



**ASSESSMENT OF BUSH MEAT VALUES IN A RURAL HOUSEHOLD INCOME IN BIRNIWA AND KIRI-KASAMMA LOCAL GOVERNMENT AREAS OF JIGAWA STATE**  
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**ABSTRACT**

*The research work concentrated mainly on the assessment of bush meat values and its contribution to the rural household incomes of Birniwa and Kirakassama local government area of Jigawa state. The work also identify the socio economic characteristics of the bush meat marketers. it also determined the price of different bush meat product as well as assessed price for different bush meat product traded in different market in the area studied. Questionnaires were administered to both bush meat hunters/ marketers. Major findings are: there were three major animals used as bush meat in the study area viz Aves, mammals and reptile which were 30%; 29% and 40% respectively. The prices of these animals varied but on the average, the prices were 243 Naira for the Aves, 500 Naira for the reptile and 306 Naira for the mammals. Equipment used in capturing were found to be dog and sticks. And 42% of the respondents have farming as secondary occupation. The recommendations were: that there is the need for government to double its efforts in the enlightenment of bush meat marketers/hunters on how to derive higher benefit out of the business; more sophisticated hunting method through modern facilities should be supplied and guided by government to ensure high quality and hygienic bush meat; Laws governing games and forest should be recognized to avoid over exploitation of the wild animals*

**INTRODUCTION**

Hunting and gathering of wild animals have always been and continues to be important aspect of life in rural African societies. In the past, hunting provides main source of animal's protein and professional hunters occupied a highly respected position in the society. Even in modern day Africa, some groups such as the Bushmen in Southern Africa depend

almost entirely on hunting and gathering to obtain essential protein and cash income, while many others groups supplement their livelihoods considerably by hunting Asibey (1974), Ajayi (1979), Tutu et al; (1994). In many African countries, hunting is not only a means of securing food resources, but is also a social event (rite of passage) in which young men proved their manhood.

Hunting with guns and bows is predominantly a male activity, but women and children play a significant role in hunting and collection of wild resources to feed the household (Lahm 1993).

#### **Hunting practice and method in Nigeria**

Traditional hunting in Nigeria includes the use of home-made muzzle-loaders, setting traps and snares, use of dogs and use of fire to drive the animals out (Afolayan 1980, Martin 1983).

Hunters may hunt individually, often assisted by a helper or in a group. Individual hunting may take place during a day or at night, in the forest or in the secondary growth around farms. Professional hunters would leave their home in the morning for a day hunting expedition, returning in the evening. Many farmers' hunters share their day time between farm work and hunting or trapping. Dogs are commonly used to sniff out wild animals from hiding or shelters.

In many rural societies in Nigeria including Birniwa/Kirikasamma local governments of Jigawa state, bush meat hunting and trade serve as an important source of income, food and medicine for the dwellers. The statistics and revenue involved in this economic activity are often not adequately taken and recorded. Therefore, this research is carried out to determine the incomes derived from bush meat in rural livelihoods or rural households of Birniwa and Kirikasamma Local Governments of Jigawa state.

A comprehensive study on an assessment of bush meat values in rural household incomes in the study area will assist in providing relevant documentation on the bush meat marketing, thereby proposing a solution to the prevailing problems in the bush meat marketing and hunting activities. This research would encourage the potential youth engaged in this activity to benefit more from the business by outlining practical recommendations through which the stakeholders involved by the sector will

work actively towards the sustaining of the bush meat marketing and hunting activities in the study area.

#### **Aim**

To assess bush meat values to the rural livelihood income in Birniwa and Kirikasamma Local Government Area, Jigawa State.

#### **Objectives**

- To determine the different wild animals used as bush meat.
- To assess prices of different bush meat products traded in different markets in the area under study.
- To describe the socio-economic characteristics of the bush meat marketers.
- To assess the contribution of income made from bush meat and its allied activities among rural households.

