WILDLIFE-HUMAN INTERFACE: A CASE STUDY OF YANKARI NATIONAL PARK BAUCHI STATE, NIGERIA.

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ABSTRACT

Most of the serious problems facing protected areas in Africa today has a human component. Among the more common problems are human encroachment, unauthorized harvesting of resources, and the conflict between wildlife managers and local people.

The study illustrates the major wild animals, agricultural and livestock pest in the study area and the attitudes of the farmers/villagers to wild animal species. A land-use planning system that incorporate a floating zoning system which ultimately merge with a permanent zoning system with range of vegetation such as multipurpose trees and shrubs (MPTS) around the park will allow traditional grazing and avoid conflict with local people.

INTRODUCTION

It is important to emphasize that conflict is not necessarily bad. Conflict can represent the productive interaction of competing interests and values, an ever present function in a dynamic society. Conflicts that are properly addressed can be opportunities for problems to be identified and solved, and progress achieved (Lewis, 1999). Many conflicts, however, can become counterproductive and destructive, leading to detrimental results and hostile relationships.

Managers of protected area face the challenge of trying to respond to conflicts so that unproductive consequences can be avoided while human well being and the natural environment are protected. Conflicts can be resolved in a variety of ways, one side may defeat the other side through armed combat or a formal, legal or institutional mechanism (such as a court proceeding or legislative action) may be utilized to resolve the conflict.

The assumption behind a good conflict resolution process is one in which stakeholders (those individuals or groups who are directly involved in the conflict or who may be affected by how the conflict is resolved) have the opportunity to really understand each other's needs, develop a range of alternatives for how to address those needs, and reach a mutually agreeable solution.

The assessment in a conflict involving indigenous people should examine the historic and lily future relationship of the indigenous people to the land and its resources. It may be assumed that indigenous resource use patterns have deleterious impacts on the ecosystem which can not be remedied as long as the people are allowed continued access to the area yet; some indigenous people/groups have coexisted with their environment resources.

When conflicts occur it must be addressed, within a particular cultural, political and social context.

METHODOLOGY

Yankari Natural Park, Bauchi occupies a total land area of approximately 2,244.10km^2 and is also one of the most important conservation areas in the whole of West Africa. It lies within the Sudan Savanna Zone. Outside the National Park, agricultural lands came right up to the park boundaries.

The data for the study were collected through questionnaires administered to people of varying level of background and educational ability in the eight selected villages, namely Bogwas, Gale, Yalo, Kuwala, Fali, Mainamaji, Dugudi and Duguri based on their geographical location and relevance to the Park. The questionnaires were set to determine the impact of wildlife resources on the villagers.

Questionnaire 1 was administered to the heads of the households by the 'I in K' sampling procedure of Ajayi (1979) recommended for social research in wildlife. For this study K=10, that is, one household out of every 10 thereafter, interviews were held with five other household heads selected at random.

Questionnaire 2 was administered to the National Park's staff using the "blind choice" selection method at random.

In other to quantify the various responses made by the numerous respondents in all the questionnaires, the responses have been delineated using Sellitiz et al. (1976) scoring techniques. Some of the attributes in which this rating or scoring techniques was used include; general basic information, outstanding problems and envisaged solution, values and attitudes, level of wildlife damage and conflict resolution.

RESULTS

Being an agrarian society, farming is a major occupation of the people in the villages surrounding the park. The farmland hectarage cultivated per farmer (Table 1) varied with sites. Most of them are peasant farmers who cultivated 0-4 hectares that is, in Bogwas 30%, Gale 48%, Kwala 60%, Fali 70%, Mainamaji 72% and Duguri 76%. However, there are some commercial farmers who cultivate 5 to 10 hectares in all the sites. They constituted 30% in Bogwas, 28% in both Fali and Mainamaji, 26% in Bogwas and 16% in Kwala.

Apart from Duguri, there are few big time farmers in all other sites with highest concentration of 44% in Bogwas as against 10% in Yalo and 2% in both Fali and Duguri while Mainamaji recorded no big time farmers.

Farming system at the study areas revealed that subsistence farming is the most predominant (Table2) with 33.8% among other variables such as mixed cropping23.8%, mixed farming 20.0% mechanized farming 4.3% while plantation agriculture has the least with 1.8%

Apart from the Black rat infestation found in all the study sites, other species of wild animal agricultural pests appear to be restricted to certain ecozones (Table 3 and 4). Such wild fauna pests include guinea fowls, Monkeys, Baboons, Elephants, Grasshoppers, Quelea quelea and Lion. Crops destroyed by each of them are shown in the table below.

The local territorial preference of the wildlife pests may be due to the peculiar species of crops cultivated in each study sites which serves as major attractions to the wild animals.

Attitudes of farmers to wild animals pests species in study areas (Table 4) shows that about 55 and 73% of the farmers in Yalo, Fali, Mainamaji and Kwale would scare away wild animal pests found in their farms.

The quantity and type of crops lost to wild animal species varied with study sites and with the major pest species involved (Table 5).

In Gale site, about 16 and 20 people lost their corps to Baboons and Monkeys respectively while Black rats, Quelea quelea destroyed crops in farms and Lions destroyed livestock belonging to 4 people. With all emphasis, Baboons and Monkeys were the dominant wild animal pests in all the study sites.

