

Final Evaluation Report

Your Details	
Full Name	Dassou Gbewonmedea Hospice
Project Title	Creating a seedbank to enhance the ex-situ conservation of endemic and threatened plant species at the Botanical and Zoological Garden E. Adjanohoun in Benin
Application ID	31502-B
Date of this Report	16/09/2022

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
collect seeds of EECEV across Benin				<i>Acanthus montanus</i> , suspected to be extinct in the wild in Benin, has been finally found in the wild but we can't collect the seeds. Nevertheless, we introduced in the Botanical Garden of our University per cuttings to later dispose several individuals necessary for the seed collection or other parts (bud for example) that can be stored.
assess their desiccation tolerance and their germinative abilities				All collected seeds were submitted to the test of desiccation tolerance. We reviewed literature and retained the best pre-treatment for each species before the test of the germinative abilities.
set up a seedbank at the BGAC				All collected seeds were introduced (according to the status: orthodox, recalcitrant or intermediate) into the first seedbank for the endemic and threatened plant species in Benin. We followed several stages including: cleaning and sorting, drying, germination test, banking, test of viability.
initiate the production of seedlings of the EECEV to supply the BGCA and other institutions for planting out in their natural habitats.				A total of 2230 seeds were used.

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

The three most important outcomes of the project:

a). Database on fruiting periods of all EECEV, collection of 3803 seeds, classification according to the type (orthodox or recalcitrant) among which 1573 were banking in freezers.

b). Nursery encompassing 1688 seedlings of the EECEV.

c). Plantation of 500 seedlings in seven rainforest patches in southern Benin and in the Botanical and Zoological Garden E. ADJANOHOUN during the official DAY of TREE, June 1st where everyone has to plant at least one tree in Benin.

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

The major difficulty was finding enough individuals fruiting (though it was the reproductive period) in certain habitats which were converted into the farmlands. However, with the help of local people, new occurrences will be recorded.

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

Local people/communities have been involved in the project at two stages: (i) at the time of the implementation of the objective 1 where they helped to record the new occurrences of target species and to participate to the collections of the seeds, and (ii) in the planting sessions mainly done in the 'Monkey Sanctuary of Drabo Gbo' (founded in 1995 by Peter Neuenschwander) during the official DAY of the TREE (ODT), June 1st. A total of 200 seedlings were freely distributed to the best local conservators of Drabo village this day of tree.

5. Are there any plans to continue this work?

Yes, we envisage a monitoring and evaluation of the realisation. Local Leaders and particularly traditional healers from the healers' association who were not involved requested me after the planting session during the official DAY of the TREE (ODT), June 1st at Drabo to assist them in protecting and sustainably exploiting their biodiversity-rich community forests through the supplying of native threatened medicinal plant species. The immediate for the team is to establish a permanent nursery in the botanical garden to freely supply the native threatened plant species for ODT in Benin. There are also plans to target other globally/nationally threatened plant species to set conservation priorities for critical rainforest remnants in the country. But we need, at first, to: (i) assess the patterns of their distribution in the country and of their use to check how collection rate affect the availability, and (ii) assess the patterns of flowering and fruiting to strengthen the seedbank through the seed collection. At last, the different results obtained since the first stage show a paramount necessity to continue to raise public awareness and the need to conserve relics. In order that results be more sustainable school children will be involved in a citizen science programme to document the plant species of their community forests and publish their results on iNaturalist to increase their knowledge of and empathy toward species, as already tested elsewhere in the country. We envisage to create a local conservationist network to share seeds of threatened plants with manager of the seedbank.

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

With the massive database designed from results of this study, I made significant progress in the preparation of two scientific manuscripts focusing on: (i) dormancy and germination requirements, and (ii) responses to dehydration and conservation of seeds of target plants. Another paper designed in collaboration with other colleagues was submitted on *Milicia excelsa*, a target species classified as endangered in Benin. In addition, a part of results will be presented during the scientific meeting organised by National Agricultural University from 28-30 November 2022. I recently joined the African Taxonomists WhatsApp forum where I intend to share some of the results soon. I shall also conduct workshops in neighbouring villages of relic forests to raise local inhabitants especially traditional healers as a part of environmental education. I also plan to present the results with relevant government authorities by sending briefs to their offices because we will act in the nearby future as potential supplier of plantlets for ODT.

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

The important steps that I would like to take next include: (i) follow up of seedlings planted during ODT; (ii) continuation of the seed collection of other globally threatened plant species for their banking; (iii) continuation of the viability test of banked seeds; (iv) set up of the permanent nursery for supplying seedling during next ODT; (v) reforestation of the 10 critical rainforests across the country; (vi) raising of local people on best methods of harvest; and (vii) installation of local conservationist network to share seeds of threatened plants with manager of the seedbank.

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 foundation has been acknowledged through the manuscript submitted and I used the logo of the RF at the project site.

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

DASSOU Gbèwonmèdéa Hospice, Ph. D: coordination of all activities of the project as principal investigator.

ZOUNTAGNI Mathieu, MSc: collection of seeds.

KPETIKOU Ghislain, MSc: assistance in seed collection and test of germination.

DANSI Myriame, MSc: handling, desiccation test, and banking of seeds.

10. Any other comments?

I wish to take this opportunity to thank RF for the funds I was given to undertake this project for the Botanical Garden. I hope to receive additional grants to continue this best ambition.