Final Evaluation Report

Your Details	
Full Name	Alain Delon Mouafo Takoune
Project Title	Scaling up giant pangolin (*Smutsia gigantea*) conservation through research and local community engagement in a forest/savannah mosaic area of Cameroon
Application ID	38274-1
Date of this Report	12/01/2024

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
Quantify the level of pangolin offtake and hunting rates, fate of carcasses (consumed and/or sold) and trapping methods used by local communities within 5 randomly selected villages to guide the development of a sustainable use plan for the site				The initial objective was split into two sub-objectives: • To assess local knowledge, hunting techniques and use of wildlife by local communities in 18 villages • To quantify the level of bushmeat offtake (with a focus on pangolins) and harvest rates, fate of carcasses (consumed and/or sold), and species-specific hunting techniques used by local communities to guide the development of a sustainable use plan for the site in four villages This splitting was a consequence of getting additional funding which permitted to the team to upscale the work. Also, given the level of awareness of the local community about the protection status of pangolins we noticed it would be hard to quantify the level of pangolin offtake, that's why we widened the activity to bushmeat in general.
Determine a) relative abundance indices of GP using line transects and camera traps following disturbances (in and around the park) and habitat types (forest, savannah, ecotone) gradients as well as environmental variables affecting these				

indices, and b) test the efficiency of LTDS and burrow occupancy rates in estimating GP density				
Develop community-based activities to raise awareness on pangolins and restore their degraded habitats to promote their long-term conservation.				

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

a) For the first time, a study around Mbam et Djerem National Park focused on estimating the quantity of wild meat and their origins that is consumed daily in 54 households covering four villages. Though the statistical analyses are still ongoing, we noticed this quantity to be relatively high, with duikers being highly hunted, representing more than 50% of wild meat consumed by household, sometimes topping 2-5 kg of bushmeat per household depending on its size. We also recorded many species of conservation concern being hunted like buffaloes, red river hogs, Buffon kob and Defassa kob and warthog being occasionally hunted. Deep statistical analyses will give more insights about bushmeat consumption at the level of households.

b) Instead of the initially planned 1,000 saplings to be planted in degraded habitat of giant pangolins, at least 4,000 saplings of both ecological and economic values were distributed to local communities in order to be planted in their respective farms. This was made possible thanks to the additional funding from the Mohamed Bin Zayed Species Conservation Fund. This was a very interesting activity as local communities were responsible for running their nurseries (two globally instead of one planned), while learning from our team. As a result, many people are now running their own small nursery.

c) For the first time in the southern antenna of Mbam et Djerem National Park, a whole week dedicated to pangolins was held, with many sensitisation activities being carried out by our team. A debate was organised at Radio Pagnere FM in Tibati discussing questions about pangolin conservation at local, national and international levels, awareness raising by pupils belonging to pangolin clubs that were created by our team in schools of Yoko and Mégang. The team celebrated the World Pangolin Day in Yoko city council hall with representatives of target villages and administrative authorities present. This was the first of his kind and we hope to do as such every year.

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

- The malfunction of certain cameras would be due to the device not adapting to humidity, especially for those installed in swamps. This was overcome by wisely selecting camera trap stations and integrating silica gel in the camera trap units.

- Difficult terrain due to the rainy season: in order to meet the deadline, we had to deal with this situation, sometimes spending twice the time required to reach a location.

- Unexpected and unusual presence of elephants in the area. To overcome this, we had to wait until elephants have moved to schedule the field work, which has as consequence to lengthen the timeframe of the project.

- The disappearance of certain cameras which were stolen or destroyed by poachers and elephants. This was overcome by taking time to hide the camera so that it would not be detected by poachers or elephants.

- Increase in prices due to global inflation: thanks to the additional funding we got from Mohamed Bin Zayed Species Conservation Fund, we were able to cope with this situation.

- The flooding of many rivers and streams in and around the park rendering navigation very difficult. This was overcome by delaying the last visit until the level of rivers was navigable, but also taking appropriate security measures when in the field, by for example selecting only experienced field guides.

