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BUSHMEAT CONSUMPTION AMONG URBAN DWELLERS: A MAJOR DRIVER OF WILDLIFE HUNTING IN KWARA STATE, NIGERIA

Adefalu, L.L.; Adekunle, A.O., Aderinoye-Abdulwahab, S.A; Oladipo, F.O; and Oluwafemi, A.O

Department of Agricultural Extension and Rural Development, Faculty of Agriculture, University of Ilorin, Ilorin, Nigeria.

Corresponding author: adefalulateef@yahoo.com / +2348063468477

ABSTRACT

The unregulated hunting of wildlife in developing countries like Nigeria is fast threatening forest resources and most importantly the wild animals therein. This negative trend is essentially being driven by the increased demand for bushmeat consumption among the urban dwellers. This study was carried out in Kwara State to investigate bushmeat consumption among urban dwellers and the implication on the sustainability of wild animals. 120 respondents were randomly selected from 4 purposively selected restaurants and a questionnaire was used to elicit information from them. Frequency, percentage and mean score as well as PPMC were used to analyse the data. The study showed that majority (84.2%) of the respondents were young, average monthly income of the respondents stood at 220.60USD, 55.0% of them had tertiary education while grass-cutter, pangolin and alligator were the most available bushmeat in the area. 38% of the respondents consumed bushmeat daily, 33.3% indicated weekly, 13.3% indicated monthly while 15.0% indicated occasional bushmeat consumption. A little above one-third (36.7%) of them consumed bushmeat because of its unique taste. PPMC analysis showed that age ($r = 0.040$), household-size ($r = 0.006$), occupation ($r = 0.001$) and education ($r = 0.000$) were significant socio-economic factors which determine frequency of bushmeat consumption among the respondents. The study recommends an aggressive campaign programme on domestication of grasscutter and pangolin to satisfy the increasing market demand for bushmeat. This will guarantee less hunting pressure on wild species thereby maintaining the stability of the eco-biodiversity.

Keywords: Bushmeat, Consumption, Urban-dwellers, Drivers, Wildlife hunting

Introduction

Wild animals, often known as bushmeat in Africa, occupy an important position in the menu of most rural dwellers. The meat is taken for granted by the rural dwellers, so much so, that it is believed to be inexhaustible, captured for free in the forest and not purchased by the rural people (Robinson, 2000). Wildlife had been hunted for food ever since human race evolved and bushmeat is still viewed as a resource "free-for-the-taking" in many areas. This perception of bushmeat could lead to the "empty-forest-syndrome" described by Redford (1991) with the adverse consequences to the livelihood of rural households who are dependent on these resources. Many people living in rural areas depend so much on these forest resources for their sustenance. The meat provides an important source of protein in both rural and urban household diets. Bushmeat is not only consumed in Nigeria, it is valued throughout West Africa sub-region as a source of animal protein (Martin, 1983). The study

carried out by Ayodele (1992) revealed that 15% of the animal protein consumed by rural dwellers of Southern Nigeria is obtained from bushmeat and this was valued at over nine million naira (N9, 000,000.00) per annum.



Fig. 1 showing young and urbanites having nice time with bushmeat in a city restaurant (Source: Field survey, 2012)

In recent time, urban elites (as shown in fig. 1) have developed interest in the consumption of bushmeat, believing that it is a status-symbol and a means of linking up with their early ancestors. The volume of bushmeat being consumed in most Nigerian cities is assuming a threatening dimension and could further lead to aggressive hunting of threatened and endangered species of wild animals. Adefalu *et al.*, (2012) observed that poor perception on the part of the women involved in bushmeat trade accounted for their acceptance of all manners of wild species for sale as bushmeat from hunters. Essentially, wildlife hunting is mostly promoted and driven by the ready-made market provided by the urban elites who have the financial muscle to purchase bushmeat at almost three times the price of conventional animal meats (Bowen-Jones *et al.*, 2003; Wilkie and Carpenter, 1999). The meat is usually consumed more in restaurants or pepper-soup joints than at home by most people. The attractive market provided by the cities for bushmeat has changed the dimension of wildlife hunting from subsistence to commercial hunting where hunters kill just anything that come their ways during expedition. Bushmeat hunters are no longer hunting to meet family protein needs but also to generate income. Poverty was also identified as a core driver of bushmeat hunting which accounted for about one-tenth of hunters' total annual income in a study carried out in Kwara State (Adefalu *et al.*, 2013).

