Building local leadership on policy oriented research in the Cross River gorilla Landscape in Cameroon

Trainee administering questionnaires to local people in the Takamanda National park forest area

Report to Rufford Small Grant Foundation (RSGF), UK

Prepared by

Mbunya Francis Nkemnyi
Institute of Development Policy and Management, University of Antwerp, Belgium/Resource Centre for Environment and Sustainable Development – (RCESD[1]), Cameroon
Email: nmbunyaf@gmail.com; francis.mbunya@rcesdcam.org

[1]RCESD carries out capacity building, interdisciplinary research projects and policy engagement activities. Bringing social and natural scientists together, we work in and across the areas of environment, development and governance. We aim at generating new thinking and practical solutions. Our work looks at how environmental integrity and social justice can be achieved in a dynamic and complex globe that we find ourselves in

Abstract

The main objective of this project was to contribute to local capacity and research output for sustainable wildlife conservation policies in Cameroon with focus on the Cross River gorilla (CRG). In line with the above objective, four trainees were recruited and trained during a six month fellowship program. The fellowship program including a first phase of desk training on research design, a second phase of data collection informed by the first phase of the training and a thirds phase on data analysis and reporting with reference to the data collected during the second phase. At the end of the project, the trainees were all recruited as volunteers with the local collaborating organisation (the Resource Centre for Environment and Sustainable Development – RCESD) to continue the practice of their careers as wildlife conservationists.

The data collected during this training period were focus on poaching and it effects on wildlife conservation in the Takamanda National Park and the Tofala Hill Wild. The results revealed that *main reason for bushmeat harvesting was for income generation. Agriculture, large family sizes and motivation were some of the factors influencing harvesting. An average of 16.0 ± 2.0 animals was harvested weekly per harvester, giving an annual average of 272.8901tons per harvester. Annual bushmeat harvested stood at 2,665,156 Francs CFA (5,330 US Dollar) per harvester. Most harvesters (97.3 %) reported a decrease in wildlife abundance. Hunting time per catch was reported to be about 3.48 hours compared to lesser time in the past. A negative correlation was obtained between harvested wildlife species and scarce wildlife species. This suggested that bushmeat exploitation was a major threat to wildlife abundance in the study area areas.*

Acknowledgement

We acknowledge the financial and technical support from the Rufford Small Grant Foundation, UK. Technical support was also provided by the Ministry of Forestry and Wildlife, Cameroon and the Resource Centre for Environment and Sustainable Development (RCESD), Cameroon**.** We also acknowledge the technical assistance and the collaboration of the community members and field assistant who facilitated the success of this project.

Table of content

1.0 Introduction

The Cross River gorilla (CRG) is the most threatened of the African apes. Less than 300 survive in the wild in approximately nine sites spread across an area of 12000km^2. Poaching, habitat loss and fragmentation remain major threats to the survival of the CRG conservation. The Regional Action Plan for the Conservation of the CRG, 2014-2019 (Dunn et al., 2014) emphasise on monitoring the most important threats over the next five years. In this line, this project is geared toward enhancing policies and expertise to fight poaching. Understanding the trends in the changing threats in poaching across the CRG landscape will provide key information for guiding collective activities. Poaching is a major challenge in the tropics because households most often rely on it for income. Despite local government policies to fight against poaching, local people are constantly deriving new strategies to continue the practice and to trade bushmeat. The inability to track emerging poaching strategy is as a result of possible policy gaps, which have been linked to the lack of local expertise and institutional capacity.

The specific action for this project was to enhance policies and expertise that could enable the fight against poaching in the study are and beyond. Poaching is a major challenge in the tropics because households most often rely on it for income. Local people are constantly deriving new strategies to practice hunting and trade bushmeat without taken into consideration policies governing the hunting. The gaps to effecting policy against poaching have been linked to the lack of both local expertise and institutional capacity to support the existing strategies (Alemagi, 2011; Bobo, Aghomo, & Ntumwel, 2015).

In this line, there was need to develop opportunities that could strengthen policy implementation against hunting given that the dynamic and complex nature of the indicators of poaching call for constant research and building of local capacity to meet up with the new trend in the field.

Specific objectives of this project included:

- To improve local expertise in the fight against poaching in the Tofala Hill Wildlife Complex and the Takamada National Park
- To ensure the availability of information to sustain effective wildlife policy implementation in the project area and beyond
- To contribute to scientific knowledge and local researchers visibility through collaborative peer reviewed publications

2.0 Method

2.1 study sites

The Takamanda-Mone Landscape is located between latitude 5°55′ - 6°21′N and longitude 9°11′ -9°33′E covering a surface area of about 676 km2. It shares its western border with the Okwango Division of the Cross River National Park in Cross River State of Nigeria. It is bounded to the South by River Manyu (Cross River), in the East by the Mamfe-Widikum road and in the North by the Kweguini highlands in the Njinkwa Sub Division of North West Region of Cameroon (Fuashi, Fosah, & Ekane, 2014). It is home to 15 species of large mammal including forest the elephant (*Loxodonta Africana cyclotis*), eight primate species including the critically endangered Cross River gorilla (*Gorilla gorilla diehli*) (Comiskey & Sunderland, 2003).

