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Causes and Impacts of Conflict on Biodiversity Management at the Buffer Zone of Old Oyo National Park, Oyo State, Nigeria (Pp. 485-495)

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Abstract

The study assessed causes and impacts of conflicts on biodiversity management in Old Oyo National Park (OONP), Nigeria. Ten villages out of about 41 villages sited within 10km radius around OONP were randomly selected for wildlife assessment. A total of 100 questionnaire were administered to the villagers while 40 questionnaire were administered to Park Staff. Oral interview was also conducted. Secondary data was collected from relevant records and documents on the park. Data collected were subjected to inferential and descriptive statistics. Result shows that among other demographic factors tested against the causes of conflict in the park, education status and occupation show significant differences ($P<0.05$). The buffer zone around the park has been extensively encroached; this made most of the surrounding villages to the park fall within the average distance of

2.6km. About 82% of villagers make use of fire during land preparation. About eighty seven percent of offenders arrested in 2009 were herdsmen while illegal hunters accounted for 8.4%. Major animals that intrude farmland in the study areas include Grasscutter (100%), Bush fowl (100%) Baboon (90.0%), Warthog (70.0%) and Roan antelope (70.0%). Availability of tarred road, medical facilities, schools, electricity and portable water is limited in the study area.

Key Words: Conflicts, Buffer zone, Old Oyo National Park, Poacher

Introduction

National Parks are refuges of tranquillity and peace, yet they are also places where conflict occurs. In a world in which the bio-physical environment and socio-cultural system are changing rapidly, conflicts involving protected areas are unavoidable. However, conflicts that are properly addressed can be opportunity for problem to be identified and solved. In the Nineteenth and early part of twentieth century, most African countries were colonized by Europeans, who set apart large areas of land containing wildlife and other natural resources for conservation under state ownership. Thus, colonial government owned relatively high-density of wildlife areas in many parts of Africa. Rural communities with traditional custodians of wildlife resources were forcibly moved out of their ancestral areas of land and consequently alienated from the wildlife that they once owned (FAO, 1990b; 1990d).

This alienation of indigenes from their wildlife was backed by legislation with no respect for chiefs, rural communities and their traditional and cultural values. This conservation approach has grievous consequences; it cut into the hearts of long-held tradition and customs of indigenous people which form integral part of their existence. Deprivation thus evolves a strong sense of injustice among the rural dwellers that lived next to the protected areas and most time engage in poaching. The colonial and post colonial government on the other hand responded by adapting a vigorous militaristic anti-poaching campaign which resulted into various problems. The study therefore assessed causes and impacts of conflicts on biodiversity management in Old Oyo National Park (OONP), Oyo State Nigeria with the view to making appropriate recommendations.

Methodology

The Study was carried out at Old Oyo National Park, Nigeria, West Africa. The Park stretched through Guinea and derived savannah. The park lies between latitude 8⁰15' and 9⁰ north; and longitude 3⁰35' and 4⁰42' east and

cover a total area of 2,512km². Apart from direct observation, structured questionnaires designed on the principle and pattern described by Gitz, 1992 (cited by Akinyemi, 2000) which is recommended for participatory appraisal were applied. Two sets of questionnaires were designed for the study. The first set of questionnaire was targeted at the villagers while the second set was administered to the park staff. Ten villages out of about 41 villages around the park were used as study sites. The park has five ranges. Two villages were randomly selected from each range. Twenty questionnaires were administered on each range. This put the total questionnaire used for villagers at 100. Forty questionnaires were administered to the staff of Old Oyo National park most especially those in park protection and conservation (PPC) Department because of their direct dealing with villagers around the park. Other staff were randomly selected from other Departments of the staff. Personal interview were conducted for heads of Department and field staff and villagers around the park. Secondary data were obtained through records of varieties of wildlife species impounded from poachers arrested in recent time and carcass left over by carnivorous animals.

Computer analysis with statistical package for the social sciences (SPSS) software was used for the analysis, Chi-square (X^2) test and calculation of observed information was carried out. Descriptive statistics of the data collected were also represented in tables and charts.

Results

Table 1 shows the past and present records of some large mammals in Old Oyo National park. More of the wild animals were no longer available in the park while Table 2 shows the wildlife species that intrude into villagers farms in the study sites. Wild animals listed in Table 3 cause a considerable amount of loss to villagers farm products in various degrees annually without any compensation from the park authority. However, most villagers do not report the damage incidence to the management. This is because they see the killing of such strayed animals as a form of compensation to them. Response from park staff also revealed that, they have never received any petition from villagers as regards crop damage by wildlife.