The ever-increasing human population and the corresponding pressure on food consumption both in the cities and rural areas leading to the search for alternative protein source and means of livelihoods have led to unregulated hunting of wild animals for

bushmeat. Nigerian government had over the years promulgated a number of environmental protection laws including Endangered Species Act of 1985 which prohibits capturing, killing and trading in certain species of wild animals whose population are either threatened or endangered with relevant sanctions for the violators.

In addition to this, Nigeria was a signatory to a number of multilateral environmental agreements (MEAs). Some of these MEAs are Convention on Biological Diversity, Bio-safety Protocol to the Biodiversity Convention (the Cartagena Protocol), United Nations Framework Convention on climate change (UNFCCC), Convention to combat desertification, Convention for the protection of the Ozone layer and Convention on International Trade of Endangered Species (CITES) (Ayodele, 2009). Despite the dozens of legislations enacted by the Nigerian Government and several other conventions and protocols to which the country was a signatory, the dearth of environmental management education and the desperation of the local forest explorers have possibly frustrated the efficacy and made the enforcement of these laws a mirage.

It is important to note that not much have been achieved in the enforcement of this Act due to possible poor perception of the hunting population as evident in figure 4. This was attested to by the suspension slammed on Nigeria in 2008 by Convention on International Trade in Endangered Species of wild animals (CITES) and later readmitted in 2011 (Mohammed, 2013), following reported cases of unregulated hunting and trafficking in threatened and endangered species. In view of the challenges posed on biodiversity by huge supply of bushmeat to the cities for consumption, this study intends to describe the socio-economic characteristics of the bushmeat consumers, identify the types of bushmeat available for consumption, examine the reasons for consuming bushmeat and evaluate the bushmeat consumption frequency among the respondents in the study area.

METHODOLOGY

This study was carried out in Ilorin Metropolis of Kwara State, Nigeria. Ilorin Metropolis comprises Ilorin West, Ilorin East, and Ilorin South Local government areas with a population of 1,012,691 (NPC, 2006) people and is situated at the central senatorial district of the State. The Metropolis is geographically located between latitude $8^{\circ} 30' 16''$ N and longitude $4^{\circ} 34' 13''$ E. The people of the Metropolis are known to engage in farming, traditional cloth weaving, trading, artisanal work, hunting and civil service. Ilorin is the seat of Kwara State Government and most of the Local Government top functionaries in the State and other adjoining States enjoy spending their leisure time in the metropolis because of its peaceful nature. There is a good number of medium and high profile restaurants scattered across the length and breadth of the Metropolis where people patronize for bushmeat consumption.

The study population comprised all people who eat bushmeat in Ilorin Metropolis. Multiple sampling techniques were adopted for the selection of the respondents. Ilorin East and Ilorin South were purposively selected due to the presence of high profile restaurants in these Local Government Areas. Two Restaurants were randomly selected from each of the Local Government Areas and 30 respondents (i.e. people who came to eat at the restaurants) were randomly selected from each of the selected restaurants on the basis of time of arrival at the restaurants giving 120 sample size. The data obtained was subjected to descriptive (frequency, percentage and mean scores) and inferential (Pearson product moment correlation) statistics for analysis.

RESULT AND DISCUSSION

Socioeconomic Characteristics of Bushmeat Consumers

Table 1 presents the socioeconomic characteristics of bushmeat consumers in Ilorin Metropolis, Kwara State, Nigeria.

Table 1: Bushmeat consumers' socioeconomic characteristics

Socio-economic variables	Frequency (N=120)	Percentage (%)	Mean
Age			
16-24	20	16.7	42.5years
25-33	35	29.2	
34-42	30	25.0	
≥43	34	28.3	
Marital status			
Single	39	32.5	
Married	81	67.5	
Sex			
Male	86	71.7	
Female	34	28.3	
Religion			
Islam	69	57.5	
Christianity	51	42.5	
Educational status			
Non-formal	5	4.2	
Primary	9	7.5	
Secondary	40	33.3	
Tertiary	66	55.0	
Occupation			
Artisan	16	13.3	
Trading	12	10.0	
Driving	32	26.7	
Civil-service	60	50.0	
Household-size			
2-5	62	51.7	6 persons
6-9	51	42.5	
10-16	7	5.8	
Monthly income (N)			
= 5,000.00	4	3.3	N37,500.5
5,001.00 – 20,000.00	12	10.0	
20,001.00 – 35,000.00	21	17.5	
35,001.00 – 50,000.00	18	15.0	
≥ 50,001.00	65	54.2	

