

Final Evaluation Report

Your Details	
Full Name	Amos Fang Zeh
Project Title	Assessing the Population and Enhancing the Capacity of Peripheral Communities in the Conservation of Pangolin (<i>Manis spp</i>) in the Kimbi-Fungom National Park, Cameroon.
Application ID	2335-1
Grant Amount	£ 6000
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Date of this Report	30 th December 2021

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
Assessing the present population of pangolin in the park so effective protection and future increase in the number of pangolins in the park				Population assessment was successfully conducted, and we realised there is a good number of pangolin present in the national park. We used to transect survey, recce walk and opportunistical walk. We discovered three species of pangolins are present in the park: the ground giant pangolin (<i>Manis gigantean</i>), the white bellied pangolin (<i>Phataginus tricuspis</i>) and the black bellied pangolin (<i>Phatagimus tetradactyla</i>). These species are under serious threats from increasing human activities like snaring, using of guns and the use of dogs for the hunting and most importantly threats from bush fire and habitat degradation.
Creating awareness of 10 peripheral communities on the role and benefit of pangolin conservation, through a change in their consumption pattern				Having seen the threats faced by pangolins in the park, 10 peripheral communities were sensitised. Sensitisations went on hit free and the local people were very much optimistic about the conservation of pangolins. Sensitisation was conducted and the Muslim communities grazing at the periphery opted that they would remain ambassadors of pangolin conservation in the park as they do not consume bushmeat
Bush meat survey and market channel of pangolin products (smoked and scales)				Bushmeat survey went on successfully. We surveyed bushmeat through questionnaires, interviews and weekly observation in bushmeat markets in and around the park. A total of 292 pangolins besides other species were recorded including one Nigeria-Cameroon chimpanzee in the bushmeat market. But key informants told the research team that over 1000 pangolins are captured annually in the park. Despite the fact that respondents

				did not want to collaborate, the cost benefit analysis by the research team encouraged them to do so. We discovered that most of the bushmeat harvested is supplied to Nigerian towns in the Taraba state.
Enhancing the capacity of 10 Eco guards and 10 community field guides will help them to monitor hunting activities				The capacity of the 10 eco-guards and 10 community field guides was enhanced. There was total collaboration between the government and the residents of the park. The conservator was very collaborative with his eco-guards and the training went perfectly. Ten eco-guards and 10 community field guides were trained. The trained community field guides are continuously helping in the monitoring of off take of pangolins and also continue to sensitise the population of the conservation issues.

All the 15 blocks were successfully surveyed across the different seasons thanks to some additional funds (£1458) granted to us by a local NGO 'Save the People and Environment Foundation' (SPEF).

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

Firstly, training of eco-guards programmed to take place in the park did not happen due to the Anglophone crisis in the North-West Region of Cameroon. To solve this problem, we diverted the activity to the Limbe Botanical Garden, in the southwest of Cameroon. There was therefore an extra cost involved in transporting the eco-guards and providing lodging for them in Limbe. Despite the extra cost, we were optimistic that the training was very successful.

Secondly, some people were not collaborative in providing information about offtake and sales of pangolins to the Nigerian markets. They did not want to grant an interview with the team and also did not want to answer the questionnaires due to the fear that we were coming to deprive them from their God's given resources. To solve this problem, we have to engage in cost benefit analysis to everyone answering the questionnaires.

Weather conditions also affected the team. There was a harsh dry season between January and March 2021 and most of the streams in the savannah were heavily polluted with cow dung and dung of other wildlife in the park. This was compounded due to the fact that many streams had dried up and water was stagnant in many areas. The polluted water affected most of the research team because it was difficult to carry mineral water to the park.

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

Three most important outcome of this work was the encounter of over 80 pangolins

Firstly, we detected 43 signs of pangolins along transects, 34 during recce walk and 19 opportunistically. Six live pangolins we detected through recce walk and 15 live pangolins were detected opportunistically in the savanna ecosystem. Out of the 15 live pangolins detected opportunistically, nine were caught by bush fire and six detected around termite mounds. We also detected 34 pangolin snares in the forest. A majority of pangolin signs were detected in the woody savannah. We also detected other species and signs including the critically endangered Nigeria Cameroon chimpanzee (*Pan troglodytes ellioti*), olive baboons (*Papio anubis*), velvet monkeys (*Chlorocebus pygerythrus*), mona monkeys (*Cercopithecus mona*), putty nosed monkeys (*Cercopithecus nictitans*), patas monkey (*Erythrocebus patas*), bay duikers (*Cephalophus dorsalis*), blue duikers (*Philantomba monticola*), bushbuck (*Tragelaphus sylvaticus*), cane rat (*Thryonomys*), African civet (*Civettictis civetta*), African wild cat (*Felis lybica*), and Nile monitor lizards (*Varanus niloticus*). Most importantly, the African wild cat is not found in the database of wildlife in the park and therefore improves the database.

