

The Rufford Small Grants Foundation

Final Report

Congratulations on the completion of your project that was supported by The Rufford Small Grants Foundation.

We ask all grant recipients to complete a Final Report Form that helps us to gauge the success of our grant giving. 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. 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	Felista Flavia Mangalu
Project title	Field collection of live indigenous plants for a mini botanical garden to raise public awareness and for conservation education
RSG reference	9335-1
Reporting period	April 2012
Amount of grant	£6000
Your email address	nnhm@habari.co.tz
Date of this report	19 th June 2012

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
Establish a mini botanic garden to promote awareness and conservation education			✓	The mini botanic garden established with 66 species of indigenous plants that are endemic / threatened / rare, from Arusha, Manyara, Kilimanjaro and Tanga regions
Provide information on the conservation measures taken by different levels and roles of individuals can play especially youths.			✓	A one day seminar was given to museum staff. One presentation delivered to members of Roots& Shoots (young girls) titled "Natural resources management and the roles young women can play in conservation". The Plan is to have more of such presentations to different audiences
Collected plants be used as a resource for seeds for the plant nursery			✓	A plant nursery shelter has been established. Schools sow seeds in polythene bags. Seeds from the garden and other sources shall be collected stored and used accordingly
Information leaflet for the mini botanic garden			✓	Leaflets (5000) successfully produced
Herbarium specimen collected		✓		Some parts not collected (floral) different species flower at different seasons.

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

Some unforeseen difficulties that I encountered during the implementation of the project include:

- Difficulties in locating the pre- identified list of indigenous plants in the field, these are plants that are endangered, rare and endemic. Specific locations and availability, considering the alarming rate of forest destruction that is taking place in the country was difficult. More time spent in the field for a fewer number of species. We had to inspect local nursery and identify some of the species from our list that were available.
- The field sites are remote areas where water is very scarce or not available. Uprooting of plants needed water for smooth removal and assurance for survival. We had to collect most of them during the rainy season and in some cases carry water which was also not enough due to the lack of respectable containers.
- The serious inflation where fuel and other commodity prices went high compared to the budgeted amounts.
- The unavailability of tools / items to fabricate herbarium pressers such as blotting papers corrugated ventilators in the local shops. I had to borrow a set from the National Herbarium of Tanzania (NHT), however a request for assistance to obtain such items was sent to NHT.

- Hiring pickup for field trips Manyara region was expensive. For Kilimanjaro and Tanga regions I had to negotiate with a government institution to use their pickup for specific days. Maintenance, fuel, and driver's costs were covered by the project.

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

- Collection of live indigenous plant species and some herbarium specimen from the field to the museum. The collection opens to the public to raise plant conservation awareness and the sustainable use of our indigenous species.
- Plant Nursery and shelter for indigenous plants; and linking it with the youths from roots and shoots members who are from different schools. The garden is part of the museum and therefore all museum visitors have access to it.
- A leaflet for the information on the importance of the indigenous plants; and the contribution of the mini botanic garden to their conservation. A way of publicity to a bigger audience, written in both English and Kiswahili.

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

The local community benefitted by the project through the youths who are friends of our museum empowered and involved in the plant nursery. All museum visitors are given briefing and access to the garden.

Presentation of the garden to different audiences; a paper was presented to 120 secondary School girls on 28th April, 2012 during Roots & Roots Symposium in Arusha. Visitors to the museum including local people appreciated the variety of indigenous plants in the garden especially during the International museum day where 1,240 visitors who attended were guided and informed about the garden. The project is linked to museum guided tours - a continuous museum task.

5. Are there any plans to continue this work?

Yes, plans to maintain and provide plant conservation and knowledge through different media. To set an outstanding small but very useful garden by producing relevant information of each species represented. Maintenance of the plants (pruning, plant welfare and seed collection) is planned to be a routine activity. The up keep of the nursery as a means of dissemination of information and plant materials is planned to be a continuous activity, schools will be involved, imparting the plant nursery management to them.

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

This project is located in a very central and unique site the Natural History Museum, where people of all walks of life have the access to learn and enjoy the plants which are selected for a purpose from different localities. Publicity through leaflets, on special days (Museum day and Workers' day) will be used to share the importance of the garden and distribute plant materials to interested stakeholders. Sharing is planned through display of specific features of a species on a panel board(s) rotationally on a quarterly basis (after every three months). It will emphasise the status and the need to conserve the species on display. I would wish to produce a booklet depicting the species in the garden.

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

The project took almost 14 months, while the anticipated duration was 12 months. The 2 month difference was due to the problems encountered during the actual implementation of the project. The dry spell which affected the organising of the field collection, the best time to avoid root damage and eventual withering out of plant was the rainy season. Most areas were remote and away from water availability, carry along enough water was a rare possibility.

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.

Exchange rate used 1£: TAS 2,450/=

Item	Budgeted Amount	Actual Amount	Difference	Comments
Collection of information and literature on threatened indigenous species	143	140	3	Saved a little using museum internet to collect information.
Hiring of botanist for 2months	1362	1732	(400)	An assistant botanist was required for a fee of £400 for the same period.
Fuel	405	463	(58)	Fuel cost rose, and the travel distance in the field in search of the plants in remote areas.
Purchase of garden equipment and tools	510	510	0	Purchase was only limited to very basic tools, inflation affected the prices.
In situ field collection of live plants	614	830	(216)	Project leader, driver, herbarium specialist and technician had to be paid
Field assistants for digging out plants	410	550	(140)	Tough surfaces and sites with the available tools made the work to difficult.
Hire of pick-up truck to collect plants from the field	1818	918	(900)	A pick-up was hired only once, negotiation with a government institution was made for the rest of the field trips.
Acquire a cupboard to keep pressed plant specimens	180	377	(197)	Fabrication costs and hardwood timber were costly more than estimated.
Acquire plant pressers for herbarium use	168	90	78	Use of locally available materials used; while some items were not available in the shops.
Printing relevant Information leaflets on Indigenous plants	390	390	0	-
TOTAL	6000	6000		

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

There are several important steps that I feel should be taken, these include:

- ❖ The caring of all species in the garden making sure all will survive. Pruning, watering and general welfare against fungus and other plant diseases should also be given proper attention.
- ❖ Publicising the garden as an important resource for learning and acquiring plant material for propagation and seedlings.
- ❖ Maintenance of the plant nursery with main categories of rare, threatened and endemic species
- ❖ Involvement of youths in schools in understanding the importance of the garden and their participation in dissemination of information to other stakeholders (parents and peer group)
- ❖ Production of guide booklet for the garden, including all species that are on the site and their importance, uses and status.

10. Did you use the RSGF logo in any materials produced in relation to this project? Did the RSGF receive any publicity during the course of your work?

The RSGF logo received publicity in the information leaflets – in the acknowledgement; as well as on the entrance sign to the Mini Botanic garden.

11. Any other comments?

The mini botanic garden project has received a lot of positive comments from among the visitors to the museum and the garden. It is a beginning of something much needed in Arusha and Tanzania. Already youths from different schools have joined hand as educators and wish to thoroughly understand the plants in the garden.