

Residents' Attitudes and Perceptions Towards the Conservation of Chimpanzee Habitat at Gashaka Gumti National Park, Nigeria

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ABSTRACT

Man is the major architect of destruction to any ecosystem and also remains the key planner and executor of any potential change expected in his environment and its inhabitants. This study investigated the implications of residents' attitudes and perceptions on the conservation of Nigeria-Cameroon chimpanzee and their habitat at Gashaka Sector of Gashaka Gumti National Park (GGNP). Multi-stage sampling method and structured questionnaire (SQ) were used to elicit information from the local residents. Descriptive statistics such as percentages, frequencies and charts were used to analyse the data collected. Results obtained indicated that the awareness of the park values was high (78.79%) and that local residents' perception and attitudes toward the park was negative with some respondents (33.33%) calling for the abolition of the park. The results show that respondents suggested 13 independent problems thought to have caused by the park and included poverty, divorce, diseases, illiteracy, idleness, immorality, disgrace, tribal conflicts, loss of freedom, hunger, pre-matured death, competition and fire hazards. Factors suggested by the local residents that could elicit their support for the project include Employment (18.38 %), Credit facilities (16.22 %), and provision of farmlands (14.05 %), while viewing centre (3.24 %), Schools (4.33 %) and Vocational training (4.86 %). For the management of the National park, local residents also expressed willingness (76.47 %) to participate in the management of the park. It is therefore recommended that the park management should implement measures suggested by the local communities, which can elicit their support for the park project.

Key words: community, attitudes, conservation, chimpanzee habitat and protected area.

INTRODUCTION

Man is the major architect of destruction to any ecosystem requiring urgent conservation intervention today. Biodiversity conservation is a lead area of discipline playing a vital role in the management of human interaction with the variety of life forms in different ecosystems so as to both maximise the benefits they provide and maintain their potentials to meet the needs and aspiration of future generations (Reid and Miller, 1989).

Gashaka Sector of Gashaka Gumti National Park is home to several primate species such as Olive baboon (*Papio*

anubis), Putty-nosed monkeys (*Cercopithecus nictitans*), Mona monkeys, (*Cercopithecus mona*), and Black-and-White Colobus (*Colobus guereza*) were commonly (C) sighted; Tantalus monkeys (*Cercopithecus aethiops*) including the fourth subspecies of Chimpanzee (*Pan troglodytes ellioti*) that is only found in Nigeria and adjacent Cameroon, otherwise known as the Nigeria-Cameroon chimpanzee.

This taxon which was formally labeled as endangered, (*Pan troglodytes ellioti*) is now critically endangered; on the basis that its population has declined by 80% over three generations. In 2005, the Section in

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Great Apes of Primates Specialist Group of the International Union for the Conservation of Nature (SGA/IUCN/PSG), recommended that it should be classified on the red list of threatened species of IUCN. Furthermore, the IUCN/SSC Primate Specialist Group and Zoological Society of San Diego in 2011 stressed on the need for the implementation of conservation plan for the Nigeria-Cameroon chimpanzee at their Regional Action Plan for this subspecies of Chimpanzees in Limbe, Cameroon (Morgan et al., 2011).

Nigeria-Cameroon chimpanzee has its stronghold inside GGNP and based on the modern concept of conservation, as the wise maintenance and utilisation of the earth's resources such as wild animals and plants, is no more than the combination of these two ancient principles: the need to plan resource management on the basis of accurate inventory; and the need to take protective measures to ensure that resources do not become exhausted (Marguba, 2002). One of the tools of conservation is the 'Protected Area System' (IUCN, 1986); which include the National Parks such as GGNP. GGNP like other protected areas play a vital role in the conservation of biodiversity according to IUCN (1986). The concept of National Park Development has its root in the United States of America where the United States Congress declared Yellow Stone as the first National Park in 1872 (Marguba, 1999). The history and methods of conservation during the colonial days brought about conflict and hostility among the locals. These hostilities are still hampering conservation efforts in many parts of Africa today (Adams and Hulme, 2000; Thompson, 2001). Kothari (2001) and Western (2001) observed that there is an attempt to end these hostilities using Community Conservation (CC) or Community-Based Conservation (CBC) which has becomes the pattern or model of

