

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	EJIGU ALEMAYEHU WORKU
Project title	Conservation and behavioural ecology of the endangered mountain nyala (<i>Tragelaphus buxtoni</i>) in the Arsi Mountains, Ethiopia
RSG reference	20813-2
Reporting period	
Amount of grant	£4940
Your email address	yismake1998@gmail.com
Date of this report	August 2018

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
Diet and feeding ecology of mountain nyala				We have identified plants and preferred plant parts used by mountain nyala and diet variation between wet and dry seasons.
Habitat preference of mountain nyala				We have identified areas that provide optimal forage and cover for mountain nyala based on the dietary requirements of the species. The effects of the annual fire on the forage availability of mountain nyala and the local community's perception of the annual forest fire is examined.
Awareness creation in the local community				Many of the local people were very interested in participating in the awareness creation programme. The training was on mountain nyala habitat, Afro-alpine ecosystem and its importance to biodiversity conservation, effects of fire on the Afro-alpine and ericaceous habitat, importance of mountain nyala and Afro-alpine habitat to human livelihood.

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

The project was implemented as planned and no significant difficulties were encountered during the implementation of it.

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

The most important outcomes of the project are:

1. This study documents the plant species consumed by mountain nyala and their feeding habits in different seasons and habitats. The habitat preference of the study species is also determined. Mountain nyala prefer natural habitats than habitats exposed to livestock grazing.

2. The awareness creation programme given to members of the local community helped to increase positive attitudes toward the conservation of mountain nyala and the vulnerable Afro-alpine ecosystem. Those individuals who got the training will share their experiences to the broader local community that will assist the comprehensive wildlife conservation and management practices in the area.
3. The following manuscripts will be published in peer-reviewed international journals from the data collected in this study.
 - i. **Ejigu Alemayehu Worku et al.** (In prep.). Foraging ecology and diet of the endangered mountain nyala (*Tragelaphus buxtoni*) in the Arsi Mountains, Ethiopia.
 - ii. **Ejigu Alemayehu Worku et al.** (In prep.). Habitat preference and home range dynamics of the endangered mountain nyala (*Tragelaphus buxtoni*) in Arsi Mountains, Ethiopia
 - iii. **Ejigu Alemayehu Worku et al.** (In prep.). Local community's perception and effects of annual fire on Afro-alpine of Arsi Mountains, Ethiopia: Implication for mountain nyala (*Tragelaphus buxtoni*) conservation

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

This project benefited the local people as a research assistant, camp attendant, and renting mules for the research team. Local people were also involved in the awareness creation and training programme that will have a long-lasting impact on the conservation of mountain nyala in the Arsi Mountains, Ethiopia. The recommendations of this research will help the local biodiversity conservation and policy decision.

5. Are there any plans to continue this work?

Yes, the work is continuous and I have already planned for further research projects. The results so far are promising and leading to scientific questions, which need further investigation and cross-disciplinary collaboration. I am planning to investigate the ecosystem services of the Arsi and Ahmar Mountains and its implication for mountain nyala conservation. This will help to integrate wildlife conservation that ultimately promotes rural development in the region.

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

We plan to share the results of the project through presentations in different workshops and seminars. The final reports and publications will be given to the Ethiopian Wildlife Conservation Authority (EWCA), Oromia Forest and Wildlife Enterprise (OFWE) and other stakeholders working on wildlife conservation to incorporate it in their wildlife conservation plan.

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 RSG was used for one year, i.e., from March 2017 through February 2018 and used effectively as initially proposed.

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.

Local exchange rate 1 £ = 29.23 Ethiopian Birr (ETB)

Item	Budgeted Amount	Actual Amount	Difference	Comments
Mule renting	£700	£750	-£50	We covered large geographical areas that resulted in additional costs
Per diem for local trainees	£400	£250	+£150	Due to security reasons, we were only managed to train ten trainees from the local community.
Per diem for camp attendant	£960	£1010	-£50	Mountain nyala in the controlled hunting areas were very shy and took an extended period to habituate. This resulted in additional costs.
Per diem for field research assistants	£1920	£2980	-£1060	1) Mountain nyala in the controlled hunting area were very shy and took an extended period to habituate. 2) We planned to collect data from two study localities, but we have collected data from three localities and hence employed one more research assistant than planned before. This resulted in additional costs.
Per diem for Principal Investigator	£960	£150	£+810	The budget is used to employ one more research assistant
Total	£4940	£5140	-£200	

Generally, the differences are due to the variation in the number of days spent in the field and employing one more research field assistant. The Additional costs covered from my personal funds.

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

My next step is to publish the manuscripts and submitting the reports to the Ethiopian Wildlife Conservation Authority (EWCA), Oromia Forest and Wildlife Enterprise (OFWE) and other NGOs working on conservation of wildlife in the region. The second step will be on writing proposals on the planned collaboration.

My third plan is to research how land degradation and land use/land cover change in the Arsi and Ahmar Mountains of Ethiopia affects mountain nyala survival in the region. Analysing the trend of land use/land cover change and its cause and consequence on the environment is a matter of concern for sustainable development and wildlife conservation. Examining the ecosystem functions and ecotourism potential of the area should be addressed. These activities will help to develop a conservation management plan for the endangered mountain nyala in the vulnerable Afro-alpine and montane forest of the area.

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, research field assistants and trainees of the local community members were well informed about the Rufford Small Grants for Nature Conservation. In addition to this, I will use the Rufford Small Grants for Nature Conservation logo for reports produced in relation to this project and the final document.

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

The research project was implemented by **Ejigu Alemayehu Worku** (principal investigator), **Professor Nils Christian Stenseth**, **Professor Afework Bekele**, **Dr. Jakob Bro-Jorgensen** and **Dr. Paul Evangelista**. The principal investigator was coordinating the data collection and awareness creation training program. All the project team members involved in designing the methods, followed up the project implementation and will contribute to the publication of manuscripts.

12. Any other comments?

This project would not have been able to accomplish without the Rufford Small Grants for Nature Conservation funding and push my study this far. The support also helps to conserve the endangered mountain nyala in the Arsi Mountains, Ethiopia. I am grateful as always.