The Status of Wildlife Environmental Conservation in Oba Hills National Park, Nigeria

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Abstract

This study focused on the major threats to the natural environment and wildlife conservation in Oba Hill National Park (OHNP), Osun State, Nigeria. It investigated the management measures such as anthropogenic and land use activities for the protection of wildlife resources in OHNP. The study was conducted by means of surveying and monitoring the buffer zone area of OHNP between October 2015 and April 2016. Data were collected with the aid of structured questionnaire administered in five (5) purposively chosen sites for sampling based on their proximity to the park. A total of 100 respondents were selected randomly from the surrounding villages at 20 respondents per site. It was observed that majority of respondents were males (65%), married (67%), were Islamic (50%), were hunters (25%), within ages 41-50 years (38%) and had primary/secondary school education (68%). Majority took hunting as a secondary activity (65%), used short guns (47%) and hunted Bushbuck (30%) via individual hunting (58%). On farming activities, majority of the respondents practiced subsistence farming (55%), using manual land preparation methods (75%) and responded that farming did not have any effect on wildlife resources (65%). Majority of respondents indicated that bushfire was caused by deliberate (67.4%) anthropogenic activities (75%), such as vegetation clearing (65%) as deliberate source and dropping of cigarette butts (72.7%) as accidental source of bushfire. They reported there were attempts to control the fire (86.4%) and the bushfires did not have any form of benefit to them (76%).The problems identified from the study area were habitat destruction through uncontrolled logging, agricultural

projects, highway and urban development, exploitation for fuel wood, over hunting and poaching. Management strategies necessary for adoption for wildlife protection is the upgrade of the forest reserve to a national park status, enactment of wildlife laws, signing of international treaties and manpower development.

Keywords: Habitat Fragmentation, Poaching, Sustainable Development, Wildlife conservation

Introduction

Protected forest reserve management areas are gradually going through rapid stage of evolution in response to mounting problems and pressures especially in most our developing countries due to rapidly growing population and drastic economic meltdown. Pressure on human population growth has taken the form of a predictable linear increase in the demand, which peoples seek for land and resources in order of meeting their legitimate increase material aspirations. In Nigeria, conserved forest protected areas (reserves) are set aside for the protection, preservation and propagation of wild vegetation and wild animals, for the preservation of objects, aesthetic geological prehistoric, archeological artifacts and other scientific interest for the benefits, advantages and enjoyment of mankind (Wahab et al., 2009; Yeebo & Commentary, 2016)

Oba Hills National Park (OHNP) is a small enclave encompassing three hills with a wide valley running in between. A large plantation of teak is located on the western side, covering about 12% of its total area (Kormos et al., 2003) beyond the hills. Consequently, the hills are deforested and logged, streambeds on the slopes are dry, and dense scrubby vegetation covers all three hills. The vegetation is mostly burnt in the dry season and the northerly hill is occupied by some forest/woodland. There are reports of people sighting large mammals and ungulates around the Olori area of the park enclave. Although animals were last reported to have been seen frequently for the past years and a dead wild animals (ungulates, rodents and warthogs etc) was offered for sale in a nearby market in 2015 which corroborated observation of 1999 (Kormos et al., 2003).

This protected forest enclave is among the preserved ecosystem zone where wildlife resources was geared towards optimum utilization and effective conservation of its resources; to change the indifferent attitudes of the rural community to protection management of natural resources for sustainable development. The forest reserve is a mixture of rain forest and derived savanna vegetation; though the vegetation is now classified into eight vegetation zones according to vegetation ecological zone (Federal Department of Forestry, 2019).

There is dearth of information on the environmental conservation of the wildlife resources management in the literature of OHNP. There is little or no literature documentation on the agriculture/human effects on wildlife conservation. Therefore this study will provide acts/legislations that will promote the management rolling plan and compressive standard master plan for the park.

Materials and Methods
The Study Area
The study was undertaken at Oba Hill Forest Reserve which is located in Iwo local Government Council of Osun State in Nigeria. The reserve has a landmass of about 54km^2 of hilly terrain with deep gorges situated between latitude $7^0 45^1$ N and longitude $4^0 7^1$ E. The vegetation of the ecosystem in Oba hill forest reserve is moist forest and swamp forest, together with some savannah woodland (Afolayan, 2008). The forest reserve blessed with both fauna and flora wild resources but threatened by environmental degradation due to anthropogenic effect in and around the forest reserve. The major activities at the site

are farming, logging, hunting, and grazing. Other activities are fuel wood harvesting, collection of flora leaves and indiscriminate burning of the forest.

Respondents in five (5) surrounding villages within the buffer zone of the park was purposively selected and sampled for data from October 2015 – April 2016. Systematic random sampling method of data collection was adopted in each community which involved spot data collection from the willing respondents with twenty (20) questionnaires allocated to each village.

Administration of questionnaires

Prior to the administration of questionnaire in the selected villages, the survey of surrounding villages in the five (5) communities' areas are visited for a formal introduction and interaction with the heads of the communities (district head/baale) who served as linked persons. During the visit, a rough estimated information on the number of households in each village was known so as to determine number of questionnaires to be administered in each village. One hundred questionnaires (100) were randomly distributed, twenty (20) in each selected village to allow equal opportunity for every person being chosen to react independently.