conservation work in Africa as well as other parts of the world. It works on the principle that conservation cannot and should not be pursued against the interest and wishes of the local people for whom it yields economic returns and contributes to sustainable livelihoods. Conservation in Nigeria has been part and parcel of the traditions and practices of various cultures. In the past, some communities carved out sacred grooves for the worship of their traditional gods and some patches of forest were conserved within their surroundings purposely for hunting. Some plants and animal species valued for purposes such as medicines, shade or food were preserved through taboos.

Marguba (2002) also observed that management programmes of national parks include what he referred to as Support Zone Community Programme, in which communities living around the park are provided with educational, and health facilities as well as infrastructures such as roads, electricity and pipe borne water. Employment opportunities and local participation are also expected to be part of the benefits desired by the local people from the management of the national parks (Alexander, 2000). Tchamie (2000) observed that the support of the local communities living around the national parks can only be obtained if the management programmes of the parks are able to take care of the needs of the people. Therefore, policies that must reconcile government interests with those of the local populations should be put in place and managed to safeguard protected areas and sustain their resources (Tchamie, 2000). Abundance of park resources and effective conservation strategies will be meaningless if deliberate illegal exploitation these park resources by the local people persists (Dunn, 2002). The support zone community programme of the park also needs to be evaluated in order to ascertain areas of conflict and reasons for

the total lack of support to local residents for the park project. Hence, the study aimed at providing information on the attitudes and perception of local residents towards the GGNP which will have an impact on the conservation of the Nigeria-Cameroon chimpanzee.

MATERIALS AND METHODS

The study area

Our research took place in the enclaves of the Gashaka Sector of Gashaka Gumti National Park (GGNP; Dunn, 1999; Sommer and Ross, 2011). GGNP is, at about 6,670 km², Nigeria's largest national park (Fig. 1) and sharing an international boundary with the Republic of Cameroon (06°55' – 08°13' N, 11° 13' N – 12°11' E). GGNP demarcates the northern edge of the Cameroon Highlands and Africa's Gulf of Guinea forests, and an ideal home of biodiversity (Oates et al., 2004). GGNP is divided into the relatively flat Gumti sector in the north and the mountainous Gashaka sector in the south where flourishing population of primates exist. Vegetation types include flat grassland, Guinea savannah-woodland, riverine and gallery forest, lowland rain forest, montane forest and montane grassland. The Gashaka Primate Project maintains a field station at Kwano (583 m; 07°19' N–011°35' E), 11 aerial km from the nearest village of Gashaka brought knowledge of primates into limelight.

Figure 1: Location of Gashaka Gumti National Park (Source: Warren, 2004).

Climate

Weather data measured at Kwano from 2001–2008 (Sommer and Ross, 2011) reveal a pronounced alternation between annual wet and dry seasons with corresponding fluctuations in temperature, humidity and vegetation cover. The yearly mean rainfall is 1973 mm (2001: 1683; 2002: 2056; 2003: no data; 2004: 2337; 2005: 1945; 2006: 2279; 2007: 1786;

2008: 1726). Mean monthly humidity at sunset fluctuates between 59% (February) and 87% (September). The mean minimum temperature is 20.9°C, the coolest recorded temperature 14°C (January, December), the mean maximum 31.9°C, and the hottest day on record 43°C (March 2001).

Study Design

For the socio-economic survey, structured questionnaires were administered to the respondents. The respondents were heads of households only. Heads households were chosen because of their influence in the community.

Multi-stage sampling technique was adapted to select 5 respondents in each community totalling 35 in the study area. The communities are Gashaka, Mayum, Selbe, Mayo-Sabere, Filinga, Mai-Idanu and Njawai.

Data analysis

Residents' attitudes, perceptions, as well as factors that influence resident attitude towards the park project were analysed using descriptive statistics involving percentage frequencies and graph and inferential statistics such Mann-Whitney U-test.

