

Final Evaluation Report

Your Details	
Full Name	Evance Odiwuor Ouya
Project Title	Establishment of a Tree Nursery for Environmental Education and Community Awareness at Selected Degraded Sites In Narok County, Kenya
Application ID	25191-1
Grant Amount	£4999
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Date of this Report	09-09-2019

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
To establish a demonstration tree nursery in the University Botanical Garden				A tree nursery was established at the Maasai Mara University Botanical Garden that underpinned this project
Carry out re-forestation through the planting of indigenous trees within Maasai Mara University and selected degraded sites in Narok County to simulate a natural forest.				<p>Two thousand seedlings were planted within Maasai Mara University Botanical Garden and other designated places in the university.</p> <p>However, despite this objective being met, tree planting should be a continuous annual event if the desired results are to be achieved in the near future and beyond.</p> <p>A total of more than 25,000 seedlings were planted in selected degraded sites in Narok County.</p>
To establish Nature Clubs in selected primary and secondary schools.				<p>Nature clubs were established in different primary and secondary schools in Narok County. These fledgling clubs are up and running, with clear leadership structures.</p> <p>Environmental Head of Departments are teachers, with students assuming the position of chairman and secretary. The clubs were sensitised and encouraged to have regular meetings and participate in environmental conservation programmes.</p> <p>We also encouraged them to contact us whenever they need our assistance. The project team will also do monitoring between 4-6 months to determine the success of the trees planted and the Nature clubs.</p>
Create awareness on environmental conservation among communities, and to mobilize communities				<p>This was achieved through training sessions of pupils/students on environmental conservation.</p> <p>This objective was partially achieved since Narok County is one of the</p>

around the University catchment to plant trees to restore degraded areas.				most expansive counties in Kenya. We believe that we have only covered a tiny fraction of Narok County and more needs to be done to help in the long-term restoration of vast degraded areas in the county.
Sensitize the community on the relationship between deforestation and global climate change				As we visited schools, representatives of local communities also attended and were trained on the importance of environmental conservation and how it is intertwined with their livelihoods
Use tree nursery and the Botanical Garden and Nature Trail in general to create awareness on environmental conservation among the youths and women groups				Internally we trained Maasai Mara University Environmental Club members on how to establish tree nurseries The same training was also given to Students from selected Secondary schools.

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

Seasonality

We never considered seasonality as a factor in determining rainfall patterns in the expansive Narok County. Therefore, tree planting was delayed in certain parts because of rainfall unpredictability.

The high demand for Seedlings

Although pleasantly positive, after posting our work in the university official Facebook page, we got enormous feedback from very many schools across Narok County, some of which we could not reach due to logistical and financial challenges. We found it hard to reject their request, but, in many incidences, we had to only promise future consideration based on the availability of resources.

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

The establishment of a tree nursery of indigenous trees at the Maasai Mara University Botanical Garden was a major achievement. The nursery is as a cheap source of seedlings for planting and restoration in the Botanical Garden and at selected degraded sites in Narok County. The university and local communities appreciated the Rufford Foundation and Maasai Mara University (Host) for an outreach that impacts on their livelihoods through environmental conservation.

The seedlings were distributed to local communities in selected areas for planting to mitigate against effects of climate change. The reforestation was carried out through the planting of indigenous trees within Maasai Mara University and the selected

primary and secondary schools. Among the most targeted area was the area around the Maasai Mau Forest that is severely degraded.

Finally, nature clubs/environmental clubs were established in selected primary and secondary schools. The clubs are avenues for inculcating nature conservation values among pupils and students as future custodians of natural resources. In schools where nature clubs existed, we strengthened them and trained them on how to operate successfully and to mentor others in the process.

We believe that through the aforesaid measures, we have contributed, in a small but sustainable manner, to efforts to reverse continued loss, fragmentation and degradation of critical natural habitats for both wildlife and humans and in the long-term to efforts to mitigate against deleterious climate change effects such as intermittent flooding, droughts and soil erosion in Narok County.

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

During school visits, parents and locals were invited, and sessions were held to train and advise them on environmental conservation benefits and after that donation of indigenous tree seedlings of for planting.

Through observations and from feedback from community members, teachers, and school heads, severe effects of climate change were manifest. This was evidenced by: some permanent rivers becoming seasonal, unpredictable weather patterns, and intermittent floods that were not common only a few decades ago. We believe that a continued robust tree planting in Narok County will mitigate these negative environmental feedbacks of climate change.

5. Are there any plans to continue this work?

Yes, at 17 921.2 km², Narok County is expansive. Therefore, despite our efforts to reach out to many degraded areas, a bigger population, and a greater audience, more is still pending, and our efforts were only a tiny fraction of what needs to be done.

We believe that with continued effort on training, and planting trees in degraded sites, it is possible to create the change we would like to see and curb the negative effects of climate change.