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

Local communities were involved at every stage of the project from planning to execution of each activity in the field. Prior to carrying out each activity, local communities were consulted in advance to get their thoughts and adapt the activity accordingly. Local communities helped in selecting sites for nurseries establishment and running, they also guided the team in designing the survey design at the periphery of the park, and field guide were selected within adjacent communities to the data collection site.

As benefits, local communities gained the following:

- Income from serving as field guide during line transects and camera traps surveys.
- Knowledge of using tools such as camera traps, compass and GPS which could be useful for them in the future if they are to apply for a field guide position.
- Knowledge on laws protecting pangolins and other wildlife, and many conservation education tools such as booklets, t-shirts, flyers and brochures.
- Knowledge of how to run a tree nursery.
- Saplings of ecological and economic values were planted in their respective farms in order to restore the degraded habitat of giant pangolin.

5. Are there any plans to continue this work?

As this was just a preliminary work, we are planning to continue this work which is very essential to the conservation of giant pangolins at a moment where it is critical to involve local communities in every action that concerns conservation actions.

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

- At the level of local communities, we plan to subsequently organise meetings within communities where the study was carried out to present the outcomes of the whole project and discuss ways forward. This will be done by conceiving a very simplified form of our results in the form of a flyer or brochure that will be shared with local communities to make sure they understand what was going on during the project.
- To the conservation service, a detailed report of all the activities with relevant recommendations will be submitted, and during coordination meetings, if the occasion is given, we will also present all the results and recommendations, as well as the way forward.
- To the scientific community, we are planning as initially mentioned to publish at least three papers:

    - One on the local knowledge and use of wild meat, techniques used and trade dynamics.
    - One on the wild meat consumption at the level of households in surveyed villages.
    - One on the efficiency of line transects distance sampling in estimating density of giant pangolins as well as their abundance and distribution based online transects and camera traps.

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

- Continue to monitor giant pangolin within and around Mbam et Djerem National Park by increasing the number of transects.

- Extend the wild meat consumption study to other villages taking into account the distance of each village from the park.

- Apply species distribution modelling at the periphery of Mbam et Djerem National Park to identify suitable degraded habitats of giant pangolin in order to better focus restoration actions.

- Extend our education programme to other communities in order to widen the message on the plight of giant pangolins.

- Identify in collaboration with local communities' sustainable mitigation measures to wild meat consumption and co-design suitable alternative livelihoods activities on which to train them.

7. 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 was used on the following materials:

- Brochures are used to carry out sensitisation.
- Banners used during the Youth Day organised on 11th February 2023.
- Presentations done in communities.
- Presentation done during the World Pangolin Day in Yoko.
- Presentation done for our work in Democratic Republic of Congo during the Second International Conference on Congo Basin.
- All awareness materials are prepared for sensitisation in schools and during radio talks.

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

Names	Position	Location
MOUAFO TAKOUNE Alain Delon	Principal Investigator	Dschang
AGHAH Valery Binda	Advisor	Dschang
TEGEBONG Valorian	Field assistant for biomonitoring	Buéa
KENGNI Joseline	Field Assistant for questionnaire survey and biomonitoring	Douala
NTAIMA Malyse	Environmental Education Officer	Dschang
NFOR Brian	Assistant Education officer	Dschang
NGAPKET Stéphanie	Assistant Education officer	
SAKOUTOU Alphonse	Ecoguard and biomonitoring team member	Yoko
NJORWE Dieudonné	Ecoguard and biomonitoring team member	Yoko
SAMBA Janvier	Ecoguard and biomonitoring team member	Yoko
IYA Paul	Field guide	Mbakaou
ABALENA Fabrice	Field guide	Léna
NDORE Ghislain	Field guide	Ngoum
MBOOH Eric	Field guide	Ngoum

LEMKI Alain	Responsible of nursery in Ngoum	Ngoum
NGOKE Dorian	Responsible of the nursery in Mégang	Mégang

10. Any other comments?

On behalf of my team, I would like to really thank The Rufford Foundation for the generous funding provided to support our project. Your contribution is invaluable and greatly assisted us in achieving our goals. We are truly thankful for your belief in our work and the impact it would have. The funding received has enabled us to strengthen our giant pangolin conservation activities. We appreciate the trust you have placed in our team and the investment you have made in what we stand for. Your contribution has been invaluable, and we hope to continue our partnership in the future.

