

Final Evaluation Report

We ask all grant recipients to complete a project evaluation that helps us to gauge the success of your project. This must be sent in **MS Word and not PDF 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 – remember that negative experiences are just as valuable as positive ones if they help others to learn from them.

Please DO NOT fill in and submit this form until the project has been completed.

Complete the form in English. Note that the information may be edited before posting on our website.

Please email this report to jane@rufford.org.

Your Details	
Full Name	Philipo Jacob Mtweve
Project Title	Rungwecebus Kipunji Monitoring and Awareness raising in the Livingstone Mountains Ecosystem
Application ID	39672-2
Date of this Report	June, 2024

1. Indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.

The origin of your work

This work is the continuation of the originally funded project by Rufford Small Grants (2019) continued by internal funds from Environmental Conservation for Wildlife and Community Enterprise (ECOWICE) and Wildlife Conservation Society (WCS) for the t0 2023 where we aquared another funding from Rufford Small Grants. However, the Rungwecebus kipunji studies started since 2003 (Machaga et al.2003). majority of these studies have identified Kipunji as an endangered species and is highly affected by habitat deterioration. However, our intention is to maximize and bring to the attention other driving factors for the species loss. The kipunji is categorized among the species that bring eminent loss to the communities through crop raiding (No study has reported and quantified the crop loss- associated with the kipunji our intention is to fill this gap, two there were different strategies that communities employed to ensure that the species do not raid their crops (this included lethal and nonlethal, limited studies have documented this _ we intended to document the strategies used in reducing crop raiding from primates), encapsulate all the strategies used for controlling primate crop raiding, and share it among the villages to reduce the danger of kipunji being killed as problem animals. Similarly, we intended to document and identify if there will be any option to control primate crop raiding through planting crops that may be of less preference to the primate in order to maximize the community's economic benefits.

Majority of the project had limited number of days providing education to students, our intention is to continue providing environmental education to schools, empower environmental championship from the students who are interested with environmental and strengthen the environmental clubs by empowering leaders to design programs and manage them sustainably.

Introduction

Rungwecebus Kipunji Monitoring and Awareness raising in the Livingstone Mountains Ecosystem project at Rungwe District at Mt. Rungwe nature forest reserve. The study targeted to expand the relationship between primate populations and human communities through enhanced understanding and reduction of crop raiding and predation by primates in the area. Also, to engage the local communities in wildlife conservation through the establishment of a long-term primates monitoring program linked to other existing primate monitoring programs, such as WCS landscapes in the Southern highland at Mount Rungwe Nature Forest Reserve (MRNFR).

To achieve project goals, the following activities were conducted in the region

- i) Monitoring of Rungwecebus kipunji in the four forest patches
- ii) Monitoring and quantification of depredations caused by primates targeting Rungwecebus kipunji
- iii) Provision of environmental education to seven villages, seven primary schools and two secondary schools through class lessons, field visits and night cinema projections.

Project site

Rungwe-Livingstone forests is located in the Southern Highlands of southwest Tanzania. Mount Rungwe is located 9°03'– 9° 12'S and 33° 35' – 33° 45'E, while the Livingstone Forest is located 9° 00'– 9° 14'S and 33° 40' – 33° 57'E and it forms part of Kitulo National Park. Mount Rungwe was gazetted as a nature reserve in 2009, and both have been poorly managed and few areas of the pristine forest remain. Both Rungwe-Livingstone support a mosaic of habitats from montane and upper montane forests, bamboo, plateau grassland and heath, ranging from 1400 to 2960 m a.s.l. (Davenport et al., 2008).

The mean annual rainfall of 2133 mm is concentrated in November to April/May (Davenport et al., 2010), while temperatures range from 22.50C in the lower areas during October to 9° C (June–July) and even 0° C at higher altitudes. Rungwe-Livingstone is joined by the 250–1000 m wide Bujingijila corridor. Much of the matrix surrounding Rungwe-Livingstone is agricultural land, dominated by maize *Zea mays*, potatoes *Solanum tuberosum*, sweet potatoes *Ipomoea batatas* and legumes, interspersed with indigenous trees and exotics such as *Eucalyptus*, *Cupressus* and *Pinus* spp. Farmland borders the forest with small villages and settlements often located up to the forest edge.

Objective	Not achieved	Partially achieved	Fully achieved	Comments
1. Monitoring and Population estimation of species				We have continued monitoring the <i>rungwecebus kipunji</i> and have been able to document 13 groups that involves 123 individuals in all the 8 forest patches monitored. We do expect to continue and increase the number of days + transect length.
2. Monitoring and quantifying the crop raiding done by different species of primates				We have been able to document the crop losses by primates but crops-loss quantification associated with <i>kipunji</i> seems to be very much complicated due to the factor that the feeding patterns of <i>rungwecebus kipunji</i> is highly associated with other primates including velvet monkeys, Sykes monkeys, and yellow baboons. We are currently setting camera traps in various farms proximity to the forest edge to be able to detect the crop raiding by the <i>kipunji</i> in relation to other primates. However, through the questionnaires 78 % of communities reported that the <i>kipunji</i> is involved in crop raiding.

