

**RUMINANT MEAT DEMAND IN OYO EAST LOCAL GOVERNMENT  
AREA OF OYO STATE, NIGERIA**

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**ABSTRACT**

Around the world, millions of people do not get enough protein. However, protein malnutrition leads to the condition known as "kwashiorkor" Lack of protein can cause growth failure, loss of muscle, mass decreased immunity, weakening of the heart and respiratory system and eventually leads to death. This study evaluated the determinants of demand of ruminant meat in Oyo East Local Government Area of Oyo State. Primary data were collected from seventy-eight 78 respondents. The data were collected using both simple random sampling and systematic sampling techniques to elicit information from the respondents. Data collected were equally analyzed using descriptive statistics, regression analysis and AIDS model.

The result of the study revealed that the mean age of the respondents is 31 years. The demand for beef is highly elastic compared to other ruminant meat varieties, there is significant effect of respondents' income on meat demand. In addition, there exist a significant effect between variation in prices and expenditure on meat products. Taste is one of the major odour and factors affecting the demand for meat by the respondents 85.9% and 97.4% respectively. The study therefore, recommended that people should embrace more consumption of ruminant meat products because it is cheaper and also helps a lot in human diet because it aids growth, heals wounds and supply blood to the body.

**Keywords:** Ruminant meat, elasticity, beef, AIDS model, Demand

**INTRODUCTION**

Ruminant meat applied to edible portions (carcass) of domestic mammals such as cattle, sheep and goat (Microsoft Encarta. 2008). It is a nutritious food containing quantities of essential amino acids in form of protein. Ruminant meat also contains B group vitamins (especially niacin and riboflavin), iron, phosphorus, ash and calcium. The protein in meat often has a high biological quality compared to many plant foods some processed forms of meat are smoked meat sausages, variety meat and specialty meat. (Boston, 2011), Cheeke (2002), explained that global

demand for ruminant meat production will increase by 58% between 1995 and 2020 and that the consumption of meat will increase tremendously by 2020.

However, beef is the most desired meat item (Yakaka et al., 2011). Ruminant products are influenced by host of factors especially in Oyo State, these include: household size, monthly income and monthly expenditure on substitutes (Zorgoma, 2003). The American Dietetic Association recognizes beef as a functional food that provides the health benefits beyond basic nutrition because of its conjugated linoleic acid (CLA) a fatty acid found naturally in beef. Despite the importance of ruminant meat to health, its consumption in most African countries is very low at a level of about 25g below the recommended 200g per day (FAO, 2000). In order to proffer a solution to under nutrition in Oyo and Nigeria as well, there is the need to identify the factors that influence ruminant meat demand.

Demand for ruminant meat product such as beef, chevron and mutton are faced with problems which are mostly due to market prices, consumers taste, credit availability and consumer's wealth or income. Increases in protein consumption appears to be more important than energy consumption for ameliorating growth failure a major possible reason for this is that the distribution of energy and protein to individual were unequally distributed (Jamison, et al., 2003). The consequence of this poor nutritional is infection, which will eventually result in weakness, lethargy, absenteeism, poor productivity and stress. Efforts being made to improve the level of ruminant meat production in Nigeria have not yielded the desired result due to the major problem of high incidence of disease. Early empirical studies on ruminant meat production and consumption focused on single meat product demand determinant with little or no work done on effect of socio-economic variables on demand and effect of prices on expenditures. This study therefore examines how changes in income and price affect the demand for ruminant meat products; determines the consumers' preferences for meat and discusses the factors affecting the demand for ruminant meat.

Ruminant meat is not only one of the very oldest foods for humans, but also one of the most biologically valuable. This fact is mainly due to its high protein content. In addition, however, a part of human requirements for vitamins and iron is also covered by eating meat. It is therefore not surprising that ruminant meat has an especially high demand (Wikipedia, 2010).

**Table 1: Nutrient Composition of unprocessed meat**

<b>Nutrient</b>	<b>Percentage</b>
Protein	15-22%
Fat	3-15%
Mineral., carbohydrates	1-5%
Water	65-75%

Source: Wikipedia, 2010.

**Empirical framework on meat consumption**

Various estimation functions have been developed and applied over the years to express the relationships between consumption and the relevant explanatory variables. Household size with the highest frequency is between zero and six persons constituting a total of 46.7%. Similar range was reported by Lesiba and Robert (2007) for food consumers in South Africa. This suggests that taste and preferences of household members could determine the quality of meat demand. Thus, demand of different families is likely to vary with taste and other specific characteristics. In addition, married households with children are more likely to purchase meat items than all other households, indicating a greater preference for the family meat eating occasion (Raghavendra et al., 2009). Quadratic Almost Ideal Demand System (QUAIDS) derived by bank and recently applied by Abdulai (2001). It was discovered that the consumption of animal protein is lower than the minimum recommended level for healthy living in the study conducted by Muhammad-Lawal and Balogun, (2007).

Raghavedra et al., (2007) also focused on meat consumption pattern and its preference, the findings revealed that majority of households consumed mutton and beef for the preparation like curry, while the average household consumption of meat showed a positive relationship with income. The most important reasons for consumption of meat include family tradition, taste and nutritive value. Shawel and Kawashima, (2009) examined the pattern and determinants of meat consumption to income will be higher in urban than rural areas. Muhammed-Lawal and Balogun (2007) studied the demand for meat among household in Oyo State and observed that the demand for beef is higher compared to other animal protein sources and this is presented in Table 2.