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

The work has been shared in an International conference at Maasai Mara University (4th-6th September 2019). This conference was organised by the Alliance for International Science Organisation (ANSO), Maasai Mara University, and Sino-Africa Joint Research Centre (SAJOREC). Our Abstract (attached) has been published in the Conference Book of Abstracts.

The work was also presented while ongoing at Rufford Alumni at National Museums of Kenya (2nd -3rd December 2018).

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

The project lasted 12 months, unlike the earlier anticipated 11 months because of unpredictable weather and the many activities.

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.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Seeds for planting in the nursery and seedlings @ 0.025£ per seedling for 50,000 seedlings	1250	1010	-240	To promote local farmers who are investing in tree seeds, we purchased seeds of local indigenous tree species from them, and this saved us some money. The other species not available locally were purchased from the Kenya Forest Research Institute (KEFRI). The saved money was utilized elsewhere, as indicated below
Spades, sprayers, digging hoes, and irrigation tools (all the equipment will cost a total of 115£)	120	120		
3 trips per Sub-Counties on 6 sub-Counties counties of Narok for 38£ per day	684	684		
T-shirt printing@4.2 £ for 25 t-shirts	105	105		We realized that the project team needed dust coats branded Rufford Foundation. With a tight budget, we opted for the dust-coats instead of the T-shirts.
Training for school children on tree planting	64	250	+186	The training took the whole day; it was fairly expensive to provide breakfast, lunch to all

				the trainees; hence, an increase in this section.
Workshops for youth and women group	810	219	-591	A lot more money was saved in this section due to the training sessions were only done shortly when schools were visited with the community.
2 Casual staff @4£ per day for 60 days	480	690	+210	The budget Increased since as earlier anticipated, we realized that one casual staff worked for the whole project time with two others, only working for 2 months when there was intense labor need.
Car hire for @45£ per day for 30 days	1,350	1,550	+200	Charges for hiring buses for transporting students/pupils to the University were higher than anticipated largely because charges differed depending on the distance from the University
Manure/fertilizer and small bio-degradable seedling bags	66	66		
Printing paper, notebooks, pens, and cartridges	70	70		
Construction of seedling shade		235	+235	We realized it was immensely important to construct a shade for seedlings to guard against hailstones, heavy rain and potential destruction from animals
GRAND TOTAL	4,999	4,999		

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

One of the important next steps is to reach out to more degraded areas and more people, especially the schools and communities that were seeking more seedling donations and/or the ones that were yet to receive. We believe that with the demands, especially from schools, the same proportion of concerted efforts will be put in trying to maintain the planted trees.

We are also planning to identify at least a school where we will establish a demonstration tree nursery that will be used as a model to other schools and environmental/nature clubs. Through this, we believe that all the selected primary and Secondary schools over time will be the main sources of seedlings for other schools and communities.

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?

Yes, since Maasai Mara University is one of the universities with African Medicinal Botanical Garden (AMBG), the garden receives very many visitors, including community members and school children. One of the most outstanding and stand out features in the garden currently is the tree nursery that is clearly indicated as a Rufford Foundation Funded project.

During presentations at the Rufford Alumni Meeting at the National Museums of Kenya (02-12-2018) and the Maasai Mara University International Conference (September 4 – 6, 2019), the Rufford Logo was prominently displayed on title pages and acknowledgment sections.

Our working dust coats were embroidered with the Rufford Foundation Logo together with that of Maasai Mara University.

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

Name	Position	Role
Evance Ouya	Graduate Assistant (Maasai Mara University) and Project PI	Coordinated all project activities
Prof. Francis Mburu	Department Chair, Forestry and Wildlife Management	Prof. Mburu was the chief trainer whenever we invited students from Maasai Mara University environmental club and high school students as well. A chair of a department his support was also vital in the allocation of spaces where trees were planted within the University such that they don't clash with the university plan.
Alex Nkulet	Outreach consultant	A local from Narok county, Mr. Nkulet was helping in the coordination of different community heads, chiefs, Secondary School Principals and Primary School head teachers before any visitation.
Ministry of Education and School Head Teachers	-	The duo helped and availed the students to undertake training and to plant trees as well.
Amon Kipkirui, Raymond Otieno, and Alphonse Onyango	Casual Staff	The three were responsible for the maintenance of the seedbeds and transferring the seedlings to the seedling

	bags until they attain appropriate growth for the distribution.
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12. Any other comments?

We are sincerely grateful to The Rufford Foundation for funding this project that will go a long way in curbing climate change. Most of the students, university staff, and the community around the university were inspired to create their nurseries as well. We believe that subsequent funding is necessary to not only to sustain these restoration activities so to that root in the county but also expand our restoration efforts to many other degraded areas in Narok County.

We also appreciate Maasai Mara University for hosting and facilitating the project logistically.









