

The Rufford Foundation

Final Report

Congratulations on the completion of your project that was supported by The Rufford Foundation.

We ask all grant recipients to complete a Final Report Form that helps us to gauge the success of our grant giving. The Final Report must be sent in **word format** and not PDF format or any other 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. Please be as honest as you can in answering the questions – remember that negative experiences are just as valuable as positive ones if they help others to learn from them.

Please complete the form in English and be as clear and concise as you can. Please note that the information may be edited for clarity. We will ask for further information if required. If you have any other materials produced by the project, particularly a few relevant photographs please send these to us separately.

Please submit your final report to jane@rufford.org.

Thank you for your help.

Josh Cole, Grants Director

| Grant Recipient Details | |
|-------------------------|---|
| Your name | Tarisai Mike Nyamucherera |
| Project title | A population Status Survey and Conservation Action strategy for the endangered <i>Encephalartos chimanimaniensis</i> (Chimanimani Cycad). |
| RSG reference | 19793-1 |
| Reporting period | 12 July 2016- 2017 |
| Amount of grant | £4990 |
| Your email address | tmnyamzz@gmail.com |
| Date of this report | 19 July 2017 |

1. Please 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 |
|--|--------------|--------------------|----------------|---|
| To identify sites and record the GPS location of the sites with remaining <i>Encephalartos chimanimaniensis</i> cycad population | | | | We found some populations and results of this project will provide a good basis for a more detailed study. However there is still need to consult more to better determine the taxonomy of identified populations as they are striking similarities with other <i>Encephalartos</i> species. |
| To improve knowledge on the <i>Encephalartos chimanimaniensis</i> cycad (including an assessment of the number of individuals present, number of reproductive adults and seedlings or juveniles and quantification of the extent of wild population fragmentation) | | | | This was partially achieved because resources from a small grant cannot be exhaustive to fund activities for a thorough research. However one can conclude that a reliable and useful basis was created as a result of this project. Despite thorough searches, we have not found some of the previously described populations of several species. As the descriptions of location of these populations are not detailed and these populations have not been inspected for a long time, we are not sure how many more populations of the species we were not able to find. Extreme land use changes and changes in tenure have decimated some populations. Some other areas or regions which had wild populations since the last time of the research have completely changed in terms of names and all so it was difficult to find some previously recorded populations. |
| To engage in conservation related awareness-raising activities in the surrounding | | | | Many of the populations that existed near communities have been totally decimated. However the research team has been in contact with many cycad |

| | | | |
|--|--|--|--|
| communities and among relevant stakeholders | | | specialists and botanists to stimulate debate around conservation of the species. The researchers will continue to engage national efforts in raising awareness on the state of cycads conservation and illegal trade. |
| To develop a stakeholder engagement and conservation action strategy for the <i>Encephalartos chimanimaniensis</i> . | | | That is still in progress as the research team is still consulting other experts particularly on possibility and methods of collecting plants from private growers and propagation for reintroduction in the wild. |

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

1. Brexit.
2. Extreme cash shortages and bank withdrawal limits.
3. Absence of precise descriptions of locations of focus species populations.

Brexit adversely affect the value of the pound sterling against the US dollar (the official currency which is used in my country). The assumed exchange rate was 1 USD = 0.644 GBP but due to Brexit the pound sterling is locally fetching anything between 1.19 and 1.25. This meant we had to reduce the extent of our fieldwork movements mainly because of limited additional funding.

Zimbabwe was hit with extreme cash shortages and as a measure to ensure fairness in distribution of cash, banks were centrally ordered to reduce individual bank withdrawals which are currently as little as US \$30 per day (if one has the patience and time to spend the whole day on the bank queue and if the bank has the cash on the day). This affected planning for field activities and errands until such a time there was introduction of cashless methods of payments. We had to delay some field activities until such a time we had accumulated enough cash to fund all our field errands.

The other main difficulty was the absence of precise descriptions of locations of the Chimanimani cycad species populations. More so adding to that the scenario of extreme land use changes and changes in the names of areas or regions which had wild populations since the last time of the research, it was difficult to find them and even if we discovered any population, we remain uncertain if it were the populations described during our consultations.

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

The first major outcome of the project is availability of updated and basic data on current population status of the species including population dynamics and threats

to the survival of the plant. This data is available and can be used in making management plans for the conservation of the species.

The second major outcome of the project is renewed awareness among stakeholders about the conservation importance of the species. Stakeholders have now become more aware about the conservation importance of the species and will continue with research and awareness programmes for improved protection of the species to ensure that the plant does not become extinct in the wild.

Lastly, there is improved data on the extent of fragmentation and conservation status and an improved understanding on the nature of informal networks for cycad collections.

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

Many of the populations that existed near have been totally decimated. However the research team has been in contact (and is still in contact) with many cycads specialist and botanist to renew stimulated debate around conservation of the species.

