

## **Evaluation of Socio-Economic Characteristics, Preference and Consumption Pattern of Meat Among the Inhabitants of Yewa in Ogun State, Nigeria**

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### **Abstract**

This study was conducted in Yewa zone of Ogun state to investigate the socio-economic characteristics, preference and consumption pattern of meat among the inhabitants who are rural dwellers. Primary data were collected through 300 structured questionnaires covering 12 selected rural towns. The variables measured included age, sex, educational and marital status, household size, religion, occupation, income, preference for meat, factors influencing meat preference, meat consumption pattern and constraints for meat consumption in the study area. Data collected were analysed with frequency percentages and Garrett's ranking technique and validated for reliability. The results showed that (30.01%) of household consumed meat were mostly youth who were mostly (54.0%) females that attained secondary education (32.3%) while 67.7% of them had one form of education or the other. (30.7%) were married with highest (29.3%) household size, Christians (40.7%) and traders (28.3%) and earned monthly income (29.0%) between ₦10, 000-₦30, 000. Also majority (95.0%) preferred beef (87.5%) and chicken while (56.7%) preferred pork. Majority with 64.6 scores consumed meat perhaps for its nutritional value and taste (63.5) score without minding the price 56.8 score while tenderness was not the hindering factor (50.2) score for consuming meat in the study area. High percentage of the respondents consumed meat of any type but consume more (25.0%) of beef than pork (57.7%) as low percentage (19.3%) of the total respondents would not consume meat. Majority of them strongly disagreed that no constraint associated with meat preference and consumption would deter them from consuming meat. It was recommended therefore, that household in the study area be encouraged by government extension agents to utilize part of their income to purchase meat to be included in their diets to improve the quality. Also there is need to conduct a research to investigate low percentage consumption meat by the inhabitants of Yewa zone, the study area.

**Keywords:** Consumers characteristics, Consumption pattern, Meat, Preference, Yewa zone of Ogun State.

## Introduction

Meat is considered to be highly nutritious thus becomes an integral component of human diet. It is a rich source of valuable macro and micro-nutrients that improve and maintain human health (Raghavendra *et al*; 2009). As a result, demand for meat is ever increasing with corresponding increase in population of the world due to awareness of its nutritional value (Hoffman, 2008), even though anxieties persists regarding the fat in meat and its effect on health (Mountney and Painkhurst 2001). The problem of protein malnutrition is still evident in the intake pattern, comparing the 3.8g/h/d of animal protein intake in Nigeria (Oteku *et al*; 2006) against the (FAO, 2001) recommended minimum requirement of 34g/h/d for healthy living humans. The critical situation of meat consumption in developing countries Nigeria inclusive does not arise from inadequacy of meat animals as (FAO, 2009) reported that there is high population of large animals, poultry and micro-livestocks, however, low meat consumption could be due to other factors related to meat consumption. (Devine, 2003). The meat consumption behaviour is the deciding factor for the development of livestock sector in general and a specific enterprise in particular. This is because consumers' behaviour and preference indicate the process and activities that people engage in when searching for, selecting, purchasing, evaluating and disposing of products so as to satisfy their needs and decisions (Kolzumi *et al*; 2001; Pethinger *et al*; 2004). However, Cho *et al*, (2003) reported that any factor could

influence the preference and consumption pattern of meat and meat products in the region which could be culture, social class, reference groups, family decision. According (Richardson *et al*, (1994) other factors for meat preference and consumption pattern could be healthiness of the animal/meat, taste or sensory attributes, cuts of meat, meat type as well as the additive that might be added to the meat or meat products, while (Shama, 1997) opined that price, regional, religious differences, age, sex, personal interests, motivation and income could influence meat preference and consumption pattern of an individual or of a group. The culture, traditions, customs religious taboos, price and income are greatly influencing the consumption of meat, especially in rural societies of developing countries like Nigeria (Harvey *et al*; 2001; Ogundele and Okoruwa, 2013). Limited information is available on the meat consumption pattern and preference of the Nigerian rural families and the specific meat consumption pattern and preference will be of much use in planning the location specific and species based animals farming. Yewa zone of Ogun state is conducive for rearing different species of animals because of availability of grasses, water and clement environment. This study therefore, examined the socio-economic characteristics consumption pattern, and preference for meat among the rural population of Yewa zone in Ogun state of Nigeria, in order to fill the gap in the literature.