#### **Location and Extent of the study Area**

This study was conducted in Birniwa and Kirikasamma Local Governments of Jigawa state. Birniwa Local Government area covers a total land area of 1,567 square kilometers with a population of 142,329 (NPC 2006). The local government lies between longitude  $10^{\circ} 14' 10^{\text{E}}$  and latitude  $12^{\circ} 47' 23^{\text{N}}$ . The population of the local government is dominated by Kanuri people, followed by Hausa, then Fulani, which are the minor tribes.

#### **Biophysical characteristics of the study Area**

The mean annual temperature of Birniwa local government is  $31 - 35^{\circ}\text{C}$ , (NPC 2006). The climatic condition of the local government area has been irregular with relatively wide and rapid changes in humidity, the north-east trade wind blows across the local government and eventually leads to the harmattan season from November and reaches its peak between December and January and stops in March. While the weather condition starts late in March to early June, the rainy season starts from mid-June to September or October.

The rainfall of Birniwa local government normally starts from mid of June to September or October; the area is characterized with low rainfall of 250mm, (NPC 2006)

Birniwa local government is located in the Sudan savanna zone in the extreme north east part of Jigawa state with common trees species of *Acacia species*, *Parkia biglobosa*, *Adonsonia digitata*, *Azadiracta indica*, with common species of wild animal such as hares, hedgehogs, rat, snakes, porcupines, globe trotters, (Field survey source)

The main occupation of the people of Birniwa is farming which is practice mostly at subsistence level, the major crops grown in the area are guinea corn, millet, sesame, beans. Another occupation of the local government livestock rearing such as cows reared by fulanis. Who are normally nomad while small ruminants such as goat and sheep are reared at house hold level with virtually every house hold having some, other commercial activities in the area are blacksmithing mining of potash, (NPC 2006)

The soil of Birniwa local government area are sandy soil, the sandy soil has the following characteristics;

It is well drained, loose and highly aerated and leaching is high and is characterized by low water holding capacity therefore does not support water logging, (www.ehow.com)

Kirikasamma local government area cover a land mass area of 762 with three ethnic group of Kanuri, Hausa and Fulaniskirikasamma local government fall between latitude 12.27022N to 12.43549N and longitude 10.13524 E to 10.23984.

The main occupation of the people of kirikasamma local government is farming which is practice mostly at subsistence level, the major crops grown in the area are guinea corn, millet sesame, rice, wheat

beans, tomato, cassava, sugarcane, pepper, and vegetables, Another occupation in the local government, animals such as cows are reared by Fulanis who are normal while small ruminants such as sheep and goat are reared at house hold level with virtually every house hold having some, other commercial activities in the area are mining of potash, blacksmith, and local jute (kaba) parking.

The kirikasamma local government located in the Sudan savanna zone in the extreme north east of Jigawa State with common species of *Azadiracta indica*, *Adonsonia digitata*, *Faidherbia albida*, *Acacia Arabica*, with common species of wild animals such as hares, hedgehogs, rat, snakes porcupines, globe trotters, ( NPC 2006).

The mean annual temperature of kirikasamma local government is 31 – 35°C (NPC2006). During the hot season and can be as low as 10 -15° c during the cold/hamattan periods.

The climatic condition of kirikasamma local government area has been irregularly with relatively wide and rapid change to humidity, the north east trade wind blows across the local government which eventually lead to harmattan season as from November and reach its peak between December and January and stop in march. While not weather condition starts late in March to early June with rainy season start from mid-June to September or October. During the hamattan the relative humidity is low and the air is dry.

The average rainfall in kirikasamma local government is 250mm starts from mid-June through September or October; the area is characterized with low rainfall.

Kirikasamma local government area is characterized by loamy soil which is rich in organic matter and it is well aerated and slow water percolations

**Sampling procedure**

Birniwa and kirikasamma local government were purposively selected and respondent were selected using systematic random sampling 25 respondents were selected from each local government out of the population of bush meat markets and hunters.

