

## Final Project Evaluation Report

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Your Details	
<b>Full Name</b>	Serge Alexis Kamgang
<b>Project Title</b>	Characterization of the nesting and feeding sites of Nigeria-Cameroon chimpanzee ( <i>Pan troglodytes ellioti</i> , Matschie 1914) in Mbam and Djerem National Park: implications for population monitoring
<b>Application ID</b>	23788_B
<b>Grant Amount</b>	£10,000
<b>Email Address</b>	sergekamgang@gmail.com
<b>Date of this Report</b>	November 2018

**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
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. The report is being included as chapter for the thesis
Characterization of nesting and feeding site of chimpanzee				Botanical data as well as feeding and nesting signs were collected and are being assessed. This will be the last chapter of the thesis
Habitat suitability for Chimpanzee: help to organise and orientate the conservation efforts to a known area				Suitable habitat (dry season) has been confirmed using distribution map of chimpanzee and satellite imagery.
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 chimpanzee nest decay rate in Mbam-Djerem National Park. Data analysis was completed and a manuscript was submitted to the Journal Primates for publication
Chimpanzee survey: To determine the chimpanzee population abundance and distribution				Paper was published in BMC Ecology review.
Relationship between people and chimpanzee: to determine the type of interactions and their effect on conservation in order to take management decision				Paper was completed and submitted for review in Biodiversity and Conservation
Follow-up of environmental drivers affecting the chimpanzees nesting and feeding site				Ecoguards were trained to gathered field data using Cybertraker, GPS and how to use GIS tool to proceed summary analysis. They still have to be trained on the use of camera trap
Chimpanzee monitoring				Suitable habitat has be characterised (dry season) and chimpanzee

			community structure (is not yet completed). This is useful to update the monitoring activities and effort.
<i>Proposed strategy: to improve the management plan of chimpanzee in Mbam-Djerem National Park</i>			Depends on the full findings of the project (in progress) and will be completed soon. However preliminary findings showed that local community-based involvement and initiatives should be a key component of the strategy to be suggested.

**2. Please explain any unforeseen difficulties that arose during the project and how these were tackled.**

During the implementation of this project, I really improved my problem-solving skill since several odd circumstances occurred when planning and preparing the field activities. For example, in Mbakaou village, after designing the two teams, two members of one team took their advance payment and travel to a small town called Tibati (c. 45 km) for party. They were expecting to come back in the early morning before the departure to the field. Unfortunately, there was no car to bring them back. So we were obliged to find two other guys in the village to complete the team in order to respect our work schedule. As soon as we came back from the field the two former members were unable to fund back the payment and I decided to include them to the next field activity upon they have apologised.

Another circumstance occurred in the field. We faced difficulties getting access to some plots where there was no river or stream. Whole the team needed to cut some roots and liana to get water for drinking and cooking. After finishing the work, the boat drivers were assumed to wait for the team at a particular location along the Djerem River. But unfortunately they arrived 2 days later. And staying in the field without sufficient food and drinks was too difficult although we fished and drank the Djerem River while waiting.

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

- a) The project helped to confirm the suitable habitat for chimpanzee during dry season using distribution map of chimpanzee and satellite images. This is useful in planning and preparing patrol activities over the Mbam-Djerem National Park.
- b) The environmental drivers affecting the chimpanzees nesting and feeding site in the core area of Mbam-Djerem National Park were assessed. These environmental drivers will be follow-up by ecoguards who have been trained on the use of Cybertraker, GPS and how to use GIS tool to proceed summary analysis.
- c) One paper has been published in the review BMC Ecology (chimpanzee survey) while two other are following the revision process in the review

“Primate” (Nest decay time assessment) and “Biodiversity and Conservation” (Relationship between local people and chimpanzee).

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

In the course of this project, we always spent some time (3-5 days) in Mbakaou, a village where 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 material to be used in the field, some medicine and meals in this village as to improve the income of local communities. For this particular activity, local guides were also employed from other villages like Yoko, Senbe and Bintom in the south, west and east sectors respectively.

**5. Are there any plans to continue this work?**

Since this project is conducted for my PhD research, I am currently in the last year and data needed to complete the dissertation were all collected. However, the monitoring of chimpanzee in suitable habitats is a long term activity and it is important to confirm the suitable habitat for chimpanzee using data from a permanent patrol system.