Results

Awareness of the Values of the Park Project.

Table 1 shows the awareness of the values of the park by the people living around the park. Respondents that were aware of the values of the park were 5 each in Gashaka and Selbe; 2 each in Filinga and Mayo-Sabere; Mayum and Mai-Idanu, 1 each and 0 in Njawai making up to 78.79% of the respondents. Respondents that were not aware of the values of the park were 5 in Njawai, 4 each in Mayum and Mai-Idanu; and 0 each in Selbe and Gashaka giving 21.21% of the respondents.

Table 1: Awareness of the values of the park project.

Communities	Those aware of the park values	Those not aware of the park values
Gashaka	5	0
Mayum	1	4
Selbe	5	0
Mayo-Sabere	2	3
Filinga	2	3
Mai-Idanu	1	4
Njawai	0	5
Total	26	7
Percentage	78.79	21.21

Perceptions and attitudes of the people living around the park toward the park project Results of the respondents' perceptions on whether the park is a good project or not is presented in Figure 2. Respondents that were of the opinion that the project is a good one in Gashaka and Selbe were positive (n = 5 and 3 respectively). Only 2 respondents in Mayum, Filinga and Mai-Idanu viewed the national park as a good project while those that were of the opinion that it is a bad project were mostly from Njawai (n = 4), Mayo-Selbe (n = 3) and Mayum (n = 3) communities. Respondents that were undecided on whether the park is good or bad project came from Mai-Idanu (n= 2), Njawai (n = 1), Filinga (n = 1) and Selbe (n = 1). Only Gashaka community scored a 0 Respondent on goodness or badness of the National park.

Figure 2: Respondent's perception on whether the park is good or bad. Suggested problems brought by the existence of the park The results in Figure 3 shows that respondents suggested 13 independent problems (poverty, divorce, diseases, illiteracy, idleness, immorality, disgrace, tribal conflicts, lost of freedom, hunger, pre-matured death, competition and fire hazards) that they think have come to stay with them as a result of the existence of the

National Park. For the 35 respondents interviewed, the results indicate that the most frequently mentioned problem was poverty (n = 34), followed by illiteracy (n = 31), diseases (n= 29), hunger (n = 29), and pre-mature death (n = 28) while disgrace (n =7), divorce (n = 9), competition (n = 14) and immorality (n = 16) were the least mentioned problems from the bottom.

Figure 3: Respondent's suggestion of problems brought by the Park in the study area.

Opinion of the Respondents on the Progress Made by the Park Figure 4 shows the result of the residents' opinions on whether the park has made any progress or not since its inception. The result shows that 5,4, and 3 respondents from Gashaka, Mayo-Selbe, and Mayum respectively were of the opinion that the park has made some progress while 0,1,2, and 2 respondents in Njawai, Filinga, Selbe and Mai-Idanu least supported the fact that the national park has made progress since its inception. However, respondents from Selbe, Filinga and Njawai (4 each) indicated that no measurable progress was made since the establishment of the National Park. Mayo-Selbe and Filinga had no respondents (0) who were undecided on

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 the progress made so far since the establishment the national park.

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Figure 4: Respondent's perception on whether the park is marking progress or not.

indicates the result of the respondents' attitude toward the park, on whether they trespassed into the park or not. The result shows that 5,5,4,2,1 and 0 respondents in Filinga, Njawai, Mayo-Sabere, Mayum, Selbe, Mai-Idanu, and Gashaka respectively trespassed into the park while 5,3,3,1,0,0, and 0 respondent from Gashaka, Selbe, Mai-Idanu, Mayum, Mayo-Sabere, Filinga and Njawai did not trespass. However, 1 respondent each from Njawai and Mayo-Sabere declined to indicate whether they trespassed into the park or not.