The Tofala Hill Wildlife Complex cuts across the Lebialem Highland Forest Landscape, which host the Tofala Wildlife Sanctuary. It is located specifically between the UTM coordinates 615,000 – 645,000 m N and 560,000 – 612,500 m E with an area of approximately 800 km2. It is home to 26 species of identified large mammals including the critically endangered Cross River gorillas and the endangered Nigeria-Cameroon chimpanzees (Nkemnyi et al. 2012). In addition, 338 bird species. More than 400 plants species have been documented within this landscape range (Nkemnyi et al. 2013).

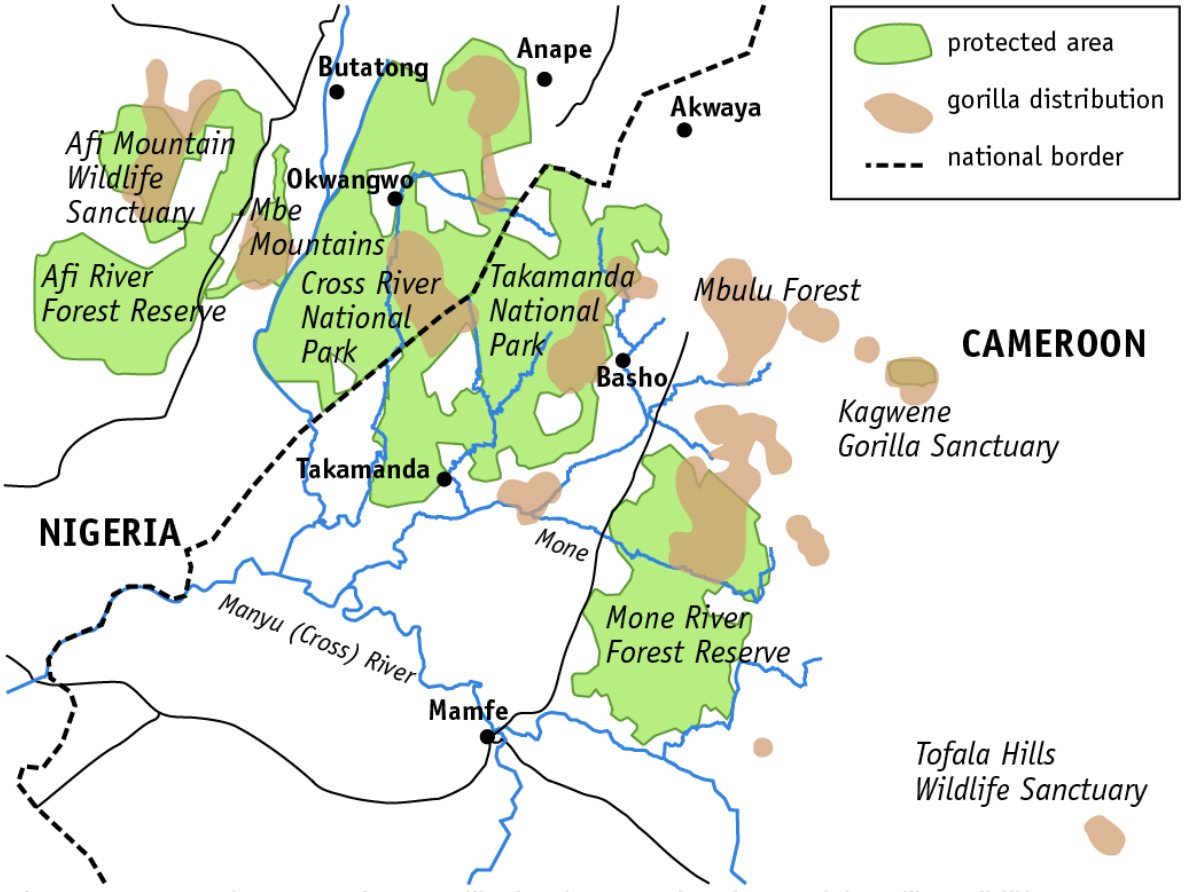

Figure 1: Map of Cross River gorilla landscape situating Tofala Hills Wildlife Sanctuary and Takamanda National Park

2.2 Project strategies and actions

2.2.1 Phase one

In other to improve local expertise in the implementation of wildlife policies four recent graduates were selected by merit and trained as research assistants. Two males and two females were selected as finalists. They were trained on research design and Implementation on wildlife policy research with focus on poaching in the project areas. The training process followed a three phase process. In the first two months of the project, the research assistants were exposed to desktop training/research. The first assignment of the participants was to write a paper on 'poaching and wildlife conservation in Cameroon'. The guideline for the paper specified that it should not be more than 5000 words and must include at least ten recent publication; not older than 5 year from the date of the assignment. The engagement of participants in this assignment was evaluated to be very beneficial is given them a brought overview and a good standing for the rest of the training.

