

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	Joylene Jepkemoi Kanyaris
Project title	Participatory Ethnobotanical Research on Succulent plants of Lake Bogoria National Reserve, Rift valley, Baringo, Kenya
RSG reference	25016-2
Reporting period	From March, 2018 to May, 2019
Amount of grant	£ 5000
Your email address	joyjepkanyaris@yahoo.com
Date of this report	May, 2019

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
1. To document the succulent plants species diversity, richness and distribution				<p>- Succulent plants inventory survey</p> <p>The study of succulent was carried out between May and June 2018. Survey localities were selected inside the reserve and in the surrounding landscapes. Stratified sampling was done based on the habitat type. A total of eight transects which were approximately 1 km away from each other were laid. In each of the eight transects, two plots (measuring 20 × 20m) which were approximately 500 m away from each other were sampled for succulent plants. In each plot the date, transect number, plot number, habitat type, succulent plants' scientific names and counts were recorded on the data sheet. As we moved from one plot to another new records of succulent plants were recorded on sight. Specimens of succulent plants with identity issues were collected for further identification at the East Africa herbarium. Photographs of most of the succulent plants were taken.</p> <p>Results: The ecological gradients sampled were wooded bushland, bushed thicket, bush land and bushed grassland</p> <p>-The families of succulent plants recorded included Apocynaceae, Asphodelaceae, Crassulaceae, Vitaceae, Passifloraceae, Asparagaceae, Cactaceae, Asteraceae and Euphorbiaceae</p> <p>-Over 20 different species of succulent plants were recorded in the above mentioned habitats. These included <i>Desmidorchis foetida</i>, <i>Edithcolea</i></p>

			<i>grandis, Aloe secundiflora, Adenium obesum, Kalanchoe citrina, Cissus quadrangularis, Kalanchoe bipartite, Cissus rutindifolia, Kalanchoe lanceolate, Adenia venenata, Sansevieri raffilii, Opuntia ficus-indica, Agave sisalana, Opuntia vulgaris, Sansevieri robusta, Kalanchoe mitejea, Klenia odora, Euphorbia heterospina, Euphorbia magnicapsula, Kalanchoe densiflora and Euphorbia tirucali</i>
2. To conduct an ethnobotanical survey of these succulent plants			<p>-Methodology: Field observation, semi-structured questionnaires and focused group discussions were used to collect data. The main focus was to document the vernacular names, uses, harvesting procedure and preparation methods, plant population changes registered over time and the cause of the changes.</p> <p>Results:-Succulent plants were used for various purposes in Bogoria. The common uses included medicinal, ornamental, eaten by livestock during drought, demarcating roads, used as soap, prevent soil erosion, cosmetic, source of fuelwood and making ropes.</p>
3. To Establish a community succulent plants nursery			<p>-0.5 acres of land was donated by Chelaba women group to be used for raising the seedlings of native plants including the succulent plants. The locals are motivated to grow the succulent plants around their homes and farms to reduce the pressure on the naturally occurring ones.</p>
4. To produce of a short documentary for education and awareness creation			<p>-Because of budget allocation issue, we had to use pictures and posters for education and awareness creation</p>

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

The time I was planning to commence the project, I got employed at the National Museums of Kenya. Although I had to reschedule my field trips, the employment

presented an opportunity for me to network with other scientists and technicians who offered enormous support both in the field and at the herbarium (processing, identification and preservation of plant specimens) as well as other logistics during the implementation of this project.

While in the field, we couldn't access some parts for sampling because of the nature of the terrain we therefore increased the sampling plots in the accessible areas to compensate for the inaccessible parts. Existence of dangerous snakes in the field also posed a challenge which we had to address by dressing appropriately and walking carefully.

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

- This project facilitated the documentation of succulent plant species in Bogoria. Important information was recorded including scientific names, species diversity, richness and distribution, vernacular names and uses.
- Succulent plant samples were collected and deposited at the National Museums of Kenya Herbarium. The samples will be important for future reference which is essential for the study of plant taxonomy. The deposited plant specimens will also be used for future identification of succulent plant species, serve to preserve historical record of change in vegetation over a period of time. The samples will also be used in the future to track changes in climate and human impacts on biological diversity of associated succulent plant species.
- The established succulent plants nursery helps in conservation of the genetic pool of the native succulent plants of Bogoria region and promotion of sustainable use of these plants. The locals have been influenced to grow these plants around their homes and farms therefore reducing the pressure on the naturally occurring ones.

