

## Final Evaluation Report

---

Your Details	
<b>Full Name</b>	Serge Alexis Kamgang
<b>Project Title</b>	Enhancing the protection of chimpanzee ( <i>Pan troglodytes ellioti</i> ) and sympatric mammals using automatic acoustic recorders in Mbam-Djerem National Park, Cameroon
<b>Application ID</b>	29918-D
<b>Date of this Report</b>	April, 2022

**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
Assessment of chimpanzee status				The chimpanzee's status is known in the core area of the Mbam-Djerem National Park using a line transect techniques from our previous studies. However, a method combining a camera trap array protocol and passive acoustic monitoring is advisable to accurately determine the chimpanzee abundance in the study area. We will be using data from acoustic devices to achieve this aim.
Assessment of sympatric mammals' diversity				With line transects, we were not able to assess all other species sharing habitat with chimpanzees. Species diversity is therefore being assessed using data from camera traps and acoustic devices that will bring more insights for the assessment of sympatric mammal diversity in the Mbam-Djerem National Park.
the monitoring of human activity in the core area of the MDNP				Human activities in the core area of the Mbam-Djerem National Park are known from line transects and routine patrols. However, with acoustic devices, the law enforcement will be improved and gun shots in the park characterised. This is not the case now because rangers are not equipped to perform a night patrol in the park.
the training of rangers and park staff on the use of PAM devices				More than 15 rangers were trained on the use of acoustic devices to monitor chimpanzees and sympatric mammals in the Mba-Djerem National Pak

**2. Describe the three most important outcomes of your project.**

**a).** More than 15 rangers from the Mbam-Djerem National Park were trained and can use the acoustic devices and camera traps to monitor chimpanzees and sympatric mammals in the park.

**b).** Chimpanzee status and human activities in Mbam-Djerem National Park are accurately assessed using novel techniques.

c). The effective management of chimpanzees and sympatric mammals is highly improved using the accurate techniques to assess species status in the suitable habitat of the Mbam-Djerem National Park.

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

The main difficulties encountered during this project are the non-compliance with the work schedule imposed by the Covid-19 pandemic and the unavailability of acoustic devices purchased in the United States. Indeed, the ban on entry into the National Parks in Cameroon because of Covid-19 has slowed down our trip to Mbam-Djeem (in 2020). In 2021, when the protocol to follow to access the park was developed, a new warden had been appointed to Mbam-Djerem National Park and it was necessary to wait for his installation and then explain the objectives of the project to him before moving on to the training. After contacting the new curator, we bought the acoustic sensors for the training and unfortunately still because of Covid-19 our supervisor could not travel with this equipment from the United States to Cameroon.

To circumvent these obstacles, we requested acoustic sensors from various colleagues in Cameroon with which we were able to carry out the training of eco-guards. And as soon as the purchased devices will arrive in Cameroon, we will just deploy them in the park for ecological monitoring.

### **4. Describe the involvement of local communities and how they have benefited from the project.**

For our entire project in Mbam-Djerem National Park, we always spent some time in Mbakaou, a small village in the north of the park, where we had to employ local guides (and train them if necessary) and boat drivers as well. We also depend on local restaurants for feeding during this time period. We purchased all the materials to be used in the field, some medicine, and meals in this village to improve the income of local communities. For this particular activity (training) local guides were not involved but they will during the deployment of acoustic devices in the field.

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

The monitoring of chimpanzee in suitable habitats in Mbam-Djerem National Park is a long-term activity and it is important to gather more data in order inform effective management of chimpanzees and sympatric mammal conservation.

A research station was implemented in the core area of the park during my PhD work and our research findings showed that insufficient information on biodiversity of the park is exacerbated by underdeveloped and underutilised local capacity to monitor chimpanzees and sympatric wildlife. We envisaged addressing these issues by:

- i) Continue 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 using acoustic devices which have been bought.
- iii) Expanding training opportunities and education opportunities for Garoua Wildlife School students from different African countries.
- iv) Continue 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.

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?**

This work is aligned within the framework of our research in Mbam-Djerem National Park. To share the results many papers have been published including “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” BMC Ecology journal; People and chimpanzee interactions in Mbam-Djerem National Park, Cameroon” journal of tropical conservation; and, “Chimpanzee (*Pan troglodytes ellioti*, Matschie 1914) nest decay rate in the Mbam-Djerem National Park, Cameroon: Implication for a long-term monitoring” in Primates Journal.

Presenting at seminars and updating my lecture in Garoua Wildlife College are also opportunities to share our results with scientific community and students. We also envisage presenting our result during the first Africa Protected area Congress in Kigali, Rwanda this year.

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

The important next steps currently, are to deploy the acoustic devices in the field, gather and analyse data, and write a manuscript for publication in peer review journal. A poster will also be prepared for the first Africa Protected Area Congress in Kigali, Rwanda this year.

Upon completing this project, we will continue to 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 IUCN. Now it is known chimpanzees are still occurring in the region, it is essential to study them to know how to better protect them. Multi-season survey will be important to assess and complete the habitat suitability of chimpanzee.

**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?**

The Rufford Foundation logo has been used in all the presentations made in relation to this project. The Rufford Foundation logo will also be used in my poster being prepared for the first Africa Protected Area Congress scheduled in July 2022 at Kigali, Rwanda. Rufford Foundation will be acknowledged in the paper which will be published in peer review journal. Field pictures have been sent to RF for publicity. Other pictures have been sent again with the present report.

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

<b>Given Name and surname</b>	<b>Role in the project</b>
Nguimkeng Francis	Lead field operations
Ambahe Ruffin Dupleix Delarue	Research Assistant
Wanmetching Tari Justin	Ecoguard, field assistant
Kahma China	Ecoguard, field assistant
Fakhita Abdoul Wahabou	Student/intern from Maroua, Cameroon
Neba Estherbel	Student/intern from Dschang, Cameroon
Djonra Senghor	Ecoguard, Team leader
Tchedele Didier	Ecoguard, Team leader
Peter Ngwane Metuge	Compass/ GPS
Ngede Prosper	Local guide
Etha Lucas	Local guide
Tom Richard	Paddler
Doko Moussa	Paddler
Selbe Ghislain	Paddler
Pitan Valentin	Paddler

**10. 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.