DISCUSSION

The conflict between wildlife and local people appears to be strongly moderated by human population density. Local people living at low human population densities are more likely to report problems with wildlife than individuals living at high human population densities. However, the ineffectiveness of local people in controlling wildlife is highest at both low and high human population densities; that is local people are more effective at controlling wildlife because the problematic species tend to be small (primarily rodents, monkeys and birds). Such species have high intrinsic rates of growth, prefer human-modified habitats, and therefore are resilient in response to low human disturbance.

Conversely, local people living at low densities appear to be less effective in controlling wildlife because the problematic species tend to be large and are capable of causing considerable damage during a short period of time. Local people are possibly less effective in controlling (Wildlife) at low human densities because the wildlife control technique employed by local people are generally labour intensive and therefore local people are less able to control wildlife over a large area.

Over two thirds of all local people report problems with wildlife. The destruction of crops and the killing of livestock and poultry are the most frequently reported problems.

These results suggest that the most effective means of reducing the conflict between local people and wildlife is through land-use planning adjacent to the Park. Agricultural activities associated with high human density should be discouraged on lands adjacent to the Park and buffer zones should be re-established around the park. In areas of low human density, land-use activities that are non-attractive to wildlife should be encouraged.

CONCLUSION

Educating the public about the potential benefits associated with a protected area can be an important to tool in avoiding and resolving protected area conflicts, especially over the long term.

Nevertheless, compromise is often best way to serve everyone's interests in the long run, especially when overt conflict is replaced with the stability and predictability of mutually acceptable solution.

Table 1:   Farm Hectarage per Farmer in the Study Site

Hectarage	Bogwas	Gale	Yale	Kwale	Fali	Mainamaji	Dagudi	Duguri	X	%
						Study Site				
0-2	5 (10)	6 (12)	14(28)	15(30)	20(40)	16(32)	15(30)	20(40)	111	27.7
2-4	10(20)	18 (36)	16	15(30)	15(30)	20(40)	14(28)	18(36)	126	31.5
5-10	13(26)	20 (40)	(32)	8(16)	14(28)	14(28)	14(28)	15(30)	110	27.5
10'	22 (44)	6 (12)	15(30) 5(10)	12(24)	1(2)	0(0)	6(12)	1(2)	53	13.3
									400	100

Figures in parenthesis are percentages (N = 50).

Table 2: Farming System at the Study Areas Around the Park

Hectarage	Bogwas	Gale	Yale	Kwale	Fali	Mainamaji	Dagudi	Duguri	X	%
						Study Site				
Mixed-cropping	13	14	13	12	12	10	10	11	95	23.75
Mechanized Farming	0	0	1	2	2	7	2	3	17	4.25
Subsistence Farming	18	14	15	18	16	19	15	20	135	33.75
Plantation Agriculture	2	1	0	0	0	2	1	1	7	1.75
Crop Rotation	2	8	10	8	11	10	9	8	66	16.05
Mixed Farming	15	13	11	10	9	5	10	7	80	20.00

Table 3: Major Wild Animal Agricultural Pests in the Study Sites

Animal Species	Bogwas	Gale	Yalo	Kwale	Fail	Mainamaji	Dagudi	Duguri
				Study Sites				
Warthog	+	+	-	+	+	+	-	-
Baboon	+	+	+	+	+	+	+	+
Bushbuck	+	-	-	-	-	+	+	+
Black Rat	+	+	+	+	+	+	+	+
Elephant	-	+	-	+	+	+	-	+
Grasshopper	-	+	+	+	+	-	+	-
Lion	+	-	+	+	+	-	+	+
Guinea fowl	+	+	+	+	-	+	+	+
Monkey	+	+	+	+	+	+	+	+
Quelea quelea	+	-	+	+	+	-	+	

+ Present – Absent.

Table 4: Attitudes of Farmers to Wild Animal Specials in the Study Sites

Attitudes	Bogwas	Gale	Yalo	Kwala	Fail	Mainamaji	Dagudi	Duguri
				Study Sites				
In favour	30 (60)	26 (52)	28 (56)	30 (60)	31 (62)	35 (72)	40 (80)	25 (50)
Indifferent	20 (40)	24 (48)	22 (44)	20 (40)	19 (38)	15 (30)	10 (20)	25 (50)

* Figures in bracket are percentages of farmers (N = 50)

Table 5: Estimated Number of Respondents who lost Crops/Domestic Livestock to Wild Animal Species in the Study Sites (N = 50)

Pest Animal Species	Bogwas	Gale	Yalo	Kwala	Fail	Mainamaji	Da	Du	Mean
				Study Sites					
Warthog	16	0	10	8	2	0	6	4	5.8
Baboon	15	16	16	18	22	14	10	11	15.3
Black rat	5	4	4	7	6	8	8	15	7.1
Elephant	2	1	2	1	0	7	1	0	1.8
Guinea fowl	0	1	8	0	14	10	1	0	4.3
Grasshopper	0	0	1	2	1	0	3	0	0.8
Monkey	12	20	9	13	5	10	15	20	13.0
Lion	1	4	0	1	0	1	3	0	1.2
Quelea bird	1	4	0	0	0	0	3	0	1.0

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