some delays. The CBD focal point (Mr Aboubacar SAMOURA) will help facilitate the presentation of data to government to fulfil their international commitments. Plus, offices under the MEDD umbrella including:
  - **Centre Forestière Nzérékoré (CFZ)** is responsible for the protection of Classified Forests and protected areas in Guinée Forestière e.g. Ziama, Mt Béro, Diécké, and in collaboration with CEGENS, Pic de Fon and Nimba. They have been involved with us on a pilot project gathering data in the field on threats to the plants and environment in these areas. Their field agents will be given more training on data collection, data management and plant identification during this project.
  - **Office Guinéen des Parcs et Réserves de Faune (OGPNRF)** is responsible for management of protected areas in Guinea and will collect and use data on threats and monitoring in other parts of Guinea. The revised network of Protected Areas will include the majority of the 22 TIPAs identified in Guinea in 2019. Members of OGPFRF will receive training in collecting and identifying threats for the risk registers so that this can be applied to other Protected Areas.
  - **West African Plants Red List Authority (WAPRLA)** will assist with reviewing Red List assessments, facilitating uptake by IUCN. Charlotte Couch, Dr Martin Cheek are

co-chairs and Dr Sekou Magassouba is a member of WAPRLA. They will facilitate writing of assessments with Guinean colleagues and sending assessments out for review to the group.

## **Project Timeline and Summary**

**Project Period: 2023-2026**

**Project Start Date: 01 April 2023**

**Project End Date: 31 March 2026**

**Project Summary (200 words) – Clearly describe the project in a few paragraphs, indicating the main potential impacts of the project and how these could be measured:**

By mobilising hitherto hidden data, this project will transform Guinea's capacity to assess, identify and protect threatened plants.

Kew will work with partners to identify unnamed Guinean plant specimens, capture colonial specimen data, and collate private specimen records, resulting in thousands of new records added to Global Biodiversity Information Facility (GBIF). By training Guinean researchers in plant identification and Red List assessments we will enable the completion of Red Listing for all of Guinea's threatened plant species. A threatened plant species identification guide will be produced for fieldworkers to increase their capacity to recognise threatened species. Training in and development of Threat Risk Registers for Important Plant Areas in Guinea will be made available online to help inform conservation policy decisions and on-the-ground management.

The project will directly support African 30x30 goals to use best science and data for decision-making, by significantly enhancing the data available on Guinean threatened plant species. This data will be used by partners, government agencies, and other organisations to increase awareness of threatened species and inform policy decisions during the life of the project and beyond. By the end of the project, Guinea's capacity and confidence in plant identification and threat management will be transformed.

## **Project Description**

**What are the project's direct (immediate) objectives:**

- Increased access for all to Guinean specimen data via GBIF with 6,000 Guinean specimen records, including repatriated data, uploaded by end of Year 1.
- Training of 2-4 HNG botanists in plant identification and Red List assessments at Kew, resulting in increased knowledge and capability to assess and describe new and threatened plant species. This will result in the assessment of 40 new species for the IUCN Red List and publication of five new species to science by Guinean botanists by the end of the project.

- Better access and ability to identify, and therefore protect, threatened plant species by all stakeholders with the production of an illustrated guide to the threatened plants of Guinea by end of Year 3.
- Enhanced awareness and access to threat data in protected areas and areas of high plant diversity through a centralised Threat Risk Register developed and accessible online by end of Year 3 which can be used to influence conservation policy decisions.

**What are the primary activities planned in this project, and how will they contribute to achieving the objectives?**

1. Identification of unnamed Guinean specimens (includes suspected new species) by Guineans trained/supervised by taxonomic experts at RBG Kew. Capacity building visits to Kew for 2-4 Herbier National de Guinée (HNG) staff to name specimens and describe new species from those identifications.

Over the past 5-6 years there has been an increase in the number of expeditions across Guinea and not the resources to identify all the specimens to species level. This activity would give 2-4 HNG staff the opportunity to visit Kew for a period of eight weeks in Years 1 and 2 to name specimens using a larger reference collection with the assistance of specialists, improving their identification and taxonomic skills. Seven potential new species have been flagged up during these expeditions that have yet to be identified, but it can take some time for a new species to be described and published from Guinea due to a lack of in-country capacity. The visiting researchers will learn how to describe new species and assemble a publication for submission to a journal such as Kew Bulletin. The resultant data from newly identified specimens will be uploaded to GBIF via the Guinea portal.