## Materials and Methods

### Study area:

The study area was Yewa zone of Ogun state. The area is located within longitude 2°45'E and 305'E, latitude 7°15' and 6°55'N in a deciduous savannah zone of Ogun state. It comprises 4 geo-political local government and the inhabitants are mainly Yoruba, Egun and Awori - speaking people who are peasant farmers, petty traders and settled agro-pastoralist (Onakomaiya *et al*; 1992).

### Sources and Methods of Data Collection

Primary data were used for this study. These data were sourced through 300 structured questionnaires that were administered using trained enumerators on the respondents.

#### Sampling technique

A multistage random sampling technique was employed for this study. 25 households of 12 towns (3 each) in 4 local government areas in Yewa zone of Ogun state were sampled totalling 300 respondents as shown in Table 1.

**Table 1. Geo-political composition of sampled area of Yewa zone in Ogun State**

<b>Local Government Area</b>	<b>Towns</b>	<b>Number of respondents</b>
Imeko-Afon	Imeko	25
	Afon	25
	Ilara	25
Ipokia	Ipokia	25
	Oja-Odan	25
	Joga-Orile	25
Yewa North	Ayetoro	25
	Imasayi	25
	Igbogila	25
Yewa South	Ilaro	25
	Ibese	25
	Iboro	25
Total	12	300

#### Measurement of variables

The variables in this study were age, sex, educational and marital status, household size, religion, occupation and income as well as preference and consumption pattern for meat. Respondents were asked series of questions which were directed to obtaining their preference and consumption pattern of meat.

#### Reliability and validity of research instrument

The reliability of the data collection instrument was tested using the psychometrically prescribed sta-

tistical procedure of test-retest reliability estimation method whereby the instrument was given to subsample of the parent population to be studied in an interval of two weeks, and the validity or face validity were measured according to Oloyo (2001).

#### Methods of data collection

Descriptive method of frequency counts and percentages as well as quantitative method of Garrett's ranking technique were used (Oloyo, 2001; Sekar and Senthilnathan, 1994). For Garrett's ranking technique seven factors con-

sidered important by the majority of households in their meat preferences were first identified. Each of the selected household was asked to rank the factors from 1-7 where 1= most important factor while 7=least important factor. The rank assigned to each factor was converted into percent position according to the procedures of De Silva *et al*, (2010) as follows:

$$\text{Percent position} = 100 * \frac{R_{ij} - 0.5}{N_{ij}}$$

Where:  $R_{ij}$  = Rank given for the  $i$ th factor ( $i=1,2,\dots,7$ )

$J^{th}$  = individual ( $j=1,2,\dots$  For urban and rural setting)

$N_j$  = Number of factors ranked by  $j^{th}$  individual

Scores were determined for each percent position by referring to Garett's table. The scores for each factor were summed for the number of households that ranked the factor. Total scores were obtained for each of the 7 factors and mean scores were calculated by dividing the total score by the number of respondents who gave the ranks. Overall ranking of the factors was done by assigning rank 1, 2, 3 ...7 in descending order of the mean scores.

### Results and Discussion

The distribution of the respondents by their age and sex are presented on Table 2. It was revealed

that (30.0%) of the respondents were of age less than 41 years. This implies that the respondents were mainly youths who probably consumed meat for animal protein need perhaps to replace worn-out cells due to their activities. This was evident in the fact that the percentage of meat consumers in the area of study was lower at age less than 31 years which reduced gradually as the age increased indicating probably that at age less than 31 years and ages above 41 years the respondents would not consume meat probably due to the economic factor. These results corroborated the findings of Reghavinderal *et al*; (2009) who reported similar age groups between 31 – 41 years that consumed meat mostly in Dharwad district of India. Female consumed meat more (54.0%) than their male (46.0%) counterparts as indicated on Table 2. This could be due to the fact that females needed protein more for their reproductive activity coupled with daily business and household chores as reported by Harnack *et al*, (1999). This also agreed with the report of Beardsworth *et al*, (2002) who opined that there could be gender differences in the attitude and choice of food.

**Table 2. Distribution of respondents according to their preference of meat, age and sex in the study area (N = 300)**

Age (years)	Preference		Total
	Prefer	Doesn't Prefer	
Less than 31	12.7	25.3	38.0
31 – 40	30.0	60.0	90.0
41 – 50	22.7	45.3	68.0
51 – 60	18.3	36.7	55.0
Above 60	16.3	32.7	49.0
<b>Total</b>	<b>100.0</b>	<b>200.0</b>	<b>300.0</b>
<b>Sex</b>			
Male	46.0	92.0	138.0
Female	54.0	108.0	162.0
<b>Total</b>	<b>100.0</b>	<b>200.0</b>	<b>300.0</b>

Source: Field Survey, 2015

Table 3 shows the distribution of respondents by their level of education. The respondents had one form of formal education or the other with 18.0% of them having primary school education while (32.3%) of respondents had secondary education. Also, 97% of respondents had professional certificates and substantial percentage

(40.0%) of them possessed tertiary education. This implies high literacy level amongst respondents being able to make informed and rational decision about meat consumption as an essential part of their diets. These findings were also reported by Verbeke (2005).