The paper writing process was followed a series of workshop and independent working sessions, participants were participants given theoretical lessons on wildlife policies research (conceptualization, development, implementation, reporting and monitoring and evaluation). The theoretical phase of the training did not only engage the four selected beneficiary of the project but also brought in six other participants that applied for the research assistant position but were not shortlisted as finalists. Thus, in total 10 individuals benefited from the theoretical training. However, only the four finalists proceeded to the field and post field training. Following the theoretical lessons and desktop research, trainees were engage in the development and presentation of research ideas with focus to the project theme. Based on the output of the desk research, a field protocol was for be developed to support the field training phase of the project. The four finalists who continued with the second phase were split into two teams (A and B). Team A was assigned to the Tofala Hill Wildlife Complex and team B to the Takamanda National Park. Each team consist of a team leader (expert) two research assistants (male and female) and the local field guide. Based on the research protocol developed in the first phase of the project, different methods as outline below were employed in data collection:

Figure 2: Training sessions on desk research by project leader

2.2.2 Phase two

Data collection techniques included questionnaires, in-depth interviews, focus group discussion and transect survey. Questionnaires and interviews were designed to enable the evaluation of actors involved in wildlife exploitation/trade and their distribution. Specifically, questionnaires elicited information on wildlife harvesting, in relation to the periods, methods and tools. In-depth interviews elicited information on factors influencing bushmeat exploitation and how exploitation affects wildlife abundance. Focus group discussions provided a medium of interactive discussion through argumentation by the various stakeholders. Transect survey enabled the evaluation of impact of bushmeat exploitation on wildlife population based on field observation.

Figure 3: Questionnaire administration by research assistant in Kujifu

Questionnaires were administered to eight villages; four in each study site. Sampled villages were selected purposely, based on their proximity to the forest area and their spatial distribution across the studied area. This selection criteria was motivated by the argument that proximity to forest resources is associated with higher reliance (Belcher, Achdiawan, & Dewi, 2015). Given that the study was interested in exploring bushmeat exploitation techniques and factors influencing them, the focus was on those persons who practice bushmeat harvesting. Bushmeat harvesters were classified as hunters (practice hunting only), trappers (practice trapping only) and hunter/trappers (practice both hunting and trapping). Purposive sampling was the method used in questionnaire survey (Tongco, 2007). The targeted population was mainly hunters, trappers and hunters/trappers. Interviewees were identified with the help of a local field guide and the village quarter heads in most cases. A total of 73 valid questionnaires were administered in the Takamanda National Park area (23 hunters, 27 trappers and 23 hunter/trappers) and 61 valid questionnaires were administered in the Tofala Hill Wildlife Sanctuary (19 hunters, 24 trappers and 18 hunter/trappers).

In addition to questionnaires, interviews were also conducted with seven bushmeat traders, six local administrators, four bio-monitoring staff (working for a local non-profit organization promoting conservation in the study area) and six members of the village forest management

committee (VFMC). Interviews with bushmeat traders' elicited information on how the acquire the meat the sell, how they are able to deal with local policy makers, the profit the make from selling bushmeat and the important of the activity in their livelihood. Interviews with local administrator elicited information on the challenges and opportunities of implementing poaching policies.

Figure 4: Interview session by a research assistant in Banti village. Figure 5: Recce walk during human activity survey by the project team.

The use of transect survey enabled the assessment of the field situation and also contributed to the validation of data gathered during questionnaire and interview survey. Transect survey also enabled the assessment of anthropogenic activities in the forest linked and how it reflected wildlife harvesting. Seven 2x2 km^2 predetermined quadrants were used for transects data collection. Transects were designed to cut across the forest corridor linking the two project area. Anthropogenic data collected through transect survey included the number of gun shots heard, number of gun shells and numbers/nature of snare (traps) and other sign indicating human disturbance in the field. Biological data collected during the transect survey included sleeping nests for large mammals, feeding signs, tracks (trails), dung pile, vocalisation and direct observation. Anthropogenic and biological data were used to estimate relative abundance of human activity and wildlife respectively and most importantly to inform the relationship between human activities and wildlife conservation. Each 2 km transect was walked using guided recce walk in a pre-determined compass bearing. Transect bearings were chosen to cut diagonally across transects. Transects were sampled following paths of less resistance, hunting tracks, large mammals trails, village paths and river courses. However, the recce walks were guided not to deviate significantly from the pre-determined bearing. All data collected were recorded on a data sheet.

2.2.3 Phase three

The third phase of the training involved the use of different analytical tools/methods including qualitative.

And quantitative data analyses techniques. Through practical demonstration participants were trained on how to use the software NVIvo in performing content analysis for qualitative data. Soft wares used in quantitative data analysis training included excel, SPSS, MINITAB and R.