2. Collation of hitherto unavailable Guinean commercial specimen data and georeferencing of historical specimens from the online Paris Herbarium and Lisowski specimens for uploading to GBIF. Numerous commercial projects in Guinea have required botanical surveys over the years. This data is not always made publicly available and is therefore not available to include in Red Listing or to policymakers. This activity seeks to address this by negotiating the publication of datasets from past commercial work undertaken by the partners.

3. Using the new and existing data, Red List threatened species not listed, prioritising those at highest risk of global extinction.

An initial screening of the Guinean flora for threatened species for Red Listing in 2016 rejected any species which were unlikely to be considered VU, EN or CR under the IUCN Red List criteria. This excluded species that already had assessments but were outdated or species that may be near threatened, and any new species which have been described since. A Guinean Red List assessor will be trained to carry out these assessments with support from the Plant Assessment Unit at Kew. With new data points available through the release of data and georeferencing of historical specimens, 40 new assessments or reassessments of threatened species will be submitted to IUCN.

4. Enable easy identification by fieldworkers of Guinea's Red Listed plant species through publication of hardcopy/pdf. illustrated identification guide in French.

In a recent training course on vegetation survey techniques run by Kew and HNG with the forestry service and local plant conservation organisations in Forest Guinea, there was a request for more information on threatened plants of Guinea so that people in the field could easily identify them and thus record data on them. We seek to address this request with the compilation of an illustrated identification guide to threatened species. Kew has a collection of high-quality images of some threatened species taken in the field and extra fieldwork will be undertaken to target remaining species in conjunction with gathering threat data. We will also engage students in fieldwork to give them further training and the opportunity to gather data for their studies. As part of this activity, we will run a course in plant identification linked to the publication of the guide in Year 3 and a vegetation survey course in Years 1 and 2 for forestry and protected areas staff as capacity in plant identification and surveying is currently low. A maximum of 20 people from government, partner organisations and local universities will be invited per course (c. 60-80 people in total), this is to ensure there is a high student-teacher ratio for better interaction. The plant identification course will be run in both Nzérékoré and Conakry enabling more young researchers from the local universities to attend. Copies of the guide will be distributed to relevant organisations and libraries in Guinea to make it available to people who have not attended the course. A free download of the book will also be made available six months after publication.

5. Build on the Threat Risk Register methodology developed under a 2021-22 CEPF funded project to train local partners (both government and communities) in data collection and monitoring. Develop a platform for storing the data, which is accessible to all relevant Guinean government departments and can be used to inform protected areas management and policy.

As part of our 2021-22 CEPF funded project, we worked with Guinée Ecologie and CFZ to develop a method of collecting data on threats to individual plant species and the forest using the IUCN threat hierarchy. We wanted to standardise the data collected and using the IUCN threat hierarchy allows data to be incorporated easily into Red List assessments and is comparable between sites. A form was developed using the Kobo Toolbox platform, which is opensource, that could be easily downloaded and filled in on a tablet or mobile phone. The form can be used offline and data uploaded to the cloud when in signal range. CFZ agents that were previously trained in threats and data collection will assist in training the next cohort for 10 different TIPAs and developing a monitoring methodology. The raw data is not very user-friendly, so this part of the project would also look at developing a user-friendly format for the data on a platform where all relevant parties could have access. 20-30 CFZ and OGPNRF staff would receive training on how to upload and manage the data and how to report on it. In addition, we will be supporting a masters student, Saran Olliano, to use the existing data and collect new data at the Kounounkan Forest Reserve (also identified as a TIPA) to do a comparative study, thus demonstrating how the data could be used.

**Explain how the objectives will be measured.**

**Goal 1:** Identification of unnamed Guinean specimens (includes suspected new species); Guinean scientists capable in taxonomic identification and species description

Indicator 1A: 800 unidentified specimens named by Guinean botanists from HNG with RBG Kew taxonomic expert support/training and uploaded to GBIF by Guinean GBIF Focal Point (Saidou Doumbouya).

Indicator 1B: Five rare new species to science submitted to scientific journals with Guinean botanists as first authors.

