Final Project Evaluation Report

Your Details	
Full Name	Tarisai Mike Nyamucherera
Project Title	Conservation horticulture for the Encephalartos Chimanimaniensis, a critically endangered cycad in Zimbabwe.
Application ID	24149-2
Grant Amount	£5000
Email Address	tmnyamzz@gmail.com
Date of this Report	10 January 2019

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
Conduct field explorations to locate surviving individuals of the focus species, assessing the risk to these individuals presented by deforestation.				We conducted extensive surveys in areas known to naturally have populations in the wild and we are convinced that wild populations may have been decimated in many known areas.
Propagating the Encephalartos Chimanimaniensis cycads at a garden at the National Herbarium and Botanical Gardens of Zimbabwe.				We managed to successfully set up a nursery and propagate Chimanimaniensis cycads at a garden at the National Herbarium and Botanical Gardens of Zimbabwe. Quite a number of plants survived and still in the nursery even though the number of plants needs to be increased.
Making Encephalartos Chimanimaniensis cycads available for reintroduction in the wild and to the market.				Not enough plants were propagated to achieve this objective. The project has to be scaled up to meaningfully achieve this objective.
Set up a nursery and compare recovery techniques to address essential research questions such as survival rates of plants where the method of introduction involved seed, seedlings or stem cuttings				We managed to set up the nursery, collect plant material in different forms (seeds, pups, stern cuttings) and compared survival/resilience among the different plant materials we had collected to the nursery. From this experimental approach we managed to document the resilient level/ survival rates of different plant materials that we collected. This will inform speed of implementation and how plants are handled for improved success rates in future projects.
Coordinate Encephalartos Chimanimaniensis identification programme to equip law enforcement officials				This was partially achieved. We managed to engage law enforcement officials in two districts but in the process we noticed that Protection of plants remains a low priority to them in light of personnel

with the necessary skills and knowledge, to address the illegal trade in cycads and enforce the current moratorium.				and financial challenges. More engagements are needed to ensure that we meaningfully achieve this objective.
Conduct interviews to map the networks and patterns of poaching.				We managed to interview quite a number of cycad traders and stakeholders concerned with the conservation of the plant to understand the nature of the supply chain for these plants. More engagement are needed to ascertain among other things the part they could play in conserving the plants

2. Please explain any unforeseen difficulties that arose during the project and how these were tackled.

- Plants were attacked by a weevil and many of them wilted whilst some got rotten. We improved our frequency of watering so as to manage the moisture levels to protect especially pups from underground attacks by weevils and rotting.
- We collected infected material from the mother plants and these transmit weevils to other plants thereby affecting our project success rate. We simply were more careful to examine our collected plant materials before we brought them to the nursery where they could spread diseases.
- Shortages of growth hormones in local stores. We ended up importing rooting hormones from South Africa.
- Local fuel shortages and this delayed fieldwork schedules. We ended buying fuel on the black market just to make sure we stuck to our dates for field visits during stakeholder engagements and field surveys
- Challenges in accessing grant money in foreign currency to import growth hormones. We approached bank manager with our application letter with justifications on why we needed to get forex. We succeeded in getting an allocation of scarce United States Dollars.

3. Briefly describe the three most important outcomes of your project.

a) A Nursery with Encephalartos Chimanimaniensis cycads. These are currently paper potted and growing very well increasing the number of Encephalartos Chimanimaniensis specimen's ex-situ.

b) enhanced knowledge on propagation and recovery rates/ resilience of different plant materials at different stages during the early stages of propagation

c) Improved knowledge on networks of illegal trade and how these could be nabbed to ensure more plants are produced in the wild**.**

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

They was no community involvement element in this project but we aim to engage the community in horticulture and conservation of the plant when the project has been scaled up.

5. Are there any plans to continue this work?

Yes, we have immediate plans to scale up this project to significantly increase the number of known specimens in the hands of responsible authorities' ex-situ. Many of our plants were attacked by a weevil and they died as has been highlighted on the last report. This project must be scaled up so that we have more plants for reproduction purposes, reintroduction into the wild and later ensure there are enough Encephalartos chimanimaniensis cycads supply to the market.