Figure 6: Trainees during data analysis training sessions

In the final data analysis, SPSS version 20 was use. The choice for using SPSS was based on easy accessibility and the user friendly nature as per the trainees. Case summaries statistics was used to determine measurements of central tendencies and dispersions, notably the mean, standard deviation, standard error of mean, the median and the percentile values for continuous variables such as 'time taken to trek to the forest' 'income' or 'quantity of bushmeat consumed per year'. Continuous variables were then screened for normality and homogeneity of variance using Kolmogorov-Smirnov and Shapiro-Wilk tests. Non-parametric tests were used to compare groups for the significant difference. The Kruskal Wallis test was used to compare the significant difference between three or more independent groups. The Wilcoxon Signed Rank test was used to compare two related samples for significant difference while the Mann-Whitney U test was used to compare two independent samples for significant difference.

Correlation between indicators was carried out using Spearman's row. For taste ranks, a score was assigned to each species listed by each respondent in order of preference (1-5: 1 being the most preferred and 5 being the least preferred). The total score for each species was then calculated. Mean income generated yearly was extrapolated using mean quantity caught per trip, number of trips per week, mean price and number of weeks in a year while the volume of bushmeat harvested was gotten by extrapolating weekly quantities of bushmeat harvested multiplied by the body mass of each species.

For categorical variables, descriptive statistics was used to present the distribution of subjects between and within subsets. Multiple response analysis was used for multiple-responses question. Measures of association between variables were carried out using Chi-Square test of independence or of equality of proportions. All statistics were discussed at the 0.05 significant level (α=0.05). Results were then presented using plates, graphs, tables and maps.

3.0 Results

3.1 Bushmeat Harvesting and practice

Bushmeat harvesters (n=132) were exclusively males and none had a valid hunting permit. Nine hunters declared that they once owned hunting permits but never renewed them again because they did not see any relevance in renewing them. However, women play a key role in promoting bushmeat harvesting as marketers (wholesalers and retailers).

Table 1: Harvester distribution in relation to age and location

Variable	Distribution	Percentage (%)	Sample (n)
Bushmeat harvesters	Hunters	31.4	42
	Trappers	38.1	51
	Hunters/trappers	30.5	41
Age distribution of harvesters	15-34	26.9	36
	35-54	49.3	66
	>55	23.8	32

There was a variation between age and category of harvesters ($\chi 2=16.423$; df=8; P=0.04). Harvesters between the age of 35-54 were recorded to practice more of hunting (49.3%, n=66). Trappers were almost equally distributed across the three age groups. Hunters/trappers were more represented in age group 15-34 (26.9%, n=36). Majority of harvesters (80.8%, n=59) were natives while the rest were migrants from nearby villages. Bushmeat harvesting was mainly individual efforts (85.8%, n=115). However, some few individuals (12.7%, n=17) practiced group hunting in group sizes of 3 to 4 individuals. Bushmeat harvesting was practiced throughout the year. However, harvesting was more intensify in some months compared to others. Hunters harvested more between October-February and trappers harvested more between June-September.

Figure 7: Bushmeat market in the Takamanda area

3.2 Bushmeat harvesting techniques

Bushmeat harvesting techniques (Figure 2) were identified to include the following methods: tracking (hunting following wildlife trails), active searching of animals, waiting (at feeding/drinking sites, tracks and sleeping spots of wildlife), calling, baiting, remote hunting, hunting with dogs and trapping (line trapping and pit fall trapping).