Secondly, the bushmeat survey in the market had a remarking outcome. We recorded 292 pangolins, both smoked and fresh, 417 cane rats, 133 blue duikers, 82 bay duikers, 343 porcupines, 16 African civets, nine African wild cats, nine bushbuck, 93 baboons, 82 white nose monkeys, 54 Mona monkeys, 15 Patas monkeys, 47 velvet monkeys, 89 rock hyrax, 15 ground giant squirrels, 57 mongooses, eight pythons, six monitor lizards, four tortoises, 27 red-legged squirrels and one Nigeria-Cameroon chimpanzee.

Thirdly, we recorded a series of threats to the survival of pangolins and other species in the park. A total of 16 threat types affecting pangolins were identified from anthropogenic activities in Kimbi Fungom National Park. These threats or anthropogenic factors are responsible for the drastically declining pangolin population. These threats were farms, logged wood, settlements, used cartridges, snares, grazing camps, gin traps, beehives, chainsaw sound, water drinking points, human paths, signs of collection of non-timber forest products (NTFPs), gun sounds and hunting dogs. The highest encountered threat was logged wood with 320 encountered. This was followed by the number of farms (170 encounters) and snares (102). The least was hunting dogs with nine encountered. The encounter rate of threats, n/km walked differed. The most encounter rate of threat was on logged wood 2.14/km walked. This was followed by farms 1.13km walked. The least threats encountered were gin trap (0.04).

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

The local population was very much involved in this project. They were involved through mobilisation and education during sensitisation campaigns. Ten villages were involved in sensitisation as they were mobilised in their different villages. They participated during the presentation of project results, and they agreed to help

conservation of endangered species especially pangolins and the critically endangered Nigeria-Cameroon chimpanzee. Ten locals from local communities were paid as field guides and received training on identification and ecological monitoring and on the use of research equipment like camera traps, compass and GPS. They were actively involved in the implementation of the pangolin survey and will continue to monitor and control the offtake of pangolins and other species in the park. The porters too were always taken from the communities and the entire field assistants were all from the communities. The livestock graziers around the peripheries of the park told the team that they are willing to be good ambassadors of pangolin conservation since they do not consume wildlife and are willing to work for the betterment of the park. This work funded by The Rufford Foundation has increased their knowledge on pangolin conservation.

5. Are there any plans to continue this work?

Yes. We have planned to continue the work given the need involved. In our next plan, we have earmarked the following:

1. To have a complete wildlife survey in the park.
2. Continue to monitor pangolins in the bushmeat market and improve training on alternative income generating activities.
3. Educate and sensitise the population on impact of on biodiversity of the park. This was identified as the greatest threats to pangolin survival in the savannah portion of the park
4. Study the ecology of the pangolin in the mixed ecosystem.
5. Study the dynamics of bush meat offtake and market channel in the park.
6. Assess and sensitise the population on the increasing fatal human-primate conflicts in the park

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

The results of this project will be shared through The Rufford Foundation website, publication in national newspapers, peer reviewed papers, report writing and media communication (TV and radio). An article is titled "An Assessment of Pangolin off-take and Market Channel in the Kimbi Fungom National Park is near completion and will be submitted for publication in February 2022.

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

The funds were used for the assessment of pangolin population and to enhance the capacity of peripheral communities. The grant was used for a period of 1 year from January to December 2021. Although it was not sufficient, some funding was secured from a local NGO (Save the People and Environment Foundation) working around the park to complete the work. The work was completed in time. The survey was achieved within the planned period as all members were actively involved in timely realisation of different objectives. There was the timely planning and designing of the research work and implementation following the prescribed period.

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
Contingency	85	85		
Communication	35	35		
Monitoring and Evaluation	185	185		
Printing	142	142		
Feeding	720	720		
Subsistence	628	828	+200	
Lodging	400	630	-230	Lodging during socioeconomic surveys had an additional amount due to the fact that one other social scientist was recruited for during bush meat survey
Training	1242	1200	-42	We had a surplus due to bonus offered by the snack attendant
Workshops	1000	1000		
Transport	350	350		
Equipment/materials	110	110		
Mapping	103	103		
Field survey	1000	2070	+1070	We have a great deficit here because 2 eco-guards were recruited and 3 field guides
Totals:	6000	7500	+1458	Extra funds were mobilised by Save the People and Environment Foundation