Source: Field Survey, 2012

The table shows that 29.2% of the respondents were 25-33 years, 28.3% were ≥43 years, 25.0% were 34 to 42 years while the rest 16.7% fell between 16-24 years of age. The fact that, respondents were in their active age (mean age = 42.5 years) could be an advantage as they are more likely to be productive. High productivity could also translate to higher earnings as well as higher propensity to consume bushmeat. Majority (67.5%) of the respondents were married, even though, the remaining 32.5% of them were single. Also, majority (71.7%) of bushmeat consumers were male who practised Islam (57.5%) and

Christianity (42.5%) as their religion.

In terms of literacy level, a little above half (55.0%) of the respondents had tertiary education, 33.3% held secondary school certificates, 7.5% had primary education while only 4.2% of the respondents indicated non-formal education. High educational level as observed in the study may imply that respondents were well informed of the nutritional benefits of bushmeat not found in conventional meats. The x-ray of the occupational distribution showed that half (50.0%) of the respondents were civil servants, 26.7% indicated driving as their occupation, 13.3% were artisans while 10.0% were traders. A civil-service dominated population is an indication that, the respondents are more likely to have stable and relatively reliable source of income which may encourage high patronage of restaurants where bushmeats are sold. An average respondent in the study had sizeable household members of six persons. Table 1 further showed that a little above half (54.2%) of the respondents earned N50, 001.00 and above in a month, 17.5% of them earned N20, 001.00 - N35, 000.00 monthly, 15.0% of them indicated a monthly salary of N35, 001.00 - N50, 000.00, 10.0% of them earned N5, 001.00 - N20, 000.00 while the remaining 3.3% of the respondents earned less than or N5, 000.00 in a month. The average monthly income of a typical respondent in the study was N37,500.50 (220.60USD) per month. High monthly income as indicated by the respondents could be accounted for by the generally high literacy level among them which provides the opportunity for a good paying job and correspondingly high purchasing power. Hence, the respondents are at advantage to consume highly expensive bushmeat in the cities without necessarily compromising their families' basic needs.

Types of Bushmeat consumed by respondents

On the type of bushmeat mostly consumed by the respondents in the study area, Table 2 showed that about 1/3rd (34.2%) of them indicated grasscutter as the most prominently consumed bushmeat, 19.2% consumed pangolin, 18.3% indicated alligator, 10.8% consumed antelope, 10.0% of the respondents consumed guinea fowl, 4.2% of them indicated rabbit as their choice of bushmeat while the remaining 3.3% of them indicated quail as their favourite. The distribution of the respondents based on the mostly consumed bushmeat implied that grasscutter had the highest percentage of consumption and it is likely to be under intensive hunting pressure. This is because hunters are likely to hunt grasscutter more aggressively in order to meet the ever-increasing market demand for bushmeat. As a matter of fact evidence abounds that pangolin which was indicated as the second most consumed bushmeat is already faced with the problem of local extinction due to unregulated hunting of the specie. This position is further supported by Soewu and Adekanola (2011) who observed that pangolins are presently rated as near threatened on IUCN Red Data Book and listed on appendix II of CITES.

Table 2: Bushmeat mostly consumed by respondents

Variables	Frequency	Percentage (%)
Grasscutter	41	34.2
Alligator	22	18.3
Pangolin	23	19.2
Guinea fowl	12	10.0
Antelope	13	10.8
Rabbit	5	4.2
Quail	4	3.3

Source: Field survey 2013

Reasons for consuming Bushmeat

The distribution of the respondents according to the reasons for consuming varying types of bushmeat is presented in Table 3. The table showed a multiple response by bushmeat consumers in the study area. It was found that a little above half (55.5%) of the respondents consumed bushmeat because of its nutritional value, 53.3% indicated availability as an important reason for the consumption of bushmeat, 50.0% indicated affordability as their own reason, 46.7% mentioned medical advice as the reason for eating bushmeat. The table further showed aesthetic value, religious belief, cultural attachment, intelligence and friendliness as the reasons for consuming bushmeat by 28.3%, 6.7%, 5.0%, 3.3% and 3.3% of the respondents respectively. It may therefore be concluded that respondents in the study area consume bushmeat essentially for its nutritional value, availability and affordability.