3. Assess the different strategies used by communities in reducing the raiding from the primates (lethal and nonlethal)				Through this study it was realized that communities employ mainly lethal strategies that included snares, poison and live primate decoy and rarely they use non-lethal which is non animal decoy and chasing.
4. School education and community conservation activities				The project has established school programs to 8 primary and 2 secondary schools that is intended to continue for the next ten years
5. Stakeholder workshop				The project conducted a three days stakeholder workshop that helped to develop effective and sustainable strategies for reducing forest degradation and good coexistence between people and kipunji

2. Describe the three most important outcomes of your project.
Briefly describe the three most important outcomes of your project.

i. Data collection and results presentation

The project successfully completed the administration of household survey that aimed to collect the information about human primate conflicts including the quantification of the crop loss-associated with the kipunji, examining the influence of other species on human-wildlife conflict, documenting the strategies implemented to address human primate conflict, assessing the effectiveness strategies used, and propose approaches to enhance human primate coexistence. The results from our research findings was circulated to stakeholder and responsible authorities through workshop with different stakeholders



presented our findings to THE 14th TAWIRI INTERNATIONAL SCIENTIFIC CONFERENCE which was held at Arusha International conference centre on 6th to 8th December 2023.



DAY TWO 7 th Dec. 2023: MORNING PARALLEL SESSION 7 K 204 Hall				
SUB-THEME: Wildlife ecology and ecological interactions				
S/N	Time	Paper	Presenter	Chairperson
77.	09:20-09:40	Persistence of lions <i>Panthera leo</i> groups in unprotected landscapes adjacent to Selous Game Reserve and Nyerere National Park, southeastern Tanzania.	Ikanda, D	Dr. Alex Kisingo
78.	09:41-10:00	Unveiling the Enigmatic <i>Rungwecebus</i> Kipunji: The Untold story behind its conservation setbacks.	Philipo Jacob	
79.	10:01-10:20	Habitat Inversion due to Habitat Invasion: More Wildlife within Settlements than in the Wild and on Farms	Emmanuel F. Nzunda	
80.	10:21-10:40	Using mixed methods to measure topic sensitivity in conservation	Harriet Ibbett	

Submission of research report to key stakeholders, partners and responsible authorities for further defencing, and implementation of the human wildlife/primate conflict resolution and continuing working toward the challenges facing the community.

ii. Rungwecebus Kipunji Monitoring in the Livingstone Mountains Ecosystem

While conducting household survey we concurrently continued with the monitoring of kipunji through established line transects with the four additional transects, this transects walk aimed to count and monitor the presence of the Rungwecebus Kipunji at the Livingstone mountain ecosystem, looking on their foraging patterns, distribution, counting their number and its association with primate species like Vervet Monkeys, Yellow baboon. Similarly, we set 15 camera traps in different areas particularly areas that were prone to kipunji crop raiding. Throughout the study period we have been able to monitor 13 groups with 123 individuals in total, the groups size ranged from 4 to 12 individuals.



iii. Establishment of Environmental Conservation education and awareness program

We continued and strengthened awareness raising program about human primate coexistence and environmental education where currently we have secured a community awareness program permit for the next five years. Therefore, we have established a permanent office and employed 4 communities whom their responsibility will be the provision of environmental education and monitoring of the Kipunji within the Rungwe Nature Reserve. Activities that have been conducted to achieve this includes night cinema, village assembly meeting and establishing environmental education program in schools through teaching and launching save wild clubs to harness the impact of human wildlife interaction.



iv) Stakeholder workshop

The project conducted three days workshop to share findings of the study and design solutions towards reducing pressure over forest resources and the kipunji. The workshop was conducted at the Rungwe district council offices and it was chaired by the district executive director and attended by the following stakeholders; The district natural resource officer, The district agricultural officer, Village chairmen from 8 villages, Village executive officers from 8 villages, Primary school teachers from 10 schools and representatives from Wildlife conservation society. The workshop helped to develop strategies to be used in reducing crop raiding from primates and developed an opportunity cost matrix to be used by the management in the decisions towards resources

and forest management. This was done by using Companion modelling with the aid of ARDI (Actors, Resources, Dynamics and Interactions) incepted from (Etienne et al., 2011). These strategies include the following;

- To chase wildlife by using methods such as shouting and beat drums
- To promote alternative sources of income to local community which are not destructive to the environment such as sustainable agriculture
- To grow alternative crops that cannot be raided by wild species.
- To provide education to local community in order for them to know benefits and effects.
- To formulate village laws that will help to give punishment and to impose fines to those people who conduct destructive activities.

- Environmental issues should be on the agenda to be discussed in all village meetings.
- Conduct research to know the extent of the problem and to evaluate the mitigation measures used by the local community to solve the problem will help to set up an intervention that will be realistic in solving the problem.
- To support or fund the conservation programs initiated by the local community or government agencies.
- Generation of internal sources of income that will facilitate conservation activities at each village.