Respondents' Attitude Towards the Existence of the Park Results of the respondents' attitude toward the existence of the park are presented in Figure 5. The result indicates that only respondents from the Gashaka (n=4) and Selbe (n=3) communities supported the existence of the national park, followed by Mayo-Sabere (n=1) and Mai-Idanu (n=1) while Mayum (n=0), Filinga (n=0) and Njawai (n=0) did not indicate any support on the existence of the national park. However, Filinga (n=4), Njawai (n=5), Mayo-Sabere (n=4), Mayum and Mai-Idanu (3 respectively) clearly did not support the national park's existence. Respondents from Mayo-Sabere and Njawai (Undecided=0) were very sure of the decision on the existence of the national park while 1,2,1,1, and 1, respondents from Gashaka, Mayum, Selbe, Filinga and Mai-Idanu were yet to decide on the existence of the national park (fig. 4).

Figure 6: Respondents who trespassed and those who did not trespass Development Options that Elicit Local Support Table 2 shows the development options that the park management has to provide to elicit the support of the residents. The developmental options mentioned by the respondents include employment, credit facilities, road construction, festive hunting, farmland areas, health facilities, agricultural inputs, schools, viewing, and vocational training programmes. Respondents mentioned mostly Employment (18.38 %), Credit facilities (16.22%), and provision of farmlands (14.05 %), while viewing centre (3.24 %), Schools (4.33 %) and Vocational training (4.86 %) were least from the bottom.

Figure 5: Respondents who supported the continuous existence of the park and those who did not. Respondents' Attitude toward the Park in Terms of Trespass Figure 6

Table 2: Development options influencing respondents' support for the park project
 Development Options

	Frequency	Percentage (%)
Employment	34	18.38
Credit facilities	30	16.22
Road	20	10.81
Festive hunting	18	9.73
Farm land areas	26	14.05
Health facilities	23	12.43
Agricultural inputs	11	5.95
Schools	8	4.33
Viewing centre	6	3.24
Vocational training	9	4.86
Total	185	100

1. Participation in the Park Management by Local Residents Results of willingness to participate in the management of the park project by the local residents is presented in Table 3. The result indicates that 76.47 % of the respondents were willing to be involved in the management of the park, 14.71 % were not willing to participate in the management of the park while 8.82 % were undecided.

Table 3: Willingness to participate in the management of Gashaka Sector of GGNP

Community	Willingness to participate	Not willing to participate	Frequencies
Undecided	5	0	0
Gashaka	3	1	1
Mayum	4	0	1
Selbe	4	1	0
Mayo-Sabere	5	0	0
Filinga	3	1	1
Mai-Idanu	2	2	0
Njawai	26	5	3
Percentages	76.47%	14.71%	8.82%

DISCUSSION

The Social Survey

While most local residents (78.79%) understood the intrinsic, aesthetic and material values of the park project, some of the members (33.33%) were dissatisfied with the project and were of the opinion that it should be abolished. The 100 % (n = 5) indication on the knowledge of the values of the national park by the respondents from Gashaka community may be as a result of their constant contact with the big conservation projects that worked in the park (e.g. Nigeria Conservation Foundation, NCF) and the current largest primates research project in Nigeria (Gashaka Primate Project, GPP). Many people from the Gashaka community have benefited directly from these projects through employment, road network, community developmental programmes and capacity building. For example, when GPP first came into existence inside GGNP, only an individual was a bicycle owner in Gashaka village, but now all the

Field Assistants (FA) of GPP are rightful owners of sophisticated motorcycles with financial sources from the salaries earned from GPP. Furthermore, senior Researchers, post Doctoral, researchers, Students, volunteers and tourists visiting the park mostly stay and interact directly with the people from the Gashaka community which in turn provides all sort of benefits to them. On the other hand, other communities living around the park e.g. Mayum, rarely have direct contact with the park management, tourists, researchers, students and all of those people that come to the park. Instead, their constant visitors are the Park rangers whose primary aim of coming is for anti-poaching patrols and therefore, being viewed as enemies of progress by the host communities, hence their position as unknowledgeable of the benefits of the national park to them.

Respondents suggested 13 independent problems (poverty, divorce, diseases, illiteracy, idleness, immorality, disgrace,

tribal conflicts, lost of freedom, hunger, pre-matured death, competition and fire hazards) that they think have come to stay with them as a result of the existence of the National Park. These problems are perhaps not new in the society but their peculiarity as far as respondents are concerned has greater weight in their communities due to constant interaction with the national park workers.