**Data collection**

The primary data were collected using structural questionnaire administered to bush meat Hunters, dealers and sellers, five respondents were randomly selected

from five (5) wards in each local government.

**Data analysis**

The data generated from this study were subjected to descriptive statistic using frequency and percentage distribution

**RESULTS AND DISCUSSION**

Socio-economic characteristics of the bush meat marketers were described on the data collected which was limited to the age, gender, and marital status, household size level of education and years of farming experience.

**Table 1: Age Distribution of the Respondents**

<b>Age</b>	<b>frequencies</b>	<b>percentage</b>
20 - 29	10	20
30 - 39	25	50
40 - 49	7	14
50 - 59	7	14
60 and above	1	2
<b>Total</b>	<b>50</b>	<b>100</b>

Table 1 presents the distribution of the respondents showing that the age brackets of 21 – 29 found to be 20%; 30 – 39 years were 46%; 40 – 49 and 50 – 59 years brackets were 14% each and only one respondents was age above 60 accounted for 2%. This indicates that 98% of the bush meat marketers were within their active age and perform better in the hunting and marketing activities.

**Gender distribution of the respondents**

Gender of the respondents was captured using dummy variable whereby male taking on the value of 1 and if is a female, 0 was used. This analysis matters a lot due to the variation do exists between female and male in performance in the hunting activities

**Table 2: Gender Distribution of the Respondents**

<b>Gender</b>	<b>frequencies</b>	<b>percentage</b>
<b>Male</b>	50	100
<b>Female</b>	0	0
<b>Total</b>	<b>50</b>	<b>100</b>

Table 2 presents the gender distribution of the respondents which was found to be all male, indicating that there were no participation of females in the hunting and

bush meat marketing in the study area. This may be due to the fact that culture and religion together with the tediousness of the job survey 2011

**Table 3: Marital status Distribution of the Respondents**

<b>Marital Status</b>	<b>Frequencies</b>	<b>Percentage</b>
Single	22	44
Married	25	50
Divorcee	2	4
Widower	1	2
<b>Total</b>	<b>50</b>	<b>100</b>

The results from table 3 and bar chart above presents the respondents' marital status the result shows that singled respondents has the frequency of 22 that was 44% of the total respondents. 50% of them were married, 4% of them were

divorced and 2% were widowers. As such the composition of the bush meat marketers dominated by married men and it has large percentage of singled men and little participation of widowers and divorcee.

**Table 4: Household distribution of the Respondents**

<b>Household sizes</b>	<b>Frequencies</b>	<b>Percentage</b>
1 - 3	26	52
4 - 6	11	22
7 - 9	6	12
10 - 12	1	2
13 and above	3	6
<b>Total</b>	<b>50</b>	<b>100</b>

The household sizes showed in table 4 and graphically represented in the bar chart indicates that household size having 1 – 6 members were the majority constituted

of about 52% cumulatively, and those having 10 to 12 members were the minority with members with one respondents and 2% only.

**Table 5: Educational Level of the Respondent**

<b>Education level</b>	<b>frequencies</b>	<b>percentage</b>
Non formal Education	19	38
Vocational Education	0	0
Primary	15	34
Secondary	12	24
Tertiary	4	8
<b>Total</b>	<b>50</b>	<b>100</b>

Source: field survey 2012

The table 5 presents the educational background of the respondents in the study area. The result shows that 38% attended informal education and none of them received vocational, 34% attended primary school; 24% attended secondary school while 8% attended tertiary

institution. This indicates that all of them attained one of the three educational levels which mean that; they all have basic knowledge of managing their hunting and bush meat marketing easily and can accept new technology of capturing and related activities.

