



Research Paper

An Appraisal of drivers to bushmeat consumption of government workers in Oyo State during the covid-19 era: A case study of Oyo State College of Education, Lanlate

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Abstract

It is no more news that bushmeat is highly consumed by many people in the world and despite Covid-19 pandemic around the world people were not deterred consuming bushmeat. This study therefore aimed at identifying drivers to bushmeat purchase and consumption among government workers in Ibarapa East Local Government Area of Oyo State. We carried out an enquiry into factors influencing bushmeat consumption, part of the research was conducted via an e-questionnaire sent online to respondents. An application was used to generate questionnaire which was sent to the respondents in Ibarapa East Local Government Area of Oyo State. Random sampling technique was used to select 150 government workers out of which 120 responded to the questionnaire. Data were then analyzed using simple percentages, simple counting and mean. From the finding, most (58%) respondents were female as against (42%) male, (68.3%) were married (13.3%) single (11.7%) widowed while 6.7 percent were divorced when most (46.7%) were between the ages of 41 and 60 years. This work reveals the consumption frequency of different types of bushmeat in the study area. It was discovered that most frequently consumed bushmeat were in this sequence grasscutter (32.5%), hare (14.2%), antelope (13.3%), snake/wild pig (10.0%), others (7.5%) and porcupine (3.3%). It was also revealed that drivers to bushmeat consumption were price ($M=3.13\pm0.85$) income ($M=3.25\pm1.03$). Taste ($M=2.92\pm0.75$) and level of bushmeat availability ($M=3.05\pm1.17$). Other factor were how safe the bushmeat is ($M=3.09\pm0.75$), residence ($M=2.81\pm0.96$), fear of Zoonoses ($M=3.27\pm0.9$) and disease risk ($M=3.11\pm 0.89$). It was recommended that Since many of the respondents felt that Covid-19 is not a threat to Nigeria, more awareness should be conducted by the concerned bodies to the populace on the underlying zoonotic diseases that may be contracted through the consumption of bushmeat during Covid-19 pandemic era.

Keywords: Driver, Bushmeat, consumption, Covid-19, Zoonoses,

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I. Introduction

Bushmeat as a popular delicacy in many areas of Oyo state is attributed to the consumption pattern, tradition and the abundance of wild animals in the area. Bush meat is often used to augment their animal protein intake due to its availability and affordability (Olaniyan, Adeosun and Owoade, 2016).

The term bushmeat is commonly used for the meat of terrestrial wild or feral mammals, killed for sustenance or commercial purposes throughout the humid tropics of the Americas, Asia, and Africa (Nasi *et al.*, 2008). Over 500 species are consumed in Sub-Saharan Africa, including red duikers (antelopes), panthers, chimpanzees, gorillas, elephants, African rock pythons, monitor lizards, turtles, porcupines, and bonobos (Fa & Brown, 2009; Umejei, 2011). Some people especially impoverished households depend on the protein from wild meat; however, increasing urban consumption is driving species toward extinction. Bushmeat is a meat that predominantly comes from the wild vertebrates which represents the primary source of protein in forested areas of the tropics (Fa *et al.*, 2002; Milner-Gulland and Bennett, 2003).

The rationale for bush meat consumption in remote rural areas is self-evident: the resource can directly be accessed and domestic proteins are expensive and unavailable (Willcox and Nambu, 2007). However, why does bush meat consumption persist in the urban? Although, the answer to this is less straight forward,

understanding the drivers of urban bush meat consumption is important because demand from larger human populations represent a substantial threat to wild animals in the natural areas (Wilkie and Carpenter, 1999). Consequently, in addition to affecting the sustainability of the wild game population, urban bush meat consumption can threaten the food security of rural people, who most depend on wild game, by reducing the availability of the resource (Millner-Gulland and Bennett, 2003; Nasi *et al.*, 2011).

Independent variable that potentially affected a household dependency on bush meat included religion, area of study, education, annual income and number of dependent children going to school.

Within the implicit frameworks, studies have evaluated the association between economic drivers i.e. income or wealth, bush meat consumption, and the accumulated evidence from urban areas, most in West Africa and Central Africa. Contrarily, at least one study found that higher household income is associated with reduced bush meat consumption in West Africa (Albrechtsen *et al.*, 2005), additional findings have shown that increases in income (Mbetete *et al.*, 2011), wealth (as measured through expenditure; Fa *et al.*, 2009), or both (East *et al.*, 2005; Brashares *et al.*, 2011. Jenkins *et al.*, 2011) may increase bush meat consumption.