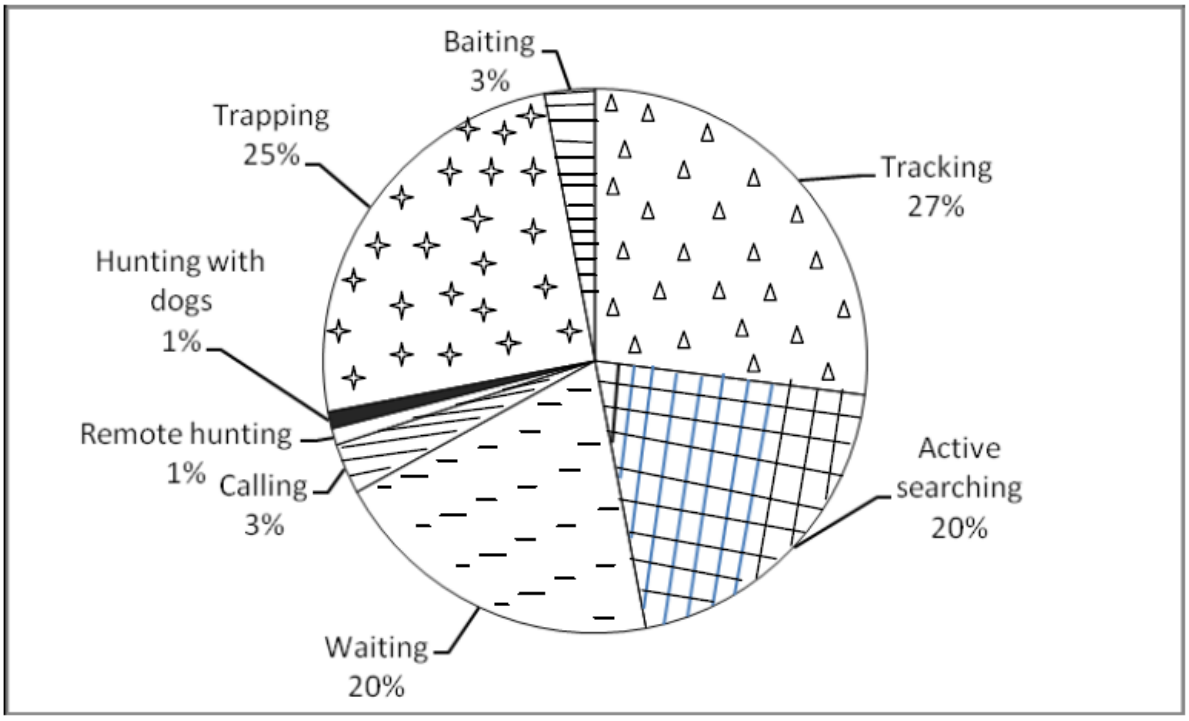

Figure 5: Distribution of harvester across harvesting method

Harvesting tools included wire snares, metal traps, short guns (den guns and double barrels most of which were locally made), flashlights (which ranged from normal torch lights to miners' light), cutlasses, stones and sticks (Figure 3). Choice for a particular tools were highly determined by affordability or cost (Table 1), availability, efficiency, ability to use the tool and efficiency of tool for self-defence or protection.

Table 1: Mean cost of bushmeat harvesting tools.

Tools	Wire snares	Short guns	Metal traps	Torch	Cutlass
Mean cost of tool ±SE in XAF	2651±127 (n=52)	*31275±2509 (n=48)	2750±553 (n=17)	*12291±2022 (n=106)	3044±714 (n=113)

*Cost of gun elevated by one double barrel bought for 200,000 XAF (about $400 - US dollars)
*Usually, most torches cost 2,500 XAF (about $5), except Miners' light which ranges from 19,000 to 25,000 XAF ($38-$50).
*XAF – Central Africa Franc

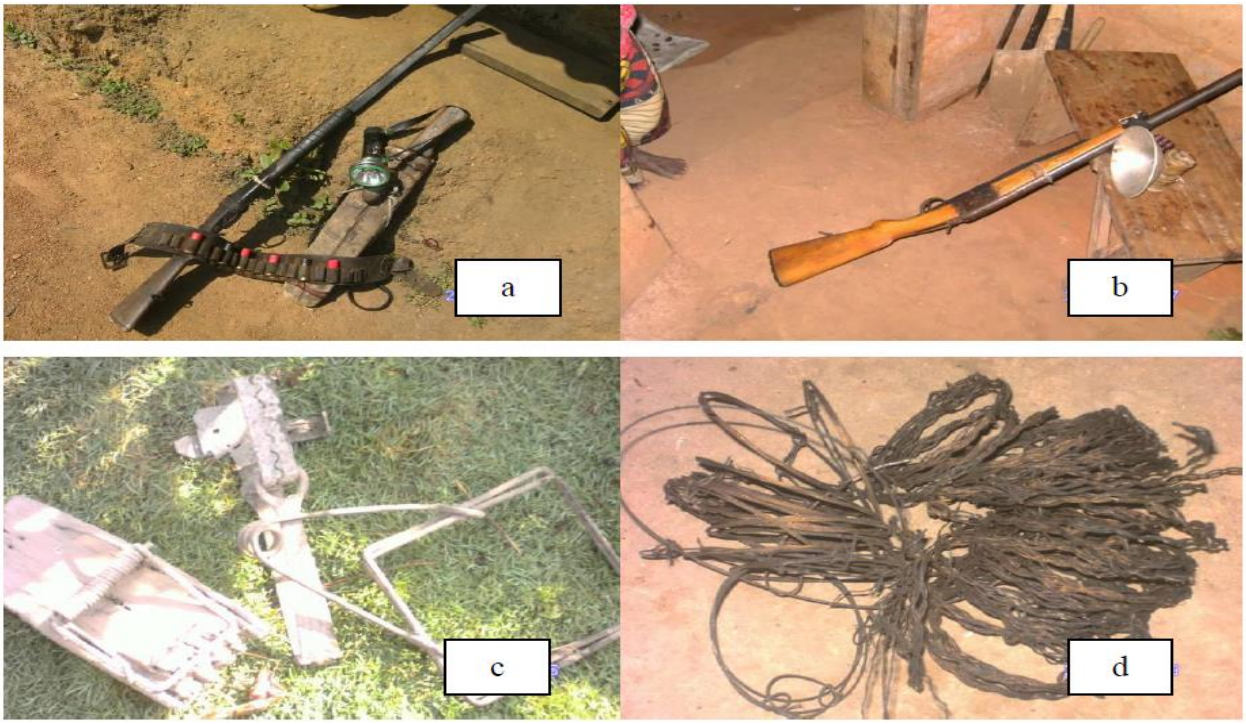

Figure 9: Bushmeat harvesting tool used in the TMFC.
**a. Locally made gun, cartridge belt, cutlass and torch; *b. Hunting gun and flashlight (miner light); *c. Metal and mouse traps; *d. Wire snares prepared for setting in the field*

3.3 Bushmeat harvested in the TMFC

Bustmeat harvested included mammals, reptiles and birds. Fifteen out of the 34 recorded harvested species were listed in descending order of frequency (Table 2).