**Table 3. Distribution of respondents according to their preference of meat and level of education in the study area (N = 300)**

Level of Education	Preference		Total
	Prefer	Doesn't Prefer	
No formal education	0.0	0.0	0.0
Primary education	18.0	36.0	54.0
Secondary education	32.3	64.7	97.0
NCE/OND	16.0	32.0	48.0
B.Sc./HND	13.0	26.0	39.0
MBA/M.Sc./Ph.D.	11.0	22.0	33.0
Professional Certificate	9.7	19.3	29.0
<b>Total</b>	<b>100.0</b>	<b>200.0</b>	<b>300</b>

Source: Field Survey, 2015

**NCE/OND** = National Certificate of Education/ Ordinary National Diploma

**B.Sc./HND** = Bachelor of Science/ Higher National Diploma

**MBA/M.Sc. /Ph.D.** = Master of Business Administration/ Master of Science/ Doctor of Philosophy

Table 4 revealed that (30.7%) of the respondents were married. Marriage comes with responsibility and probability of higher household size with its implication of consumption levels and preference. This study also showed that a substantial percentage (22.0%) of respondent single. The implication of this was that the data collected were likely not to be biased as single and married households were fairly represented. The considerably high level of simple household revealed in the study could be due to a large number of student population inhabiting this area who were mostly single (66.0%) and cohabit with the indigenes. The results obtained in this study on marital status of respondents were at variance with the reports of Reghavendra *et al.*, (2009) who re-

ported that majority (73.0%) of meat consumers in Dharwad district of India were married, while 27.0% were single. Table 5 also revealed that only 18.7% of respondents made up of household less than 2 had above 10 of household size, while the 29.3% of the respondents had between 5-7 persons in their households implying that fairly large household sizes characterized the study area which was also indicated in Table 4 that 30.7% of the respondents were married, while 22.0% were single. The high percentage of meat consumption of large household could be triggered by responsibility to provide quality food especially for the younger members of the family as reported by Steptoe and Pollard (1995).

**Table 4. Distribution of respondents according to their preference of meat, marital status and household size (N = 300)**

<b>Marital status</b>	<b>Preference</b>		<b>Total</b>
	<b>Prefer</b>	<b>Doesn't Prefer</b>	
Single	22.0	44.0	66.0
Married	30.7	61.3	92.0
Divorced	18.3	36.7	55.0
Widow	16.7	33.3	50.0
Widower	12.3	24.7	37.0
<b>Total</b>	<b>100.0</b>	<b>200.0</b>	<b>300.0</b>
<b>Household Size</b>			
Less than 2	18.7	37.3	56.0
2-4	28.3	56.7	85.0
5-7	29.3	58.7	88.0
8-10	23.7	47.3	71.0
<b>Total</b>	<b>100.0</b>	<b>200.0</b>	<b>300.0</b>

Source: Field Survey, 2015

In Table 5, it was shown that majority (40.7%) of meat consumers in Yewa zone of Ogun state were Christians, while 37.3% of them practiced Islam as religion. Only 22.0% of the respondents claimed that they

practiced traditional religion. These results indicated that religion is an important social factor that influences the choice of food the people consume and meat is of no exception. As Christians have little or no prohibi-

tion for meat consumption be it any type, hence the large percentage of this group in the study area. CIRAD (2007) reported similar findings that Indian consumers discriminated against meat consumption due to religious bias. The study revealed that substantial percentage (28.3%) of the respondents in the study area engaged in trading as their main occupation. The respondents whose main occupation was civil service were 47 representing 15.6% of the total respondents, 12.0%, 12.7% and 9.7% of the respondents engaged in artisanship, farming and public service respec-

tively as their main occupation, while substantial percentage (21.7%) of the respondents were unemployed. The fact that majority of the respondents were traders indicated that they earned considerable amount of money that enabled for them to purchase meat for their household consumption than other respondents in other professions. Similar finding was reported by Raghavendra *et al*; (2009) that those who engaged in business consumed meat more than those in government service in Dharmed district of India.

