

Final Evaluation Report

Your Details	
Full Name	Chefor Fotang
Project Title	Strengthening chimpanzee conservation in Kom–Wum Forest Reserve, Cameroon, through law enforcement, livelihood improvement, and conservation education
Application ID	39926-D
Date of this Report	29.03.2024

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
Reduce illegal human activities (bushmeat hunting/trapping in particular) in the reserve to 80 percent by December 2024 in Kom-Wum Forest Reserve				Illegal human activities have decreased by 77% since 2018, and chimpanzee capture rates on camera traps are increasing (44% increase).
Improve the livelihood of local community members around the Kom-Wum Forest Reserve				A majority, 16 (73%) of 22 hunters trained in bee farming in June 2023, have stopped hunting.
Raise conservation awareness in local communities around the Kom-Wum Forest Reserve				Conservation awareness has increased in communities, and 77 of 89 of the people interviewed (87%) perceived a decreasing trend in bushmeat trade because of the conservation awareness campaigns.

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

a). Trends of chimpanzee populations and human activity signs

We found 62 signs of illegal human activities in 2023 (57 hunting signs, four farms, and one fire activity), a decrease from 271 signs found in 2018 (including 142 hunting signs, 52 farming signs, 41 logging signs, 22 grazing signs and 14 signs of the collection of non-timber forest products). Notably, there were no spent cartridges or gunshots heard in 2023 compared to 16 spent cartridges recorded in 2018. Moreover, we captured 13 independent photos/videos of chimpanzees in 2023, a 44% increase from nine in 2018. Of the 13 independent photos/videos captured in 2023, nine included at least one female chimpanzee carrying a baby. The number of chimpanzee individuals per group was two to 11, only slightly higher than the group size in 2018 (two to nine individuals). Additionally, chimpanzees were seen twice at forest edges. Furthermore, camera traps captured photos of the African leopard (*Panthera pardus pardus*), which has not been seen in the area in the last 20 years. These results suggest a 77% decrease in human activities within the reserve

and surrounding forests between 2018 and 2023. Also, hunting signs have been reduced by 63%, and signs of gun hunting have decreased to zero between 2018 and 2023. While hunting (both gun hunting and trapping) has been reduced in the study area, some teenagers have resorted to hunting rodents, including porcupines, pouch rats, and cane rats, with dogs and snares at the peripheries of the reserve. If this practice is not controlled, it could threaten chimpanzees, which are now beginning to visit forest edges and riverbanks in low-elevation areas. Overall, human activity signs are declining within the Kom-Wum Forest Reserve, whereas the sightings of chimpanzees captured on wildlife camera traps are increasing.



Figure 1 Chimpanzee in Kom-Wum Forest Reserve, Cameroon, photographed by wildlife cameras with (a) a single mother carrying a baby, (b) a group of chimpanzees with a mother carrying a baby.

b). Livelihood improvement through training in bee farming and piggery

In total, 95 individuals from three selected communities, comprising 22 hunters and 73 farmers, were trained in beekeeping using Kenyan top bar hives and piggery. Of these, 78 individuals adopted the new Kenyan top bar technology, while 17 continued to use traditional hives. Subsequent group discussions in February 2024 with the trained community members revealed that 16 of the 22 hunters have stopped hunting, whereas six were still engaged in rodent hunting at the reserve's periphery. During these discussions, the 78 people who had adopted the Kenyan top bar technology reported that using the Kenyan top bar hives has significantly boosted honey yields, with harvests reaching up to 35 litres on average compared to the 15 litres with traditional methods. Figure 2 shows one of our trained bee farmers who has harvested honey and beeswax from his beekeeping activities and stored them at home for personal use. It is noteworthy that a considerable amount of the harvested honey has already been sold, highlighting the commitment to commercial beekeeping and meeting household needs. Bee farmers raised concerns about the durability of the wooden legs of the hives, citing susceptibility to rotting and short lifespan. They suggested using steel legs instead, believing they would be more durable and provide better support, ultimately enhancing hive longevity and honey production. The pairs of piglets distributed to community members in June 2023 have matured into adult male (boars) and female (sows) pigs. Most of the adult female pigs became pregnant in December 2023, resulting in the birth of new piglets. Some of these piglets will be distributed to new farmers in April 2024. Overall, our results suggest that integrating sustainable practices like beekeeping and piggery can create economic opportunities for communities around the Kom-Wum Forest. This could potentially reduce pressure on wildlife populations within the reserve, allowing animal populations to recover.



