



SOCIO-ECONOMIC IMPACT OF WILDLIFE MANAGEMENT OF PANDAM WILDLIFE PARK IN QUAPAN LOCAL GOVERNMENT AREA OF PLATEAU STATE, NIGERIA

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ABSTRACT

This study on socio-economic impact of wildlife management of Pandam Wildlife Park was conducted in four communities surrounding Pandam Wildlife Park and Socio-economic characteristics of the surrounding communities were examined through the use of questionnaires and interview. The data obtained were subjected to descriptive statistical analysis, using frequency and percentage distribution. The study reveals that majority of the respondent engage in farming activities including the park staffs that earn monthly income from the park 28.27% of the farms are located 1 – 5km away from the park and 33.8% of whom have cases of damaged farms by wild animals. The analysis also reveals that 41.2% of the women involved in marketing and preservation of bush meat, fish and the farm produce. The result also observed that Wildlife Park provides people in the area with social amenities such as road network, hospital among others and 80.0% of the respondent admitted that there is no spiritual site within the park while 18.8% used Pandam lake as a spiritual site.

Keywords: Socio-Economic, Wildlife, Impact, Management, Pandam, Park

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INTRODUCTION

A nature reserve or national park is often judged on the number of species that it contains especially mammals, birds, fishes and plants and hence diversity has become central to the majority or evaluation schemes. Usher (1991) reported that diversity either of habitat or species is the most commonly used criterion in conservation evaluation. Challenges in wildlife conservation today are in problem wild animal control where people and wildlife utilize adjacent areas and compete for resources (Sitati *et al.*, 2005; Woodroff *et al.*, 2005). According to Romenro *et al.* (2012), wildlife is often a more appropriate from of land use option in arid and semi-arid African environments.

Scientists believes that, the best solution to the problem of endangered species involves preserving their “habitats (Usher, 1992). Human and wildlife are destined to share resources and there is need to understand the relationship between them (Gandiwa *et al.*, 2013). Presently, there is more than 40 Wildlife Park in Nigeria (Ayeni *et al.*, 1982). However, many of these conservation areas are imageries of themselves as there is no baseline information on the biological resources components.

Pandam Wildlife Park has an aquatic resource that constitutes an important component of the park resources. Pandam Lake occupies about 20/ha of the park land area. In addition to the lake are four major streams (River Ii, Dogon Ruwa,

Zurzurfa and Kurmi streams) that help in game viewing and this implies that the aquatic bodies should be contributing immensely to the economic and social activities of the people of Pandam towns. Amongst all the village communities in the Quapan Local Government Area of Plateau State, Pandam Communities are the first people to benefit both socially and economically from the Pandam Wildlife Park.

Pandam community (people) engage in activities which include poaching livestock grazing and bush burning by pastoralists which may lead to extinction of both plant and animals. Human population pressures around the park are also growing bringing threats from encroachment and illegal fishing; all other lakes in the area are severely over fished. There is a management plan for the park which remains unimplemented for lack of resources (Akosim *et al.*, 2008). Much of the wildlife and wildlife resource have been exploited to the extinction level and much of the fisheries resources have been exploited to the extent that some of the species are now facing extinction (Moses, 1992). In view of this, the research will provide a solution that will prevent putting wildlife, wildlife resources, fisheries resources and plant into extinction.

The aim of this study was to contribute to knowledge towards the achievement of improved livelihood and continuity through community natural resource management-Wildlife Management-in Pandam villages of Plateau State. The objectives of this study were to: identify and

analyze major socio-economic and cultural aspects associated with wildlife management by members of Pandam communities, to identify the relationship between the Pandam wildlife park and the people of Pandam communities.

MATERIALS AND METHODS

Study Area

Pandam is located 60km from Lafia on the Lafia-Shendam road. The vegetation of the town is typical Sudan-guinea savanna (Anonymous, 2009). Pandam wildlife park is located south of Plateau State, between latitudes 8° 35' and 8° 55' N and longitudes 8° 00' and 10° 00' E. It is bounded on the east by Namy and Kayarda towns, on the west and north by the Dep River and on the south by Aninjo and Pandam town. The entire park lies within the northern guinea savanna. The wet season extends from April to November, while the dry season starts from December and ends in March. The monthly mean rainfall is between 0.00-243.5cm. The annual mean temperature of the Pandam area is 32°C. The monthly mean temperature ranges from 25.8°C in August to 35.7°C in March (LBRB, 1982). Pandam Wildlife Park is properly drained. The southern part is drained by the Kurmi, Zurzurfa, and dogon ruwa streams and their tributaries which rise from the eastern part of the park and drain into Pandam Lake. The Northern and western sectors are drained by the Dep and Ii rivers and their tributaries (Akosim *et al.*, 2008).