Table 2: Harvest composition and mean quantity per trip of species harvested.

	Species	**common name**	**Vernacular name**
1	*Atherurus africanus*	African brush-tailed porcupine	Chucku-chucku beef
2	*Cephalophus monticola*	Blue duiker	Frutambo
3	*Cephalophus dorsalis, C. ogilbyi*	Bay duiker, Ogilby's duiker	*Red deer
4	*Potamochoerus porcus*	Red river hog	Bush pig
5	*Cricetomys emini*	Giant pouched rat	Rat mole
6	*Phataginus tricuspis*	Tree pangolin	Catter beef
7	*Thryonomys swinderianus*	Cane rat	Cutting grass
8	*Cercopithecus spp.*	Guenons	*Monkey
9	*Iguana iguana*	Iguana	
10	*Varanus niloticus*	Alligator/Nile monitor	
11	*Hyemoschus aquaticus*	Water chevrotain	Water beef
12	*Naja spp.*	Cobra	Black snake
13	*Mandrillus leucophaeus*	Drill	Shumbo
14	*Protoxerus stangeri, Anomalurus beecrofti*	Giant forest squirrel, Beecroft-flying squirrel	*Squirrel
15	*Python sebae*	Python	Mboma

The most harvested species was the African brush-tailed porcupine as reported by 97.3% of interviewees. The least harvested species was reported to be the chimpanzee. Just one hunter admitted to have hunted a chimpanzee and none admitted to have hunted a gorilla. The average number of animals caught per week was 16.0 ± 2.0 per harvester. There was no significant difference amongst the average number of animals caught per week amongst hunters (16 .0 ± 3.0), trappers (15 .0 ± 3.0) and hunters/trappers (16.0 ± 3.0); Kruskal Wallis Test: P>0.775. Equally, there was no significant difference between the average number of animals caught per week per harvesters in the interior and periphery of the study area (Mann-Whitney U: P>0.838). This indicates that both categories had equal impact on wildlife harvesting.

3.4 Factors influencing bushmeat exploitation

Bushmeat harvesting for income generation (67.1 %, n=49) was the most stated reason for harvesting wildlife. …*it is my only source of livelihood, money and it is a profitable business...* stated one of the hunters. Most of the harvesters (76.9%, n=103) sold about 80 % of their harvest per trip. The rest was left for relatives and household consumption. This was followed by harvesting for food or protein (for the household 52.2 % (n=70) and harvesting to protect animals from destroying crops (10.4 %, n=14) was stated as the third reason. Averagely, 50.7% (n=68) of harvesters make 30,000 XAF ($60) monthly from bushmeat wildlife, 34.3% (n=46) make 65,000 XAF ($130) and 14.9% (n=20) make 100,500 XAF ($201) and more. The mean income generated per week from bushment sales was 51,253 ± 7,914 XAF per harvester. There was no significant variation of income between harvesters in the interior and periphery of the study area (Mann Whitney U: P>0.133). When harvest success was correlated with income generated, it was positive and the relationship was very strong and significant (Spearman's rho; r=0.669; P=0.000). Other reasons for hunting included to protect wildlife from harming local inhabitant (7.5%, n=10), unemployment (10.4%, n=14), inheritance/tradition (4.5%, n=6) and hobby (1.5%, n=2). In addition, low cost of harvesting tools (Table 1), availability and vulnerability of species to fall prey to traps were also noted as contributing factors to bushmeat harvesting.

In addition to the above factors, accessibility to the forest area was also attested by 76.9% (n=103) of interviews as a major contributing factor to bushmeat harvesting. Transect survey revealed that harvesting pressure was higher in the lower altitude forest area compared to the higher altitude. This observation also corresponds with interviewees views that 62.7% (n=84) harvested mainly in the lower altitude and 32.8% (n=44) also harvested in high altitude. There was no significant variation amongst categories of harvesters (χ^2=3.713; df=4; P=0.446) on preferred altitude. Agriculture activities also revealed to promote wildlife exploitation. Farmers claimed that wildlife are a threat to their crops, thus they are force set traps and hunt to protect their crops from wildlife destruction. Transect survey recorded seven farmlands deep in the forest habitat. Bushmeat harvesting signs (traps, gun shell and hunting hurts) were recorded in all farms surveyed.

3.5 Effects of bushmeat harvesting on species/biodiversity

Increase in the number of harvesters, demand for bushmeat, profit margins, population increase, harvesting experience and extension of farmlands were considered by harvesters as major causes for reduction in wildlife population. Majority of the interviewees (84.3%; n=113) admitted that there has been a drastic reduction in bushmeat harvested per hunting trip. On the other hand 90.3% (n=121) admitted that some of the wildlife are very scarce to find. Hunters attested that it take averagely 3.48 hours to hunt their first prey. Similarly, trappers also attested that traps stay much longer in the forest compared to five years back.