After completing my graduation, I will continue working with government, local and international NGOs, and community to improve the conservation of the chimpanzee, currently suffering from insufficient information about the status, distribution and threats. Our research findings showed that this situation is exacerbated by underdeveloped and underutilised local capacity to monitor chimpanzees. We envisaged address these issue by:

- I. Building capacity of rangers and some teachers to provide conservation education in schools (primary and secondary) found around the Mbam-Djerem National Park.
- II. Continuing chimpanzee monitoring in suitable habitat of the park.
- III. Updating and expanding training opportunities and education opportunities for Garoua Wildlife School students from different African countries.
- IV. And structuring « BEDD » (*Biodiversité-Environnement et Développement Durable*), a local NGO in order to ensure sustainable sources of income and develop community based activities with regards to conservation and research;

The community based activities will help engage and inform local communities about our ongoing research and conservation activities while discovering the point of chimpanzee and human interactions. We will select villages around the park and create awareness on chimpanzee perceptions and biodiversity conservation, the use of innovative tools (GPS, compass, camera traps, CyberTracker...) for wildlife monitoring. We will also lead community discussions about wildlife in the protected areas and how local people can best interact with wildlife.

**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 “*The relationship between the abundance of the Nigeria-Cameroon chimpanzee (Pan troglodytes ellioti) and its habitat: A conservation concern in Mbam-Djerem National Park, Cameroon*” has been published in BMC Ecology journal. The second manuscript submitted for review in Biodiversity and Conservation journal is entitled “*People and chimpanzee interactions in Mbam-Djerem National Park, Cameroon*”. And the third manuscript submitted in Primates Journal is entitled “*Chimpanzee (Pan troglodytes ellioti, Matschie 1914) nest decay rate in the Mbam-Djerem National Park, Cameroon: Implication for a long-term monitoring*”.

Early this year, I attended the third edition of the International Workshop on Global Research Challenges in Science and Engineering in Benin, where I have been awarded the best project presentation. We presented some of our research findings during the International Primatological Society (IPS) Symposium in Nairobi, Kenya, the African Forest Policies and Politics (AFORPOLIS I) international conference in Yaoundé, Cameroon (appendices) and an abstract has been accepted for presentation at the Student Conference on Conservation Sciences in Cambridge (UK) for March 2019 year (I 'm still looking for travel grant). 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 grant used? How does this compare to the anticipated or actual length of the project?**

The grant was used within 1 year (November 2017- November 2018) which was the allowable time for this project. Compare to the actual length of the project, we are on time although medium and long term project will be develop upon the completion of our PhD research programme.

**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
Lodging in the study site	475	450	+25	In Mbakaou housing was much cheaper compare to other site like Yoko and Tibati.
Fuel and maintenance of the power boat	630	675	- 45	Instead of fuel, oil for engine and rope were also purchased to attach the boat and

				measure plots when on the field.
Fresh ground of researchers	3,465	3,450	+15	The local conservation unit supported us sometimes with some meals like sardines and beans. Although researcher have to satisfy all their needs.
Communication	380	370	+10	We bought one more internet USB key (monthly paid) for the field team assistant living in Mbakaou for permanent communication with me and combine social media and calls for communication.
Subsistence	1,360	1,400	- 40	Two team were designed and each spent more time than expected on the field.
Transport	690	670	+20	An initial trip in Benin and three round trip to the field (Garoua-MDNP-Garoua) have been done.
Field equipment	3,000	2,985	+15	We bought equipment (measuring tape, tent and two mattress and ten headlamp...) and other field small material (compass, clinometer, batteries, and plastic bag). Most of these were bought from the local market.
Total	10,000	10,000	0	All the money was spent and the local conservation unit provided us some facilities like kitchen and office during our stay in Mbakaou.

\*Exchange rate: 1 Pound Sterling = 719.765 XAF

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

The important next steps currently, are to complete the revision of the two other manuscripts submitted for review, complete the dissertation and defend the thesis. Upon completing the thesis, secure more funding to do more research on *Pan troglodytes ellioti* in Mbam-Djerem National Park, as stated in the Regional Action Plan for the conservation of Nigeria-Cameroon chimpanzees, published in 2011 by the IUCN. Now it is known chimpanzees are still occurring in the region, it is essential to study them in order to know how to protect them better. Multi-season survey will be important to assess and complete the habitat suitability of chimpanzee. Community-based involvement, habitat characterization as well as chimpanzee community structure in Mbam-Djerem National Park will be studied in order to inform adequate and efficient chimpanzee conservation strategies.

