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	Alfred Houngnon
Project title	Community Based Actions to Benefit a Threatened Plant Species: Case Study of *Bequaertiodendron oblanceolatum* in Ewe-Adapklamey Remnant Forests in Benin
RSG reference	14542-1
Reporting period	December 2014
Amount of grant	£6000
Your email address	quenh77@gmail.com, alfred.houngnon@gmail.com
Date of this report	15 December 2014

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 current local knowledge on *Englerophytum oblanceolatum* (Syn. *Bequaertiodendron oblanceolatum*).			Yes	- An ethnobotanical survey was conducted with 168 households. - *E. oblanceolatum* has become rare but it can be found in the deep forest. - It is used as a vegetable, brush and firewood. Fruit are edible and in the past, the leaves served to pack tobacco. According to 9% of informants, it heals convulsions
Update the current distribution in Benin Republic			Yes	- Circular plots were performed to investigate the forest and coordinates reported - Ewe-Adapklamey Remnant Forest is to date, one of the last favorable habitats of *E. oblanceolatum* in Benin Republic
Develop, with the local communities, appropriate silvicultural techniques for the domestication.			Yes	- - Air layering, root cutting and vertical root sucker induction are vegetative propagation methods, tested with the active participation of local communities. - - Methods are inexpensive and easily reproduced by participants
Fifty replicates of each vegetative propagation method will be assessed in a randomly designed field experiment		Yes		Only 24 replicates were obtained for three methods instead of 150. The delay of rain and difficult accessibility to experimental sites, located in deep and impractical forest has influenced our predicted course.

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

- The delay of rain and difficult accessibility to experimental sites (deep forest sometimes impractical) has influenced our predicted course.
- The project deserve that the team's staff stays permanently in the area, during the entire study period. But resources available were not at all sufficient to maintain a technical management team on site.
- Tools were quite handy, but they were not enough sufficient for a rapid transferring knowledge to participants (which often exceeded 40).

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

- The distribution map of current populations of *Englerophytum oblanceolatum* in Benin Republic is updated. Baseline knowledge of the species distribution is a critical parameter to help evaluate the ecology and the processes influencing changes in population. According to our results, Ewe-Adapklamey remnant forest (EARF) which is unique but in danger has become one of the last favourable habitats of *E. oblanceolatum* in Benin Republic.
- The aptitude of *Englerophytum oblanceolatum* to be vegetatively propagated is known. This test has never been done before. According to our results, the species is more likely to propagation by air layering (84.6%) than root sucker induction (54.16%) and roots cutting method (16.6%).
- The *in situ* domestication of *E. oblanceolatum* has also become to date possible. We arrived to save 10 selected genotypes of this endangered species by vegetative propagating while others genotypes were also rescued by seeding thanks to the seed collection campaign organised with local communities. These easily reproducible and inexpensive methods have been used through Farmer Field School to encourage local people to be involved in the sustainable conservation of *E. oblanceolatum*. The species is currently being integrated in agroforestry systems of Benin in compliance with environmental standards.

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

The local community, with whom we have been working, is entirely dependent on natural resources. Their full involvement was a key element for our achievement. The local committee and the whole village are fully committed to the successful of activities, from the design updated, to the real implementation. We started fieldwork with 40 local leaders who provided field tools such as hoe, cutting cut the deck etc. During activities progress, the number of participants exceeded our expectation. Even without the project staff assistance, the local communities have already replicated the propagation methods we learnt and handled during the Farmer Field Schools. We learnt together, vegetative propagation techniques and tested them successfully. As usually, they know how to grow common food crops. Native tree planting and their propagation have been for them new enrichment experiences. They maintained the initial enthusiasm since our first meeting and they are still sharply

ready to pursue the project extension. They decided to add to our targeted species, two endangered plant species and both on the National Red List of Benin Republic. They managed and established by their own initiative, the field conservation area for rescued plants.

