



ASSESSMENT OF HUNTING ACTIVITIES AROUND SAMBISA Game Reserve, BORNO STATE, NIGERIA

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ABSTRACT

This study investigated the hunting activities around Sambisa Forest reserve, Borno State, Nigeria. The method adopted for data collection involved the use of a structured questionnaire administered to four communities namely; Bama, Kawuri, Maidumari, and Konduga around the Sambisa Game Reserve. Descriptive statistics were used in analysing the data, and the outcomes were presented in frequency and percentage format. The illiteracy (89%), large household size of 6-10 (47%), age class of 31-40 years (65%), and the use of guns (90%) by the respondents (illegal hunters) greatly influence hunting activities around the Game Reserve. The hunting activities are greatly linked to poverty, as most of the respondents lack conventional education which would have given them jobs with stable income, thereby reducing pressure on wildlife hunting.

Keywords: hunting activities, Wildlife, Sambisa Game Reserve, Species.

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INTRODUCTION

Hunting activities around protected areas have been identified as a threat to reserved areas and on the other hand, a source of livelihood for the locals. Hunting activities have posed a great threat to tropical wildlife and this threat has continued to increase unabated (Peres, 2009), with an estimated six million animals being hunted annually in the early 1990s in Malesian Borneo (Bennett *et al.*, 2000), and four million metric tons of bushmeat been extracted from the Congo basin per annum (Fa and Brown, 2009). In Nigeria, most local communities around reserved areas are often engaged in hunting activities using various devices and methods. Furthermore, the use of guns for hunting have over time, facilitated traditional hunting behavior thereby increasing their dependency on the sale of bushmeat to meet

urban demands and in turn, satisfy their financial needs (UNEP, 2016).

Some practice it full-time while others as part-time. In general, it was estimated that 900,000kg of bush meats are sold annually in Nigeria (Fa *et al.*, 2006; Eniang *et al.*, 2008; Petrozzi *et al.*, 2018). Often time, some of the equipment used has taken down lots of endangered and threatened species, alongside juvenile and sex that are prohibited. Trophy hunters who use the appropriate equipment to hunt the required species are often not found around since game hunting is often not practiced. Species abundance is an indicator of the quality of an ecosystem (Ajayi *et al.*, 2012), with primates as one of the important species. Little is known about the species available around the Sambisa Game

Reserve and the most and least hunted species remain unknown. Also, the demography state of hunters and their effects on hunting activities remain uncertain. As a result, this research focuses on identifying commonly hunted species around the Sambisa Game Reserve, a common tool used in hunting, and the demography status of the hunters around the reserve.

MATERIALS AND METHODS

The study was conducted in four community markets (Bama, Kawuri, Maidumari, and Konduga) around Sambisa Game Reserve which is located at latitudes $11^{\circ}15'7''$ to $11^{\circ}35'8''$ and longitudes $13^{\circ}19'18''$ to $13^{\circ}34'19''$. The Reserve is about 70km south of Maiduguri in Borno State, and 14km off Kawuri Village along Maiduguri, Bama road. It covers a total land area of about 690 Km². The major occupation of the people living around the Game Reserve is farming, rearing animals, and hunting.

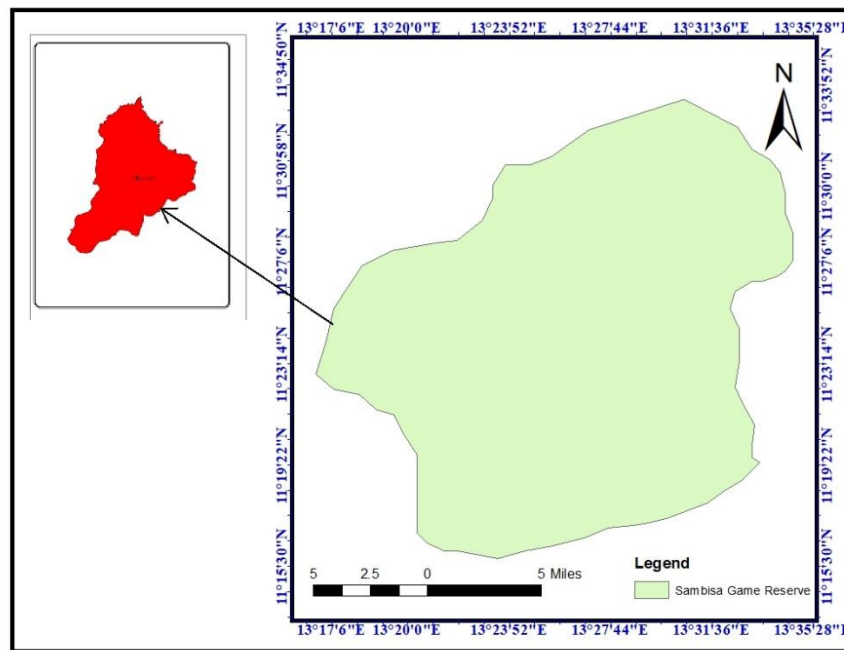


Figure 1: Map of Sambisa Forest Reserve

Sampling techniques.