**Table 6:** Distribution of the Respondents on their Experience

Years of experience	frequencies	percentage
1 – 3	8	16
4 – 6	11	22
7 – 10	7	14
11 – 12	5	10
13 and above	19	38
<b>Total</b>	<b>50</b>	<b>100</b>

Table 6, above shows the years of experience of hunters and bush meat marketers in the study area whereby 16% of the producers has less than 5 year of experience; 22% has 5 – 10 years of experience; 14% has 9-10 years of experience 10% of them were above 20 years in this business. The finding revealed that, the peoples of this area were in this business long time it is in practice.

**Table7:Frequency and percentages of other occupation apart of Bush Meat marketing in the Study Area**

Category of Occupation	Frequencies	Percentage
Unskilled labourer	4	8
Businessman	5	10
Civil servant	9	18
Student	8	16
Unemployed	3	6
Farmer	21	42
<b>Total</b>	<b>50</b>	<b>100</b>

Table 7 revealed the results on the secondary occupation of bush meat marketers in the study area in which all of them participates in other occupations only 6% of them depend solely on bush neat marketing but among them 8% were labourers; 10% were businessmen; 18% were civil servant; 16% were students and 42% were farmers. This is clearly indicates that farming is the second most important occupation.

**Table 8: Type of Animals Used as Bush Meat Marketing in the Study Area**

Type animal	AV Price (₦)	Frequencies	Percentage
Aves	243	30	30.3
Reptile	500	40	0.4
Mammals	306	29	29.3
Insects	NA	0	0
<b>Total</b>	<b>99</b>		<b>100</b>

Source: field survey 2012

Table 8 showed that animals used as bush meat in the study area were dominantly Aves; reptile and mammals. Reptile has the highest frequency of 40 respondents and accounts for the highest percentage in the area. Followed by aves and mammals with 30.3% and 29.3% respectively.

**Table 9: Methods Animals Capture Used As Bush Meat in the Study Area**

Incomes Range (₦)	Frequencies	Percentage
Using Dogs and sticks	36	52.3
Using Traps	19	27.5
Using Bow and arrow	4	5.7
Using Gun	9	13.0
Others	1	1.5
<b>Total</b>	<b>69</b>	<b>100</b>

Source: field survey 2012

Table 9 showed the different methods adopted by the hunters in the animals capture in the study area. The Methods used were using dog and sticks; setting traps; using Guns; using bow and arrow.

52.3% of them were using dogs and sticks. This shows that, the dominant method in the area was primitive and there is need for the respondents to improve their way of hunting.

**Table 10: Average Incomes generated per week from the Sales of Bush Meat in the Study Area**

Incomes Range (₦)	frequencies	percentage
Less than 500	2	6.7
501 – 1000	13	43.3
1001 – 1500	8	26.7
1501 – 2000	0	0
Above 2000	7	23.3
<b>Total</b>	<b>69</b>	<b>100</b>

The respondents average incomes generated per week was presented in table 10 and illustrated in the bar chart above shoed that, those earning less than 500 naira were 6.7%; 43.3 of them were generating 501 – 1000 naira; 26.7% of them were getting 1001 – 2000 naira and 23.3% of them generating above 2000 naira. This is a clearly indicates that the bush meat marketing is contributing significantly to the bush meat hunter/retailers/dealers household.

**CONCLUSION**

The research showed that animals used as bush meat in the study area were dominantly Aves; reptile and mammals. Reptile has the highest frequency of 40 respondents and accounts for the highest percentage in the area. The average prices

for Aves; Reptile and Mammals were ₦243; ₦500; ₦306.6 respectively. The findings showed the different capture methods adopted by the hunters in the animals capture in the study area. The Methods used were using dog and sticks; setting traps; using Guns; using bow and arrow. This shows that, the dominant method in the area was primitive and there is need for the respondents to improve their way of hunting. The weekly earning of the respondents were less than 500 naira (6.7%); 501 – 1000 naira (43.3%); 1001 – 2000 naira (26.7%) and above 2000 naira (23.3%). This clearly indicates that the bush meat marketing is contributing significantly to the bush meat hunter/retailers/dealers household.

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