**Goal 2:** Private Guinean specimen records and georeferenced historical records are collated and available to all. Kew will work with HNG and Guinée Ecologie to achieve this.

Indicator 2: 6,000 records newly added to GBIF by the Guinean Focal Point (Saidou Doumbouya)

**Goal 3:** Most threatened but unredlisted/out-of-date species Red List assessed.

Indicator 3: 40 new or updated Red List assessments accepted for publication on iucnredlist.org. The majority written in French by Guinean Red List assessor.

**Goal 4:** Guinea fieldworkers enabled to recognise threatened plant species.

Indicator 4A: Published hardcopy/electronic field identification guide to Guinea Red data plants

Indicator 4B: 60-80 people trained over three years on courses held by Kew and HNG on plant identification and Vegetation Survey Techniques.

**Goal 5:** Guinea has capacity to develop threat registers for protected areas, and existing registers available to all.

Indicator 5A: 30 Guineans trained in threat data collection and register assembly;

Indicator 5B: Threat registers for 10 Important Plant Areas will be developed and made available online.

The project supports the 2016-2020 National Plan for Economic and Social Development (PNDES) Pillar 4: 6.1: Sustainable management of ecosystems which is aligned to the UN Sustainable Development Goals demonstrating that the Guinean government is committed to conserving terrestrial ecosystems. There is also a commitment to increasing the forested area of the territory and reducing the proportion of threatened species. In order for this to happen, the status of these species needs to be understood. MEDD are responsible for ensuring that the government meet their international commitments with the CBD and contribute to the development of the PNDES. The new PNDES has not yet been published, but we understand that biodiversity and sustainable use of natural capital will remain a pillar. Therefore, this project

will enable the government to have greater access to data to fulfil their international commitments.

In a wider context, many of our goals relate to the long term 2050 Goal D “The gap between available financial and other means of implementation, and those necessary to achieve the 2050 Vision, is closed” specifically Milestone D.2. “Adequate other means, including capacity-building and development, technical and scientific cooperation and technology transfer to implement the framework to 2030 are available and deployed”.

Our goals 1, 2, 3 and 4 are linked to 2030 Target 3. If 30% globally of land and sea areas of particular importance to biodiversity and its contributions to people are to be conserved effectively, we need to know where these areas are and which species are concerned. Threatened plant species automatically trigger Important Plant Area criterion A. Although 22 IPAs have been recognised in Guinea, there are likely to be further areas discovered with the identification and Red Listing of new species. Having the data available to assess species is vital to the process.

Goals 4 and 5 relate to Target 20 ensuring the “relevant knowledge...guides decision-making for the effective management of biodiversity, enabling monitoring, and by promoting awareness, education and research”. Providing materials, tools and training to staff on the ground who are managing protected areas and areas of high plant diversity is essential for them to identify and monitor threatened species as well as passing on the messages of why it is important to the local communities. Gathering of this data and Red Listing of species will also feed into integrating this data into planning and policy which corresponds to Target 14.

**If your project involves data collection or monitoring describe your sampling design:**

An initial screening of the Guinean flora for threatened species for Red Listing in 2016 rejected any species which were unlikely to be considered VU, EN or CR under the IUCN Red List criteria. With new data points available through the release of data and georeferencing of historical specimens, this activity will look to reassess threatened species with old assessments, assess new species and revisit those species that fell just below the threshold in the initial screening using the IUCN Red List categories and criteria.

Under activity 5, data on threats will be captured using the methodology developed as part of the 2021-22 CEPF funded project (see the document on Threat Register methodology [http://www.herbiiergee.org/uploads/2/6/3/0/26303479/threat\\_register\\_methodology.pdf](http://www.herbiiergee.org/uploads/2/6/3/0/26303479/threat_register_methodology.pdf)). Data is captured using a form on the KoboCollect app downloaded onto a smartphone or tablet. To accommodate the level of detail captured with the three-tier IUCN threat hierarchy, the threat register was developed as an Excel spreadsheet. The tiers have been grouped and can be collapsed to reduce the number of lines where specific threats are not triggered. There are three classification columns, followed by columns for Location, Coordinates, Habitat, Description of activities. The next three columns have the scores for Disturbance (1 = low to 4 = very high) and Timeframe (1 = past, 2 = future, 3 = ongoing), the third giving an overall score. This is calculated by multiplying the disturbance and timeframe scores. The last column is for mitigation measures, these may be suggestions or actions already in place. The scores are ranked low to

very high in increments of three and colour coded to give a RAG status i.e. a section score of 1-3 is low and therefore green, whereas a section score between 10-12 would be very high and dark red. We aim to at least partially automate the generation of this register during the project and produce an online database to record all threats.