The reason for these conflicting results is that consumptive behavior not only depends on people's preferences but also on income and prices. If the price of certain good is held constant, an increase in income will typically lead to higher levels of consumption, so when an increase in income produces an increase in bush meat consumption, bush meat is considered normal good (Mankiw, 2009).

Cultural aspect, mediated through taste (Schenck *et al.*, 2006) has indeed been widely reported to be important in explaining bush meat consumption (Van Vliet and Mbazza, 2011). Typically, people whose rural traditions do not include bush meat consumption are less likely to eat it when they move to urban environment (Naughton-Treves, 2002).

The objectives of this work are: (i) to identify the demographic profile of bushmeat consumer (ii) to determine the most consumed bushmeat among Government workers in the study area (iii) to investigate the perceived link between bushmeat consumption and the dreaded Covid-19 pandemic, (iv) to determine factors affecting bush meat consumption in Ibarapa East Local Government Area of Oyo

II. Methodology

Area of Study

The study was carried out at the Oyo State College of Education, Lanlate, Ibarapa East Local Government Area of Oyo State. Ibarapa East Local Government is one of the three Local Governments in Ibarapa Region of Oyo State. It has its headquarters in Eruwa. Ibarapa East Local Government has an area of 838km² and a population of 118,226 people (NPC, 2006). The major occupations in the area are trading, artisanship, teaching and civil service. Ibarapa East Local Government is bounded in the South by Ibarapa Central Local Government, in the West by Ibarapa North Local Government, in the North by Iseyin Local Government and in the East by Ido Local Government Area and Odeda Local Government Area of Ogun State.

Population of the Study

The population of this study consists of all workers in Ibarapa East Local Government Area of Oyo State.

Sample size and Sampling Techniques

The researcher adopted random sampling technique to select 120 government workers.

Data Collection and Representation

We conducted questionnaire survey, part of which research was conducted via an e-questionnaire sent online to respondents with signed consent between January-June 2021. A questionnaire application was used to generate questionnaire which was sent to the respondents (government workers) in Ibarapa East Local Government Area of Oyo State. Second part was done by administering questionnaire to respondents in person.

Both qualitative and quantitative methods of data collection were used to obtain data from respondents. Well structures questionnaire was used to determine respondents' socio-economic characteristics and factors affecting bushmeat consumption among the respondents.

Total sample size made up of 90 respondents given questionnaire and 90 respondents with e-questionnaire. But out of 90 respondents online, only 30 finally responded. The total number of respondents was 90 physical respondents+ only 30 online respondents. Responses of the respondents were retrieved from the application and were later analyzed.

III. Results and Discussion

Socio-economic characteristic

Findings of gender on the participants showed that more female (58%) participants responded to the questionnaire as against (42%) male. This result was in line with the observation of Diez *et al.* (2006) that reported more female participant in their study for identifying market segments in beef. But this is in contrast with the report by other authors (Eyo, 2007; Ogunwole *et al.* 2009; Akinwumi *et al.* 2011 and Tsegay, 2012) that there were more male participant in Niger-Delta; Ibadan, Ogbomoso and Ethiopia respectively. Most of the

respondents (68.3%) were married (13.3%) single (11.7%) widowed while 6.7 percent were divorced. Considering the age of the respondents, most of the people (46.7%) were between the ages of 41 and 60 years, 30.8 percent were between the ages of 21 and 40 years, 19.2 percent were below the age of 21 while only 3.3 percent were above the age of 60 years. When reporting the religion characteristics, majority (50%) of the respondents were Christians, followed by the 46.7 percent who were Muslims while only 3.3 percent were traditional worshipper. On education of the respondents, majority (61.7%) of the respondents were graduates of tertiary institutions, 31.7 percent were secondary school holders, 5.8 percent had Adult/Primary education while only 0.8 percent was with no formal education. Findings on category of government work, majority (42.0%) of the respondents were teaching staff, 33.0 percent were Senior Non-Teaching staff while Junior Non-Teaching staff were represented by 25.0 percent.

