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	Houssein Samwel Kimaro
Project title	Encroachment Dynamics of *Acacia drepanolobium* and *Acacia seyal* in Maswa Game Reserve
RSG reference	23703-1
Reporting period	Final report
Amount of grant	£4900
Your email address	kimaroh@nmaist.ac.tz/kimaro.martin@yahoo.com
Date of this report	27 March 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
Assessment of native plant species under different bush encroachment				Scientific manuscript in preparation
Assessment of herbivore-induced factors contributing to encroachment of *A. drepanolobium*				A scientific manuscript has been prepared and submitted to Journal of Arid Environment
To assess the influence of rainfall variability on germination success of *A. drepanolobium*				A manuscript has been prepared and submitted to Journal of Arid Environment
Spatio-temporal change of woody vegetation over a thirty year period in Maswa, Tanzania				Manuscript in preparation
A scientific report summarized all findings from the objectives was submitted to our stakeholders (Tanzania Game Tracker Safaris) for management consideration.				

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

a) The season of the year had a strong influence on availability of mature seeds for experiment. We had to delay the start of the experiment from March to July 2018 due to administrative reasons.

b) Transport costs and availability of facilities (vehicle) were higher and more difficult to achieve than assumed during the budgeting of the proposal. We were able to get assistance from our project stakeholder (Tanzania Game Tracker Safaris) and received a vehicle that helped in data collection.

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

a) We show the first scientific evidence and provide baseline data of an increasing trend of woody plants in Maswa Game Reserve. The report has been submitted for further consideration to make an informed decision on how to control woody plant encroachment

b) We highlight possible factors contributing to the encroachment of *Acacia drepanolobium* and quantified the impact of the encroachment on herbs and herbivores in Maswa Game Reserve.

c) We suggest possible control measures and better conservation practices to prevent further encroachment of *A. drepanolobium*.

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

a) Participatory mapping of the encroachment history and conservation practices was done with elders (expert interviews) within the study site.

b) We also explored the experience and / or concerns of pastoralists (data collection through questionnaires) on increase of woody plant particularly on grazing.

c) I had several local field assistants that were involved as translators and became middle-persons between the research team and local community.

d) The local hunting agency, depending on hunting tourism, was informed about bush encroachment on their land.

5. Are there any plans to continue this work?

Yes, possibly even as a PhD project.

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

a) Upcoming conferences like TAWIRI conference in December 2019 in Tanzania, where various stakeholders such as government officials from natural resources ministry, academic institutions, researchers, Tanzania National Parks will take part.

b) Publications in international peer reviewed scientific journals.

c) Community outreach program through presentation and public lectures.

d) CREATES communication and network team, the report will be shared to CREATES communication officer for sharing in wider network.

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

Research fund was used in 9 months contrary to the actual period of 12 months Project activities are still supported by the Nelson Mandela's Centre of Excellence (CREATES) in Food and Nutrition Security.

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
Equipment, material and services	1890	2560	-670	
Living costs, accommodation and meals	1200	1500	-300	Research team had to stay out of study area for few days during public holidays to allow field team members to attend their ceremony. Meals and drinks during the travel to and from Maswa Game Reserve.
Transport charges	100	800	-700	Drivers charges Transport charges during logistics arrangement at Tanzania Game Tracker Safaris in Arusha.
Wages	1710	2550	-840	We had to recruit more field assistants in study site as well at university for monitoring experimental set up.
Total	**4900**	**7410**	**-2510**	Budget deficit was covered my CREATES and stakeholders support. Upcoming activities on dissemination of the project findings, publication and outreach will be covered by CREATES

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

Supporting restoration process of grassland areas and collecting data on woody plant encroachment for monitoring purpose. Further studies on soil properties and how they influence woody encroaching species will help in managing and predicting encroachment hotspots. Secondly, spatio-temporal herbivory and seed distribution by African elephants and other large mammals will help to quantify and explain the role of herbivores on vegetation transition between grassland and woody vegetation.

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, in graduate seminar presentations and reports produced during the course of the project. Rufford foundation has been acknowledged in the Thesis I submitted. I will further use the logo for any other presentation in relation to my study.

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

Supervision team
Anna Treydte – Field visit and project supervision.
Linus Munish – Co –supervisor as per institution regulation.

Field team
Jerome Kimaro – Driver and research assistant
Mashaka Mtende – Field Assistant
Habibu Adam – Driver and field assistant
Aichi Mkunde - Research Assistant
Daudi Mmary– Field Assistant
Edwin Ishengoma – Game Reserve ecologist (He was armed) and worked with us with dual purpose as an ecologist with interest in the research and to provide security to the research team.

Research partners
Ayoub Asenga –working together at a similar study site, and involved in spatial analysis on vegetation changes.
Michael Anderson lab (Wake Forest University) and the Serengeti research team working on other Acacia species in Serengeti ecosystem. We were able to get advice, comments and experience from Mike Anderson, Thomas Morrison and **Oswald Nzunda.**
Wilson Maanga – Saadani National Park chief ecologist. He is leading pilot restoration project of encroached grassland areas in Saadani National Park. We were able to learn and get his experience on restoration process.

Stakeholder's team
Wayne Williamson – Key contact person from Tanzania Game Tracker Safaris supporting logistics in Maswa Game Reserve.
Aurelia Klassarah – Help in arranging logistics in Maswa Game Reserve
Nana Grosse - Woodley - Help in arranging logistics in Maswa Game Reserve
Julius Robinson - Help in arranging logistics in Maswa Game Reserve

12. Any other comments?

I realised that a one-year period was not enough to fulfil the project activities in the frame of my work. Possibly, an. extension can be considered based on the beneficiary suggestions. Thanks to The Rufford Foundation for their generous support.

I hope I convinced you that my study presented some important results for understanding woody encroachment dynamics in African rangelands.