It is suggested that activities with a low section score require some monitoring, activities with medium section scores require monitoring and some mitigation whereas activities in the high and very high section scores require management interventions. For example, where over-collection of non-timber forest products (NTFPs) is recorded as a medium risk, local communities could be encouraged to put a harvesting quota in place and a local committee oversee this. If forest clearance for poacher camps is recorded as a high risk, ecoguards would be required to patrol areas more frequently and arrest illegal poachers.

Capturing this data is the first step, monitoring this data is the second step in the process. The CFZ agents who were trained during this project will be involved in training the next cohort and we will work with them to do the first monitoring of the data collected in November 2021 and May 2022. All the data are georeferenced and can therefore be revisited. Updates to the threats will be recorded and added to the database to see if there has been any change and if any mitigation is required. To sustain the monitoring after the life of the project, we hope to link the KoboCollect questionnaire into the SMART system that the agents use for patrolling. Thereby enabling them to capture this data and do monitoring when doing regular patrols rather than going out specifically for this task.

### **What impact would your project have on biodiversity conservation decisions or management?**

Training of 2-4 HNG botanists in plant identification and writing plant descriptions for new species will enhance the capacity of the national herbarium as these botanists will pass on their skills to trainees when they return. They will also train with the Red List assessors at Kew which will enhance capacity for writing Red List assessments for Guinean plants in French. These skills are currently lacking in Guinea. It is hoped that the Red List assessor could then go on to take the higher-level qualification to be able to train others in Guinea. The training visits to Kew will also give the HNG botanists experience of working in larger herbaria and the different methods of specimen management that can be applied at HNG. This training will help transform the capacity and confidence of HNG to operate independently to identify and describe new plant species and to Red List them.

Mobilisation of thousands of georeferenced records to the Global Biodiversity Information Facility (GBIF) will ensure more of Guinea's high number of rare species can be Red Listed and protected. Having this information available will also greatly improve access to data for experts to inform policymakers.

Capacity of the forestry agents in plant identification and threat management is currently low. Training in plant identification and access to a book on the threatened plant species will result in an increase in knowledge for the individuals and the organisation as a whole. Literacy within the forestry service is also not at a high level. However, we plan to train a minimum of 40 individuals



from both the MEDD, local universities and local conservation NGOs over 2 years in plant identification, establishing links between NGOs and the forestry service should increase synergy between organisations. The course will be run both in Nzérékoré and in Conakry to capture a wide audience.

There has been some previous training in threat mapping and data collection, but this enhanced training in how to manage and analyse the data will increase the quality of data captured as well as enable the team to train others in how to collect data at different Important Plant Areas. It will enable them to monitor and present this data to the higher authorities to influence policy decisions.

The continued partnership between the organisations will deepen the links and trust between government, NGOs and scientific institutions. Before Kew's Darwin Initiative funded project in 2016, this partnership and trust was lacking mainly due to a lack of understanding of what each organisation did and if they were capable of doing what they claimed to do. Through our efforts to bring partners and stakeholders together through that first project and subsequent projects, these relationships are building trust and understanding of the collective responsibility they have for the Guinean environment. Sharing of data and knowledge is more open between the partners, facilitating better decision making.

**Project rationale:**

**(Describe the rationale for the project and how this is supported by existing information and gap analysis, and what engagement with decision makers or policy makers is envisioned. Please indicate if leaders or decisionmakers have been consulted or involved in the design of your project. Indicate their engagement, including how will they be involved during the course of the project.)**