Table 1: Socio-economic factors of the sampled beef seller

| Attributes | Frequency | Percent |
|-----------------------|------------------|----------------|
| Gender | | |
| Male | 50 | 42.0 |
| Female | 70 | 58.0 |
| Marital Status | | |
| Single | 16 | 13.3 |
| Married | 82 | 68.3 |
| Widowed | 14 | 11.7 |
| Divorced | 8 | 6.7 |
| Age (Years) | | |
| <21 | 23 | 19.2 |
| 21-40 | 37 | 30.8 |
| 41-60 | 56 | 46.7 |
| >60 | 4 | 3.3 |
| Religion | | |
| Christian | 60 | 50.0 |
| Muslim | 56 | 46.7 |
| Traditional | 4 | 3.3 |
| Education | | |
| No formal | 1 | 0.8 |
| Adult/Primary | 7 | 5.8 |
| Secondary | 38 | 31.7 |
| Tertiary | 74 | 61.7 |
| Category | | |
| Teaching | 50 | 42.0 |
| Junior Admin | 30 | 25.0 |
| Senior Admin | 40 | 33.0 |

Source: Field Survey, 2021

Table 2 reveals the consumption frequency of different types of bushmeat in the study area. It was discovered that most frequently consumed bushmeat were grasscutter (32.5%), hare (14.2%), antelope (13.3%), snake/wild pig (10.0%), others (7.5%) and porcupine (3.3%). This study corroborates report of Adeosun (2010) who affirmed that grasscutter is the most consumed bushmeat in the rural area and Wildaid (2021) grasscutter is the most popular bushmeat, eaten by about 44% of people followed by antelope/deer (25%), snake (21%) and wild pig (15%).

Due to Covid-19 pandemic and the link between bushmeat trade and the spread of zoonotic diseases, all the respondents indicated reduction in bushmeat consumption but intend to eat bushmeat in the future. This has shown that Covid-19 appears to likely have temporary impact on people's immediate bushmeat consumption behavior. This was also the case with consumption of bushmeat during the outbreak of Ebola virus in 2016 as reported by Olaniyan, Adeosun and Owoade (2016).

Table 2: Consumption frequency of different types of bushmeat

| Bushmeat Type | Frequently consumed | Percentage |
|---------------|---------------------|------------|
| Grasscutter | 39 | 32.5 |
| Hare | 17 | 14.2 |
| Antelope | 16 | 13.3 |
| Snake | 12 | 10.0 |
| monkey | 11 | 9.2 |
| wild pig | 12 | 10.0 |
| Porcupine | 4 | 3.3 |
| Tortoise | Nil | 0.0 |
| Crocodile | Nil | 0.0 |
| Bat | Nil | 0.0 |
| Others | 9 | 7.5 |

Source: Field Survey, 2021

Table 3 shows the drivers to bush meat consumption among the respondents in the study area. This reveals that disease risk in meat is a driver to bush meat consumption. This was revealed with a mean of 2.90 ± 0.5 , this shows that negative perceptions coexist alongside positive perception of bush meat, although the former do not necessarily limit levels of consumption, this perception however was dependent on the state or source of the bush meat. Several respondents reported being aware of recommendations to avoid bush meat during the outbreak of the then Ebola and currently due to recent Covid-19 pandemic, yet they perceived that Covid-19 is not threat to Nigeria.

All respondents regardless of age and sex emphasized the high price of bush meat; it is then perceived as special occasion meat or esteemed individuals. The most frequently cited driver to purchasing and consuming bushmeat was the price ($M=3.13 \pm 0.85$) followed by income ($M=3.25 \pm 1.03$). The price and availability are linked but price seems to be the most perceived barrier. If price is held constant, many of the respondents offer to purchase and consume more of bush meat if their income increases. Income exerted positive and statistically significant influence on bushmeat consumption; implying that increases in household income could stimulate higher consumption of bushmeat. This finding is consistent with some of the previous studies (Ogbeide, 2015; Ekine et al., 2012; and Yakaka and Maina, 2012; Akinwumi *et al.*, 2011; Alimi, 2013) on meat consumption in the country.

Level of availability of bushmeat determines purchase and consumption of bush meat in the study area. It was discovered that seasonal change affects availability of bush meat not only that, form (fresh or processed) of available bush meat also determines purchase and consumption of the meat. With ($M=3.05 \pm 1.17$), it shows that majority of the respondents agreed that availability and consumption of bush meat by the respondents were positively correlated.

Zoonoses being diseases that are transmitted between animal and man, it was discovered that many of the respondents ($M=3.27 \pm 0.9$) perceived fear of zoonoses being a driver to bushmeat purchase and consumption. These concerns were often dependent on the state, source and form of the bushmeat. Fear of zoonoses is a factor that determines purchase and consumption of bush meat in the study area. The fear of zoonotic diseases may be as a result of knowledge by the respondents of wild animal being capable of transferring diseases to man. This is in line with Globescan (2020) that wild animals can cause zoonotic diseases. This work also corroborates olaniyan, Adeosun and Owoade (2016) who reported negative implication of Ebola virus disease consumption of bush meat which in turn affected the livelihood of the marketer. This is also in line with Chausson *et al.* (2019) who discovered half of respondents expressing concerns about consumption of bushmeat as a result of their concerns about contagious diseases and lack of food safety.