5. Are there any plans to continue this work?

Most definitely. Owing to the fact that this was a small grant this project could only be a baseline study and further work is to be done in future. There are follow up meetings with government officials from the Parks and Wildlife Authority and the dedicated follow up will result probably in determining the taxonomy of the identified populations. More so we intend to look for more funding to explore other aspects of the study such as current and future impact of climate change on breeding patterns of the cycad, genetic diversity, issues of inbreeding fatigue, restoration ecology and more.

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

This work will be shared through presentations and participation in various annual conservation seminars, workshops, plants sale days and conferences that are normally held in Zimbabwe. In these forum participants who are from different spheres, botanical gardens, research centres, national parks and other individuals get an opportunity to present and discuss different community conservation issues from various parts of Zimbabwe for the purposes of information sharing, finding solutions for various community conservation challenges and derive strategies for collaboration on various issues regarding conservation activities in Zimbabwe. We are in the process of writing scientific as well as newspaper articles to make people aware about the status of cycad conservation. We have started analysing the data gathered in order to develop manuscripts for scientific publications (this will be done after thorough consultations with experience officials from the Parks and Wildlife Authority of Zimbabwe).

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

The grant was used over a period of 1 year between July 2016 and July 2017, duration consistent with the approved length of the project. However a few activities of the project will continue as we engage more government departments on the conservation status of the cycad and to better determine the taxonomy of other populations identified during the study.

8. Budget: Please 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.

| Item | Budgeted Amount | Actual Amount | Difference | Comments |
|---|-----------------|---------------|------------|---|
| GPS Unit x 1 140 | 140 | 140 | 0 | |
| Travel 3900/5300 @ £0.40/km | 1560 | 2120 | -560 | received some support from my institution |
| Stationery | 0 | 40 | -40 | Used funds from the other grant to buy stationery |
| Allowances for: botanists | 500 | 500 | | |
| Allowances for: GIS expert | 500 | 500 | | |
| Allowances horticulturalist 100x2 | 200 | 200 | | |
| Refreshments for local field guides | 0 | 100 | -100 | Used money from the other grant to fund refreshments |
| Accommodation @ £10 /night low cost lodge | 1500 | 1200 | 300 | The researchers still need to consult other stakeholders on taxonomy of identified populations |
| Food for the researchers | 600 | 600 | | |
| ARC GIS | | 175 | -175 | Used money from the other grant to buy equipment |
| Total | 5000 | 5575 | 575 | The research team used part of a research grant from the University of Zimbabwe research Board to fund the research activities, received some support from my institution (CASS) to fund fieldwork movements. |

The assumed exchange rate was 1 USD = 0.644 GBP (1 £ sterling yielding \$1.55 cents) but due to Brexit the pound sterling is locally fetching anything between \$1.19 cents and \$1.25 cents.

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

The next important steps will be to research on recovery techniques of cycads. Techniques used for recovery of species should be researched to ensure results are available for future recovery plans. Recovery techniques should be scientifically based and should address essential research questions such as survival rates of plants where the method of introduction involved seed, seedlings or adult plants, as well as comparisons between various replanting methods to determine the role of crowding and/or density dependant mortalities, nurse plants and land-use on germination and establishment. This research could also be conducted on more common species for which seed and seedlings are more readily available. Our field experiences show that there is scarcity of information on status of populations of the Chimanimani cycad and on flora in general in our country. Thus, it is essential to continue filling gaps in knowledge of distribution and population status of highly endangered Chimanimani cycad and on other poorly researched species of Zimbabwe.

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

The foundation received so much publicity everywhere I went and among all the stakeholders I engaged. It is certainly better known and well appreciated!!! I am sure individuals in government departments will be submitting their proposals for conservation very soon because they are aware of the existence of RSG funding for conservation. I marketed the organisation in the little space that I was in! The logo will still be used in forthcoming presentations and reports where results of this project are shown. The importance of RSGF funding for this project will be acknowledged explicitly in each scientific manuscript we will submit to journals.

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

| Name | Role |
|-------------------------|--|
| Mr Tarisai Nyamucherera | Team Leader |
| Mr Vuyisile Moyo | Researcher: helpful when compiling the conservation strategy and provided guidance with regards to previously known sites with the wild populations and help the research team to do ground based surveys. |
| Mr Johannes Bhanye | Assisted with identification of cycads |
| Mr Mufaro Mushonga | Researcher: helpful when compiling the conservation strategy and provide guidance with regards to previously known sites with the wild populations and help the research team to do ground based surveys. |
| Mrs Noster Mugwagwa | GIS specialist. Part of the researchers doing ground based surveys and did GPS mapping. |

12. Any other comments?

The funding provided a crucial seed fund for a baseline study that will be critically used as a basis for bigger and more detailed researches on this cycad species. We are grateful to The Rufford Foundation for the financial support and hope to continue the collaboration. Without this funding most if not all of the fieldwork conducted would have been impossible to complete. As a team, we believe we have done big improvements on updating information on the Chimanimani cycad. We are grateful to The Rufford Foundation for giving us the opportunity (through the small grant awarded) to boost our work and to design future plans on conservation of rare and endemic cycads. We hope we are eligible for future grants to achieve our conservation goals.