4.0 Discussion

The results of this study showed that bushmeat harvesting is exclusively a male affair with women only joining the chain later as marketers. This is in conformity with findings that in Lebialem division, women constitute a significant labour force in the bushmeat trade industry (Wright & Priston, 2010). This implies, efforts to reduce hunting should not only be focused on the harvesters but also should take into consideration the efforts that will address the market and the consumption challenges. Efforts to address bushmeat harvesting should also consider that it is a potential and in some cases the main source of food and income for most household living adjacent to forest areas (Duffy, St John, Büscher, & Brockington, 2016). In some cases the bushmeat market is a chain that emanates from the urban setting as a result of increasing demand from urban consumers mostly characterized by people of the upper class (Brashares et al., 2004). The results of this study revealed bushmeat harvesting to be all year round with peak period between certain months. This conforms to the findings that vulnerability of wildlife to fall prey increases when there is high availability of fruits (June to September) and when water and food availability shift to the low altitude area (Nasi et al., 2011). This study argues that bushmeat exploitation in the both study sites exerted pressure on wildlife abundance and on biodiversity conservation. This is supported by the results that majority of the interviewees (84.3%; n=113) admitted that there has been a drastic reduction in bushmeat harvested per hunting trip. On the other hand 90.3% (n=121) admitted that some of the wildlife are very scarce to find. This finding is in line with the findings of a study conducted in the Ebensuk-Mambo and Tali-Bara Communal Forest Area in Cameroon situated some 40 km from this study area (Nuesiri, Akumsi, Purdon, & Njisuh, 2006).

There is an increasing use of modern tools in hunting (Willcox & Nambu, 2007; Wright & Priston, 2010). No bushmeat harvesters were observed to practice strictly traditional hunting (sticks and stones). The use of modern arms in bushmeat harvesting was observed to increase catch and eventually affected the wildlife abundance in the TMFC. We argue here that subsistence hunting is rapidly giving way to commercial hunting and majors need to be taken if biodiversity must be preserved. Income generation was the main reason for harvesting bushmeat. This result is in contrast with a study in Serengeti, Tanzania which shows that bushmeat harvesting is mainly for food (Mfunda & Røskaft, 2011).

Bushmeat exploitation was also a severe threat to biodiversity and wildlife abundance given that species vary in their ability to withstand hunting pressure. Slow-reproducers such as large carnivores and primates are particularly vulnerable and are seriously threated by hunting (Etiendem, Tagg, Hens, & Pereboom, 2013). In addition, this study revealed that the tools and methods used in harvesting promoted indiscriminate hunting. This exposed all wildlife in the forest landscape to hunting risk. Furthermore, the quest for hunters and trappers to meet up with their daily income need was also a driving force that pushed them to go to extreme during hunting. Adding to the fact that harvesting of bushmeat in the TMFC was practiced all year round with peak seasons in June to September and October to February; hunting was revealed as a severe threat to biodiversity and wildlife conservation in the study area if mechanisms are not urgently put in place to address the challenges.

Based on the above findings, this study argues that wildlife abundance in study area was threatened by bushmeat harvesting. This calls for timely and effective policy actions that could develop strategies to mitigate the high reliance of local community on bushmeat for income. At

same time sensitizing the local population on the important of wildlife conservation and sustainable hunting could also contribute to addressing the threat pose by bushmeat harvesting.

5.0 Conclusions

In the proposed TMFC, traditional or subsistent wildlife harvesting has given way to commercial exploitation of wildlife. This was carried out all year round by harvesters who are exclusively males. Bushmeat harvesting was generally individual efforts and made use of unconventional methods which were observed to be highly detrimental to wildlife. Bushmeat was principally harvested to generate income and to add to existing dietary components of households and to a lesser extent, to control pests around farms. Bushmeat harvesting was observed to cut across a wide range of social groups and professions and involved mostly less educated individuals. Accessibility to forest area, altitude, income motivation, agriculture activities and available markets were recorded as factors facilitating bushmeat harvesting in the study area. The high number/species animal harvested weekly and the high number of harvesters were evident of bushmeat threats to wildlife abundance and biodiversity conservation. The results of this study also suggested that there was over exploitation of wildlife in the study area and this has led to reduction in the population of mammals and consequently to biodiversity lost.

6.0 Trainees feedback after the training

I am Dimo Cedric and I hold a Bachelor of Science degree in Environmental science from the University of Buea Cameroon. Having the opportunity to receive six months training on research design, implementation and analysis with focus on wildlife policy has been very enriching. Firstly, I have learnt to integrate in a professional environment by working in close collaboration with staff of the Resource Centre for Environment and Sustainable Development (RCESD) which was the collaborating institution for the project. Secondly, I can confidently design and implement project in the field of wildlife policy. Thirdly, I am very happy I can sustain this skill by given the opportunity to continue voluntary work with RCESD after my training. I think, it is a unique opportunity for many of us who are constantly searching for ways to build our capacity. I strongly recommend the continuation of this project so that other who applied and did not have the opportunity to part-take in this session can also benefit from the rich insight provided by the training.