Close observation of the community members however, show that some of the mentioned problems were clearly written on their faces while others were seen to be an over exaggeration. Poverty for example, is a common problem at all levels of a given society but they had their reasons to convince us that the National Park is responsible for their present financial status.

Noticeably, is the fact that poverty could be a mother to other problems in the society such as divorce, illiteracy, idleness, diseases, disgrace, hunger, mental disorder and pre-mature death.

According to the respondents, the existence of the National Park has changed their destinies and made them more susceptible to poverty through very hard and heavy laws prohibiting them from hunting, collection of medicinal plants, fishing, shifting cultivation and the up-hill and down-hill movement of cattle. Before the establishment of GGNP, their great grand and grandparents were predominantly active in one or a combination of the above mentioned sources of income. However, most of these financial sources can only be accessed with the aid of laid down permit/license procedure which is rather complicated and not affordable to the common man or absolutely prohibited by laws that are not from the gods of the land.

This is because in the past, only laws that tallied with their idols could stop them from any land use system. For example religious and cultural taboos are great

conservational tools for primates, pigs and bats in the surrounding communities of the Gashaka sector of GGNP (Sommer and Caroline, 2011).

Divorce as indicated by this study is perhaps a revelation of the poverty level of the communities in question. This is because an expression of good living in the study area is easily shown by numerous weddings not just by the number of individuals but also by the numbers of wives a man can keep at a given time. The Muslim community is predominant in the study area and by Islamic rite can marry maximum of four (4) wives during a particular period, is determined by the man's financial background as they will have to depend solely on him for clothing, housing, feeding, and all of those needs as a housewife. It is therefore, easy to detect periods of financial setback from resulting divorce cases in the community (per. obs.). When money enters, the man's priority is marriage and when poverty emerges, divorce remains the top evidence.

Another important problem frequently suggested by the respondents was diseases which they think the National park is a contributing factor. Two categories of diseases were suggested by the respondents (Human-human transmissible diseases and Human-wildlife transmissible diseases). Firstly, most of the respondents pointed out to us that most of their community members have lost their lives after being diagnosed HIV positive believed to have been transmitted from National park staff (e.g. Rangers). Some HIV cases that resulted into pre-matured death was highlighted to us but in most cases may be false and emanating from psychologically impaired –brain individuals. That is absolutely immorality and unacceptable. The outcome in most cases especially for couples is the innocent orphans who are left behind without any sense of belonging, no home, no education and increases human dependant on nature. Secondly,

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with the coming of the National park, animal populations are booming such that they now share most of rivers (which are the only source of drinking water) with wild animals. Hence, the resultant consequence could be human infections such as bilharzias.

When resources are in short supply, competition prevails in an attempt to make a living. In this case, the National park has probably taken the largest part of their land and the remaining portion is not enough to support the communities living around the park, hence competition between the farmers and the pastoralist Fulani people, hence, the frequent cases of conflicts. Sometimes such conflicts takes different dimensions with respect to targeted enemy which could be one or a combination of the following; Ranger verses the Fulanis, Rangers verses the farmers, farmers verses the Fulanis and sometimes Farmers verses Farmers. Fire hazard is one of the problems frequently occurring in enclaves around the park. This can be a serious problem resulting from the National park's law against illegal bush burning. After the enactment of such law against bush burning, one will expect that controlled bush burning is properly ensured year in, year out. However, these bushes are left to dry excessively and when park trespassers set fire illegally, the bush burns uncontrollably into farmlands and homes living most community members without farm stock and sometimes even homeless. A similar incidence occurred in Gashaka village at night and even livestock were destroyed by the bush fire (Per.obs.).