Table 3: Consumers' reasons for consuming Bushmeat

Variables	Frequency	Percentage
Religious belief	8	6.7
Cultural attachment	6	5.0
Aesthetic value	34	28.3
Intelligence	4	3.3
Availability	64	53.3
Friendliness	4	3.3
Affordability	60	50.0
Nutritional value	66	55.5
Medical advice	56	46.7

Source: Field survey 2011

Location of bushmeat consumption by respondents

The study established, as shown in Table 6, that a little above half (54.2%) of the respondents consumed bushmeat at restaurants, 35.8% of them consumed bushmeat at home, 6.7% of them indicated that they only consume bushmeat at festivals while the rest 3.3% submitted that they consume bushmeat at social functions. Generally, the distribution of respondents showed that more often than not, people in the study area consume bushmeat at restaurants probably because half (50.0%) of them are civil servants (Table 1) who mostly take their lunch away from home due to the exigencies of their work.

Table 6: Venue for eating Bushmeat

Variables	Frequency	Percentage (%)
Restaurant	65	54.2
Home	43	35.8
Festival	8	6.7
Social functions	4	3.3
Total	120	100.0

Source: Field survey 2013

Bushmeat consumption frequency

Table 4 showed that 38.3% of the respondents consume bushmeat on daily basis, 33.3% of them consumed the meat weekly, and 15.0% indicated occasional consumption of bushmeat while the remaining 13.3% consumed the meat monthly.

Table 4: Bushmeat Consumption Frequency among Respondents

Variables	Frequency	Percentage (%)
Daily	46	38.3
Weekly	40	33.3
Monthly	16	13.3
Occasionally	18	15.0
Total	120	100.0

Source: Field survey 2013

The large proportion (38.3%) of the respondents who indicated daily bushmeat consumption may spell doom for the already threatened biodiversity. This is because hunters may be encouraged to engage in more aggressive hunting of wild animals in order to satisfy the daily demand for bushmeat in the study area.

Relationship between some selected socio-economic characteristics of respondents and frequency of bushmeat consumption.

The correlation analysis in Table 5 showed that age ($r = -0.740$, $p = 0.040$) and household size ($r = -0.100$, $p = 0.006$) were significant and inversely related to frequency of bushmeat consumption. The table further showed that income ($r = 0.328$, $p = 0.001$) and education ($r = 0.549$, $p = 0.000$) were significant and positively related to the respondents' frequency of bushmeat consumption while occupation and marital status of the respondents had no significant relationship with the frequency of bushmeat consumption. The implication of this analysis is that bushmeat is more consumed by respondents who are young with less household size and higher income irrespective of their occupation and marital status.

Table 5: Relationship between some selected socio-economic characteristics of respondents and frequency of bushmeat consumption.

Parameter	Coefficient (r)	P-value	Remarks
Age	-0.740*	0.040	Significant
Household size	-0.100**	0.006	Significant
Income	0.328**	0.001	Significant
Occupation	0.047	0.195	Not significant
Marital status	0.054	0.339	Not significant
Education	0.549***	0.000	Significant

Correlation is significant @ 0.05 (2-tailed)
Source: Field survey 2013

Conclusion and Recommendation

The study sought to provide insight into bushmeat consumption among urban dwellers and its implications on wildlife hunting in Ilorin Metropolis of Kwara State, Nigeria. This was done to ascertain how wildlife biodiversity can be sustained in our areas. This study identified a number of significant values associated with bushmeat consumption. Among these are nutritional and medicinal, as well as cultural and aesthetic values. Daily consumption of bushmeat among large proportion of the respondents in the study area was made possible by respondents' high income level which guarantees a steady market for wildlife hunters who engage in commercial hunting. The steady market is capable of encouraging unregulated hunting of wild animal species without consideration for their sustainability. It was also established that there could be too much pressure on the hunting of grasscutter and pangolin as a result of high demands for the species in the cities. The implication is that many of these wild animals which serve as important stabilizers of the eco-system may be lost to local extinction.

The study therefore recommends

- urgent and aggressive campaign against unregulated hunting of certain wild species such as grasscutter and pangolin in order to prevent them from being dragged into extinction.
- The domestication of these species is also highly encouraged to satisfy the increasing market demand of bushmeat. This will guarantee less hunting pressure on wild species thereby maintaining the stability of the eco-biodiversity.

If these recommendations are not taken, the attainment of the seventh Millennium Development Goal (ensuring environmental sustainability) might be jeopardised, especially in developing countries like Nigeria.

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