**Table 5. Distribution of respondents according to their religion, occupation and preference of meat in the study area (N = 300)**

<b>Religion</b>	<b>Preference</b>		<b>Total</b>
	<b>Prefer</b>	<b>Doesn't Prefer</b>	
Christianity	40.7	81.3	122.0
Islam	37.3	74.7	112.0
Traditional	22.0	44.0	66.0
<b>Total</b>	<b>100.0</b>	<b>200.0</b>	<b>300.0</b>
<b>Occupation</b>			
Unemployed	21.7	43.3	65.0
Farming	12.7	25.3	38.0
Artisanship	12.0	24.0	36.0
Trading	28.3	56.7	85.0
Civil service	15.6	31.4	47.0
Public service	9.7	19.3	29.0
<b>Total</b>	<b>100.0</b>	<b>200.0</b>	<b>300.0</b>

Source: Field Survey, 2015

**Table 6. Distribution of respondents according to their preference of meat and monthly income in the study area (N = 300)**

<b>Income (₦)</b>	<b>Preference</b>		<b>Total</b>
	<b>Prefer</b>	<b>Doesn't Prefer</b>	
Less than N10,000	21.3	42.7	64.0
N10,000 – N30,000	29.0	58.0	87.0
N31,000 – N50,000	19.3	38.7	58.0
N51,000 – N100,000	14.7	29.3	44.0
Above N100,000	15.7	31.3	47.0
<b>Total</b>	<b>100.0</b>	<b>200.0</b>	<b>300.0</b>

Source: Field Survey, 2015

Table 6 showed the monthly income of the respondents in the study area. The substantial percentage (21.3%) of the respondents earned less than N10, 000.00 per month, while the majority (29.0%) earned between 10,000 and 30,000.00 per month. The percentage of the respondents that earned between N31, 000-N50, 000, N51,000-N100,000 and more than N100,000 were 19.3, 14.7 and 15.7% respectively. The respondents that earned less than N10, 000 per month was well below N18, 000.00 minimum wage might have difficulty consuming meat since the amount was too low. Only 29.0% of the respondents earned substantially though less than N31, 000.00 per month and could fall within the rank of traders who probably would want

to reinvest their money instead of expending it on improving their diets whereas meat is considered the most important constituent of food (Devine, 2003). Household income is an important factor that affects level of consumption which is expected to have done so positively. However it was revealed in this study that the percentage of meat consumption decreased as the household income increased which also indicated that the respondents had other priorities on which they spent their income than increasing meat consumption in their diets in the study area. These results were at variance with the findings of Raghavendra *et al*; (2009) who found positive relationship between income of the households and their meat consumption pattern.

**Table 7. Ranking of respondents according to their meat preference and factors influencing meat preference (N = 300)**

Meat Type	Preference		Rank
	Prefer	Doesn't Prefer	
Beef	95.0	5.0	I
Chevon	85.7	14.3	III
Mutton	72.5	27.5	V
Pork	56.7	43.3	VI
Bush Meat	76.7	23.3	IV
Chicken	87.5	12.5	II
<b>Factors for Meat Preferences</b>			
Nutritional Value	64.6	35.4	I
Taste	63.5	36.5	II
Freshness	55.7	44.3	IV
Tenderness	50.2	49.8	VII
Source of Meat	51.6	48.4	VI
Price of Meat	56.8	43.2	III
Availability of Meat	54.7	45.3	V

Source: Field Survey, 2015

The results on respondents preference for meat in the study area are presented on Table 7. It showed that among the respondents that con-

sumed meat, beef was the most preferred with 95.0%, closely followed by chicken 87.5%, while chevon, bush meat, mutton and port were pre-

ferred by respondents in that order with 85.7%, 76%, 72.5% and 56.7% favourable responses respectively. These results could be due to the fact that slaughtering of cattle is very common in this area which is done on daily basis thereby making beef available to meat consumers. This results agreed with the findings of Raghavendra *et al*; (2009) who reported that buffalo was more preferred in Dharwad district of India. Other animals are slaughtered occasionally, however chicken meat was preferred following beef probably because it was supplied to this area as frozen from the close neighbouring country (Benin Republic) on market days. Table 7 also showed the nutritional value with 64.6 point was the first factor influencing meat preference by consumers in the study area. Taste was the second factor for pre-

ferring a particular meat type with a score of 63.5. Price of meat was ranked third, while freshness was ranked fourth with scores of 56.8 and 55.7 respectively. Availability, source and tenderness of meat were ranked fifth, sixth and seventh in this study. The implication of these findings was that meat consumers in the study area adjudged nutritional value of meat as most important factor that influenced them to prefer and consume any meat type followed by taste and price in that order. It means that meat consumers in the study area would prefer and consume meat irrespective of the price, freshness, availability, source, or tenderness or nutritional value and taste of meat. This finding agreed with that of Apata *et al*; (2005) who reported that consumers preferred and consumed meat based on its nutritional value and taste.

