

Final Evaluation Report

Your Details	
Full Name	Josphat Gacoki Nguu
Project Title	Returning lost mangroves using modified restoration technique at eroding sites of Gazi Bay Kenya
Application ID	32852-1
Grant Amount	£6000
Email Address	nguugachoki@gmail.com
Date of this Report	10/Feb/2022

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
Introduce new techniques for restoring mangroves				Both the Mikoko Pamoja committee and local youths were introduced to the new method. We visited the area affected by erosion to measure erosion levels as well as to get from the locals' information about previous area setting in terms of mangrove species found and adjacent ecosystem-palm trees
Capacitate communities on new approaches to restore mangrove in high energy areas				Once we had settled on the areas, we were to carry out the pilot projects, we held a session to discuss the different materials that were planned for use and their availability. Also, we had an explanation on how to prepare the encasement more, so the height required as well as the making of holes on all materials to allow the flow of water through the encasements
Replant mangroves in the eroding areas of the bay using the Riley Encasement method				About 1000 propagules were planted; we had anticipated planting more but the efforts and budget went into labour during the hole digging and encasement preparation thus allowing for the only 1000 propagules planting.
Monitoring, evaluation, and reporting				So far about 800 propagules are surviving and being monitored for full survival and a scientific recommendation of the idea replication.

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

Initially, we thought it will take a short period to prepare holes to insert the encasement but it turned out the ground substrate was uneven and some parts were too hard to dig, we ended up taking almost a month to complete 1000 holes that held the encasement in which we planted the propagules. To overcome this, we engaged more community members.

Also, on the same note when we installed the encasement materials we did not anticipate they will be dislodged by the waves in the area but, unfortunately, our first installation saw a third of the encasement washed and we had to replace them constantly until they stabilised.

Additionally, when we added sediment, it also was washed away, and we had to refill it till it stabilised. We could not plant propagules until we were sure the sediment in the encasement was stable.

Once we planted the propagules some were carried away and had to be replaced, this we did for almost a month until they were established.

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

- We were able to successfully plant about 800 propagules which are now about 4 months old and looking healthy, we continue to monitor till the roots start spreading on the ground.
- The community members learned of a new technique of restoring mangroves in hard areas. They are constantly asking when we are going to expand the idea to the whole area.
- For Mikoko Pamoja, this supplements their restoration activity and now they can update their project document note to indicated they have come up with an enhanced restoration technique to an area they deem unrestorable

4. What do you consider to be the most significant achievement of this work?

5. Briefly describe the involvement of local communities and how they have benefitted from the project.

Initially, we planned to work with the Mikoko Pamoja but due to the intensive manpower and energy needed we agreed to engage youthful locals to help prepare for the holes to install the encasements. This engagement was supported by the village chair and was very grateful to see the Rufford grant could help the local youths get daily bread during the project period. On the part of the Mikoko Pamoja committee, they learned of the new idea and were happy to receive support from the Rufford. They pledge to replicate the idea to the remaining area, bit by bit using their financial gains from the sale of mangrove carbon credits, till the whole area is restored with mangroves and they can continue to trade in their blue carbon credit from restoration activity.

6. Are there any plans to continue this work?

Yes, the project is getting support from the regional marine science association whose aim is to support local community initiatives on marine area restorations and conservation. They will be funding for continued monitoring of the project and additional restoration of the area using the same concept.

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

- Through conferences, regional conference WIOMSA to take place in South Africa this year.
- Publication articles in restoration journals.
- PowerPoint presentation in university
- Mangrove restoration guides booklet.
- Social media.

8. 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 for 8 months, the actual project is 15 months where we can tell satisfactory the project was a success.

9. 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.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Allowances	2000	3000	+1000	We needed more manpower than initially anticipated thus we had to move about some budget.
Office overhead	250	250		
Mangrove foot ware	250	50	-200	Instead of footwear we substituted with hand gloves to avoid blister on the hands during digging of holes, the excess we used it for allowance facilitation
Bamboo	500	500		
Handsaw	200	200		
Boat hire	500	500		
Potting bags	500	200	-300	We reduced the potting bags to accommodate just enough seedlings for the planting

Hall hiring	500		+500	We decide to hold community baraza (open meeting) without needing hall, this money was repurposed for the allowances
Stationery	600	600		
GPS	700	700		
Total				

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

The next steps would be to expand the concept, to plant more than 5000 propagules now that we know the dynamics involved in the setup. Also, noting that this was the first time the idea was tried in Kenya, we can now be able to adapt to the experiences and shortcomings encountered during this pilot period.

11. 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?

During the project period, I publicised on Twitter and Facebook with the #Rufford foundation.

We are ye to use the Rufford Logo for publicity now that we are preparing some conference presentation materials.

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

Josphat Nguu- Lead project coordinator oversaw the project implementation

Rahama Kivungo- Mikoko Pamoja coordinator, arranging for fieldwork and finances

Dr. James Kairo- Expert adviser of the field project setup

Gladys Kinya- Masters student from Embu University, implementing field activities, monitoring and evaluating the progress of the projects field setup.

Ann Wanjiru- Social scientist advised who to involve in the project at the different stages to bring cohesion in the community engagement in the project.

13. Any other comments?

The financial support granted by The Rufford Foundation went beyond the restoration aspects. The project on top of capacity building locals with new restoration skills was able to support a master's student with field experience and

experiment setup and the student (Gladys Kinya) is now almost finishing her master's studies with a thesis based on the projects.

Additionally, the project is starting to get a lot of attention with visitors from different countries interested to see if it can be replicated in their areas.

Also, we are getting calls to share the idea in different plants forms now that we can prove the concept works in a highly eroded mangrove area.

If we continue to collaborate with Rufford both in terms of skills development and financial support, we will be able to achieve a big milestone in the UN Decade of Ecosystem Restoration as well as the UN Decade of Ocean Science.