Final Evaluation Report

We ask all grant recipients to complete a project evaluation that helps us to gauge the success of your project. This must be sent in **MS Word and not PDF format**. We understand that projects often do not follow the predicted course but knowledge of your experiences is valuable to us and others who may be undertaking similar work – remember that negative experiences are just as valuable as positive ones if they help others to learn from them.

Please DO NOT fill in and submit this form until the project has been completed.

Complete the form in English. Note that the information may be edited before posting on our website.

Please email this report to jane@rufford.org.

Your Details	
Full Name	DASSOU Gbèwonmèdéa Hospice
Project Title	Long-term conservation planning for endemic, locally restricted range and threatened plant species in Benin
Application ID	39633-D
Date of this Report	16 June 2025

1. Indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.

Objective	Not achieved	Partially achieved	Fully achieved	Comments
Assess the current geographic range and the patterns of flowering and fruiting of 12 globally/nationally threatened plant species (different of those involved in the last RSG but with high socioeconomic interests for the local people)			x	Data were collected on 20 species instead of 12 initially foreseen. The Extent of Occurrence (EOO) was calculated for each of the species. The 20 species were: 1. *Detarium senegalense* 2. *Afzelia africana* 3. *Afraegle paniculata* 4. *Anthonotha fragrans* 5. *Disopyros barteri* 6. *Hyphaene guineensis* 7. *Hyphaene thebaica* 8. *Pentadesma butyraceae* 9. *Laccosperma* 10. *Secundiflorum* 11. *Eremospatha macrocarpa* 12. *Oncocalamus wrightianus* 13. *Calamus deerratus* 14. *Strychnos afzelii* 15. *S. Barteri* 16. *S. floribunda* 17. *S. nigritana* 18. *S. soubrensis* 19. *S. splendens* and 20. *S. usambarensis*
Model and predict the suitable habitat for conservation effectiveness			x	The study was based on potential distribution of key species using SDM and environmental variables, including temperature, precipitation, soil type, and land use, to predict habitat suitability under current and future climate scenarios. For example, for

				Strychnos spp., analysis revealed that mean temperature during the driest quarter (Bio09), annual precipitation (Bio12), precipitation in the warmest quarter (Bio18), precipitation in the coldest quarter (Bio19), as well as soil clay and silt content, were the key environmental factors influencing the distribution of *Strychnos* species. Under present climatic conditions, suitable habitats are concentrated in the Sudanian and Sudano-Guinean zones of Benin. However, projections based on global climate models and future scenarios indicate that the extent of suitable areas for *Strychnos* species is expected to decline for most species.
Assess the desiccation tolerance of seeds in order to strengthen the seedbank			x	Seeds of priority species were gathered with the assistance of 19 farmers and four students across 53 localities. For species with uncertain desiccation behaviour, tolerance to drying was systematically evaluated. Overall, for each species, at least 912 seeds were collected from different individuals (number depending on species) divided into 3 lots (L1, L2 and L3) of 100 and 3 lots (L4, L5 and L6) of 204 seeds. The lots L1, L2 and L3 included seeds randomly selected among the three provenances. Lots L4, L5 and L6 were constituted according to provenance. Three experiments were carried out, namely the moisture content experiment (experiment 1), the desiccation tolerance experiment (experiment 2) and the germination and growth performance experiment (experiment 3). Lot 1 and lot 2

				were kept fresh and immediately included in experiment 1. Lot 3 was split in two equal sublots (SLa fresh seeds and SLb dried seeds) for the experiment 2. The dried seeds (SLb) are fresh seeds that were air-dried at room temperatures, at 20°C on average for 1 day. The lots L4, L5 and L6 were kept separately under laboratory conditions at 25°C for one week prior to the experiment 3. All recalcitrant seeds were promptly subjected to germination, whereas orthodox seeds were conserved through freezing.
Set up a permanent nursery as well for 12 species as for 18 involved in our 1st Booster Grant in order to supply seedlings during the Official Days of the Tree (ODT) in Benin			x	Between April 2023 and June 2025, a total of 13,185 seedlings were produced. Palm species were used to establish the first Palmetum of the country.
Enrich 10 RFSB during the next ODT.			X	We were unable to obtain authorization for one RFSB. As a result, it has been replaced with a site under the management of our UAC, ensuring continuity in the project.
Set up sensitization actions to protect the critical relics waiting to develop next years the generating activities of income like beekeeping.			x	Two sessions were successfully conducted. Additionally, we launched a tree-themed poem writing and recitation competition for pupils aged 8 to 10 years, empowering them to take an active role in biodiversity conservation across the country. We produced and shared 50 flyers and banners and 50 copies of Pamphlets. Across the two awareness-raising sessions, we

				engaged with over 450 participants, including Government Ministers and their cabinet, Members of Parliament, teachers, communal and rectoral authorities, foresters, craftsmen, journalists, pupils, and guides. However, the planned discussion on establishing a Benin Network of Conservationists, intended to facilitate information sharing and seed exchange, was not addressed.

2. Describe the three most important outcomes of your project.

a) Permanent nursery

We set up a permanent nursery in the botanical garden. it included a total of 13185 plantlets distributed as follows: 2,871 in first year (2023), 5,000 in 2024 and 5,314 in 2025.

b) Enrichment

We introduced 6500 seedlings of threatened plants during the official day of the tree over the three years (June 2023, 2024, and 2025) in the botanical garden, the Drabo gbo of Peter Neuenschwander, botanical reserve of Pobè, three farmlands of Ouèdo, Sèdjè-Dénou, Zinvié, two sites of UAC, Sakété and Adjarra. More than 1000 seedlings were given to catholic churches and NGOs for planting. In every locality, community members actively participated in the planting activities.

c) Creation of a palmetum at University of Abomey-Calavi

During the official day of the tree (4 June 2025), a palmetum (collection of common and rare and threatened palm species native to Benin) was established. The activity was launched by the Minister of Higher Education and Scientific Research of Benin with the presence of communal and rectoral authorities.