Explain any unforeseen difficulties that arose during the project and how these were tackled.

a) Irrelevant response

Some respondents replied against the expected reality simply because of were annoyed by the primate disturbances to their field farms, also, other respondents were not ready to give the information claiming that no help they get from the research project has been going on in their areas (repletion of the surveys on primates without interventions. We solved this by encouraging them that solutions are always not easy, they need to be patient. We also promised to continue working with them in finding the solutions hence we have established a permanent office in one of the villages and employed three local communities whom we will continue working with them.

b) Language barrier

Sometimes we encountered the hardness of communication due to the fact that indigenous was responding to questions by using their mother tongue language. We used the local translators to translate what they wanted to communicate to us.

6. Describe the involvement of local communities and how they have benefitted from the project.

The project trained 15 communities on how to monitor primates, provided temporally employment to 10 local communities and now 4 communities will be part of the project for the next 5 years where our project has secured the permit to work on. We have employed them as field research assistants, guides and ad hoc porters. Field research assistants and guides were trained on how to collect population survey data and in the use of equipment including questionnaires, the use kobo collect tool for data collection (digital data collection). These skills will be very useful for any research and conservation initiatives involving communities in the area. We have also trained them on the beehive installation, Mushroom farming, for alternatively source of income gaining.

The project has also established environmental education and has employed 4 people stationed in various parts of the forest who will continue with primate monitoring, and environmental education.

5. Are there any plans to continue this work?

Absolutely, we have plans to continue with this work and have already applied for the 5 years' community research permit.

- a) There is still a need for more detailed population surveys in the Livingstone Mountain Ecosystem. This is a very large landscape (above 10,872 km²) and most of its remote sites are extremely hard to access, especially during the rainy season. Despite of outstanding findings (13 groups of Rungwecebus Kipunji found founded at Mount Rungwe Nature Forest Reserve (MRNFR)), monthly line transects surveys more time particularly in areas with disjoint protected areas and in areas with different habitats. Rungwe is enriched in various habitats mainly are montane and upper montane forests, bamboo, plateau grassland and health forest in the ecosystem. This requires more funding which we will continue applying.
- b) There is also a need to continue with extension education on the importance of environmental and wildlife conservation to the community living around the Mount Rungwe Nature Forest Reserve to spread the knowledge about conservation and create awareness to the community to not destroy the environment to give long-living for the primate Kipunji at Mt. Livingstone Ecosystem.

Community engagement programs that will bring human economic activities diversification like installation of beehives, mushroom training cultivation and entrepreneurship groups this will reduce the degradation of forest for farmland expansion and provide an alternative way for income gaining.

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

The project was presented as an oral paper at the THE 14th TAWIRI INTERNATIONAL SCIENTIFIC CONFERENCE which was held at Arusha International conference center on 6th to 8th December 2023. In addition, we are currently contributing to the book chapter on human wildlife conflict, if successful or results will be part of the book to reach more people. Similarly, we have shared our findings during the two days workshop and one workshop that was prepared by TAWA on developing the way

forward towards the Rungwe management. Through this workshop TAWA advised us to secure the five years permit which is now on progress. We have shared the results with different stakeholders including village executive officers, Tanzania Wildlife Management Authority. Results are also used in school programs and community awareness campaigns.

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

- a) The next step is continuation of the primate monitoring including the Kipunji and designing non-lethal depredation strategies to reduce the primate killings. Increasing community conservation campaigns in order to shape local communities' attitudes towards conservation of endangered primates and their habitats is also needed.
- b) Monitoring and evaluation of the installed facilities for the project including conservation education programs.
- c) Fundraising program for raising more fund to continue with project implementation on conservation education activities and livelihood improvement projects like beehives and mushroom farming.

8. 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?

We had used the Rufford Foundation logo for any materials (including presentations, posters and leaflets) and reports pertaining to this project and final report. Including the TAWIRI conference and Workshop

9. Provide a full list of all the members of your team and their role in the project.

Prof. Shombe Hassan, he is lecture at Sokione University of Agriculture and he acted as a supervisor of the project progress and advisor during the reporting and workshop conduction to ensure perfect report from the project araeaand also he is an expert in animal behavior and small mammals.

Dr. Stuart Smith he is a lecture at the National University of Singapore
21 Lower Kent Ridge Road Singapore 119077.

Mr. Felician Ezekiel, Chief Executive Officer of ECOWICE (Advisor). He is a Graduate of Bachelor of science in wildlife management from Sokoine University of Agriculture and currently he is pursuing Master degree at Ohio State University in the United State of America the various, also he is a researcher.

Mr. Musa Marco, He is a wildlife manager graduate from Sokoine University of Agriculture, He is working at ECOWICE as a program manager and field officer professionalized in Data analytics and Collection.

Mr. David Robert Kabelege, He is a wildlife manager a graduate from Sokoine University of Agriculture, He is working at ECOWICE as a Researcher and Field officer professionalized in Data analytics and Collection.

10. Any other comments?
Nothing