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

A simplified handbook is being compiled on propagation of the Encephalartos Chimanimaniensis cycads. More so we are compiling a research paper on propagation of the Encephalartos Chimanimaniensis cycads that we wish to submit for review with a high impact journal. We also intend to share the findings of our researches at an international conference convened by a local university.

7. Timescale: Over what period was the grant used? How does this compare to the anticipated or actual length of the project?

The RSG was used for a period of 12 months from February 2018 to January 2019. The anticipated or actual length of the project was 12 months.

8. Budget: Provide a breakdown of budgeted versus actual expenditure and the reasons for any differences. All figures should be in £ sterling, indicating the local exchange rate used. It is important that you retain the management accounts and all paid invoices relating to the project for at least 2 years as these may be required for inspection at our discretion.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Contingencies and unforeseen expenses and cost to be advanced to the national	200	200		Entire cost was used to fund fuel and car hire cost

herbarium				
Cost of acquiring seeds from the national herbarium in Mozambique	350	350		
Cost of production of Training brochures and a handbook on cultivation of the Chimanimani Cycad	150	150		
Workshop on techniques of seed reproduction and management as well as tree nursery management.	250	250		
Stationary	150	150		
Communication	70	70		
Subsistence for 3 researchers	810	810		
Accommodation for 3 researchers @ £15/night low cost lodge	1350	1350		
Cost of maintenance and fuel for vehicle used for Seedling and leaf collection field trip in the natural habitat and for movement during interviews (4100km @ £0.40/ km 1800	1640	1990	+350	Funds budgeted for petri dishes and contingencies were channelled to fund car hire and fuel cost.
Growth hormones Growth hormones	100	100		
Cost of project gardening tools and equipment	200	200		
Petri dishes	150	150		Entire cost was used to fund fuel and car hire cost
Total	**5420**	**5770**	**+350**	

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

Scaling up the project is the important next step for this project. We need to propagate more plants to ensure that we have enough for reintroduction into the wild and for supplying the market which in itself will be a strategy for reproduction of this plant which is at the moment threatened with extinction. This funding has gone a long way in kick starting an important process of conservation horticulture for the Encephalartos Chimanimaniensis ex-situ. However due to the moderate project success rate, it is important that we scale up the initiative to significantly contribute to the conservation of this beautiful plant species which has for many years been threatened with extinction.

10. 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?

The Rufford Foundation (RF) received the publicity during the numerous processes of our work. Many plant conservation stakeholders have come to know RF because of our publicity. We acknowledged the RF during our engagements with the police, Parks and wildlife department officials that we engaged and other plant conservation stakeholder that we engaged during the course of our project. Furthermore we will use the RF logo in the training workshop on techniques of conservation horticulture for the Encephalartos Chimanimaniensis. More so we will also use the logo in a research findings conference to be hosted at a local university. Finally in future the Rufford Foundation will be acknowledged in any paper published from the data collected during this project and the handbook will have the foundation logo.

11. Please provide a full list of all the members of your team and briefly what was their role in the project.

Tarisai Nyamucherera (MSc Social Ecology): team leader. He coordinated stakeholder engagement during surveys, coordinated collection of plant materials used in propagation, coordinated training workshop, coordinated gathering of plant materials and the process of propagating them and lastly he will present the findings of the study at a locally organised international conference.

Anthony Mapaura (PhD Candidate, Botany): He helped to conduct the surveys, stakeholder engagement in collection plant materials, monitoring and supervising staff at the botanical gardens involved in the project.

Vuyisile Moyo (MSc Ecology): He has assisted in elaborating the training awareness material. . He also coordinated the field work of the project, with a focus on logistics, and data collection as well as presentations.

Lameck kachena (MSc Tropical and Terrestrial Resources Ecology): He has participated to the data collection during field surveys and assisted in compiling a training manual

12. Any other comments?

The project team would like to express their sincere gratitude to the Rufford Foundation for the financial support which enabled the project to be implemented. Conservation horticulture was the most critical stage needed to ensure that mankind contributed to save a critically endangered Encephalartos Chimanimaniensis plant. With your financial support, this project has been instrumental in kick-starting important conservation horticulture processes ex-situ. However continued support is needed to increase the number of plants to a stage where we can sustainably relocate some for replanting in the wild and supply some for the market so as to reduce poaching in their natural habitats.