**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?**

The Rufford Foundation logo has been used in all the presentation made in relation to this project. In 2018, during my presentation in Kenya, and during the workshop and doctorate seminar in Benin, I mentioned Rufford Foundation as the main donor of this project. The Rufford Foundation was also used in my Poster presented during the AFORPOLIS I conference in Yaoundé, Cameroon. Even for the next Student Conference on Conservation science in Cambridge (UK) in March 2019, the Rufford Foundation logo will be used on my communication which the abstract has been accepted. Rufford Foundation was also acknowledged in the paper published in BMC Ecology as well as in those following the revision process actually. Field pictures have been sent to RSGF for publicity. Other pictures have been sent again with the present report.

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

<b>Given Name and surname</b>	<b>Role in the project</b>
Ambahe Ruffin Dupleix Delarue	Lead field operations and floristic inventory
Ambassa Ongono Edgar Desiré	Ecoguard, field Assistant
Passi Charles	Ecoguard, field assistant
Nga Ovali Nicolas	Ecoguard, field assistant
Laura Meterreau	Student/intern from Montpellier, France
Mout Janvier	GPS and rangefinder operator
Abbo Pierre	Measuring tape operator
Nga Okali Geraldin	Compass/ clinometer operator
Ngede Prosper	Local guide
Missa jacques	Local guide
Dirsa Andre	Paddler
Ali Tertulin	Paddler
Danladi Thomas	paddler
Tom Richard	Paddler
Pitan Valentin	Paddler
Etah Lucas	Paddler
Syno	Cook
Sadou Jean Bosco	Cook
Poru Garba	Porter
Selbe Ghislain	Porter
Poru Thomas	Porter
Doko Moussa	Porter

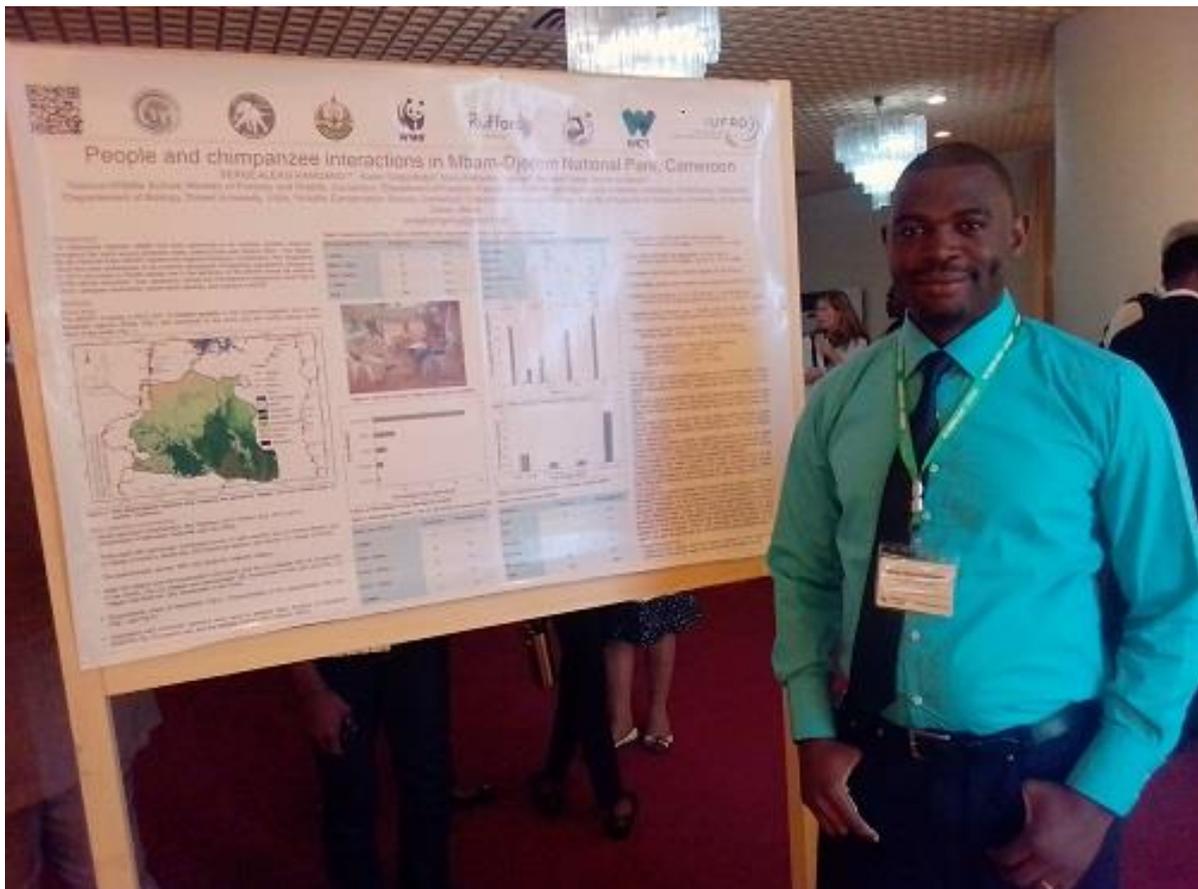
**12. Any other comments?**

The Rufford Foundation helped achieving my dream of not only studying the Cameroonian wildlife but also being part of the conservation biologists' panel in my country. For that, I will be forever grateful, for having trusted on me. I now feel like I

