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	Emmanuel Acheampong
Project title	Landscape approach for reforestation and farmers' livelihood improvement in rural Ghana: Working with the Locals
RSG reference	23963-B
Reporting period	11/2017 – 12/2018
Amount of grant	£10,000
Your email address	ea.opoku@yahoo.com
Date of this report	24/12/2018

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
Identify the livelihood patterns of farmers in forest fringe communities				Through my data collection, the livelihood patterns of the farmers were identified. More than 70% of the farmers do not do any other work apart from farming. As a result, during off-farming season, they struggle to survive.
Assess the effects of farmers' participation in reforestation project on their livelihoods as compared to their previous livelihood patterns				Previously, most of the farmers used to farm in the forest illegally. As a result, there was insecurity of land tenure for the farmers. They were not able to farm on big lands since they have to be careful in order not to be noticed. As a result, farm outputs were not enough to even feed them. The introduction of the project has however brought a big relief to the farmers. Each farmer involved has 1 acre of secured land to grow his or her food crops. All the farmers involved were able to harvest enough quantities of their produce within the farming season, the surpluses which were sold for extra income. These farmers are going to benefit from the land for about 4-5 years.
Plant 20 ha of degraded forest reserve				The farmers involved were able to assist in planting 10 ha of the degraded reserve instead of the 20 ha due to the failure of some seeds to germinate and shortage of funds along the line. However, the survival rate for the seedlings planted on the 10 ha land as at December 2018 was about 80%, which is beyond the average success rate for first year of plantation project in Ghana.

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

There was shortage of viable seeds from the Forestry Research Institute of Ghana at the time the nursery was about to be raised. As a result, no seed was sold to me from the institute. This, they did to protect the image of the institute. An officer from the institute however directed me to an individual who collects and sells some of these seeds. The person also told me that the seeds left are 50% viable, thus, the germination rate may be 50% or less. However, since the project needed to go on and I had no option, I had to purchase twice the quantity needed so that I can get the required number of seedlings needed for the project. Even with this strategy, there was still a shortage of healthy seedlings.

Aside from the issue with the seeds, the nursery was raised during the dry season so that by the time the wet season begins, the seedlings are already matured for transplanting. Because the seeds were about 50% viable, extra funds were invested in taking care of the nursery. The watering of the nursery was done twice instead of once in a day, thus, doubling the required labour work and the amount of money used for taking care of the nursery. These were the main challenges but I was able to manage them with the available resource.

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

1. About 8,000 seedlings of teak have been planted in this first year of the plantation project and are growing gradually. Through the nursery I raised, I was able to get 10,400 healthy teak seedlings for the project. After transplanting, some of the seedlings did not survive. Through a survival survey, about 8,000 seedlings were found to have survived. Some nursery have been raised for beating up exercise next year during the raining season so that I will get a complete 10 ha of land full of young trees.

2. Thirty-five farmers have been trained on how to raise teak and other tree seedlings. All of them have also been trained on how to transplant and nurture young seedlings in the midst of food crops. They have learnt the principle of land sharing whereby both food crops and trees exist on the same piece of land. All the 35 farmers have had their livelihoods improved when compared to their livelihood status last year. The reason is that, they now have access to big land that they can grow different types of crops for consumption and marketing as compared to their previous land size.

3. I was able to collect household data from 291 farmers in 20 forest fringe communities. These data are about the farmers' livelihood patterns in relation to the activities (if any) that they carry out in the forests. I am going to use this data to write my thesis for the completion of my PhD programme.

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

35 farmers were involved in the initial stage of the project, thus, raising the nursery. 25 farmers were however involved in the first stage of the planting and caring for the young trees in the midst of their crops. That is, the 10 ha used for the first phase of the project was given to these farmers to plant their food crops within which the seedlings were planted, thus, each farmer had 1 acre of land to farm. The other 10 farmers were given part of the project's land to farm in preparation for next year's planting coupe of 10 ha. Therefore, all the farmers registered for the project have benefitted from the project and will continue to benefit for the next 5 or so years.

5. Are there any plans to continue this work?

This project will take 5-7 years to complete the entire land area of approximately 50 ha based on the current rate of success. I am planning to grow another 10 ha of the land provided sufficient funds will be available for that. Even if the planting of the entire land is completed, maintenance of the trees for the first five years is essential for the success of the project.

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

The results of this work is part of a PhD programme. Aside from being part of a thesis, I am currently finalising a manuscript for publication based on this project. This will enable a wider range of people to have access to the results of this project. And Rufford Foundation will be acknowledge as the main financer of the project.

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 Rufford Foundation grant was used within 12 months. The timeliness of the project was relatively the same as the anticipated length of the project. Although, multiple activities were packed in the anticipated length of the project, the timescale of the project was not exceeded.

