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	KAMGANG Serge Alexis
Project title	Effects of habitat variation on the density of chimpanzee (*Pan troglodytes ellioti*) in Mbam and Djerem National Park in Cameroon
RSG reference	20258-2
Reporting period	29/07/2016 – 29/07/2017
Amount of grant	£5000
Your email address	sergekamgang@gmail.com
Date of this report	08/07/2017

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
Vegetation cover: useful to the conservation team to master the ecology of chimpanzee				Data on vegetation cover has been collected, analysed and satellite imagery processing completed.
Habitat suitability for Chimpanzee: help to organise and orientate the conservation efforts to a known area				Suitable habitat need to be confirm with the distribution map of chimpanzee made from data of dry season. We didn't complete this activity because priority was given to the chimpanzee nest decay rate study.
Nest decay rate study: important for a reliable estimate of the chimpanzee density (need to convert nest density into chimpanzee density				This was the first time to assess the nest chimpanzee nest decay rate in Mbam and Djerem National Park. We are about to complete the data analysis
Feeding behaviour: necessary to provide relevant monitoring activities for each chimpanzee community or group				Results we have now on feeding habit of chimpanzee are partial (wet season). Data of dry season will be necessary to measure the influence of season on the feeding behaviour of chimpanzee.
Chimpanzee monitoring				Suitable habitat need to be characterised (dry season) and chimpanzee community structure defined before designing sustainable monitoring activities.
Proposed strategy: to improve the management plan of chimpanzee in Mbam and Djerem National Park				Depend on the full findings of the project (in progress)

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

During the implementation of the project, there was a train accident which had damaged the railway and we were unable to travel from Garoua to the field site by train as usual. Then we travelled by road for three days instead of two days travelling with train. We also faced a boat driver problem since one of the guy driving the boat was sick. To afford this issue, one of our field assistant adapted himself into boat driver assistant and helped the team to get out from the field through the river Djerem (the only way to access easily the core area of the Mbam and Djerem National Park).

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

First of all the present study helped to confirm the effect of habitat variation on the density of chimpanzees. We found that chimpanzees in the core zone of Mbam and Djerem National park prefer mostly gallery and colonising forests. Although chimpanzee group size in the forest-savannah (ecotone) habitat is relatively larger compared to the dense forest habitat.

Secondly, habitat suitability of chimpanzee is already known in the Mbam and Djerem National Park given the distribution map made from our data of wet season (even we still need to confirm this result using data of dry season). The habitat type has been assessed form both field work (with a botanist) and from satellite imagery.

Thirdly, the chimpanzee nest decay rate (average time interval in day for which a chimpanzee fresh nest need to be completely decayed) has been assessed and will help to estimate the accurate density of chimpanzee in the study area.

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

In the course of this project, we always spent some time (3 to 5 days) in Mbakaou, a village were we have to employ local guides (and train them if necessary) and boat drivers as well. We also depend on local restaurant for feeding during this time period. We purchased all the equipment to be used in the field, some medicine and meals in this village as to improve the income of local communities.

5. Are there any plans to continue this work?

Since this project is conducted for my PhD research, I am currently in the second year (of 3 years) and more data are needed to achieve the main objectives (nest decay rate assessment has been implemented in 2016 and survey of dry season is planned for the last term of 2017) as well as the monitoring of chimpanzee in suitable habitats. As we have to confirm the suitable habitat for chimpanzee using data from dry season as well.

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

To share the results of my work with others, our first manuscript has been submitted in BMC Ecology journal for revision. We presented some of our research findings during the Master days in Oxford (UK) and an abstract has been accepted for presentation at the Student Conference on Conservation Sciences in New York (USA) last year. Another abstract has been accepted for presentation at the International Conference in Conservation Biology at Cartagena (Colombia) this month. As teacher in Garoua Wildlife School, I am sharing my results with students coming from various African countries and with researchers from other institutions as well.

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

We used the Rufford Small Grant Foundation between December 2016 and July 2017. This was the second phase of data collection in the field (2nd year of the project).

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
Transport	200	325	-125	Our return travel from Garoua to the study site was made by road (3 days) and it was more expensive compared to the train (2 days). We were unable to use the train because of railway problem during the period of our study. I also paid the local travel for an intern masters student (Carme Tuneu from the University of Barcelona in Spain) to Mbam and Djerem.
Field material	1000	1450	-470	Extra material have been purchased especially painting brush, binoculars, diluent and compass.
Fresh ground of staff	3565	3095	+470	The local conservation unit supported us with batteries and some meals like sardines and beans.
Communication	235	110	+125	We bought internet USB key (monthly paid) and use social media for communication which is cheaper instead of using credit card for phone call.
Total	5000	5000	0	

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

The important next step currently, is to complete the revision of the first manuscript (*effect of habitat variation on chimpanzee density*) we have drafted and submitted to BMC Ecology journal, complete the nest decay rate analysis and draft our second manuscript. In dry season, we will also implement the chimpanzee survey in order to assess and complete the habitat suitability of chimpanzee. Habitat characterisation as well as chimpanzee community structure in Mbam and Djerem National Park will be studied for a better planning of monitoring activities. Beside all the above, we have to write and defend our thesis by Jun 2019.

10. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did the RSGF receive any publicity during the course of your work?

The Rufford Foundation logo has been used in all the presentation made in relation to this project. In 2016, during my presentation in Bristol zoo, and during the master day in Oxford University (WILDCRU, Department of Zoology) I mentioned Rufford Foundation as the main donor of this project. The Rufford Foundation was also used in my poster presented during the Student Conference in Conservation Science in Cambridge, UK and in New York, USA in 2016. Even for the International Conference in Conservation Biology that will be held in Cartagena, Colombia this month, the Rufford Foundation logo will be used on my communication which the abstract has been accepted. Rufford Foundation was also acknowledged in my presentation for the doctoral seminar in Benin this month (July 5th 2017; University of Abomey-Calavi) and in our first manuscript currently submitted for revision by BMC Ecology journal as well. Field pictures have been sent to RSGF for publicity in 2016 and early in 2017. Other pictures have been sent again with the present report.

11. Any other comments?

This project has been never implemented without the wonderful support of Rufford Foundation. Therefore I thank the Rufford Foundation and am committed to complete this research in order to obtain my PhD degree and contribute to the conservation of biodiversity in the tropical hotspots.