Simple random sampling was used in the administration of eighty questionnaires. The same was retrieved as they were approached to fill and returned at the spot. The major occupation of the respondents is farming, livestock rearing, and hunting.

Data Analysis

The information collected through questionnaires were coded to extract the required information about the age, educational status, household size, and equipment used in hunting and most hunted species. Microsoft Excel and Statistical Package for Social Science (SPSS) were employed in all the statistical analyses carried out. Descriptive

statistics were carried out and the results were presented in frequencies and percentages.

RESULTS

The age class of 31-40 (65%), is the most dominant group that gets involved in hunting activities around the Sambisa Game Reserve (table 1). While age class >20 (0%) doesn't get involved in hunting activities, meanwhile, age 21-30 are the starting age where the youth are just beginning to get involved in the hunting profession. Furthermore, the whole of the respondents has reasonable household sizes of not less than six (6) as shown in figure 2. However, the majority of them (47%) range from 6-10 household sizes.

The majority of the hunters (89%) lack basic education, as they could only be enrolled in Arabic education which focuses more on religious teaching (figure 3). The majority of the hunters (90%) use guns in their hunting activities whereas, (10%) use bows and arrows as presented in table 2. The hunters hunt across periods (figure 4). However, the seasonal hunters (53%) were more in size. They are those incorporating farming activities with hunting as their sources of livelihood.

Table 3 showed the commonly hunted species as *Gazela rufifrons*, *Francolinus bicalcarta*, *Varanus niloticus*, *Epixerus epi*, *Thryonomys swinderianus*, *Struthio camelus*, *Hystrix cristata*, *Alcelaphus buselaphus*, *Lepus capensis*, *Papio Anubis*, *Adenota kob*, and *Varanus exanithematisus* in order of their preference.

Table 1: Age Distribution of the Respondents

Age group	Frequency	Percentage
<20	0	0
21-30	7	9
31-40	52	65
>40	21	26
Total	80	100

Table 2: Equipment used by hunters

Equipment used	Frequency	Percentage
Traps	0	0
Local guns	72	90
Bows and Arrows	8	10
Poison	0	0
Others	0	0
Total	80	100