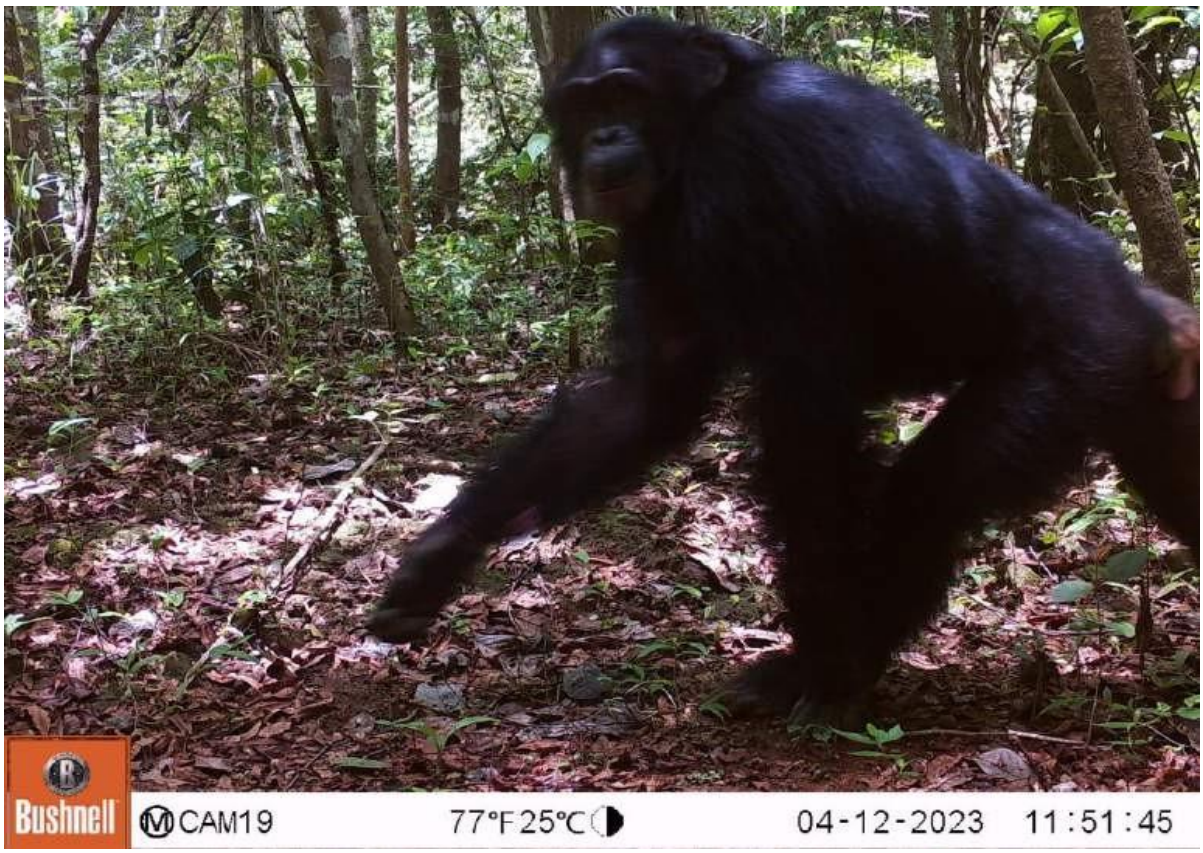
Appendices

Female interviewer collecting information in one of the target villages.

A participant in the bushmeat survey part 2 showing the assistance how to use the electronic balance scale.

Family picture in one of the target communities taking part in the bushmeat survey part 2.

Rangers affected the team collecting data in the field.



Female chimpanzee observed from our camera traps.

White-bellied pangolin observed from one of our cameras around the park.

Giant pangolin Smutsia gigantea observed in Mbam et Djerem National Park.

Nursery with saplings in Ngoum village.

Preparation of the nursery in Mégang.

Tree planting in Mégang.