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

The project kept in focus inclusive participation, both the project team members, stakeholders and community members contributed to the project design. The local administration and the community members participated in the reconnaissance meeting which led to the donation of the 0.5 acres of land for propagation of succulent plants. With the help of the local field assistants we administered questionnaires and carry out focus group discussions. Members of Chelaba Women Community Based Organizations were trained on succulent plant propagation and tree nursery management technique. The community has also benefited from this project by having their traditional knowledge on succulent plants documented.

5. Are there any plans to continue this work?

Yes. From this project we have realised that the complimentary habitats and the protected landscapes of Lake Bogoria National Reserve are of comparable importance when it comes to succulent plants diversity, abundance and

distribution; we therefore suggested mobilisation of more support for community conservation initiatives that aims at conserving these complimentary habitats while improving the wellbeing of the local community.

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

- The results of the succulent plants inventory survey have already been shared locally by use of posters.
- Copies of the final report will be shared with Lake Bogoria National Reserve, Chelaba Women Community Based Organizations and National Museums of Kenya.
- Findings from the project will be published in peer review journal for wider circulation of information.

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 grant was used during the entire period of the project time. We had anticipated completing our project in March, but due to unavoidable circumstances, we had to extend some activities till April.

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	Actual Amount	Difference	Comments
Consumables (field notebooks, pencils, pens, internet, credit, bank charges, printing papers, posters & stickers)	138	138		
Materials for preparing voucher specimens (cardboards, plant press, old newspapers, wooden frames, strings, ribbons, mounting sheets)	320	320		
Sample collection materials (machete, Hand secateurs, sample collecting bags, specimen tags, genus covers, species covers)	210	210		
Allowance for video producers (video editing, camera filming sounder)	637		-637	We decided to cut on costs so as to be able to cater for other expenses

Purchase of a Computer external hard drive	82	62	-20	
Purchase of a GPS-Garmin	205		-205	
Purchase of a binocular	274		-274	
Facilitation of the focus group discussions	136	136		
8 field assistants @ £4.8 per assistant/day for 20 days	768	768		
Per diem for a taxonomist@£48 per day for 20 days	960	960		
Team members transport from Nairobi to the field and back + local transport	1,270	1,270		
Tree nursery equipment (Posts, Sand, Cement, wheelbarrows, Chain links, Barbed wire, Nails, Locks, Frames, iron sheet, Machetes, Rakes, watering cans, Jembes, Rakes, spades, Black polythene, equipment transport, labour)		1,136	+1,136	
TOTAL	5,000	5,000		The exchange rate is: 144.571 Kenyan shillings = 1.00 sterling pound

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

In our 1st Rufford project, we documented the indigenous knowledge useful for conservation of wild animals of conservation concern while in our 2nd Rufford project we focused on plants of conservation concern (succulent plants). In our 3rd Rufford project, we would like to concentrate on the production landscapes of Bogoria by promoting profitable, environmentally friendly activities.

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?

Yes we did. We used the logo in all our correspondence letterheads and official communication documents to stakeholders, we printed the logo on the questionnaires, the stickers, the posters and on the final report. Rufford Foundation will also be acknowledged in the scientific publication of our findings, this will increase its recognition as a feasible system for conservation in other parts of the world.

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

Kimuigei Barturo: A staff member of Lake Bogoria National Reserve. He helped in planning the logistics of the project and also served as a guide around the reserve

Collins Masinde: A taxonomist from the Botany department of the National Museums of Kenya. He played a key role in plant identification and collection/preparation of herbarium voucher specimens.

Elizabeth Koros: Chairlady Chelaba Women Community Based Organization. She helped in planning logistics and organizing the CBO to participate in the activities of the project.

Salina Chesang: A technician at Kenya Forestry Research Institute (KEFRI) Marigat. Trained Chelaba Women Community Based Organization on tree nursery management skills and propagation of succulent plants.

12. Any other comments?

I am extremely thankful to RSG for funding this project and I look forward to furthering this work so as to achieve sustainable biodiversity conservation and local livelihoods improvements in Bogoria region.