

Final Project Evaluation Report

Your Details	
Full Name	Eric Ofori Agyekum
Project Title	Mangrove Ecosystem Restoration and Provision of Alternative Energy Sources for Fish Processors and Households within Keta Lagoon Complex Ramsar Site
Application ID	24381-1
Grant Amount	£4993
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Date of this Report	24 th June 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
1. Restoration of the mangrove ecosystems in the KLCRS to provide ecosystem services to benefit the communities within the KLCRS				Mangroves were considered nuisance to some community members because they blocked fishing routes and limited access to fishing grounds via canoes.
2. Awareness creation in communities on the ecosystem services provided by mangrove ecosystems (especially flood regulation) and the need to conserve the ecosystems; and alternative sources of fuelwood (<i>Senna siamea</i>) for fish processing and use in households				
3. Provision of sustainable alternative sources of energy (fuelwood) to reduce pressure on mangrove ecosystems				

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

Community members, who are mostly dependent on fish and other aquatic organisms for their livelihoods, find the mangroves a nuisance and do not see the need to plant more or conserve. Importantly, the red mangroves are spreading vigorously in the lagoons, producing giant roots which harbour sand to reduce the water depth. These roots which obstruct fishing canoes. Thus, the mangroves are ultimately depriving them of their livelihoods by blocking fishing routes on the lagoons and limiting access to fishing grounds. As a result, some community members who initially committed to the project at the inception meeting were not active and some were not interested anymore.

The audio message recorded in local language on conservation values of mangroves and alternative sources of fuelwood was played on Jubilee Radio in Keta. This, together with direct engagement with community leaders and members, helped the project to get good reception from the communities, especially Agbatsivi community where finally land was provided for woodlot and mangrove planting.

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

1. A 1 ha demonstration *Senna siamea* woodlot has been established at Agbatsivi community. The approach adopted in the woodlot establishment was to provide spaces (or alleys of 3 m) in between the *Senna siamea* hedgerows for community members to grow crops, at least in first 4 years after establishment, before the woodlot canopy closes. This strategy is to ensure that the community members or group will be actively engaged in crop production for income generation while indirectly maintaining the woodlot. After woodlot canopy closure when crop production is no longer possible, the group will benefit from the wood harvested from the woodlot. It has been suggested to the group to consider beekeeping after the canopy closure. The rest of the *Senna siamea* seedlings has been given out to interested community members and demonstration woodlot project participants to expand the demonstration woodlot and/or plant in their communities and households.
2. The project planted 6,400 red mangroves and 3,000 white mangroves, making a total of 9,400. Most of the red mangrove propagules and white mangrove seedlings and wildlings that were planted have established well, and the red mangrove propagules have developed fresh shoots.
3. Audio message was played on Jubilee Radio in Keta to educate communities within the Keta Lagoon Complex Ramsar Site on conservation values of mangroves and alternative sources of fuel. This helped the communities to appreciate the need to plant and conserve mangroves.

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

Local community members were involved contracted to raise seedlings (of *Senna siamea* and mangroves) and to collect red mangrove propagules and white mangrove wildlings for planting. They were also involved in the establishment of *Senna siamea* woodlot and planting of mangroves.

In addition to the direct financial benefits to community members who participated in the project activities during the project period, the woodlot alleys provide already cleared land for farming and the woodlot will continue to provide wood fuel that can be sold for income and as sustainable alternative to mangrove.

Community members who participated in the project have been trained on woodlot establishment and management. Participants can now establish their own woodlots and train other community members to establish and manage woodlots.

Planted mangroves will protect community from storm and floods while providing breeding grounds for fish and other aquatic organisms to stock the lagoons to boost livelihoods of local people.

Communities are aware that mangroves can be managed sustainably to ensure optimum benefits in terms of protecting community from storm and floods while providing breeding grounds for fish and other aquatic organisms to stock the lagoons.

5. Are there any plans to continue this work?

There are plans to develop and implement this project at a bigger scale within the Keta Lagoon Complex Ramsar Site and in other Ramsar sites in Ghana.

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

The results of the work is available on my LinkedIn profile and has been read by people from around the world.

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

The grant was used from June 2018 to June 2019 as planned.

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.