Besides, 42.42 % and 36.36% of the respondents who were of the opinion that the project is good and have made progress respectively are in the minority. This latent hostility must have been caused by the projects inability to attract the necessary infrastructures and social amenities expected from it to their communities. For instance, a foot path (outside the park) and

road track (inside the park) that connects the headquarter of Gashaka Local Government (Serti town) and neighbouring cities of Cameroon cut across the national park and passes through 4 of the study area (Gashaka, Njawai, Selbe and Filinga). There are 3 major rivers on this road that remains bridgeless thereby posing transport difficulties during the rainy seasons. Their children are still receiving lessons under the trees where primary schools luckily exist. The health care centres that were constructed in the 19th century and under dilapidated state are yet to be renovated or replaced as the case maybe.

Furthermore, the park project seems to have been immensely harmful for the local populations through the loss of hunting ground and therefore loss of protein for the rural populations, loss of developmental projects (e.g. buildings due to limited land), loss of freedom, loss of entrepreneurship/jobs, loss of cultural ethics, loss of grazing lands and abandonment of productive farmlands with a consequent loss of indigenous population. Where farmlands have been set aside for the rural communities, crop raiders become the most wanted on the crops cultivated. Human-wildlife conflict is usually the outcome which ultimately becomes human-human conflict between the rural farmers and the rangers or in some cases, the researchers. There is therefore that feeling of expropriation, displacement and then being ignored.

This situation undoubtedly must have informed the high incidence of trespass into the park which agrees with Tchamie (2002)'s report for protected areas in Togo. This is because, people who have been deprived of their land and everything therein will always expect some sort of compensation and if all else fails, they will be left with no option than to go back to what seems to be the only genuine source of survival. When an incidence like this

happens, the people are being viewed as trespassers but to them it is just a normal and routine activity. For some respondents to have disclosed their status as park trespassers is probably an indication that this illegal activity is very common among the different communities and that others may have just hid the truth to be free from hash penalties spelt out in the park management plan.

Results obtained clearly showed that provision of basic social amenities would go a long way in checking the problem of trespassing in the park. The local needs are dominated by five (5) main requests: employment, credit facilities, road network construction, health facilities and festive hunting. This result agrees with Alexander (2000) report on the Community Baboon Sanctuary in Belize. From the suggested local needs of the respondents, it is conspicuous that poverty is one of the major constraints for the rural communities around the park. This situation calls for a quick intervention of the park management as suggested by the residents and which will ultimately, if properly addressed generate interest and support for the park by the local people. However, a need like credit facility must be treated with wisdom as its provision may only make them even more susceptible to debt and a consequence imprisonment.

A significant number of the respondents (78.80%) were willing to be involved in the management of the park. In line with the respondents' suggestion, the park management should without delay actualise the participation of the local residents in the management of the park through employment, formation of local committees, vocational training centres, appointment as informants and formation of youth clubs in the support zones. Revenue sharing between park management and local residents or the provision of subsidy to the elderly ones and orphans living around the park may be

an alternative. This observation agrees with the recommendations of Alexander (2000) for the conservation of black howler monkeys in the Community Baboon Sanctuary in Belize.

CONCLUSION

From the results, it can be concluded that most people of the support zones of the park are sufficiently aware of the values of the park. Local residents' perceptions and attitudes are currently on the negative side but can be reversed by providing the communities with essential social amenities. Participation of the local people in the management of the park was found to be very vital for long-term survival of Gashaka sector of Gashaka Gumti National Park.

The negative perception and attitudes of local residents were found to be expressed in their rate of trespass into the park which may constitute a negative influence on the wildlife species diversity and abundance. In view of these findings, it is recommended that efforts should be made by the park management to create alternative means of livelihood for the youths of the local residents, provide basic social amenities such as schools, incentives to the needy, orphan and the elderly ones, health-clinics, roads/bridges, scientific method of farming and utilization of land bordering the protected area should be taught to the local residents. This will further make them feel integrated into the park project protection processes. Agricultural inputs should also be provided. The park management should ensure that the local residents are adequately involved in the management of the park through direct employment, appointments as liaisons officers, informants and formation of committee's youth clubs in the support zones. The park management should come up with programmes that can alleviate poverty

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among the local residents. Such programmes should include craft making (which could be patronised by tourists) and the involvement of the local residents as tour guides.

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