

Final Evaluation Report

Your Details	
Full Name	Philipo Jacob
Project Title	Estimating the Current Population, Map the Habitats and Raise Community Awareness on the Rungwecebus Kipunji in the Region
Application ID	30190-1
Grant Amount	£5996
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Date of this Report	10-01-2021

1. 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
To estimate the population of <i>Rungwecebus kipunji</i> using camera traps, indices and transect walks.				Data collection has been done but the time was not enough to estimate the population. We need 1 more year to see the difference. However, we managed to find six groups with an average of eight individuals that were seen throughout the year in the eastern side. We only saw 1 group with three individuals in the western side, this was seen once in April 2020. We also saw three groups with an average of seven individuals in the south. The report has been prepared and shared with management and with ECOWICE and will be published in February 2021 after the organisation meeting.
To assess the vegetation changes over the 20 years and explaining how these changes might affect the species survival				This objective is done. We have prepared a manuscript for publication. We are waiting for the comments and revision from the experts. A report has also been shared with the management and was presented at different schools and is expected to be presented at TAWIRI conference.
Conservation education				Unfortunately, due to limited funds the project managed to reach roughly 1220 pupils and 90 students respectively, who were all visited once, and presentation was made. We also managed to take some to the forest for their exposure and for them to appreciate

			<p>the forest. We had planned to do cinema projection for indicating how environmental destruction can influence species loss and jeopardize the human survival, but we did not manage this.</p>
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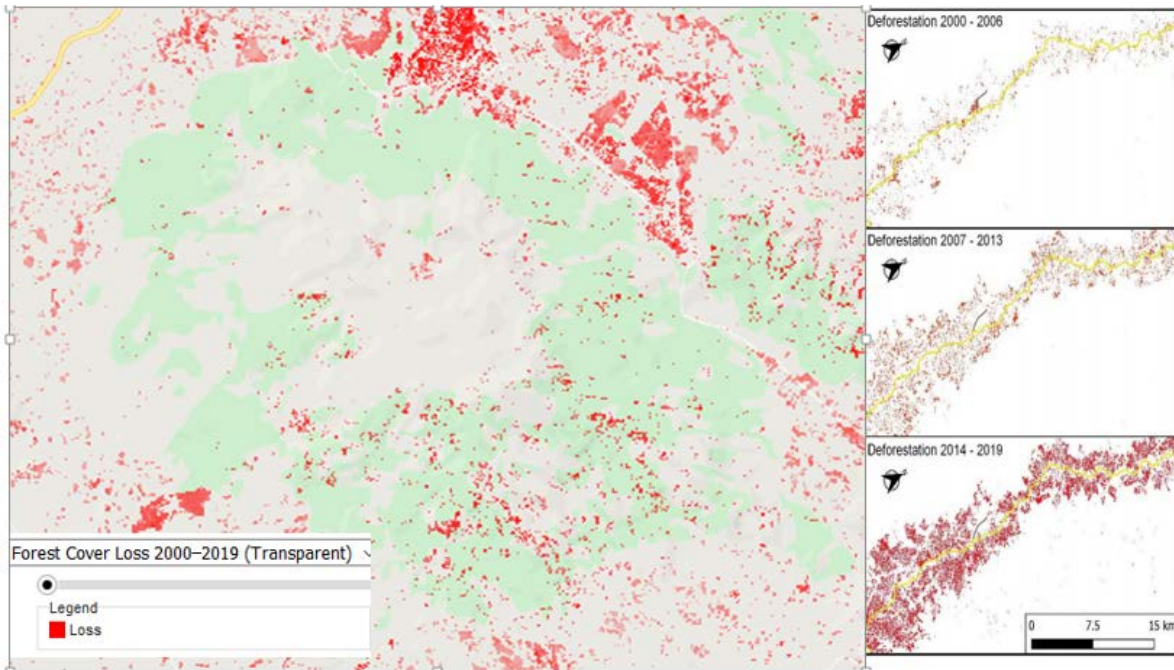
2. Please explain any unforeseen difficulties that arose during the project and how these were tackled.