The rate for converting from Pounds to GHS is 0.16245. That is same as used in proposal.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Activity 1.1: Identify and prepare community groups formed by DI and FWONA under previous projects to plant mangrove.				
Project Inception Meeting Venue	49	16	-33	The venue for inception meeting cost less than budgeted
Transportation for Inception Meeting Participants	81	89	+8	More people attended the inception meeting than budgeted. People also came from far places.
Transportation for Project Team	49	49		
Accommodation for Project Team	130	130		
Subsistence Payment	97	97		

for Project Team				
Subtotal	406	381	-25	
Activity 1.2: Purchase and distribute 5,000 mangrove seedlings from community nurseries to degraded sites for planting by the identified community groups.				
Production of 5000 Mangrove Seedlings	1625	1527	-98	Instead of producing 5000 seedlings @ GHS 2, 9400 seedlings were produced @ GHS 1
Transportation for Project Team	49	49		
Snack and Water for Mangrove Planting	102	146	+44	102 Pounds was enough for the participants
Hiring Canoes for Mangrove Propagules and Wildlings Collection and Transport to Planting Sites		49	+49	Areas where mangrove propagules and wildlings were found, and areas provided by the community for planting could only be accessed via canoes.
Subsistence for Project Monitoring and Mangrove Planting in 3 rd Quarter		49	+49	There was a need for more fieldwork to be able to plant more mangroves than the budgeted 5000 seedlings and to monitor progress of the entire project activities.
Transportation for Project Monitoring and Mangrove Planting in 3 rd Quarter		16	+16	
Subsistence for Project Monitoring and Mangrove Planting in 4 th Quarter		49	+49	
Transportation for Project Monitoring and Mangrove Planting in 4 th Quarter		24	+24	
Subsistence for Project Monitoring and Mangrove Planting in 4 th Quarter		49	+49	
Transportation for Project Monitoring and Mangrove Planting in 4 th Quarter		24	+24	
Accommodation for Project Monitoring and Mangrove Planting in 4 th Quarter		32	+32	

Not used	65			
Subtotal	1841	2014	+173	
Activity 2.1: Create audio message in local language and distribute to community information centres (CICs) to play.				
Local Expert	32	32		
Audio Message Recording	32	32		
Cost for Airing Audio Message	162	162		
Accommodation for Project Team	65	65		
Subsistence for Project Team	97	49	-48	49 Pounds was enough for the activities
Not used	2			
Subtotal	390	340	-50	
Activity 3.1: Establish demonstration plantation of <i>Senna siamea</i> to train community members and mangrove harvesters on the establishment and management of the plantations.				
Production of 3000 Seedlings of <i>Senna siamea</i>	975	877	-98	Instead of producing 3000 seedlings @ GHS 2, 5400 seedlings were produced @ GHS 1.
Accommodation for Project Monitoring and Nursery Establishment in 2 nd Quarter		32	+32	There was a need for more fieldwork to be able to raise more seedlings than the budgeted 3000 seedlings and to monitor progress of the entire project activities.
Subsistence for Project Monitoring and Nursery Establishment in 2 nd Quarter		49	+49	
Transportation of <i>Senna siamea</i> Seedlings to the Field	32	32		
Labour for Woodlot Establishment	423	244	-178	244 Pounds was enough for preparing the land for woodlot establishment
Compensation and Protocol for Land for Woodlot Establishment	81	81		
Local Project Supervisors	65	65		
Snack and Water for Woodlot Establishment Training Participants		24	+24	There was a need to organise water and snack for the training participants to keep the work going. This was unforeseen during budgeting.

Equipment for Nursery and Woodlot Establishment	325	324	-1	324 Pounds was enough for equipment
Accommodation for Project Team during Woodlot Establishment Training	130	130		
Transportation for Project Team during Woodlot Establishment Training	49	49		
Subsistence for Trainers	195	195		
Transportation for Woodlot Establishment Training Participants	81	244	+163	More people attended the woodlot training and people also came from other communities.
Bank Charges		26	+26	Unbudgeted bank charges
Subtotal	2356	2372		
TOTAL	4993	5107	+114	

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

1. Participatory mapping of mangrove areas and fishing grounds.
2. Development of simple management plans for managing these areas by communities.
3. Training communities (identifiable groups and individuals) to implement plans.
4. Expanding the project to other areas within the Keta Lagoon Complex Ramsar Site and other Ramsar sites.

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?

I used the Rufford Foundation logo in a publication of the final results of the project on LinkedIn. As part of the project, an audio message was recorded in local language on conservation values of mangroves and alternative sources of fuelwood and played on Jubilee Radio in Keta. This audio message mentioned Rufford Foundation as the source of funds for the project.

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

Eric Ofori Agyekum had overall responsibility for project implementation.

Mabel Agba was responsible for project implementation and monitoring.

12. Any other comments?

Projects on mangrove restoration could consider activities on mangrove management, including clearing of fishing and transport routes on the lagoons.

Communities and community groups welcome projects providing sustainable and affordable alternatives to the use of mangroves as fuelwood. They are also interested in use of multipurpose trees such as mango that can provide other economic benefits like fruits in addition to fuelwood.