Table 4 indicated that only level of education of the respondent have significant impact on the causes of conflict in the park. As shown in Table 5, 93.94% of the villagers depend on fire wood as source of fuel. To persuade the villagers to desist from encroaching to the park in search of fire wood and coal production, alternative source of fuel must be provided and at

affordable price. Currently most villagers cannot afford the price of kerosene and gas. Barely 6.06% make use of kerosene stove.

Thirty-seven of the respondents acknowledged that there are conflicts in the area. Animal grazers (45.90%) have the highest percentage and this was followed by land dispute (32.4%). Table 7 shows that illegal grazing (63.65%) is the major threat to management of biological diversities in the park, followed by illegal hunting (30.33%) and farmland encroachment (6.06%). Illegal grazing by Nomadic animal keepers is more pronounced in Oyo-Ile range which is at the northern part of the Park. Resistance of animal keepers and hunters often results in various level of conflicts in the park. Attack on park staff has become a common occurrence. For instance, Mr Sikiru Olatubosun was shot dead on 3rd of December, 2009 (Old Oyo National Park Annual Report for year 2009). The incident happened during a bush burning exercise in Ogundiran axis of Oyo-Ile Range. The man was shot dead by a suspected hunter. Another ranger (Mr Mustapha Waheed) got his left hand finger severed and part of his hand slashed. This kind of incidence creates a great enmity between park managers and illegal users of park resources.

The result in table 8 shows that grazing constituted highest percentage of no of arrest (46.10%); this agrees with the result obtained in Table 7. Mining and logging activities in the park has been successfully curtailed in the recent years. Illegal mining activities were at its peak between 2005 and 2006. There was progressive increase in number of arrest among illegal grazer between 2005 and 2009. This could be attributed to desertification in the northern part of the country that is forcing the animal keepers down the southern part of the country. This incidence must be addressed to put an end to habitat destruction of the park land and to avoid diseases transmission between domestic animals and wildlife species.

In order to control conflict occurrence in the park, 35.70% percent of the staff suggested that conservation education should be intensified while 21.4% believe that joint patrol is the only effective way to control poachers. Compensation for villagers (14.20%) and legal action (14.20%) share the same percentage of respondent. Respondents that suggested the creation of range land for animal keeper was 7.10%.

Discussion

Consistent reduction of wildlife biodiversity in old Oyo national park should be a source of concern to the park management. The remaining large

mammals in the park are below what was reported by Petrides (1965). Just about 22 years after Petrides, big animals like lion, leopard and Elephant have disappeared (Ayodele, 1988). A similar survey carried out by the park in 1994 confirmed the discovery. Furthermore, most of these big games, especially carnivores like lion and leopard, have become unduly scarce in the park. There is no single report of elephant in all the ranges visited. This could be a good inference that elephant is no longer available within the park. There is no report of elephant damage to farm crops in all the villages visited during this study. This is in contrast to report given by Akinyemi (2000) who recorded a good number of elephant damage to crops at Yankari National Park (Now Game Reserve). A Park is made popular to the tourist by the number of big games it could parade. All the rangers interviewed also agreed that they have not seen elephant in the park in recent time. Prevalence of herbivorous species like kob and other antelopes also confirmed that carnivorous species are very few in numbers even if they are present.

This negative trend in reduction of wildlife species must be reversed if the future of this park is to be secured. However Baboon, Hartebeest, Roan antelope and Oribi are still very abundant in the park despite the pressure from poachers. All these animals were reported by villagers around the park for destruction of farm produce. For example 90.0% of villager mentioned baboon as maize destroyer. Seventy percent of respondent reported the presence of antelope on their farmland. Sixty percent noted the presence of warthog on their farm. All respondent acknowledged the presence of grass cutter and other rodents. None of them made mention of elephant which is very popular for its destructive behaviour whenever it is present.

Sustainable development suggests that conflict over the utilization of renewable natural resources can be avoided or reduced through greater stake holders' participation during project planning and management (World Bank, 1995). This emphasis on participation is particularly relevant to the poor. Conflicts in protected area continue for a number of reasons. The continuing dominance of conservation goals over the livelihood needs of local people, and emphasis on reducing the dependency of local people on resources of conservation values, rather than increasing their stake in sustainable resources management.