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	Rufford Budget	Actual Amount	Difference	Comments
Contingency 5%	591				
Miscellaneous (Pens, books, questionnaire	85	85	85		

printing, phone calls, etc.).					
Monitoring the project, 1 in 2 weeks for 52 weeks, 2 persons	884	449	884		
Supervision of survival surveys and beating up, 5 days, 1 person	85	85			
Supervision for planting	170	170	170		
Motivation to peg the land with the 11,000 pegs	374	374	200	174	Since the entire 20 ha land was not pegged, the cost reduced
Gathering 22,000 pegs	374	374	374		
Clearing the 10 ha land for the project	510	510	510		The budget amount was able to clear 10 ha and that is what was used for the project. The rest of the farmers cleared their own lands.
Stipend to maintain the nursery for 5 months, 7 persons	1360	1360	2380	1020	Due to the state of the seeds I got, I had to hire 3 additional labourers to water the nursery in the evening. This made the work almost double
4 days Stipend for nursery field preparation and nursing the seeds, 5 persons	340	340	340	0	
Transport all purchased items to project site	68				
Purchase 100 kg of tree seeds	187	187	340	153	More seeds were purchased since the available seeds at that time were not 100% viable
Purchase 8 concrete pillars	41				
Purchase 2 pickaxe	14				
Purchase 5 hoes	17		17		
Purchase 5 head pans	17		17		
Purchase 2 wheel barrows	68				
Purchase 5 garden rakes	17		17		
Purchase 5 hand forks	17		17		
Purchase 2 x 50 m tape measures	26		10		
Purchase 5 cutlasses	17		17		

Purchase 4 watering cans	48		48		
Stipend to assist with data entry: 1 person, 30 days @ £17/day	510	510	510		
1 room rent for 50 days (41 days data collection and 9 days editing) @ £10.2/night	510	510	510		
Stipend for editing questionnaires, 1 day/week for 9 weeks, 2 persons @ £17/person/day	306	306	306		
Stipend for data collection, 41 days, 4 persons @ £17/person/day	2788	2788	2788		
41 trips for data collection, fuel for 2 motorbikes	697	697	697		
Stipend for preliminary survey: @ £17/day/person for 5 days, 4 persons	340	340	340		
Preliminary trips to study sites: fuel for 2 motorbikes for 5 days	85		85		
Transportation: training and pre-test, 2 trips, 2 persons @ £17 each per day	68	68	68		
Round trip: Accra to Kumasi	107		54	54	I took public bus to Kumasi to reduce cost
Round trip: Cairns to Accra	1615	1000	2152	537	At the time the ticket was booked, the price had gone up to £1957.35 (i.e. AU$ 3420.26) as at 20th December 2017. The actual return date was supposed to be 23rd November 2018 but I realised that I will need one more week to finalise my work. The extension of the date brought an extra cost of £194.65 (i.e. AU$ 340) as at 17th August 2018. This made the flight cost increased to £2152. Invoices are attached.

Feeding during pre-test: 2 persons @ £17 each per day for 2 days			68		
Purchase pegging ropes			6	6	Ropes were needed to create the lines for pegging
Transporting seedlings to the field: Tractor cost and feeding for farmers who assisted			79	79	The most effective option to carry all the seedlings to the project site in one day was to hire a tractor to transport it and get as many farmers as possible to uproot the seedlings
Total	**12336**	**10000**	**13089**	**+753**	
Exchange rate as at the time of the project: GHS1 = £0.17					

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

The next important step is to carry out the second phase of the project. Once the first two phases are implemented and good results are achieved, the other phases will not be too difficult to carry out since experience has already been obtained. Monitoring the maintenance of the first coupe as well as carrying out a beating up exercise in the first coupe is the second most important step. This second most important step is however not going to require much money because the nursery for the beating up is being raised currently. Ideally, the above proposed steps are supposed to be carried out next year depending on availability of funds.

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?

James Cook University is aware that Rufford Foundation is the main financer for my fieldwork. It is stated on my ethics approval document and field trip approval form that Rufford Foundation is funding my field trip. Rufford Foundation has been added to the school's funding database as one of the external organisations that supports students' research financially.

The Forestry Commission of Ghana is aware that Rufford Foundation is the main financer of this project. All the documents I submitted to the Forestry Commission of Ghana proving that Rufford Foundation is the funding body of this project has the logo of Rufford on them. I will also use the Rufford logo in the manuscript that is in the draft stage currently if that will be allowed by the journal. I have already published one manuscript that I acknowledged the funding support from Rufford Foundation.

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

One Forest Manager: (**Mr. Donkor Tweneboa**, District Manager, Forest Services Division) He oversaw all activities that were carried out on the project land, from clearing the land to the time that the seedlings were planted.

One Forest Technical Officer: (**Mr. Anthony Faibil**, Forest Services Division,) He supervised the nursery, stumping, pegging, spacing, and transplanting the seedlings.

One Forest Guard: (**Mr. David Agyei**, Forest Services Division) He was part of the supervision of the project with the Forest Technical Officer.

One field manager: (**Mr. Samuel Agyei Sarpong**, local community member and personal assistant) He was running all the daily activities with me. In my absence, he takes my role as the acting project implementer.

One research assistant: (**Mr. Nicholas Amoah**) He was included in only the research section of the project. He assisted me with the data collection from 20 forest fringe communities.

12. Any other comments?

My vision was to see the first phase of the project materialise. Without the financial support of Rufford Foundation, this project would not have been realised. Although the success rate was not 100%, the Forestry Commission of Ghana very well appreciated the effectiveness and efficiency that I put in the implementation process. According to the Forestry Commission of Ghana, this is the first time an individual and student researcher has carried out a small-scale plantation project in the country and achieved such an appreciable success at first shot. But this could not have been done without the financial support from Rufford Foundation. I therefore take this opportunity to thank Rufford Foundation for helping me achieve my vision of advocating for forest restoration and management as well as rural livelihood improvement through the implementation of this project. I greatly appreciate your financial support for all these years.

Teak grown in various farms (Cocoyam, plantain, tomato, maize and beans).