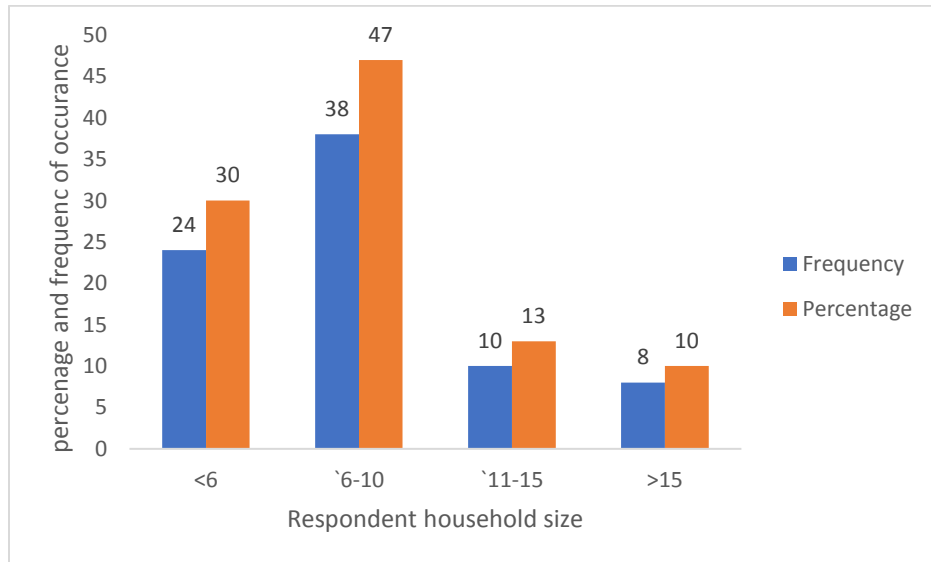


Figure 2: Household Size of the Respondents

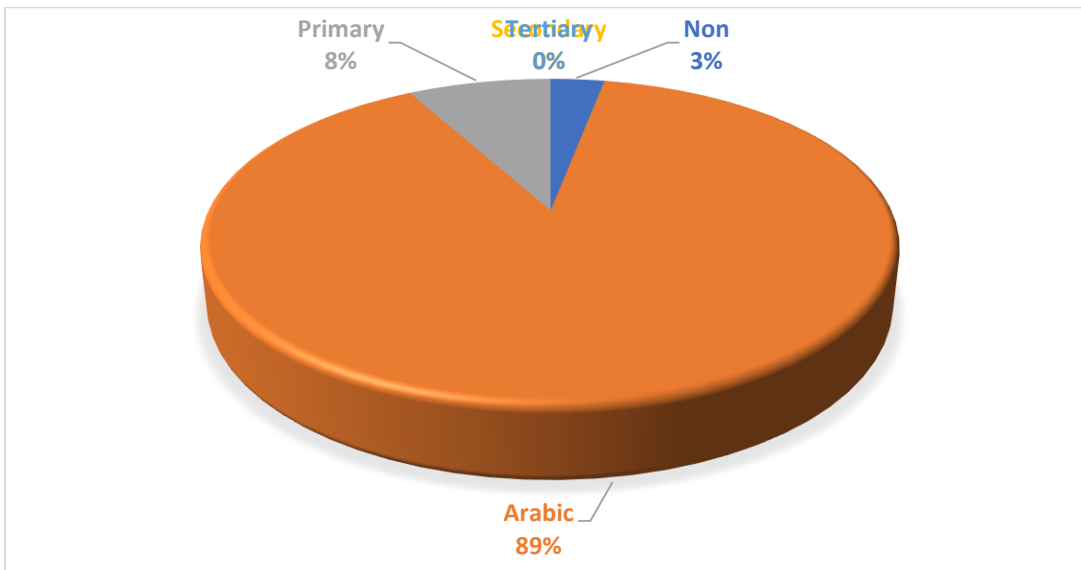


Figure 3: Educational Status of the Respondents

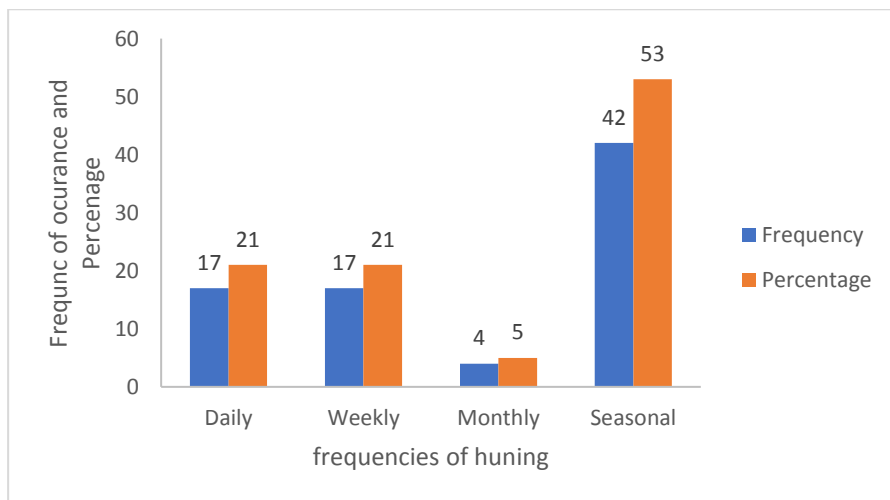


Figure 4: Frequency of Hunting

Table 3: Most consumed species in order of their preference.

Common Name	Scientific Name
Gazelle	<i>Gazela rufifrons</i>
Francolin	<i>Francolinus bicalcarta</i>
Nile Monitor Lizard	<i>Varanus niloticus</i>
Squirrel	<i>Epixerus epi</i>
Grasscutter	<i>Thryonomys swinderianus</i>
Ostrich	<i>Struthio camelus</i>
Porcupine	<i>Hystrix cristata</i>
Hartbeest	<i>Alcelaphus buselaphus</i>
Hare	<i>Lepus capensis</i>
Baboon	<i>Papio Anubis</i>
Kob	<i>Adenota kob</i>
Short tail monitor lizard	<i>Varanus exanithematisus</i>

DISCUSSION

This finding revealed that the age class that is actively involved in hunting activities is from 31-40 (65%), which is an active stage of youth. This age class, if not well managed can exert much pressure on the reserve. This finding is contrary to that of Okomu National park, Edo State (Ajayi *et al.*, 2012), Nigeria, where a greater percentage (63%) of the hunters were within the age class of 25-29 years. However, the age group from both findings still lies within the youth bracket classes which is the most active state of humans. This could be the result of joblessness ravaging youth around protected areas who by default will have numerous needs.