Causes of conflict in the park vary with education status of respondents. Other factors such as Religions, maturity, marital status and sex have no significance difference. The reason for conflict in most protected area is very

obvious, limited resource with numerous users. Farmers need more fertile land to cultivate, herdsmen need fodder for their animals, poachers need meat and money while the park authorities consider conservation of biological diversity as priority.

Conclusion

The study shows that Nomadic cattle keepers and poachers are park major 'enemies'. Land dispute among the villagers also contributed to conflict in the study area. There was high level of illiteracy in the study areas and this is a barrier to effective conservation education and implementation. Hunting activities in the villages revealed that wild animals are under constant threat by poachers, whose business is to kill any animal that comes their way. Despite all challenges, Old Oyo national park can still boast of a good number of wildlife species which must be protected jealously from further poaching and extinction. Challenges are multidimensional and need to be addressed tactically and strategically.

Recommendations

Regular research on population status of natural resources in the park is very essential. This will help the park authority to monitor increase or decrease in number of a particular species of plant and animal in the park. This will help to prevent reduction of biodiversity. Universal Basic Education (UBE) should be extended to the interior of rural areas around the park to curtail high level of illiteracy found in the community around the park. The Nomadic Education specially conceived for migratory herdsmen should be encouraged.

The park authority should incorporate local communities in planning, implementation of policies and management. Villagers should also partake in sharing of benefits. By this, the managers will carry along the local communities in their conservation efforts and enlist their absolute loyalty and support. There should be open day for villagers to visit the park as tourists without charging them any fee. Educating them under such free and friendly atmosphere would yield a better result. This will also create a better rapport and understanding between the park staff and villagers around the park. Establishment and proper management of range land for livestock keepers is highly recommended to keep domestic animals away from protected areas. Youth empowerment and provision of alternative employment will help to divert attention, time and energy of youth from poaching and other social vices. Rangers must be equipped better to give the park the required

protection. General infrastructural development by the federal government will also help to alleviate poverty among the rural dwellers.

Anthropogenic activities around the Park needed to be cautiously integrated and managed along with the protected area. Conservation education and other social wellbeing must be enhanced through provision of social amenities, alternative employment and creation of range land to secure the future for the Park.

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Table 1: Past and present records of some large mammals in Old Oyo National park

Animals	Petrides 1965	Ayodele 1988	FDF 2000	Old Oyo National Park Field Survey 1994	Field Survey 2010
Lion(<i>Panthera leo</i>)	+	-	**	**	-
Leopard(<i>Panthera pardus</i>)	+	-	-	-	-
Greater bustard	+	-	-	-	-
Secretary bird(<i>Sagittarius serpentarius</i>)	+	-	-	-	-
Ground hornbill(<i>Bucorvus abyssinicus</i>)	+	-	-	**	-
Spotted hyena (<i>Crocuta crocuta</i>)	+	-	**	+(F/P)	**
Serval Cat (<i>Felis serval</i>)	+	-	+	**	**
Aardvark(<i>Orycteropus affer</i>)	+	+	-	-	+
Elephant (<i>Loxodonta africana</i>)	+	-	+	+	-
Warthog (<i>Phacochoerus aethiopicus</i>)	+	-	**	+	+
Riverhog (<i>Potamoercus porcus</i>)	+	+	+	+(f/p)	+
Buffalo(<i>Syncerus caffer</i>)	+	+	-	+	+
Kob (<i>Kobus kob</i>)	+	+	-	+	+
Waterbuck (<i>Kobus defassa</i>)	+	-	-	-	-
Reed buck(<i>Redunca redunca</i>)	+	+	**	-	-
Roan antelope (<i>Hipotragus equinus</i>)	+	+	+	+	+
Hartebeest (<i>Alcelaphus buselophus</i>)	+	+	-	+	+
Oribi(<i>Ourebia ourebi</i>)	+	+	+	+	+
Patas Monkey (<i>Erythrocebus patas</i>)		+	**	+	+
Green Monkey(<i>Cercopithecus aethiops</i>)		-	+	+	-
Margabey (<i>Cercocebus torquatus</i>)		-	-	**	-
Hunting dog (<i>Lycaon pictus</i>)		-	+	**	**
Common duiker(<i>Cellophalopus sylvicultor</i>)			+	**	+ +
Red flanked duiker (<i>Cellophalotus rufilatus</i>)		+	+	+	+
Bush buck (<i>Tragelaphus</i>)		+	-	+	+

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<i>scriptus</i>)										
Baboon (<i>Papio anubis</i>)				+		+	+			+
Fox(<i>Fennecus zerda</i>)							+			**
African wildcat(<i>Felix sylvestris</i>)							+			+(f/p)
Civet(<i>Viverra civetta</i>)							+		-	

+ = present; - = absent; ** = information of its presence from park guards; f/p = foot print.

