Final Evaluation Report

Your Details	
Full Name	Neba Estherbel Bih
Project Title	Acoustic Monitoring in the Yoko Landscape to determine Chimpanzee status
Application ID	40688-1
Date of this Report	06 February 2025

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 Chimpanzee abundance in the Yoko Council Forest				We recorded Chimpanzee vocalisations across the wet and dry seasons and realised that chimpanzee vocalizations were highest in the rainy season and more recurrent towards the north west of the council forest. This provides an overview of the seasonal variation in chimpanzee calling behaviour in the study area. Although the project has successfully come to an end, some parameter estimates such as call rate, detection probability, required for abundance estimate are still being refined. This is promising as we are working in collaboration with acoustic experts from K. Lisa Yang Centre for Conservation Bioacoustics, Cornell university, USA.
To determine the sympatric mammals' (large and medium-sized), diversity in the Yoko Council Forest				With the data from ground survey (reconnaissance walks) and the acoustic surveys, sympatric mammal (large and medium sized) diversity was determined. A high diversity index of 0.84 was obtained, which is reflective of the rich biodiversity of this ecotone area.
To identify the potential anthropogenic pressures on				While gun hunting was recorded by the acoustic devices, hunting with snares was recorded during reconnaissance walks. In addition

Chimpanzees and other sympatric mammals in the Yoko Council Forest				to hunting, other human activities such as fishing and logging were also recorded.

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

a). From this yearlong study, we have an overview of trends in Chimpanzee vocalizations, when and where chimpanzee vocalisations are most recurrent in the study area. Furthermore, this survey, has developed an acoustic data bank which will serve as a baseline for acoustic monitoring, especially of chimpanzees in Cameroon and beyond. We realized that chimpanzee vocalizations were highest in the rainy season, in the month of October, and more recurrent around the North West of the Council Forest.

b). By highlighting where and when human activities, especially gun hunting activities are most predominant, this study significantly contributes to the improvement of anti-poaching measures. We realised gunshot activities are highest in the dry season during the months of January and March and most recurrent around units 1, 7 and 8 located towards the north eastern part of the Council Forest.

c). Community members and representatives from the municipality were actively involved throughout the project implementation during which they were trained on techniques in setting, installing, retrieving and maintaining acoustic devices. This is salient for continued community conservation efforts. These members were selected in a rotatory manner so as to maximise the number of community members who partake in and benefit from the project

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

In the course of the project implementation, two devices were damaged due to difficult field conditions (humidity, rusting, and termite infestation). To limit damage of more devices, during each field mission, all devices were thoroughly cleaned, dried

with cotton and metal springs lubricated with a suitable calcium grease. This was effective in maintaining device health.

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

We worked hand-in-hand with the Village Forest Management Committee (VFMC) who are responsible for monitoring and surveying the council forest, as well as sensitising other villagers. Also, the local community members were actively involved in project implementation, working as local guides during field missions. During this time, they gain skills in setting, installation, retrieval and maintenance of acoustic devices. With the results from this study, the VFMC can effectively plan their patrols.

5. Are there any plans to continue this work?

We plan to study Chimpanzee vocalisations to understand social structures, territorial behaviour and responses to threats. Here we would analyse chimpanzee vocalisation patterns to identify group size, interactions and stress signals. We would correlate acoustic data with environmental factors like food availability or human activity. This would generate new insights to chimpanzee ecology and behaviour.

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

The project has been defended in front of an academic jury, hard copies and soft copies have been deposited in the school library and web site respectively. Post project (restitution) meetings were held with stakeholders to share project results. Furthermore, findings shall be presented at national and international conferences. Finally, findings shall be published in peer reviewed journals. Also, project findings will be included in the biomonitoring plan for the council forest.

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

- Proceed with collaboration with the Cornell University in view of estimating chimpanzee abundance from the acoustic data collected.
- Publish results in peer reviewed journals (a manuscript is being processed), present findings locally, nationally and internationally through conferences)

- Develop partnerships with other organisations and researchers for broader ecological studies
- Organise workshops or trainings to include local communities in long term conservation efforts
- Equip local teams, civil society personnel, government officials with tools and skills for continued monitoring, as well as expansion of acoustic monitoring for wildlife conservation to different sites and for different species.
- Purchase more Swift recorders to increase site coverage and provide greater representability of sample size.

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?

Yes, the Rufford logo was used during the presentation (PowerPoint) made at the 1st international Conference on GEOTECH4NATURE held in Douala Cameroon. The Rufford logo has also been used on project reports. In addition to these, The Rufford logo will also be used in subsequent national and international conferences where the findings of this project will be presented. The Rufford foundation will also be acknowledged in publications to be made in peer reviewed journals.

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

Neba Estherbel Bih (Project leader): Was in charge of coordinating all project activities

Iris Kirsten: Served as project adviser

Serge Alexis Kamgang: Served as project adviser

Mbri Eugene (Project assistant): Assisted the project leader in planning and executing field missions (installing and monitoring Swift recorders)

Billong Raissa (Project assistant): Assisted the project leader in planning and executing field missions (installing and monitoring Swift recorders)

Local guides (community members, Village Forest Management Committee members, representatives from the municipality): They served as porters, assisted in

identification of wildlife presence indices during reconnaissance walks as well as opening paths for team advancement during field missions.

10. Any other comments?

We remain grateful to The Rufford Foundation for this grant that has not only permitted us to apply an innovative, non-invasive approach in biomonitoring, but also gain field experience. We also acknowledge the support of all stakeholders for all their multifaceted support which was instrumental in the attainment of project results.