The whole of the respondents has reasonable household sizes of not less than six (6). However, the majority of them (47%) range from 6-10 household sizes. This indicated likelihood of influencing their hunting activities to meet up with the large household size. This could be attributed to the poverty level which is usually linked to the household size of the respondents residing around Samthebisa Game Reserve which could influence them to illicit acts in order to provide food for their families. This corroborated with findings in the Oba hills forest reserve in Southwest Nigeria (akinsorotan *et al.*, 2020) where the likelihood of engaging in bushmeat hunting is significantly influenced by the household size. Furthermore, the wrong perception of wildlife as free natural resources has greatly encouraged illegal hunting around protected areas.

The majority of the hunters (89%) lack basic education, as they could only be enrolled in Arabic education which focuses more on religious teaching. This implies a bridge of information and knowledge (conventional education) on the need for wildlife conservation, and habitat fragmentation. Consequently, this ignorance as a result of their inability to read and know about some of the conservation laws has fueled most poaching activities (Raichev and Georgiev, 2012). The zero level of higher education observed, which usually enabled better and stable paid jobs will automatically place them on the disadvantage side. Hence, they depend on wildlife resources as alternatives for survival.

This assertion corroborated the findings that households with higher education have higher incomes and do not engage in illegal hunting in Tanzania (Wilfred and MacColl, 2010; Moro *et al.*, 2013). With the high level of poverty, they are mostly engaged in illegal harvesting of wildlife resources which they felt is their right. Furthermore, most rural dwellers are at a disadvantage in accessing higher education due to ignorant and sometimes proximity to their environment.

The outcome from table 2 above revealed that the majority of the respondents (90%) use dart guns in hunting. With the alarming use of guns for hunting, there will be a decline in the wildlife population with the quest to meet up with the ever-increasing demand for wildlife in an urban areas for various purposes, which is similar to UNEP, (2016) where the use of guns in hunting contributed to decreasing in the wildlife population. Also, the use of guns can lead to no restriction on the age (juvenile, young and old), species status (Critically endangered, endangered) to be hunted, and their dispersion at the sound of the guns. This local gun will not only kill the animals but also aid local extinction as most of them would have run to other locations in search of safety/cover. A similar report was observed by Woodroffe and Ginsberg, (1998) and Peres, (2009) in tropical rainforests, where hunting patterns greatly affected the abundance of wildlife compared to other factors such as forest type, the area of the habitat, or its protected status. Furthermore, hunting in whatever form has been identified as one of the major drivers of wildlife extinction (Gasto, 2020). With optimal utilization of ecotourism as a better option for income generation, substitute trophy hunting which is not eco-friendly can be put to rest without affecting the income generation of the reserve or protected areas (Barnes, 2001; Kiss, 2004).

The hunters hunt across periods (Figure 4). However, the seasonal hunters (53%) were more in size. They are those incorporating farming activities with hunting as their sources of livelihood. Unlike the daily and weekly hunters who tend to hunt on a consistent interval for their daily survival. This was similar to the practice in

Tanzania, where local hunters hunt majorly for consummative and to meet up with daily life purposes (Duffy *et al.*, 2016; Twinamatsiko *et al.*, 2014). This activity has become a major cause of wildlife population decline at both local and regional levels (Wittemyer *et al.*, 2014).

The types of species commonly hunted are presented in table 3 in order of their preference. Among the list presented in table 3 above, *Gazela rufifrons*, *Francolinus bicalcarta*, and *Varanus niloticus* were the top three most preferred species while *Papio Anubis*, *Adenota kob*, and *Varanus exanithematisus* on the contrary, were the least three most preferred species. Also, the most preferred species may soon be extirpated from the wild as a result of the high demand placed on them. This finding is in line with the study carried out by Layade *et al.*, (2021) in Ido Local Government Area of Oyo State where it was also observed that some species are preferred (grasscutter, antelope, giant rat, gray duiker, African black snake, pangolin, squirrel, rabbit and bush buck) over others. The past finding

(Akinsorotan, 2020) also attests that illegal hunting is detrimental to the existence of large-bodied mammals as they are the most commonly hunted species.

CONCLUSION

The study assessed the activities of Wildlife hunting in and around Sambisa Game Reserve, Borno State, Nigeria. Most hunters around Sambisa Game Reserve are youth (31-40) with a household size of 6-10 majorly with Arabic education without formal education. The local gun is the commonly used equipment for hunting around the reserve. The commonly hunted species are *Gazela rufifrons*, *Francolinus bicalcarta*, and *Varanus niloticus*, *Epixerus epi*, *Thryonomys swinderianus*, *Struthio camelus*, *Hystrix cristata*, *Alcelaphus buselaphus*, *Lepus capensis*, *Papio Anubis*, *Adenota kob*, *Varanus exanithematisus*. Finally, high household size and illiteracy which are drivers of poverty have greatly influence hunting activities which in turn resulted to wildlife population decline.

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