Guinea is one of the most biodiverse countries in West Africa. This is partly due to its topography – Guinea has two highland areas, the central Fouta Djallon and, in the southeast an extension on the Loma-Man mountains, which have been isolated for thousands of years and as a result have numerous endemic plant species. As far back as 1996, 96% of the original forest of Guinea was reported lost and the fragments that survived are rapidly disappearing. Natural habitats and species are at risk from the threats posed by open-cast mining, habitat clearance for agriculture, tree-felling for charcoal production as well as urbanisation and forest fires. Poor environmental governance due to a lack of detailed data available on threats and monitoring hampers management of protected areas and sites of high plant diversity. Currently, we are working in the Maritime and Forest regions of Guinea where there is high biodiversity and where numerous new species to science have been discovered. Guinea Maritime has the southern extension of the Fouta Djallon, sandstone mountains with microhabitats harbouring interesting endemic species. Forest Guinea has the largest coverage of lowland and submontane forest in the country which has been identified as a threatened habitat (Couch, 2019). The diversity of these forests is high with many important populations of threatened tree species, but the protection afforded to them is not well managed. We are working with the local authorities and population to raise awareness of these issues.

Botanical capacity in Guinea was low until the early 2000s when there was renewed interest in plant collection and training of botanists. Previously, students and young researchers found it difficult to progress as courses did not include fieldwork due to ageing professors and the lack of masters or PhD courses. As a result, the botanical knowledge within Guinea remains lower than neighbouring countries, despite the botanical diversity being higher. In 2012 the National Herbarium of Guinea was granted the ability to run a masters course in Biodiversity and Sustainable Development, with Kew invited to teach on and deliver the field course element. This was instigated to address this lack of experience in the next generation of researchers and encourage more early career researchers to undertake doctoral studies to be able to teach subsequent cohorts.

Until species are on [iucnredlist.org](http://iucnredlist.org) they are not accepted as priorities for protection by land managers. Red Listing plants depends on point data from herbarium specimens, yet most colonial specimen data is not accessible nor georeferenced and many recent records of the mining industry have been unavailable. Other specimens remain unidentified including suspected rare new species to science. We will mobilise thousands of such records to the Global Biodiversity Information Facility (GBIF) and feed them into new Red Listing. This will ensure more of Guinea's high number of rare species can be Red Listed and protected using an illustrated identification guide to threatened plant species, including the published new species.

Working with our established partnership between Kew, Herbiier National de Guinée, Guinée Ecologie and departments of the Ministry of Environment and Sustainable Development, we will be building on previous work achieved and have included elements suggested by our colleagues. MEDD are keen to improve access to data and reports, to use sound scientific data as the basis of decision making. The GBIF focal point, Mr Saidou Doumbouya has been working to get more Guinean data onto the portal and is keen for commercial operations to share their biodiversity data. He will facilitate uploading the new data through the Guinea GBIF portal. The new CBD focal point and Director of OGPNRF, Mr Aboubacar SAMOURA, has been approached for support and assistance in presenting data to the government to use in reporting for their international commitments. Centre Forestière Nzérékoré (CFZ) have been involved recently as a partner in our 2021-22 CEPF funded project and during a recent training course on vegetation survey techniques run by Kew and HNG, specifically requested more information on threatened plants of Guinea so that field staff could easily identify them and thus record data on them. They are also keen to continue developing the threat risk register for TIPAs in Forest Guinea and how this data can be analysed and used effectively. We will continue to train local staff in data collection and monitoring of threats and in plant identification and surveying. We have a good relationship with OGPNRFs assistant director, Mme Watta Camara, previously Director of CFZ. We recently worked together to deliver plant conservation action plans to include in the new management plans for Mt Béro and Diécké Classified Forests. OGPNRF staff will be included in training for threat data collection and plant identification for TIPAs. They will also be involved with CFZ in the analysis of the data and development of a platform to make it accessible.

A workshop at the end of the project will bring together all partners and stakeholders, including those from other government departments, to showcase the results and how they can access the products and data collected under the various project activities.

**What are the Key Milestones of the Project (List with anticipated date of completion):**

1. First visit to Kew by HNG staff and 150 specimens identified – June 2023
2. Screening for threatened species and candidate list of species to be assessed completed – September 2023
3. 15 Guineans trained in threat data collection and register assembly – September 2023
4. Data uploaded to GBIF – by end of March 2024
5. First five Red List assessments submitted for review – by end of March 2024
6. First paper submitted by Guineans – March 2024
7. Second visit to Kew by HNG staff and 300 specimens identified – by end September 2024
8. 40-60 staff from HNG, OGP NRF, CNSOE, DNFF, CEGENS, CFZ and NGOs receive training in vegetation survey techniques – September 2024
9. 15 Guineans trained in threat data collection and register assembly – September 2024
10. Fieldwork to photograph species and collect data completed – December 2024
11. 20-40 staff from HNG, OGPR, COSIE, DNEF, HNG, CEGENS, CFZ and NGOs receive training in plant identification – September 2025
12. Final paper submitted by Guineans – December 2025
13. Publication of illustrated field guide – March 2026
14. Online database developed and available online – March 2026