Due to the rise of COVID 19, in January 2020, the Government started to inflict some measures, including restricting movement. We decided to provide permanent employment for three people so that they could be stationed in their sites and keep on collecting data. This process jeopardised the big part of environmental education, as at first the Government did not allow assemblages, though at the end of April 2020 everything resumed as usual and this meant the environmental education could be done in a few schools and in just a single day in each.

The use of camera traps did not yield a good result. Due to the forest being less patrolled and people getting in easily, we set 12 camera traps on the 2nd day but three of them were stolen. We then decided not to use camera traps but rather rely on the transect data.

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

1. In this project, we have managed to roughly indicate how many groups of *Rungwecebus kipunji* are in the forest. We managed to indicate the common threats that included hunting which was the case in the western side of the mountains and included hunting of other ungulates. We managed to find killed bushbuck and snared rodents.
2. We analysed the deforestation trend and shared it with the management. The forest is losing its forest cover from illegal harvesting. The spatial representation of deforestation patterns in Rungwe Nature Reserve underlines that significant deforestation took in the western and northern side and highlights that deforestation is accelerating. The process of deforestation clearly accelerated, as the deforested extent between 2014 and 2018 is much bigger compared to the previous two time periods (2000 – 2006 and 2007 – 2013).



Map: Spatial-temporal deforestation patterns in Rungwe Nature Reserve (Design: Authors; Source: Hansen et al. 2013, GADM 2020 & Earthstar Geographic via ESRI 2018)

3. Awareness campaign, in order to make sure the results are initiated or translated in the management schemes, we used one person from Rungwe Nature Reserve each time we visited or each time monitors went in the forests. We provided updates and reported each and every unusual

event observed during our study and suggested the possible solutions. We also visited three primary schools and one secondary school to share the results and discussed with them and finally we took some groups in the forest as a managed tour. For this we at least reached 1220 students and pupils.



However, this was not enough it needs to be updated and if possible, we need to train their normal teachers and inspire students and pupils visiting the forests whenever they do environmental classes.

We developed transects in areas that no one has ever done the monitoring as many studies are conducted in the tourist trails, and in fact we managed to get more groups in the newly developed transects than in the tourist trail.

We have shared the report with the management; ECOWICE will also publish this result in February 2021 and we also do expect to publish one in the peer-reviewed journal after the experts have reviewed and provided the comments submitted to them.

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

The project used three monitors from the three villages. We paid for their accommodation, 1-year health insurance and 1-year flying doctor membership

fees (this was done to avoid any COVID 19 and field work health complications).

We rented three houses (paid) from the project area for stationing the monitors. At first the countries were making lockdown; we rented the houses so that the monitors could not travel but rather stay in door and leave for field work. In each side western, eastern and southern of the Rungwe Nature Reserve. We trained the monitors and shared the training with the management on how the transects are set and how monitoring can be done.

We also provided education to primary and secondary school children on the necessity of protecting the forest and gave them opportunity to visit the forest. In the next phase of the project, expects to add more efforts working with students and night cinema projects.

5. Are there any plans to continue this work?

We do intend to continue with the work but currently we realised there are three other projects working in similar work, so our focus needs to be more on awareness creation, and we want to connect all researchers in the area through Rungwe Nature Forest Reserve for better decision making. We have identified that education and awareness campaigns will definitely serve not only *Rungwecebus kipunji* but also the forest ecosystem.

We also will like to convey the seminar workshop (companion modelling) that will involve different stakeholders working in the ecosystem. While collecting data we realised there are different people doing almost the same thing at the same time. We want to make sure we create a visible database through the Rungwe Forest Nature Reserve so that people can share what are they doing for other researchers to know and can build from them or if they have to do the same thing, they should be able to get connection to other researchers in the area.

We are thinking of developing a decision matrix that will involve all people working in the area, to analyse what is done and what needs to be done. We want to connect researchers, decision makers, the nature reserve management authority and the communities who are always left out whenever research gaps are developed. The village leaders and communities do feel as they are only used as data points and desperately, they see different people doing the same thing and using them but are coming from different projects.

Therefore, phase two of the project plans to focus on environmental education, though school programmes, night cinema projects and more important conveying a stakeholder's workshop to find out who is doing what and what the remaining gaps are. We do expect to involve both policy makers, the Rungwe Nature Forest Nature Reserve, all people who are active collecting or doing project in the area and representatives from all the villages around the nature reserve. This was also the interest from the Rungwe Nature Reserve Management. They also find duplicates of works and permits at the same time.