Figure 2 shows A Bee farmer with a) harvested honey and b) harvested honey and beeswax stored at home for domestic consumption (please note that a large amount of the honey has been sold).

c) Conservation awareness campaigns

We placed 39 posters (13 per village), planted 12 education signboards and distributed 50 t-shirts and 50 plastic drinking cups with alert messages to stop the hunting of chimpanzees and eating their meat in Bu, Mbengkas and Biaso village communities around Kom-Wum Forest Reserve (Figure 3). In February 2024, we conducted follow-up interviews with 89 community members to investigate if awareness towards chimpanzee conservation has increased. We asked if they were aware of the presence of chimpanzees in their community, their perception of trends in their population, and if the conservation awareness campaign has changed their attitudes toward chimpanzee hunting and consumption. All 89 community members interviewed were aware of the presence of chimpanzees in their community and their endangered status. Furthermore, 46% of respondents perceived chimpanzee populations to be increasing, 37% thought they were decreasing, and 17% considered them stable. Additionally, 77 (87%) reported that community members were afraid to buy or sell chimpanzees or other bushmeat because of the presence of educational signboards and posters, while 13% were unaware of this change. Overall, most community members are now aware of the presence of chimpanzees in their communities since the beginning of the conservation awareness campaigns in May 2023 and perceive that bushmeat trade has decreased because of the signboards and posters. They now know that chimpanzees are not just animals but like humans and should not be killed. Generally, the local communities have developed positive perceptions and attitudes towards chimpanzees.



Figure 3 Planting educational signboards and placement of posters in communities around Kom-Wum Forest Reserve.

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

One week after the education posters were placed, we observed that eight of them had been destroyed by two individuals from the community who had not attended the training workshops and, therefore, did not receive any conservation materials such as t-shirts or calendars. They expressed dissatisfaction, stating that the posters did not address the hunger issue they were facing. Additionally, three posters were damaged by harsh weather conditions, including strong winds and rain. To address this issue, we promptly replaced the destroyed posters and those damaged by weather conditions. The new posters were strategically placed under shelter in schools, churches, health posts, and village squares to shield them from adverse weather conditions. Furthermore, we offered the two community members who had not participated in the training workshops t-shirts bearing alert messages advocating against the killing of chimpanzees and the consumption of their meat on the condition that they join the newly created chimpanzee conservation club. These community members accepted the t-shirts and became members of the club. In subsequent follow-up focus group discussions and interviews, community members appreciated the t-shirts, emphasizing their practicality as wearable attire.

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

Before travelling to the study site, we contacted the chiefs of each village to explain the aims of our project and the proposed start date. The chiefs then informed their respective communities, and together, we chose a suitable date, time and place to start the project. On arrival, our research team visited each village and organised conservation awareness and beekeeping training workshops in the community hall with the chiefs and community members.

Conservation awareness workshop

During the conservation education workshop, the PI highlighted the endangered status of chimpanzees and their vital role in forest regeneration and tourism. Warning messages urging people to stop hunting and eating chimpanzee meat were affixed to drinking cups distributed mainly to female participants, with the remainder offered to men. Hunters and some farmers were given t-shirts with similar warning messages. Calendars were distributed to other community members, especially to notables like the quarter heads and chiefs.

Livelihood workshop

The conservation education sessions were followed by beekeeping training workshops. Two bee trainers and PI demonstrated the construction of a model hive, and community members were tasked with constructing four additional hives. Training on the use of bee suits and smokers was conducted using observation and demonstration methods. Four bee suits and smokers were allocated to groups of 10 farmers per village for collective use.

Creation of community initiative groups

After the workshops, participants were asked to make a list of farmers and hunters. A Community Initiative Group (CIG) of hunters and beekeepers was then created in each village, along with a chimpanzee conservation club and a beekeepers' association.

Participatory outreach and education

Farmers, hunters and children wearing the t-shirts provided joined the PI in putting up posters and planting educational signboards in strategic locations, including churches, health centres, schools and village squares. Experienced hunters, farmers, and young people, selected by village leaders, helped the PI to plant signboards at the boundaries of the reserve. Because of their weight, a bike rider was hired to transport the signboards to the reserve boundaries. Additional posters and flyers were distributed to restaurants in Wum, a known location for the bushmeat trade. Food was purchased from each restaurant where posters were displayed, and owners were given t-shirts and cups with alert messages against consuming chimpanzee meat. The PI also visited a barbing salon where a poster was displayed.

Anti-poaching patrols

We employed and paid 18 eco-guards to patrol on a rotating basis for 11 months. They received refresher training in camera trapping and GPS use. In addition, two young adults were employed as field guides, at the request of their hunter parents, to generate income to support their studies at the University.