**Key Activities: Detail Summary (for each note the following in a table:**

| Objective  | Activity   | Description   | Expected Impact  | Start Date | End Date |
|--|--|---|--|------------|----------|
| Increased access for all to Guinean specimen data via GBIF with 6,000 Guinean specimen records, including repatriated data, uploaded by end of Year 1. | 1. Capacity building visits to Kew for Herbarium National de Guinée (HNG) staff to name specimens and describe new species from those identifications. | Two visits by 2-4 HNG staff of eight weeks in Y1 and Y2 to RBG Kew to identify unnamed Guinean specimens (including suspected new species).                 | 800 unidentified specimens named by Guinean botanists with RBG Kew taxonomic expert support/training and uploaded to GBIF  | 06/09/23   | 31/10/25 |
|  |  | Training of 2-4 HNG staff with experts at Kew in how to describe and publish new species to science.  | Five rare new species to science submitted to scientific journals by Guineans<br><br>Increased knowledge and capability to assess and describe new and threatened plant species. | 06/09/23   | 31/03/26 |
|  | 2. Collation of hitherto unavailable Guinean specimen data for uploading to GBIF.  | Negotiation to publish biodiversity data from past commercial projects in Guinea. Georeferencing of historical specimen data available from online sources. | 6,000 records newly added to GBIF  | 01/04/2023 | 30/03/24 |
| Training of HNG botanists in plant identification and Red List assessments   | Using the new and existing data, Red List threatened species not listed, prioritising those at highest risk of global extinction.                      | Screening of Guinea flora database to identify species that may be threatened or need to be reassessed.   | 40 new or updated Red List assessments accepted for publication on iucnredlist.org.  | 01/04/23   | 31/08/23 |
|  |  | Assessments and Reassessments of threatened species completed by Guinean staff and reviewed by WAPRLA.  | 40 new or updated Red List assessments accepted for publication on iucnredlist.org.  | 31/08/23   | 31/03/24 |

|  |   |   |  |                 |                 |
|--|---|---|--|-----------------|-----------------|
| <p>Better access and ability to identify, and therefore protect, threatened plant species by all stakeholders with the production of an illustrated guide to the threatened plants of Guinea by end of Year 3.</p>   | <p>Enable easy identification by fieldworkers of Guinea’s Red Listed plant species through publication of hardcopy/pdf. illustrated identification guide.</p>                                   | <p>Collation and publication of an illustrated guide to threatened plants of Guinea. c. 60-80 Staff from HNG, OGPR, COSIE, DNEF, HNG, CEGENS, CFZ and NGOs staff receive training in plant identification and vegetation survey skills.</p> | <p>Guinea fieldworkers enabled to recognise threatened plant species.</p>  | <p>01/04/23</p> | <p>31/03/25</p> |
| <p>Enhanced awareness and access to threat data in protected areas and areas of high plant diversity through a centralised Threat Risk Register developed and accessible online by end of Year 3 which can be used to influence conservation policy decisions.</p> | <p>Build on the Threat Risk Register methodology developed under a 2021-22 CEPF funded project to train local partners (both government and communities) in data collection and monitoring.</p> | <p>30 Guineans trained in threat data collection and register assembly.</p>   | <p>10 Threat Registers for Important Plant Areas developed and made available online.</p>                            | <p>01/04/23</p> | <p>31/12/25</p> |
|  | <p>Develop a platform for storing the data, which is accessible to all relevant Guinean government departments and can be used to inform protected areas management and policy.</p>             | <p>Online platform for storage and analysis of data developed</p>   | <p>Guinea has capacity to develop threat registers for protected areas, and existing registers available to all.</p> | <p>01/04/23</p> | <p>31/03/26</p> |

**Period of Activities (i.e. January 2022 - June 2023) April 2023 – March 2026**

**What are the potential risks to the successful completion of the project:**

- Guinea becomes politically unstable with reduction of poverty linked with sustainable exploitation of natural resources no longer a government priority.
- The Guinea government Ministry of the Environment removes its stated commitment to treating IPAs as protected areas.
- The current (10-year) strong collaborative partnership between UK-based and in-country scientific partners breaks down.
- Guinean researchers are unable to obtain visas for research visit to Kew.
- There is a pandemic or outbreak of other diseases which could prevent project going ahead as scheduled.