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

We have been working hand in hand with the management and shared the results with them, we have presented at different schools and we do expect to publish it via a peer reviewed journal and the results will be published in the ECOWISE. Likely we expect it to be one of the projects to be placed under the Rungwe Forest Nature Reserve

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

The grant was used from January of 2020 to December 2020. We managed to finish it on time as we adjusted a lot of things at the start of the project. We located all important workforce right at the project area due to the COVID 19 threats and restriction worries.

8. Budget: 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. It is important that you retain the management accounts and all paid invoices relating to the project for at least 2 years as these may be required for inspection at our discretion.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Field transport	£756	£493	-£263	There was travel restriction during the project due to the COVID -19 outbreak. The difference in the amount was allocated to other expenses.
Transect clearing and tagging 800	£800	£800		
School programs	£560	£298	+£262	We added this money to the Research Assistants and health insurance and flying doctor's membership for research assistant.
Flying Doctors Service for 3 monitors		£115	+£115	As COVID 19 was rising and with the presence of deadly snakes in the forest, we found it was necessary at least to make sure if anything bad happens at least, a plane could rush them to the hospital quickly.

Health insurance 3 monitors		£183	+£183	Due to COVID 19, we hoped in case any illness or health problems occurs, one could be treated though insurance rather than depending on physical money that could possibly be not enough.
Research assistant salary	£1800	£2100	+£300	We gave contract for the data monitors for the whole year data collection.
Accommodation	£300	£569	+£269	We rented three rooms and stores, for stationing the field data collectors due to the COVID -19 travelling restriction at the beginning of the project.
Field research equipment (12 Camera traps)	£1400	£1400		
Seminars and night projection	£340		-£340	This money was used for other activities including adding to insurance and house rents
TOTAL	£5956	£5958	+£2	

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

It is important to continue the project in Rungwe Forest Nature Reserve. We need to ensure there is an inclusion and harmonisation between the data we collect and the decision to be made. The management needs a harmonised recommendation and if possible, gaps identified by using the already biologists and ecologists working in the ecosystem. Communities and students deserve a right to know the value of the resources surrounding them.

During the project, we realised that there are different studies conducted in the forest but are not shared among the scientist or everyone is working for his/her project well. Hence, the results obtained, and suggestions made have no influence in the decision towards conservation of the forest. We want to involve all people in the ecosystem and the management to share what we already have and create a decision curve from researchers, communities and management inclusively.

We also identified that expanding school programmes and providing communities with environmental education makes them know the value of the resources they have and the value of the studied conducted in their forests.

10. 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?

Yes, The Rufford Foundation had received publicity during my project work. The logo was used on all documents submitted to the institutions and during the presentations.

On the publications we acknowledge the support of the Rufford Foundation. In all the presentations we used the Rufford logo. Meanwhile, we are finalising a manuscript from the project. This will soon be submitted to popular conservation journals. All scientific publications that we bring out in the future will acknowledge the Rufford Foundation's contribution.

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

Name	Role
Mr. Philipo Jacob Mtwewe	Principal Investigator (PI), Ph.D. student, ATREE
Dr. Joyce Ndalilo	Co-Principal I Investigator, Senior Fellow at WeGrow and supervisor.
Mr. John Andekile	Research Assistants (RA).
Mr. Athman Idd	Research Assistant
Mr. Joseph Mligo	Research Assistant

12. Any other comments?

We acknowledge The Rufford Foundation generosity that has given us an opportunity to meet other scientists. It is through your beautiful fund I have been offered an opportunity to do a PhD. It has offered us an opportunity to visit some schools and realise there is great need to provide environmental education to the young generations around these biodiversity areas.

Our recommendation is we would like to get the second phase so that we create an environment for the next groups to invest in environmental education through schools and communities. Also, we would recommend the Rufford Foundation to make sure they make people who are working in the same ecosystem and if possible, in the same country to form a group and share the results. This will expand the Rufford family and make them one and be fruitful in contributing to nature. We hope you will not give up helping the young scientist grow in science.