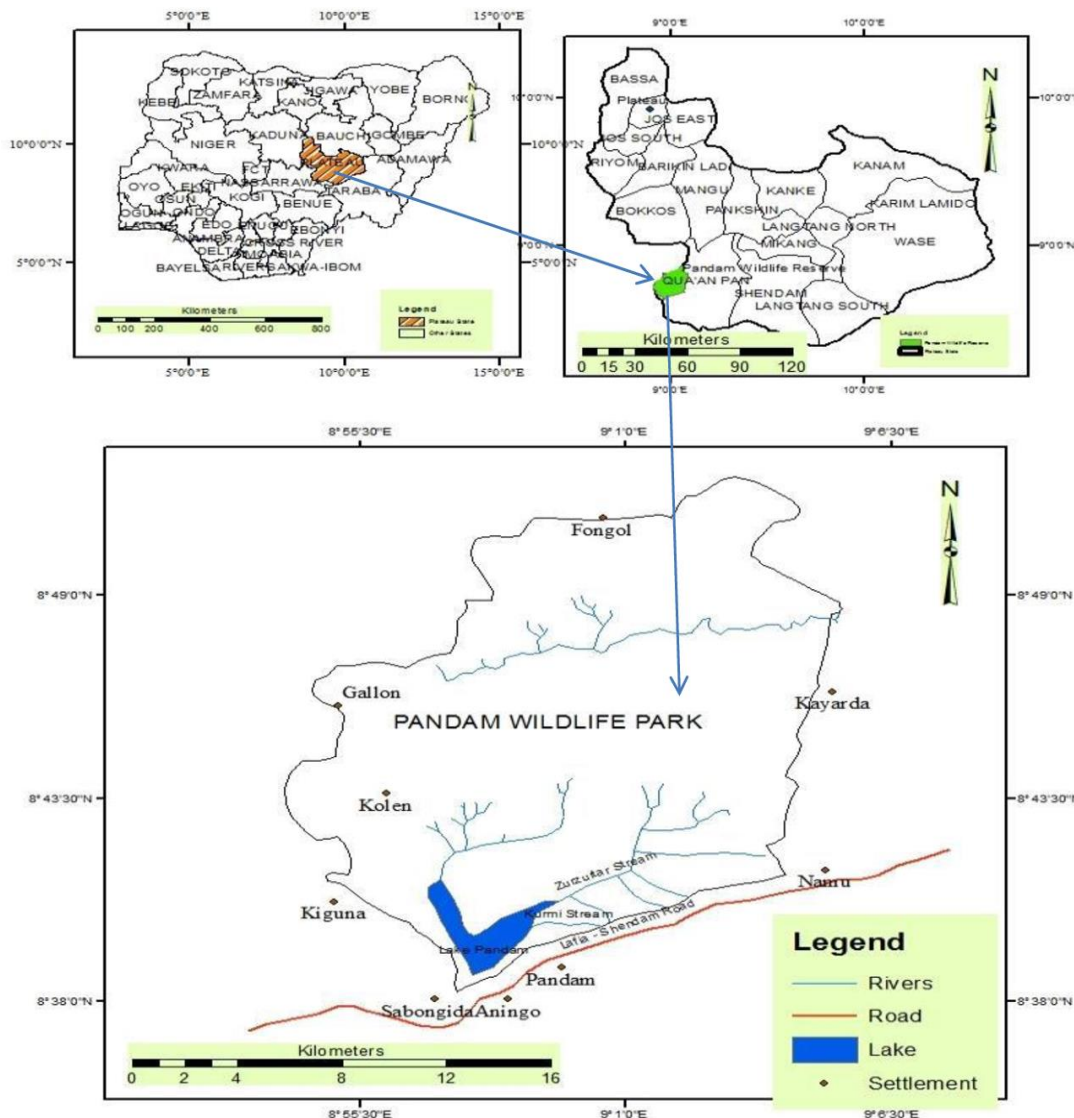


Figure: Map of Nigeria showing the study areas
Source: (Akosim *et al.*, 2008)

Sampling Procedure

The sampling procedure employed was random sampling. In the area (pandam) 20 respondents were randomly selected within 4 community out of 6 surrounding the park i.e Namu, Kayarda, Aninjo and Pandam town which make a total sample size of 80.