**For these risks, what mitigation measures do you propose?**

Unfortunately, there is little we can do to minimize political upheaval. However, the government is currently stable. We will continue to maintain dialogue with the Ministry of Environment and Sustainable Development through our partners and meetings when in-country. The PI, Charlotte Couch, spends 4- 6 months per year in Guinea and has formed good working relationships with officials and maintains our collaborative partnerships. The National Herbarium of Guinea has achieved good standing within the Ministry of Higher Education and Scientific Innovation and is well supported; they will assist in obtaining visas for HNG staff to visit Kew. Some HNG staff have already visited Kew, so obtaining a visa should be easier for them, though we will start this process early in the project to allow for any delays in the process.

Kew is also well supported by the UK Embassy in Guinea who will champion our projects with the government if required.

Kew has protocols in place to mitigate the risks of Covid-19. However, should a further pandemic or outbreak of other disease arise, Kew will follow all UK and Guinea government advice as it did throughout the Covid-19 pandemic. If restrictions are introduced and activities need to be temporarily suspended, we will continue to maintain relationships with our partners to progress the project as far as we can and keep delays to a minimum.

**What are the deliverables of the project? (i.e. data products, data tools, infrastructure, etc.) and why are they significant)**

- Threat/Risk Registers for 10 TIPAs available online to update and download. These registers will enable staff protecting those areas to monitor threats to the forest and individual species. Data will be available to all parties who require access for policy and decision making. The registers will be publicly available to assist with Red Listing.
- Red List assessments will be published online and the information incorporated into documentation e.g. the book on threatened plants of Guinea and conservation action planning. Any new development project is required to do a social and environmental impact assessment. If information is not published, it will not be incorporated into documentation. If International Finance Corporation (IFC) PS6 legislation is being followed, which recognises that protecting and conserving biodiversity, maintaining ecosystem services, and managing

living natural resources adequately are fundamental to sustainable development, IUCN Red List assessments must be taken into account.

**For all data sets and data tools: 1. Will your institution commit to and practice 100% open access and open source? See Open Access Declaration form in the Documents section.**  
YES

**2. Will data be published to GBIF or other regional/national open source data platform? On what data platforms will data be made accessible? Provide link:**

All specimen data cited above will be uploaded to GBIF through the Guinea Portal and will be therefore accessible to all local stakeholders and decision makers.

Red List assessments will be submitted through the Species Information System (SIS) portal to IUCN and published on [www.iucnredlist.org](http://www.iucnredlist.org).

The illustrated guide to threatened plants of Guinea will be published in hardcopy and will be available online as a pdf to download free from the Kew Repository within six months of the end of the project. Any publications arising from the project will be co-authored by partners and published in open-source journals.

All documentation and reports will be made available through a dedicated page on the National Herbarium of Guinea website: [www.herbierguinee.org](http://www.herbierguinee.org).

Data collection for the Threat Risk Register is made through KoBoCollect which is an open access data collection platform. The raw collected data will be made available online to all the relevant stakeholders through an open access cloud-based data management system for mapping and monitoring. We will develop a method to easily interpret the raw data into a user-friendly format which will be made available online for example through a Google platform.

**How will project results and impacts be sustained at conclusion of JRS funding?**

Herbier National de Guinée will benefit through training of staff in specimen identification, description of new species and Red Listing enabling them to continue this work. Publishing of specimen data through HNG on the GBIF portal will also raise the status of the organisation internationally and nationally within government. Capacity will also be built within HNG to deliver courses on vegetation survey techniques and plant identification.

The Ministry of Environment and Sustainable Development will benefit from greater access to plant data for policymaking, for example, updating the national biodiversity action plan. The Centre Forestière Nzérékoré and Office Guinéen des Parcs et Réserves de Faune will benefit from capacity building for their staff and access to up-to-date data for making decisions for on the ground conservation in protected areas as well as being able to provide analysis of data for policymakers.