Taste ($M=2.92 \pm 0.75$) is also a factor that influence consumption of bush meat in the study areas. In other words taste was agreed upon as a driver to bushmeat consumption in the study area. This is in line with Adetunji and Rauf (2012). In their study, it was found out that respondents' preference for meat was influenced by their taste and level of income.

In this study, religion ($M=2.89\pm0.99$) affected the consumption of bushmeat. Bushmeat consumption was near absent in Muslim households. However, our work is contrary to that of Kouassi *et al.* (2017) which stated that among potential drivers of bushmeat consumption by rural households, only the interaction between a household's yearly income and number of dependent school children had an effect, not religion or level of education. They further stated that low-income rural households with more dependent children consume more bushmeat.

How safe a meat is ($M=3.09\pm0.75$) is also a factor to consider in bush meat purchase and consumption as people will not buy meat they were not sure if safe for them to consume. The same is applicable to bus meat consumption in the study area.

Residence ($M=2.81\pm0.96$) was perceived as a factor affecting bushmeat consumption by the respondents. Our findings corroborate Albrechtsen *et al.* (2005), which found that lower income households especially those that reside in the rural areas may rely more on bushmeat as their main source of protein because of lower prices. This finding is however contrary to studies that have shown bushmeat in Central African urban areas as a luxury (Cowlshaw, *et al.*, 2005; Randolph, 2016).

Table 3: Drivers to bush meat consumption

| | SD | D | ND | SND | Mean | STD | Remark |
|----------------------|----|----|----|-----|------|------|---------------|
| Price | 50 | 45 | 15 | 10 | 3.13 | 0.85 | Driver |
| Religion | 41 | 37 | 30 | 12 | 2.89 | 0.99 | Driver |
| Zoonoses | 65 | 31 | 15 | 9 | 3.27 | 0.9 | Strong Driver |
| Availability | 57 | 28 | 19 | 16 | 3.05 | 1.17 | Driver |
| Income | 70 | 20 | 20 | 10 | 3.25 | 1.03 | Driver |
| Taste | 28 | 66 | 14 | 12 | 2.92 | 0.75 | Driver |
| Disease risk in meat | 51 | 40 | 20 | 9 | 3.11 | 0.89 | Driver |
| Safety | 45 | 47 | 22 | 6 | 3.09 | 0.75 | Driver |
| Residence | 34 | 43 | 29 | 14 | 2.81 | 0.96 | Driver |

Source: Field Survey, 2021

SF=Strong Driver, D=Driver, ND=Not Driver, SND= Strongly Not Driver

IV. Recommendation

Based on the outcome of this research work, the following recommendations were made:

- i) Instead of direct hunting for wild animals in order to make bushmeat available, interested individuals can go into domestication of wild animals.
- ii) Since many of the respondents felt that Covid-19 is not a threat to Nigeria, more awareness should be conducted by the concerned bodies to the populace on the underlying zoonotic diseases that may be contracted through the consumption of bushmeat during Covid-19 pandemic era.
- iii) Since grasscutter is the most consumed bushmeat within the area, unemployed youth can be motivated to take up employment opportunities in grasscutter production and value added mini-bushmeat supply.
- iv) Non- Governmental bodies can come to the aid of unemployed youth on adding value to bushmeat production and marketing.
- v) Young people can be given regular training on benefits of domesticating and consuming wild animal domestication for sustainable bushmeat production and household protein increase.
- vi) Young people should be given an access to support services such as access to capital and land through government efforts to attitudinal change towards wild animal domestication.

V. Conclusion

Bushmeat are some of the unavoidable commodities of human feeding habit from antiquity, a major chunk of the protein and other nutrients requirements of the population will be satisfied by this meat. Bushmeat is widely consumed and generally acceptable both in the rural and urban areas, the most consumed bushmeat was grasscutter, followed by hare, antelope and snakes. In addition to being the most consumed, grasscutter was also the most available compared to other bushmeat. It was revealed that presence of zoonotic disease like Covid-19 pandemic has reduced the consumption of bushmeat to a certain extent, meanwhile, most respondents signified they would have consumed more without emergence and prevalence of the deadly viral disease.

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