5. Are there any plans to continue this work?

Obviously, we aim to continue this project. We plan to study the propagation of native trees with local communities to provide food for primates in the forests of Ketou. While we were running our 1st RSG project, we sighted two monkeys in the EARF. During the workshop of restitution of our exploration to the community, the representative of the brotherhood of hunters gave us an orphan baby monkey. We transferred the baby monkey to the first and unique primate care centre, which we helped a French organisation to establish in 2013 at Benin. On the one hand this new project is our new challenge to build more local capacity in the handling of native trees propagation tools we learned during the 1st RSG. But also to restore habitat of primate in Benin Republic and their progressive reintroduction of those rescued from poaching. This will be a second step before our ultimate goal that consists in building an integrated botanical village with this community that stands out for its life style, hospitality and hard work for strengthening the quality of their life.

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

The results will be shared through colloquium, conferences, workshops, congress, posters, and pamphlets.

Based on our preliminary results, we have been accepted as participant in the congress of "Botanists of the twenty-first century: Roles, challenges and opportunities" held at UNESCO in Paris (September 2014, 22th to 25th). We shared our flyer and we defended our project and the local community engagement. We also presented our result to an influent member of Participatory Action Research & Citizen Sciences (GDR PARCS of CEFE, CNRS France).

I am now writing with the team research, a brief article on *E. oblanceolatum* addressing the distribution update, ethnobotany, architecture and its domestication potential in Benin Republic.
With local committee, we are planning to design a communication strategy in order to socialise the results among different kind of public, emphasising the local one (schools and local organizations).

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 expected timescale of the project is January 2013 to December 2014. But, we actually started in October 2013 without funding and without material for field work. The Rufford Foundation grant was used from 28th February 2014 till 8th December 2014. This is used on the whole of anticipated length of the updated project for the Rufford Foundation application criteria.

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
1 GPS portable Etrex Summit HC	200	227	+27	Market price
2 Suunto tandem Compass/Clinometer	220	212	-8	"
2 Forestry Suppliers Metric Fabric Diameter Tape	80	82	+2	"
1 Spencer 900MEDC 30m/5m Logging/Diameter Tape	150	150	00	
1 Lufkin Hi-Viz Tufboy Fibreglass Tapes	80	80	00	
1 Sterling Fibreglass Measuring Tapes	90	90	00	
1 Mitutoyo Digimatic Caliper 500-196-20	180	180	00	
2 boxes of tags	90	90	00	
1 Olympus SP-620 UZ Argent	270	270	00	
Field research costs (four investigators)	800	780	-20	
Field school assistance fees for schoolchildren and students	700	700	00	
Field school assistance fees for local farmers and authorities	500	270	-230	It was not necessary to spend more
Cost of nursery and plant propagation	300	330	+30	It took additional day and activities
Mapping and poster printing	300	250	-50	It was enough sufficient
Maintenance, monitoring of nurseries and enclosure against livestock	1200	900	-300	It was enough sufficient
Reforestation and planting management	500	880	+380	It needed more labour and more manpower
Field travel costs	300	450	+150	There was enough distances
Stationery and consumables	38	62	+24	It needed more consumables

Total	5998	**6003**	5	The net difference is 3 £ because we received 6000 £

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

It is important to extend the experiment by testing each technique in different seasons (short and long rainy seasons, short and long dry seasons) and to bring out the best method desired. Number of repetitions and statistically appropriate and valid experimental design is needed to be undertaken in next step for threatened species. It would be interesting to deepen these aspects in a scientific study with more elaborate research hypothesis and more pronounced (Bachelor, Master or PhD studies).

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?

Everywhere and anywhere we present and defend the project, the RSGF Logo is used and the Rufford Foundation has received publicity. Since, it was the only organization that has trusted in us.

11. Any other comments?

Rufford Foundation Small Grant is a very good opportunity for citizens of French speaking countries, to improve their proficiency in English writing, manage and implement personal research.

Personally for me, the Rufford Foundation grant was a real lever. I tested my ability to train, to experience team working and to plan. This 1st grant allowed me to start my career in applied research.

Rufford Foundation is a very interesting initiative that helps to boost on forward, many research projects, very important for local development in world.