am exactly where I wanted to be since I was in the primary school, writing and implementing projects that actually matter as well as doing things for both the wildlife, and the local communities living around tropical hotspots.



Left: Field assistants measuring tree height during chimpanzee suitable habitat characterization. ©Serge Kamgang, 2018. Right: Serge A. Kamgang (right), assisted by Abbo (trained guide) registering data on environmental variables driven chimpanzee nesting choice in the field. ©Missa 2018.



Serge A. Kamgang, presenting his poster at the AFORPOLIS IUFRO conference. © Y. Zoobo, 2018

APPENDICES

The  
International  
Primatological  
Society



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Vice President for  
Research

July 11, 2018

Alexis Serge Kamgang  
Garoua Wildlife School  
PO Box 271  
Garoua, Cameroon

Dear Alexis Serge Kamgang,

On behalf of the International Primatological Society (IPS), I would like to congratulate you on the acceptance of your abstract "CHIMPANZEE ABUNDANCE ALONG ECOLOGICAL GRADIENTS IN MBAM AND DJEREM NATIONAL PARK" for inclusion in the program of the XXVIIth Congress of the IPS as an oral presentation. As you know, the IPS Congress is taking place between August 19 and 25, 2018 at the United Nations complex in Nairobi, Kenya. Since your abstract has been selected for inclusion in the program, this letter will serve as your **official invitation** to travel to Kenya for the IPS Congress (Aug. 19-25, 2018). Please have this letter with you at all times as you plan and implement your trip. If you are required to present this letter to officials of your institution or government, please do so at your earliest convenience.

Please note that this invitation implies NO commitment of financial support for your travel or participation in the Congress.

I will be happy to provide you with additional assistance if you require it. Please do not hesitate to contact me if you have any questions. I look forward to seeing you in Nairobi.

Best regards,



Steven J. Schapiro, Ph.D.  
Treasurer and VP for Membership  
International Primatological Society  
[sschapir@mdanderson.org](mailto:sschapir@mdanderson.org)

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DSCHANG, **08 AOUT 2018**

**THE RECTOR**

**To Mr. Serge Alexis Kamgang  
(Cameroon)**

**Subject: invitation letter to attend the first international IUFRO conference "Forest policies & politics" (AFORPOLIS 1), in Yaoundé - from 24 to 27 September 2018**

We are very happy to invite you to attend the first International Social Sciences Conference "African Forest-Related Policies and Politics" (AFORPOLIS 1) to be held at Mont Fébé hotel in Yaoundé, Cameroon from the 24<sup>th</sup> to the 27<sup>th</sup> of September 2018.

Your proposed abstract entitled "*Interactions between people and chimpanzee (Pan troglodytes ellioti Matschie 1914) in the Mbam and Djerem National Park, Cameroon*" has been accepted for a poster presentation.

The conference AFORPOLIS 1 is organized in cooperation with the University of Göttingen in Germany and the IUFRO (International Union of Forest Research Organisations). The conference benefits from a substantial support of the Center for International Forestry Research (CIFOR) and the Center for International Development and Training (CIDT/ University of Wolverhampton). AFORPOLIS conference series will seek to advance cutting-edge knowledge on the emergence and evolution of African forest governance.

Please, kindly note that the conference programme and information concerning the concurrent session of your presentation will be communicated to you as soon as possible. This programme will include information on conference keynote speakers, scientific sessions and side-events, accommodation options and other in-country information.

Should you have further apprehensions about the 1<sup>st</sup> International conference AFORPOLIS 1, please do not hesitate to contact the Conference Organizing Committee: [iufroyaounde2018@gwdg.de](mailto:iufroyaounde2018@gwdg.de)

We look forward to meeting you in Yaoundé - Cameroon in September 2018 at the first international IUFRO Social Sciences Conference on African forest governance and related issues.

Sincerely yours,

  
**Prof. Roger TSAFACK NANFOSSO**