Table 2 : Wildlife species that intrude into villagers' farms in the study sites.

Animal species	Igboho	Budoho	Alapat	Igbeti	Iker	Alayi	Olodo	Dogo	Gbouro	Yawota
Baboon	+	+	+	+	+	+	+	+	+	+
Roan antelope	+	+	-	-	+	+			+	+
Grass Cutter	+	+	+	+	+	+	+	+	+	+
Warthog	-	-	+	-	+	+	+	+	+	+
Bush buck	+	+	-	+	+	-	+	+	+	+
Elephant	-	-	-	-	-	-	-	-	-	-
Giant rat	+	+	+	+	+	+	+	+	+	+
Bush fowl	+	+	+	+	+	+	+	+	+	+
Land squirrel	+	+	+	+	+	+	+	+	+	+

Table 3: Wildlife species and crops damaged in the buffer zone of Old Oyo National Park

Animal Species	Crops damaged
Roan antelope(<i>Hipotragus equinus</i>)	Okra, yam leaves
Baboon(<i>Papio anubis</i>)	Maize, Locus beans, Mango
Warthog(<i>Phacochoerus aethiopicus</i>)	Cassava
Grass cutter(<i>Thryonomys swinderianus</i>)	Cassava
Giant rat(<i>Cricetomys gambianus</i>)	Yam, cassava
Bush fowl(<i>Francolinus bicalcaratus</i>)	Maize, yam
Land squirrel(<i>Xerus erythropus</i>)	Groundnut
Patatas Monkey(<i>Erythrocebus patas</i>)	Maize, mango
Duiker(<i>Cellophalotus rufilatus</i>)	Yam leaves

Table 4: Dependence level of demographic characteristics on cause of conflict in the park

Demographic variables	χ^2	df	P value
Education	58.06	28	0.0072*
Religion	25.5	28	0.5995
Nativity	52	7	0.6286
Marital status	13.9	21	0.8726
Sex	50	7	0.65318

*significant at $p < 0.05$

Table 5: Sources of Domestic Energy to the Villagers

Sources of Domestic Energy	Frequency	Percentage
Firewood	93	93.94
Kerosene	6	6.06
Gas cooker	0	0.00
Electric cooker	0	0.00

Table 6: Causes of conflict in the Park as reported by Rangers in different Ranges

Range	Land Dispute	Unemployment	Animal Grazers	Market Problem	Misunder Standing	Poaching	Family Issues	total
Marguba	5	2	1	1	0	0	0	9
Oyo-Ile	3	0	9	0	0	0	0	12
Tede	1	0	1	0	2	0	0	4
Sepeteri	2	0	1	0	0	1	1	5
Yemoso	1	0	5	0	1	0	0	7
Column total	12(32.4)	2(0.5)	17(45.9)	1(0.27)	3(0.81)	1(0.27)	1(0.27)	37(100)

Percentage of occurrence of conflict in brackets.

Table 7: Major causes of conflict in the park

Causes	Frequency	Percentage
Illegal hunting	10	30.33
Illegal grazing	21	63.63
Farm land encroachment	2	6.06
Total	33	100

Table 8: Number of arrest and types of offence committed (Percentage of number of arrest in brackets)

Year	Total No of arrest	Grazing	Hunting	Farming	Mining	Logging	Others
2009	119	104	10	03	-	-	02
2008	158	89	62	-	-	-	07
2007	96	54	32	-	-	02	08
2006	103	42	30	04	10	03	14
2005	121	21	33	04	41	05	18
2004	48	03	06	-	19	07	13
2003	38	02	08	-	16	02	10
Total	683 (100)	315(46.1)	181(26.5)	10(1.4)	86(12.6)	19(2.8)	71(10.5)

Source: Old Oyo National Park Annual Reports

Table 9: Solutions suggested by staff to control conflict in the park

Suggestions	Frequency	percentage
Joint patrol	6	21.40
Legal Action	4	14.20
Conservation education	3	5.70
Creation of range land	2	7.10
Compensation for villagers	4	14.20
Dialogue with villagers	2	7.10