Experimental Design

The data for this study were obtained from primary and secondary sources. The primary data for this study was collected through the use of interview schedule and structured questionnaire on the people Namu, Kayarda, Aminjo and Pandam town. The secondary data were restricted

to information obtained from the relevant literatures, official document and management plan.

Administration of the Instrument

Trained enumerators and the researcher were used the data from the sampled respondents. The questionnaires were administered to the respondent in their homes, back yard, gardens around the homes, working places and relaxation areas.

Data Analysis

The data obtained were analyzed using simple descriptive statistic which include, frequencies

and percentage distribution with SPSS and MS excel statistical package.

RESULTS

The socio-economic characteristics of the respondent which is expected to influence the activities of the park was examined (table 1) 68.8% of the respondent were male and majority of which fall within the age group of 18 – 43 years. Activities such as farming, hunting fishing and park management requires people who are energetic because these activities need energy and sometimes travelling some distance into the park and to farms or hunting and fishing areas. And people within this age group are believed to pass this quality (energetic) 33.7% of the respondents have attained a high level of education and only 3.8% of the respondents do not have educational background, this is because of the respondents are married and this is in accordance with the customs and tradition of the people in the area. 33.8% are civil servant among which 23.8% are staff of Pandam Wildlife Park, 36.8% of the staff earn average monthly income that is between 5,000 – 10,000.

In table 2, the management and conservation practices of farming activities involve a distance from the park to the farms 31.3% of the farms are 11 – 20 km away from the park. This distance will prevent a damage of fire from the farms to the park although no farmer indicates the use of fire in the distance will also prevent damage by wild animals to the farms. 3.6% of the farm are less than 1 km away from the park but there is no

cases of fire damage in the park, this because the farmers don't use fire in the farms but there is a case of damage in the farms by wild animals in which 25% involved maize and monkey and 25% of which involve rice and birds/hippo among others fishing activities in the study area involved some methods that include hook and line, use of net and use of seed in which 65.2% used net and seed because it is the simplest and more productive. Most of the fishers fished in the morning because morning weather is cool and fish are available during the morning time of the day.

Table 3 the majority of the hunters engage in evening hunting because the animal may have been in a resting are and the weather may be cool and conducive during the evening time. 50% of the hunters don't have means of buying a hunting material, as such used any available weapon during the hunting periods.

Table 4 the impact of the park on the surrounding communities examined were 27.5% and 27.5% of the respondent used the income earn because of Wildlife Park in education and education/food respectively. The people of the study area want to be educative in other to improve their standard of living that is why the high percentage of the income earn because of Wildlife Park is used in education and the people need food to function well that is why the second percentage of income goes to food consumption among others (table 5) 42.6% of the people use 10 – 20% of bush meat as source of protein.

Table 1: Socio-Economic Information of the Respondents

Variable	Frequency	Percentage (%)
Sex		
Male	55	68.6
Female	25	31.2
Total	80	100
Age group		
18 – 30	38	47.5
31 – 43	34	42.5
44 – 56	5	6.2
57 – 68	3	3.8
Total	80	100
Level of education		
Quranic	16	20
Primary	9	11.2
Secondary	25	31.2
Tertiary	27	33.7
Non	3	3.8
Total	80	100
Marital status		
Married	51	63.8
Single	24	30.0
Widow and Divorced	5	6.2
Total	80	100
Occupation		
Civil servant	27	33.8
Farming	15	18.8
Trading	10	12.5
Hunting	4	5.0
Fishing	17	21.2
Non	7	8.8
Total	80	100
Average Income		
5,000 – 10,000	7	36.8
11,000 – 20,000	3	15.8
21,000 – 30,000	3	15.8
31,000 – 40,000	4	21.05
41,000 – 60,000	2	10.52
Total	19	100
Other source of income		
Farming	14	73.6
Trading	1	5.3
Fishing	3	15.7
Rearing Animals	1	5.3
Total	19	100
Source of Income		
Farming	30	49.2
Trading	10	16.4
Fishing	12	19.7
Hunting	3	4.9
Farming and trading	4	6.6
Fishing and farming	2	3.3
Total	61	100