We have a deficit of £1458 to complete the job. Fortunately, we secured the extra funding from a local NGO (Save the People and Environment Foundation, SPEF) working around the park since 2020. The local

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

The important next steps are to expand the study based on the information from the fieldwork. In our next plan, we have earmarked the following: continue to monitor pangolins in the bushmeat market and improve household income through training

on income generating activities such as beekeeping and agro-forestry techniques. We also need to educate and sensitise the population on bushfire control in the park. Bushfire was the major threats to pangolin in the savannah ecosystem; firstly, it directly affects the pangolins during a fire incidence as pangolin finds it difficult to escape from the flames of the fire and secondly it affects them through destruction of their habitats. There is also needed to study the ecology of the pangolin in the mixed ecosystem and study the dynamics of bushmeat offtake and market channel in the park which is going to help in effective planning. Lastly, there is the need to assess the biodiversity of the park as there is no concise database for the park. There is growing fatal chimpanzee attack in the park in the past two years. This is very strange to communities living around the park. We need to sensitise the population on the increasing fatal human-primate conflicts and the possible causes need to be studied.

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?

Yes, we used the Rufford logo on the sensitisation banners throughout the 10 villages. We also used the Rufford Foundation logo on the interview guide and the questionnaires administered during the bushmeat survey. The data collection sheet also carried the Rufford Foundation Logo.

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

Name	Position	Location
Amos Fang Zeh	Principal Investigator	Buea
Dr. Kamah Paschal Buntu	Forester; Principal Research Assistant	Buea
Forsah Albert	GIS Expert. Design the research maps	Buea
Prof. Kimengsi Jude	Research adviser.	Bamenda
Mr. Ashu Walters	Conservator of the Kimbi-Fungom National Park	Bamenda
Meh Elvis Ngwoh	Government Eco guard – He guided research team	Kimbi
Agodi Mvondo	Government Eco guard - He guided research team	Kimbi
Niki Bororo Jerome	Field training technician	Dschang
Beh James	Lead field guide. Help the research team in pangolin survey	Esu
Jean Mbene	Field guide. Help the research team in pangolin survey	Kimbi
Clarise Pih	Principal Social Scientist	Buea
Mpame Cynthia Muh	Sociologist	Bamenda
Eweh Stephen Tem	Field guide, Photographer	Medzey
Ngwoh Roland Fuh	Field guide. Help the research team in pangolin survey	Munkep
Beh John Kum	Field guide. Help in Bushmeat survey	Gayama

Meh Raymond N	Porter	Etchem
David Luam Meh	Field guide. Help the research team in pangolin survey	Gayama
Ngong lewis	Field guide. Help the research team in pangolin survey	Subuum
Kpwe Albert	Field guide. Help the research team during bush meat survey	Esu
Zang Charles	Field guide. Help the research team in in bushmeat survey	Mbwi-mbwi
Oliver Meh	Field guide. Help the research team in pangolin survey	Tengheukah
Kum lewis	Field assistant during sensitisation meetings	Etchem
Kpwe Albert	Field assistant during sensitisation meetings	Gayama
Zang Charles	Porter	Kpep
Kum Jarvis	Field assistant	Gayama
Oliver Meh	Filed assistant	Kpep

12. Any other comments?

During the period of this project, we came across a growing problem in the Kimbi Fungom National Park that a growing rate of human primate conflicts. These conflicts have remained fatal in recent years and many local people are yet to understand the new trends of the Nigeria-Cameroon chimpanzee killing and attacking people in the park. Between November 2020 and December 2021, the park has recorded five attacks by the chimpanzee, with one of the attacks leading to the killing of a farmer on his way to Esu village, the main entrance into the Fungom section of the park. Three of these attacks were on farmers on motorbikes. The communities are thus very scarred as such thing has never happened from time immemorial. This is a course for concern to ascertain if the attacks are related to the shrinkage in habitats or the intrusion of the chimpanzee from neighbouring Nigeria or there is a new look of human transforming into wildlife to settle scores as indigenes presumed. This is one of our next concerns; to conduct research and sensitise the population on the increasing chimpanzee attacks and coping strategies

I want to sincerely thank The Rufford Foundation for this grant given to us for the realisation of this project. We remain grateful as satisfactory results were gotten from the field. The Kimbi-Fungom National Park is going to see a new leaf in the conservation direction.



Left: Black bellied and white bellied Pangolins. Right: Python.



Left: Wild cat and mongooses. Right: Olive baboon and rock hyrax.



Training of Eco guards at the Limbe Botanical Garden.



Left: Fresh bush meat. Right: Nile Monitor lizard.



Left: Principal investigator in the field. Right: Ascending the Newman hill of the park.