3. Explain any unforeseen difficulties that arose during the project and how these were tackled.

Seed collection for certain species, particularly rattans, proved challenging due to systematic stem cutting by collectors upon detection. This practice prevents fruiting and natural seed maturation, ultimately disrupting dispersal and regeneration. As a result, propagation by seeds became difficult, necessitating alternative approaches. To address this, cultivation by rhizomes was adopted, allowing the successful introduction of these species into our nursery while bypassing seed collection limitations.

4. Describe the involvement of local communities and how they have benefitted from the project.

Local communities actively participated in all aspects of the project:

- Site-specific field guides were appointed to document species occurrence, monitor fruiting periods, and facilitate seed collection.
- Local leaders played a key role in disseminating information and mobilizing community members for enrichment initiatives.
- Forest investigation permits were secured through authorization from the Department of Forest to ensure compliance with conservation regulations.
- Collaboration with the Association of Benin Craftsmen fostered discussions on the sustainable use of rattans.
- A crafts fair at the botanical garden was organized to showcase traditional craftsmanship and promote knowledge exchange.
- A tree-themed poem writing and recitation competition engaged pupils aged 8 to 10 years, empowering them to take an active role in biodiversity conservation. The initiative was widely shared across social networks and national television to maximize outreach.

5. Are there any plans to continue this work?

- Establish a metacollection to safeguard species with recalcitrant seeds or those confined to a single known habitat in Benin, ensuring their long-term conservation.
- Enhance pupil involvement in plant conservation by expanding participation, particularly among students from priority conservation areas.
- Embed biodiversity conservation into school curricula, fostering early ecological awareness and instilling a sense of environmental stewardship among pupils across diverse regions.
- Broaden ecosystem restoration efforts by rehabilitating additional degraded sites, reintroducing native species, and monitoring their ecological resilience.
- Assist communal authorities in identifying plant species with the ability to capture airborne particles, contributing to air quality improvement and plant conservation in urban environments.

6. How do you plan to share the results of your work with others?

- A poster will be presented during AETFAT Congress in Accra, Ghana in August 2025. The abstract was already submitted.
- A manuscript on germination capacity of *Afraegle paniculata* was submitted.
- Two additional manuscripts are currently in preparation, focusing on refining key research findings and enhancing their accessibility for publication. These works aim to contribute valuable insights to plant conservation.
- Other results will be shared through MSc reports in December 2025.
- An article has been already published: Dassou, G. H., Adomou, A. C., Kpetikou, C. G., & Neuenschwander, P. (2024). Diospyros barteri Hiern (Ebenaceae): new records for the vascular flora of Benin. Check List, 20(3), 636–640. https://doi.org/10.15560/20.3.636

7. Looking ahead, what do you feel are the important next steps?

- Establish a metacollection to serve as a pilot conservation hub for threatened species, ensuring their long-term preservation and genetic diversity.
- Expand and fortify the seedbank to encompass all threatened plant species, securing their availability for restoration and research.
- Develop municipal and school botanical gardens across every locality, creating decentralized conservation spaces for education, research, and species preservation.
- Initiate the Tree of Life Project for Benin, promoting native species conservation, ecosystem restoration, and community-led environmental stewardship.
- Gather orchid specimens nationwide to restore and enhance their shade house within the botanical garden, ensuring optimal growth conditions and conservation like we just done for palm species (palmetum).

8. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did the Foundation receive any publicity during the course of your work?

Yes, the Rufford Foundation logo was featured on videos and posters, and the foundation was acknowledged for its financial support.

9. Provide a full list of all the members of your team and their role in the project.

The team included:

1. Dr DASSOU Gbèwonmèdéa Hospice, *Role*: mapping, seed collection, enrichment, meeting/workshop organization, administrative management, reporting.
2. M. MAKPONSE Judicael, MSc in Botany, *Role*: *seed collection*.
3. Miss DOSSOU Yolande, MSc in Botany, Role: Desiccation tests and MSc report.
4. M. KPETIKOU Ghislain, MSc in Botany, Role: Propagation tests and MSc report.
5. Miss DANSI Myriame, Technician, Role: Desiccation tests and seed banking.
6. M. TOLOKIN Kévin, MSc student, Role: seed collection and MSc report.
7. M. DAAMOU Ayékofè, local guide: fruiting follow-up and seed collection.
8. Dr FAVI Abraham, ACCES NGO, *Role: enrichment,* facilitating communication with local population and awareness raising.
9. M. ADJIMEHOSSOU Fulbert, environmental journalist
10. Association of Benin Craftsmen: enrichment, people mobilization
11. Department of forest: Role: provide authorization.
12. BSc Students of the University of Abomey-Calavi, *Role: participation* in tree-themed poem *writing* competition.
13. Schools: participation in tree-themed poem recitation competition.

10. Any other comments?

The study also successfully identified and mapped suitable habitats for key species in Benin. Key findings include: - high suitability areas: two important areas were identified as highly suitable for species conservation namely Pobè and

Zogbodomey. These Areas with high habitat suitability overlap with existing protected areas (botanical reserve and the classified forest of Lama), emphasizing their importance for conservation efforts. However, unprotected regions with high suitability like Ahozon encompassing the one only coastal forest were also identified, suggesting the need for expanded conservation initiatives.

ANNEX – Financial Report

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