

## 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](mailto:jane@rufford.org).

Thank you for your help.

**Josh Cole, Grants Director**

Grant Recipient Details	
Your name	Idohou Alix Frank Rodrigue
Project title	Combining Ecological Data and Local Community Participation to Set Long-Term Conservation Plans of the Dum Palm in Benin
RSG reference	17952-1
Reporting period	July 2015-July 2016
Amount of grant	£4995
Your email address	<a href="mailto:rodrigidohou@gmail.com">rodrigidohou@gmail.com</a>
Date of this report	10 July 2016

**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
Assess the population structure, spatial patterns and threats on the dum palm in its distributional area			X	Population structure of the species is assessed as well as spatial patterns. Comparison of dendrometric traits revealed that adult palms diameters were significantly larger in protected areas than in farmlands ( $P < 0.001$ ). In addition, density of adult palms and seedlings were significantly higher in the protected area than in farmlands ( $P < 0.001$ ). However, no significant differences were observed for both tree height and density of juveniles ( $P > 0.05$ ). Assessment of the global spatial patterns of palm life stages and other tree species showed a random distribution. However, assessment of univariate point pattern revealed different scenarios. The pair-correlation function suggested a global random distribution for all palm life stages albeit with a weak aggregation within a 0–10 m radius in farmlands.
Assess the socioeconomic importance of the dum palm in its distributional area			X	Knowledge and uses of the species organs by local people is fully documented. Indeed, results showed that the main organs of the dum palm used were: leaves, fruits, petiole, rachis, stipe, and roots. The species is mainly used for food, medicine, craft, fodder, and construction in the distributional area. The knowledge on the species varied with the integration level of the species in the people habit and their needs.

Test propagation methods of the doum palm seeds			X	Results from the germination test showed that the duration of the experiment had significant effects on the germination of doum palm seeds. Among treated seeds, some reached their maximum germination in 154 days whereas others reached the maximum germination before day-154
Initiate a community based programme for a sustainable conservation of the species		X		An ongoing programme including several actors (Ministère du cadre de vie et du développement durable, Direction Générale des Forêts et Ressources Naturelles, FUPRO, local NGOs such as CEIBA-ONG, CeSaReN, and Jura-ONG) of different age categories and both sexes involved in natural resources management has been implemented.

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

There have been many variants of the local dialects being spoken in the study areas. As such, I relied on the help of local guides for successful activities on field. In addition, this study period fell into the election campaign period in the country. Thus, most of them prefer to go to meeting to get some money instead of participating in the project activities. As such it was sometimes difficult to mobilize local people for action.

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

- A paper has been published in the frame of the project of which the title is: Influence of the landscape context on stand structure and spatial patterns of the doum palm (*Hyphaene thebaica* Mart.) in the Republic of Benin (West Africa) (Attached copy)
- An oral presentation of the preliminary results has been made in a frame of an International conference in Ethiopia
- I raised awareness of 600 farmers in the three study locations in Benin where the species occurs.

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

Local communities have been fully involved in all steps of the implementation of the current project. They help during data collection phase especially for fruit collection and socio-economic interviews. They have also been involved in sensitisation and awareness raising activities and experiences exchange with local communities. Finally, a general assembly was organized and fully involved local communities.

**5. Are there any plans to continue this work?**

Yes, this work is just a preliminary study and will be continued for a sustainable conservation of the species in its distributional areas.

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

Results from these findings are already published in peer reviewed journal. Dissemination workshop has been organised to share the findings with local communities and gather their ideas for successful actions. This will be replicate at regional and international levels. In addition, findings from the propagation test will be presented through an international conference to be held in Lome (Togo). Moreover, we plan to share experience from our project during the International meeting of Rufford alumni funded by The Rufford foundation to be held in Accra (Ghana).

**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 expected to last from October 2015 to October 2016 based on my own agenda. However, as I have been awarded the grant sooner than expected, I immediately started the project activities. So the project activities ended in July 2016.

**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
Two ways-travel to the field	400	400		
Ecological inventory and surveys sheets production and photocopying	100	100		
General Assembly with local communities (transportation of participants)	200	200		
Assistants for field Work (Guide/interpreter and field assistants)	400	400		
Motor bike rental	300	400	-100	Motorbike owner raised the price for hiring it and maintain the price due to campaign period.
Fuel for motor bike	300	300		
Tree setting around the school and in the agroforestry systems	600	600		
Scientific literature	170	170		
Seed germination test	750	625	+125	The experiment asked for more money than expected
Farmers and youth sensitization (posters, Documentaries projection, and field visit)	725	600	+125	Less money was spent contrary to expectations
Teachers and school kids sensitization	300	300		
Internet and mail fees	100	100		
Telephone	100	200	-100	Due to the falling of the project activities in election period I was obliged to call several times the actors before they come to the meeting.
Papers, pens, CD, external hard disk of 500 GB, memory stick	100	150	-50	More money has been spent on these items than expected
Results spread to structures through a workshop	450	450	0	
<b>Total (£)</b>	<b>4995</b>	<b>4995</b>	<b>0</b>	

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

Indeed, a thorough assessment of the dum palm population needs to be carried out in order to understand the dynamics of the population and set urgent conservation actions. Moreover, conservation education in the species distributional area needs to be strengthened. This is even more necessary as our conservation education could not reach all communities.

Moreover, during socioeconomic importance assessment for the species, local people revealed the amount of usefulness the doum palm has been cited for and its capacity to set and successfully grow on a variety of soils. This species could be highly recommended for restoration of degraded areas and reforestation programmes as findings revealed relatively low densities in its distribution area. In addition, they mention that over-exploitation in some areas and the land burning for agricultural practices lead to disappearance of the species in some areas. Thus, there is an urgent need to use newly developed techniques such as machine learning algorithm to investigate the capacity of the species for domestication and bring out suitable areas for the species cultivation across Benin. For this purpose, the remotely sensed data could serve as an interested basis for such analysis.

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

Yes, Rufford logo was used in all presentation and during dissemination activities in all the project areas. I also acknowledge The Rufford Foundation support in the currently published manuscript.

**11. Any other comments?**

I would like to acknowledge the contribution of two graduate students, local communities, NGOs, and extensionists who made significant contribution to the achievement of the project goals. I also thank The Rufford Foundation for having fully funded this research.