Table 2: Management and Conservation Practices of Farming activities

Distance of Farm from Park	Frequency	Percentage (%)
<1 km	3	3.6
1 – 5 km	24	28.3
6 – 10 km	1	1.2
11 – 20 km	25	31.3
26 – 30 km	2	2.5
31 – 35 km	1	1.2
None	24	30
Total	80	100
Cases of damage by Animal		
Maize and Monkey	20	25
Groundnut and Rabbit	6	7.5
Rice and Birds/Hippo	10	12.5
Tubers and Hippo	20	25
None	24	30
Total	80	100

Table 3: Management and Conservation Practice of Fishing

Method of Fishing	Frequency	Percentage (%)
Hook and Line	8	34.8
Net and seed	15	65.2
Time of fishing		
Morning	19	82.6
Afternoon	1	4.4
Evening	3	13.1
Season of Hunting		
Raining	2	5.6
Dry	12	46.1
Raining and dry	12	46.6
Time of hunting		
Morning	3	11.5
Afternoon	1	3.8
Evening	6	23
Night and morning	4	15.4
Anytime	12	46.2
Weapon used		
Bow and arrow	2	5.6
Gun	9	34.6
Dogs	2	5.6
Any available one	13	50
Animal hunted		
Antelope	7	26.9
Grass cutter	6	23
Rate family	8	30
Any available one	5	19.2
Total	100	100

Table 4: Economic Impact of Pandam Wildlife Park

Way of Utilizing Income	Frequency	Percentage (%)
Repairing House	4	5.0
Education	22	27.5
Clothing and Health	6	7.4
Food and Business	17	21.2
Education and Food	22	27.5
None	9	11.2
Bush meat as Protein (%)		
10 – 20	34	42.6
20 – 40	7	8.8
50 – 60	3	3.9
70 – 80	2	2.5
90 – 100	4	5.0
None	30	37.5
Total	80	100

Table 5: Social Impact of the Pandam Wildlife Park

Improving Livelihood	Frequency	Percentage (%)
Very little	13	16.2
Very much	46	57.5
Not at all	16	20.0
No respond	5	6.2
Total	80	100
Spiritual site within Park		
Site	15	18.8
No site	64	80.
No respond	1	1.2
Total	80	100

DISCUSSION

Majority of the staffs are junior staffs who fall within the grade level 01 – 06. The result agree with the finding of Etukudo *et al.* (1994) who say that as a matter of policy the junior staff earning between salary grade levels 01 – 06 are usually drawn from the local community 10.52% of the staff uses farming as other sources of income and this is because farming is the major sources of living in the study area, 49.2% of the respondent uses farming as an average annual income. This is indicating the farming is the major occupation and soil of the area is fertile.

Hunters which involved in both raining and dry season hunting have 46.6% why because animals in tropical areas remain rare. The result agrees with the statement of Eltringham (1984) which says that hunting of wildlife in tropical areas is different from that in temperate areas because the

animals remain rare in tropical areas. The respondent which uses bush meat as a source of protein are 42.6% and the bush meat makes only 10 – 20% of their sources of protein.

The result disagreed with the report of Ayodele *et al.* (1999) which says wildlife has been and is still the main sources of protein supply to many homes in Nigeria and agree with the report of Holsworth, (1970) which says in most part of northern Nigeria, bush meat consumption is not as high because of the relatively high production of domestic livestock. 57.5% of the respondent admitted that Wildlife Park has improved their livelihood very much. This is because people use income earn because of Wildlife Park in food education, repairing of house, healthcare and clothing. Pandam Wildlife Park has also provided people with some social amenities such as road network, hospital and portable drinking water among others. Wildlife Park provides jobs to

many people in the area and the jobs make the people to improve their standard of living and that of their family. 80.0% of the respondent indicated that there is no any spiritual site within the park

why because majority of them are Muslims and Christian while 18.8% indicate that there is a spiritual site within the part which is the Pandam Lake.

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