**Table 8. Distribution of respondents according to their meat consumption pattern irrespective of age and sex in the study area (N = 300)**

Meat Type	Once or twice a week		Once or twice a fortnight		Once a month		Occasionally		Never		Total
	NO	%	NO	%	NO	%	NO	%	NO	%	
Beef	88.0	73.4	-	-	82.0	18.3	60.0	3.3	70.0	5.0	300.0
Chevon	67.0	22.5	83.0	35.8	52.0	18.3	47.0	5.8	51.0	17.6	300.0
Mutton	57.0	15.1	87.0	39.6	67.0	22.8	30.0	6.7	59.0	15.8	300.0
Pork	64.0	20.0	76.0	30.0	31.0	9.2	32.0	10.0	97.0	30.8	300.0
Bush meat	89.0	24.1	38.0	15.0	68.0	23.4	64.0	20.0	41.0	17.5	300.0
Chicken	92.0	41.0	64.0	20.0	59.0	10.5	-	-	85.0	28.5	300.0

Source: Field Survey, 2015

The results on meat consumption pattern among Yewa inhabitants revealed that 73.4% consumed beef once or twice a week which was the highest level compared with 20.0% and 15.1% of pork and mutton which were lowest, while they consumed

mutton more 39.6% once or twice a fortnight and consumed lower percentage of bush meat 15.0% within the same period, whereas, they consumed more bush meat 23.4% once a month and lower percentages of pork and chicken 9.2%, 10.5% respec-

tively. The inhabitants 20.0% still consumed bush meat occasionally, while a comparatively high percentage 30.8% of the inhabitants would never consume pork. The import of those results was that though the level of meat consumption among Yewa

inhabitant was relatively low, yet they consumed one form of meat or the other at any period of time in the year. The findings in this study agreed with the report of Harnack *et al*, (1999).

**Table 9. Distribution of respondents according to their degree of agreement and disagreement on constraints for meat consumption in the study area (N = 300)**

Constraints	Degree of response				Total
	Strongly agree (%)	Agree (%)	Disagree (%)	Strongly Disagree (%)	
High price	0.8	16.7	24.2	58.3	<b>100.0</b>
Inadequate supply	0.0	14.2	53.3	32.5	<b>100.0</b>
Poor quality	0.0	0.0	12.5	87.5	<b>100.0</b>
Religion	0.0	10.0	33.3	56.7	<b>100.0</b>
Fear of disease	1.7	6.7	8.3	83.3	<b>100.0</b>

Source: Field Survey, 2015

Table 9 presents the scores of the respondents on constraints to meat consumption in the study area. It was shown that majority 58.3% of the total respondents strongly disagreed that high price was a constraint to meat consumption for the inhabitants of the area, while 0.8% only strongly agreed and 16.7% agreed. The majority (53.3%) of the respondents also disagreed that inadequate supply of meat was a constraint to meat consumption, 87.5% strongly disagreed that poor quality of meat was a constraint to meat consumption, 56.7% also strongly disagreed that religion was a constraint, while 83.3% of the total respondents strongly disagreed that fear of contacting disease from meat was a constraint to meat consumption in the study area. The overwhelming disagreement on high price, inadequate supply, poor quality of meat, religion barrier and the fear of zoonotic dis-

ease from meat as constraints to meat consumption in the area of study indicated that nothing could frustrate the majority of inhabitants of the study area from consuming meat as part of their major food item. This finding was in line with that of Haun and Fu (1993) who reported that consumers preferred meat and meat products irrespective of their social and economic situations.

### Conclusion

The findings of this study revealed that younger elites and affluent population who were married female consumed meat more. Also, majority of meat consumers in Yewa zone of Ogun state preferred beef and chicken than chevon, mutton and bush meat, but they least preferred pork. The most important factor that influenced them to consume meat they preferred was its nutritional value, taste, price and freshness while tenderness was the least factor. The

respondents generally consumed meat as part of their diets as majority of them disagreed that high price, inadequate supply, poor quality of meat, religion and fear of contacting diseases from meat did not deter them from consuming meat. It is therefore, recommended that households in the study area be encouraged to spend part of their earnings to purchase meat for consumption so that the quality of their diets could be improved by government extension agents. Also there is need to conduct a research to investigate the reasons for low percentage consumption of pork in Yewa zone of Ogun state.

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