Statistical analysis

The tools used in the analysis of data from the questionnaires administered were descriptive statistics such as means, frequencies and percentage.

Resuls

The respondents were of various age groups, occupations, religious denominations and educational background with their tribes. Mostly, the description of the animals listed in the questionnaires was explained to the respondents with the help of animal signs and simulations. The respondents were allowed ample time to complete the questionnaires. Some questions were translated to local languages of the respondents (Yoruba, Hausa/Fulani and foreigners) in the survey area by interviewers and further notes were record along with the structured questions.

Demographic characteristics of respondents in the surrounding villages

The respondents, 65% of which were males covered the wide range of age groups with youngest being 20 years old and the oldest claimed to be 92 years old (not confirmed). The dominant age group (38%) was between the 41-50 years old, while only (12%) were above 50 years of age. About (14%) of the respondents lacked formal education, but as many as (68%) had primary and secondary (Junior Secondary School and Senior Secondary School) education. Only (18%) of the respondents had received tertiary education. Hunting was the dominant occupation (25%) followed by arable crop farming occupation (23%) around the buffer zone and some encroached area of the forest reserve, while about (52%) of the respondents claimed to have been involved in one or more secondary occupations. Majority of the respondents (67%) were married while single are represented equally. In addition, (50%) of the respondents were Islamic, while Christians and African traditionalist were equally represented (Table 1).

Table 1: Demographic characteristics of the respondents in the surrounding villages

Variables	Categories	Frequency	Percentage (%)
Age	21-30	20	20
	31-40	30	30
	41- 50	38	38
	Above 50	12	12
Gender	Male	65	65
	Female	35	35
Educational Status	Tertiary education	18	18
	Primary/Secondary	68	68
	No formal education	14	14
Occupation	Farming	23	23
	Hunting	25	25
	Grazing/livestock	22	22
	Logging	20	20
	Fuel wood harvesting	10	10
Marital status	Married	67	67
	Single	33	33
Religion	African Traditionalist	23	23
	Christianity	27	27
	Islamic	50	50

Source: Field Survey (2016)

Hunting activities around the buffer zone

In the study, 25% of the respondents were observed to be hunters with majority being inhabitants of the largest community in the site of study (Olori, Owu- Ile and Ife-Odan). The study revealed that 65% of the respondents were hunters, taken it as secondary occupation and 35% were taken it as primary occupation. Majority of the respondents used short guns 47% as their hunting tools while the use of locally manufactured guns and traps was 53% of the respondents and they hunted for bushbucks a(30%) while others are equally depicted. In addition, most respondents used individual hunting (58%) as their mode of hunting exhibition while group hunting was equally represented (Table 2).

Table 2: Hunting activities at the buffer zone.

Variables	Categories	Frequency	Percentage (%)
Hunting as an activities	Primary	35	35
	Secondary	65	65
Tools	Short guns	47	47
	Locally manufactured guns	30	30
	Traps	23	23
Hunted animals	Bushbuck	30	30
	Grass cutter	25	25
	Duiker	24	24
	Warthog	13	13
	Others	10	10
Hunting Methods	Group hunting	42	42
	Individual hunting	58	58

Source: Field Survey (2016)

Farming activities around the buffer zone

Farming around the buffer zone villages of the park was observed to be both subsistence (55%) and commercial (45%) bases. Land cultivation was normally prepared manually (75%) either by individual farmer (66.6%) or by group farming (33.4%). There was little much mechanized farming towards the boundary zone of the site (25%). Above two thirds of the farmers (75%), thought that their activities had no significant effects on the wildlife resources in the area (Table 3).

Table 3: Farming activities and conservation at the buffer zone

Variables	Categories	Frequency	Percentage
Types of farming	Subsistence	55	55
	Commercial	45	45
Land preparation for cultivation	Manual	75	75
	Mechanized	25	25
Types of mechanized farming	Individual	66.6	66.6
	Group	33.4	33.4
Size of farms	Small (1-5ha)	74	74
	Large (> 5ha)	26	26
Effect of farming on wildlife resources	Yes	35	35
	No	65	65

Source: Field Survey (2016)

Bushfire activities around the buffer zone

From the respondents, it was observed that most of the fires were anthropogenic originated (75%) with few from natural courses (25%). Majority of the bushfire sources were deliberate (67.4%) while a few were accidental (32.6%). Vegetation clearing was the major source of deliberate bush fire (65%) while hunting contributed (35%) of the sources of deliberate bush fires. Dropping of cigarette butts was the major source of accidental bushfire (73%) while on farm cooking contributed 27% of accidental bushfires. Majority of the respondents attempted to control the bushfire (86.4%) while 76% believed the bushfires is pf no importance to them.