The Illustrated Guide of threatened plants of Guinea will benefit many organisations, both commercial and not-for-profit, working in-country to increase awareness and identification of threatened plants and inform their own planning and policy decisions.

**Budget**

| Item  | Description  | Year 1 (\$)   | Year 2 (\$)   | Year 3 (\$)    | Total (\$)     | Other funding (\$) | Total requested from JRS (\$) |
|---|--|---------------|---------------|----------------|----------------|--------------------|-------------------------------|
| <b>Salaries</b>                                     | Charlotte Couch <sup>1</sup>   | 9,374         | 23,174        | 23,869         | 56,417         | -                  | 56,417                        |
|   | Dr Sekou Magassouba <sup>2</sup>   | 1,570         | 1,791         | 2,149          | 5,510          | -                  | 5,510                         |
|   | Faya Julien Simbiano <sup>3</sup>  | 6,288         | 6,917         | 7,608          | 20,813         | -                  | 20,813                        |
|   | Tokpa Seny Dore <sup>4</sup>   | 4,491         | 4,941         | 5,435          | 14,867         | -                  | 14,867                        |
| <b>Research Equipment</b>                           | Computer Hardware, smartphones/ tablets, software, data storage <sup>5</sup> | 8,422         | -             | -              | 8,422          | -                  | 8,422                         |
|   | Field equipment <sup>6</sup>   | 2,495         | -             | -              | 2,495          | -                  | 2,495                         |
| <b>IT &amp; Comms</b>                               | Data & communication <sup>7</sup>  | 1,248         | 1,248         | 1,248          | 3,744          | 1,872              | 1,872                         |
|   | Threat database development <sup>8</sup>                                     | 3,743         | 3,743         | 3,743          | 11,229         | -                  | 11,229                        |
| <b>Capacity building, training &amp; workshops</b>  | Saidou Doumbouya <sup>9</sup>  | 261           | 261           | 264            | 786            | -                  | 786                           |
|   | Aboubacar SAMOURA <sup>10</sup>  | 261           | 261           | 264            | 786            | -                  | 786                           |
|   | 2 x Assistant data compiler <sup>11</sup>                                    | 3,593         | 3,952         | 4,348          | 11,893         | -                  | 11,893                        |
|   | Threat Register Workshops <sup>12</sup>                                      | 3,743         | 3,743         | 4,990          | 12,476         | -                  | 12,476                        |
|   | Plant identification skills & vegetation survey course <sup>13</sup>         | 5,614         | 11,229        | 11,229         | 28,072         | -                  | 28,072                        |
|   | End of project workshop/conference <sup>14</sup>                             | -             | -             | 6,238          | 6,238          | -                  | 6,238                         |
| <b>Travel for workshops, conferences, fieldwork</b> | Fieldwork travel and subsistence <sup>15</sup>                               | 6,862         | 6,862         | 5,614          | 19,338         | -                  | 19,338                        |
|   | International travel & visas <sup>16</sup>                                   | 11,229        | 11,478        | 2,870          | 25,577         | -                  | 25,577                        |
|   | Local transport <sup>17</sup>  | 3,743         | 3,743         | 3,743          | 11,229         | -                  | 11,229                        |
| <b>Publishing</b>                                   | Publication & dissemination <sup>18</sup>                                    | 1,248         | 4,367         | 14,971         | 20,586         | -                  | 20,586                        |
| <b>Subtotal</b>                                     |  | <b>74,185</b> | <b>87,710</b> | <b>98,583</b>  | <b>260,478</b> | -                  | <b>258,606</b>                |
| <b>Admin costs</b>                                  | Administrative costs <sup>19</sup>   | 7,159         | 7,159         | 7,159          | 21,477         | 5,362              | 16,115                        |
| <b>Total Project Cost (\$)</b>                      |  | <b>81,344</b> | <b>94,869</b> | <b>105,742</b> | <b>281,955</b> | -                  | -                             |
| <b>Total Other funding (\$)</b>                     |  | 2,411         | 2,411         | 2,412          | -              | <b>7,234</b>       | -                             |
| <b>Total requested from JRS (\$)</b>                |  | <b>78,933</b> | <b>92,458</b> | <b>103,330</b> | -              | -                  | <b>274,721</b>                |