5. Are there any plans to continue this work?

Yes, there are plans to continue the work. Although our results show a significant decrease in signs of human activity and increased chimpanzee sightings through camera traps between 2018 and 2023, the continued practice of hunting rodents with dogs and snares near the reserve boundaries threatens chimpanzees venturing outside the reserve. These threats need to be addressed. Continued monitoring of human activities and chimpanzee populations is therefore essential to assess the long-term effectiveness of our conservation efforts. While most hunters (N=16) trained in beekeeping and pig farming have stopped hunting, a small group (N=6) continues to hunt rodents. Addressing this remaining hunting activity and expanding beekeeping and piggery in other communities can further reduce pressure on the wildlife population of Kom Wum Forest Reserve.

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

The chimpanzee photos and video captured during our anti-poaching patrols were shared with the regional delegate of the Ministry of Forestry and Wildlife, Bamenda, Cameroon. These results will speed up declaring the area as a chimpanzee sanctuary. Some of the educational posters, calendars, and t-shirts were shared with the regional delegate of the Ministry of Forestry and the Mayors of the Wum and Funding councils. They will use the materials for sensitisation in the upcoming World Chimpanzee Day. Our survey results will be published on the Facebook page and website of the host organisation CIRMAD (cirmad.org) and the newly created environmental organisation (pracond.org). We are writing a manuscript on community-based conservation and chimpanzee research in Kom-Wum Forest Reserve and the surrounding forest for submission to the journal *Oryx*.

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

The first and most important next step is to:

Increase anti-poaching patrols in the reserve, especially at the periphery, to deter rodent hunting and potential spillover effects on chimpanzees.

Expand camera trap coverage, especially near forest edges, to have a clearer picture of chimpanzee movements and potential threats.

Intensify conservation education for people living near the reserve to increase their positive perceptions and attitudes towards chimpanzees and other wildlife.

Improve the beehive design by replacing wooden legs with steel legs. This enhancement will increase the hives' lifespan and honey production, contributing to more sustainable bee farming practices.

Follow up on the distribution of piglets to new farmers from April 2024 to ensure the successful continuation of the pig breeding program. This step is crucial for maintaining the program's momentum and impact.

Overall, extending the livelihood and conservation awareness campaigns to the other village communities of Mbongkissu, Moghom and Bueni surrounding the reserve is important. This expansion should include similar initiatives, such as pig rearing and beekeeping, tailored to the specific needs of each community and its resources. To achieve this goal, the Centre for Indigenous Resources Management (cirmad.org) works with a newly formed environmental organisation, Practical Conservation and Community Development (pracond.org). PRACOND is consulting with local chiefs, the local councils of Funding (Kom) and Wum, and the Ministry of Forestry and Wildlife to include a 22.4 km² community forest adjacent to the reserve, with the highest chimpanzee density and suitable habitat in the reserve boundaries and management plan. These initiatives will only be possible if we can secure funding. We are, therefore, actively seeking financial support from other funding bodies to continue our project activities in the reserve and surrounding forests.

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 Foundation logo was used in all conservation awareness materials, including posters, signboards, flyers, t-shirts, plastic drinking cups and calendars.

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

Mr. Emmanuel Liyong Sama

Assisted in the acquisition of research permits from the regional delegation of Forestry and Wildlife, Bamenda, Cameroon.

Provided office space for the principal investigator during fieldwork in Cameroon.

Organised the metal framing of signboards and printing of educational posters.

Organise the temporary storage of field materials at the CIRMAD office in Bamenda, Cameroon.

Bazil Tume

Assisted in the selection of bee trainers for beekeeping training for our project.

Bee farming trainers

1. Aseka Lance Binda
2. Marius Tachom

Field guides

1. Mbeng Marvellous Che
2. Leng Edwin

Community eco guards

1. Soh Clotilde (Baiso village)
2. Muh Cosmas (Baiso village)
3. Achai Genesis Kam (Baiso village)
4. Semie Festus (Baiso village)
5. Muh Evans (Mbengkas village)
6. Seme Ephraim (Mbengkas village)
7. Asumah Raymond (Mbongkissu village)
8. Song Ambrose (Mbongkissu village)
9. Jam Thomas (Mentang village)
10. Wossi Denis (Mentang village)
11. Chia Daniel (Mentang village)
12. Asanga Elvis (Mughom village)
13. Chong Rene (Moghom village)
14. Akou Emmanuel Mbeng (Bu village)
15. Mbeng Godwill Akou (Bu village)
16. Kum Evaristus (Bu village)
17. Che John Shang (Baiso village)
18. Achai Samuel Mondi (Baiso village)

10. Any other comments?

I wish to express my sincere appreciation to The Rufford Foundation for their generous support, which has been crucial to the success of my dissertation and the conservation efforts regarding chimpanzees in the Kom-Wum Forest Reserve, Cameroon. The results of my project have been condensed into five chapters, forming the core of my PhD thesis, which I defended in December 2023.