Discussion

In this part of the southwestern Nigeria as in other parts of Africa, wild animals are considered to be destructive to crops and source of protein, thus are hunted for crop protection and meat consumption for human population as supported by (Izah & Seiyaboh, 2018). Bush meat is a popular delicacy in both rural and urban areas of Ghana (Yeebo & Commentary, 2016), as well serve as a valuable source of meat protein, especially for rural communities in Nigeria (Adekunmi et al., 2017). Conversely, bush meat prices tends to be more higher than that of traditional sources of meat protein such as goat, sheep, ram and cow etc. Based on this, the commercial bush meat hunting as observed in this study has become a major economic activity (25%) by men (65%) in Nigeria and as led to an influx of migrant hunters from nearby community settlement to hunt already over exploited bush meat animals. A few members of the hunters observed during the study could be due to forest reserve made the area protected for forest conservation management. The regulations and forest laws binding the study area has proved an effective conservation effort in this part of the country with the alliance efforts of the traditional community leaders. Although, these efforts were not observed to be fully complied in the study area. The upgraded

status of the forest reserve to a National Park, supported with effective management will further develop wildlife conservation.

Table 4: Bush fire activities and Conservation at the buffer zone

Variables	Categories	Frequency	Percentage (%)
Source of bushfire	Anthropogenic	75	75
	Natural	25	25
Sources of Anthropogenic bushfire	Deliberate	67.4	67.4
	Accidental	32.6	32.6
Sources of deliberate bushfire	Hunting	35	35
	Vegetation clearing for vegetation/ Grazing	65	65
Sources of accidental bushfire	Dropping of cigarette butts	73	72.7
	On farm cooking	27	27.3
Attempt to control bushfire	Yes	86.4	86.4
	No	13.6	13.6
Benefits bush fire	Yes	24	24
	No	76	76

Source: Field Survey (2016)

A large proportion of the respondents from the study did not consider farming activities as threats to wildlife conservation and environment result due to lack of awareness of the direct (source of meat protein, medicine, etc.) and indirect (seed dispersers, pollinators, etc.) uses of natural resources to human populations. Conversely, low priority was given to wildlife conservation or environmental awareness among the wetland community (Ekwealor et al., 2020). Therefore, farming activities as observed from the study was undertaken without due concern to sustainable land use practices, with large tracts of land being cleared for farming and infrastructural development at the expense of valuable wildlife habitat. The essential roles of wildlife in the ecosystem food web as pollinators, seed dispersers, predators or prey species of other animals did not seem appreciated by majority of the rural community. A sound appreciation of such indirect values for wildlife is pertinent to prevent destruction of wildlife ecosystem (habitat) through farming and other human activities (Chakravarty et al., 2012).

Bush fires are natural phenomenon beneficial to biotic and a biotic component of the ecosystems (NSW, 2018). Nonetheless, indiscriminate and repeated anthropogenic bush fires impact negatively on such ecosystem needs to be concern. However, high effects of such activity were observed at core zone of the forest reserve (Field Survey, 2016). Unfortunately, bush fire settlers do not often taken into reflection the direct (killing through burning) and indirect (clearing vegetation and exposing vulnerable animals to predation) destructive effects on wildlife resources (NSW, 2018). Thus, anthropogenic bush fires are considered beneficial in many ways:

- They can drive away dangerous animals such as snake from their shelter in dense vegetation.
- They can promote efficiency of shortening grasses and attracting game animals after burning.
- They help in devastation of implantable grass (*Hydropogon contortus* and *Bothriichloa species*)
- They help in stimulating the sprouting of new and more palatable grass for grazing mammals at the onset of the wet season (Korem, 1985; Happold, 1995).

Conclusion

The results from this study revealed the major anthropogenic activities that affected the conservation of natural resources in the study site. It was observed that hunting activities were high and illegal logging of timber wood. Although, it has been reported that hunting pressure have increased over years, against the background of warning resilience of forest conservation practices in the study area. Farming was also observed to affect the conservation of wildlife resources in the site. This would have been reduced to a minimal level but it was observed that the farm settlement established at the buffer zone of the park gave more encouragement to farmers having no regards to conservation effort towards the resources in the park. As part of conservation toward sustaining the economic and cultural importance of the park products and natural resources conservation management initiatives at the site, following recommendations need to be practice.

- Adequate integration of the indigenous knowledge, practices and skills of the modern methods in conservation through involvement of local community participation in the initiatives, in order to develop sustainable conservation programmes should be adopted.
- Sound conservation education and awareness orientation campaign targeted the young children and youth, by stressing the direct and indirect values of biodiversity and the scientific basis of traditional wildlife conservation be initiated around the corridor of the protected area.
- Management integration of the traditional and modern knowledge systems of biodiversity conservation should be part of curricula in our middle schools.
- A forestation and re-forestation programmes that will attract wildlife to the traditional hunting grounds, and protection of such grounds from bushfires with other human activities to enable recovery of ungulate animals populations should be integrated in the management plan
- Local inhabitants to harness other forms of biomass energy (crop residue, organic refuse etc) should be encouraged to reduce pressure on fuel wood harvesting at the site.
- Adequate financial resources for forest management Department and agencies involved in conservation practices in protected site and wetland to enhance their efficiency and government towards sustainable conservation should provide performance.

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