My names are Ada Akobta. I hold a master degree in Natural Resource Management from the University of Buea Cameroon. My have a passion for community-based biodiversity conservation and I am glad I have started exploring opportunities that are making me fulfil my dreams. My six months engagement as a trainee in this fellowship program have been challenging and enriching as the same time. There was much too learnt within a very short while and my fears were that I might not be able to meet up with the expectation. However, I was able to overcome this fears with the great team members and leaders I worked with. It has been a great experience. Most importantly, I am glad to find a career focus through this training and to be given the opportunity to continue building this career by joining the RCESD team. I must also admit that I presently skills have been greatly improve as a result of the individual task and presentation during the training. The training was a unique one. I will encourage the implementer to continue with the opportunity and reach many other recent graduate who are out searching to be empowered.

Mobang Coleen is my name and I hold a Master in Botany from the university of Buea Cameroon. I love fieldwork and my passion is to interact with the local people in order to be able to understand conservation challenges through their perspective. This training gave me the opportunity not only to work closely with the local people and stakeholders in conservation but also to be able to be engage in the process of designing and reporting project. The approach adopted in the training that grooms trainees from the idea

conceptualisation, design, implementation and reporting was very unique. Having completed this training and also retained as a volunteer at RCESD I strongly believe I am on the right path to a fulfilled career in conservation science. I recommend continuity of this fellowship for several reasons. Firstly, it is very hard to find such a career driven opportunity in Cameroon and this fellowship is complimenting this gap. Secondly, similar fellowship program do not provide a career integration opportunity as in this fellowship. In addition, there was a very strong cordial relationship between trainers and the trainees and this was a plus in achieving the learning outputs.

I am Atabong Elvis. I have a degree in Zoology from the University of Dschnag Cameroon. I am very excited to have been selected and taking part in this training fellowship. The field training phase was the part I enjoyed most. I was able to appreciate the differences between theoretical framing and the realities in the field. My views on wildlife policy in relation to local people engagement have greatly be enhanced. I am now able to appreciate how diverse scenarios and challenges in the field could be affected by the same policy in different ways. I am now able to appreciate that the success in policy implementation lies beyond recommendation and most deal with the dynamic and complex nature of different challenges affecting the livelihood of the affected population. I am grateful to the implementers and the sponsors and I believe the continuity of this fellowship will make a different in the history of wildlife conservation in Cameroon and beyond.

References

Belcher, B., Achdiawan, R., & Dewi, S. (2015). Forest-Based Livelihoods Strategies Conditioned by Market Remoteness and Forest Proximity in Jharkhand, India. *World Development*, *66*, 269–279. http://doi.org/10.1016/j.worlddev.2014.08.023

Brashares, J. S., Arcese, P., Sam, M. K., Coppolillo, P. B., Sinclair, A. R. E., & Balmford, A. (2004). Bushmeat hunting, wildlife declines, and fish supply in West Africa. *Science*, *306*(5699), 1180–3. http://doi.org/10.1126/science.1102425

Duffy, R., St John, F. A. V, Büscher, B., & Brockington, D. (2016). Toward a new understanding of the links between poverty and illegal wildlife hunting. *Conservation Biology*, *30*(1), 14–22. http://doi.org/10.1111/cobi.12622

Etiendem, D. N., Tagg, N., Hens, L., & Pereboom, Z. (2013). Impact of human activities on cross river gorilla Gorilla gorilla diehli habitats in the Mawambi hills, southwest Cameroon. *Endangered Species Research*, *20*(2), 167–179. http://doi.org/10.3354/esr00492

Mfunda, I. M., & Røskaft, E. (2011). Wildlife or crop production: the dilemma of conservation and human livelihoods in Serengeti, Tanzania. *International Journal of Biodiversity Science, Ecosystem Services & Management*, *7*(1), 39–49. http://doi.org/10.1080/21513732.2011.602028

Nasi, R., Taber, A., & Van Vliet, N. (2011). Empty forests , empty stomachs ? Bushmeat and livelihoods in the Congo and Amazon Basins. *International Forestry Review*, *13*(3), 355–368.

Nuesiri, E. O., Akumsi, A. C., Purdon, M., & Njisuh, F. Z. (2006). *Wildlife Conservation in the Ebensuk-Mambo and Tali-Bara Communal Forest Area*. Oxford.

Tongco, M. D. C. (2007). Purposive Sampling as a Tool for Informant Selection. *Ethnobotany Research & Applications*, *158*, 147–158.

Willcox, a, & Nambu, D. (2007). Wildlife hunting practices and bushmeat dynamics of the Banyangi and Mbo people of Southwestern Cameroon. *Biological Conservation*, *134*(2), 251–261. http://doi.org/10.1016/j.biocon.2006.08.016

Wright, J. H., & Priston, N. E. C. (2010). Hunting and trapping in Lebialem Division , Cameroon : bushmeat harvesting practices and human reliance. *Endangered Species Research*, *11*, 1–12. http://doi.org/10.3354/esr00244

Appendix

Appendix 1: Transect distribution across the study area