**Table 2: Demand for Meat among Household in Oyo State**

<b>Animal protein sources</b>	<b>Contribution to daily per capita animal protein</b>	<b>Percentage</b>
Beef	7.34	48.37
Chevon	2.10	35.87
Mutton	0.62	5.53
Total	10.06	89.77

Source: *Field Survey*, (2004)

### Theoretical framework

A household could be viewed as a unit eating from the same pot even though some members may not be related (Adejobi, 2004). According to Scones (2000), a household represent people cohabiting together, accepting the supremacy of one individual (i.e. household head). The importance of this implies that they share meals and pool resources to meet the need of the member of the household. The theory considered how household choose the best combination of commodities to maximize utility, while subject to time, resources and technology constraints. Following Manrique and Jenses (1998), a household maximizes:

$$U = U(Z_1, Z_2, \dots, Z_j)$$

Where, U = household utility function

$Z_j$  = quantity of commodities produced and non-purchased meat types.

This function is subject to constraint such as total time available for the household (opportunity cost of time, total expenditures on purchased meat types, wage, income of household head, spouse, other members of the household and household characteristics (Manrique and Jensen, 1998). In this household acts as a single decision making unit even through the household consist of different individuals (Wen and George, 2007).

The basic theoretical demand model was derived from the analysis of constrained pattern of any household will depend on the household composition (age, gender etc) as well as social class. A utility function can be expressed as;

$$U = Q_1 Q_2 + (Y_0 - P_1 Q_1 - P_2 Q_2);$$

Where:

U = Total utility

$Q_1, Q_2$  = Commodities meat types consumed

$P_1, P_2$  = Prices of commodities (meat types)

$Y_0$  = Consumers income that imposes a constraint on total expenditure on  $Q_1$  and  $Q_2$ . Setting the partial deviation of the equations to zero in line with the first-order condition for optimization.

$$\text{We have; } \delta v / \delta Q_1 = Q_2 - \lambda P_1 = 0,$$

$$\delta v / \delta Q_2 = Q_1 - \lambda P_2 = 0,$$

$$\delta v / \delta \lambda = Y_0 - P_1 Q_1 - P_2 Q_2 = 0$$

Solving for utility-maximizing  $Q_1$  and  $Q_2$  (assuming that second-order condition is satisfied).

$$\text{We have:- } Q_1 = Y_0 / 2P_1, \quad Q_2 = Y_0 / 2P_2$$

This solution is the basic definition of demand function (Olayemi and Olajide, 1981). Mathematical expression of the demand function for a commodity states that the quantity of the

purchased commodity is function of its price and income. It is based on assumption that the consumers objective is to maximize his utility in the consumption of the commodity within his budget constraint. Moreover, the demand for a commodity depends not only on its price and the consumer's income but also on the prices of all other commodities.

### **Conceptual framework**

In the single demand equation, the dependent variable is the quantity of commodity consumed. However, the system of demand model uses the budget share as the dependent variable (Adejobi, 2004). Thus, the budget share of the study is the proxy for the quantity demanded. This study, conceptualize total monetary contribution to household expenditure (total income) as household income. This is the summation of the income of wives and monetary contribution of other household members to household expenditure. The study assumes that the household members were children who were expected to depend on their parents/wards for their well-being (Human Right Watch, 2006). It therefore, employed social-economic characteristics and location variable as explanatory variable in the Linear Approximate of Almost Ideal Demand System (LA/AIDS) model. These (independent variable) were used, other than price and income variables specified in AIDS model to satisfy the objectives of this study. This had been extensively used in demand analysis (Salvanes and De Voretz, 1997: Adejobi, 2004 and Ogundapo, 2005).

$$Q = f(x)$$

$$Q = f_0x_0 + f_1x_1 + f_2x_2 + f_3x_3 + f_4x_4 + \dots + f_nx_n$$

Quantity (Taste) (Income) (Availability) (Preference) (Price)

### **Material and Method**

This study was carried out in Oyo East Local Government Area of Oyo State with its headquarters at Kosobo. It lies in the South-western zone of the state, which is roughly enclosed between the longitude of 3°57' East of the Greenwich meridian and latitude 7°51' North eastward from Ibadan, capital of Oyo State. The average rainfall is 1165mm, the vegetation of the area is Guinea savanna zone (Amao et al., 2011). The population of the Local Government Area is 123,846 NPC (2006) and the land area is 144km, it is dominated by the Yoruba, the area consists of various levels of income earners like farming activities, trading and civil services.

The target population of the study was ruminant meat consumers in Oyo East Local Government Area. The area consist of ten 10 wards. Simple random sampling technique was used to select six 6 wards out of 10 wards in the Local Government Area. Systematic sampling technique was used to select 13 households form each ward, making a total of 78 households (respondents) sampled

for the study. The questionnaire was distributed and administered to the meat consumers in the study area.

Primary data for the study were collected using both interview schedule and structural questionnaire distributed and administered to meat consumers in the study area. This was used to elicit information from meat consumers on the demand for meat. Data on consumers' preference, propensity to consume, and factors responsible for consumption as well as socio-economic characteristics of the meat consumers were obtained. The dependent variable is the quantity of meat consumed by the meat consumers while independent variables are the price of the meat ( $\beta_1 X_1$ ) quantity of meat consumed ( $\beta_2 X_2$ ), proportion of income for meat ( $\beta_3 X_3$ ), ( $\beta_4 X_4$ ) to  $\beta_6 X_6$ ) represent the proportion of income allocated for ruminant meat: mutton, chevron and beef respectively, others are cost of ruminant meat ( $\beta_7 X_7$ ) and cost of other meat ( $\beta_8 X_8$ ). The functional equation was expressed as:

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \dots + \beta_6 x_6 + \beta_7 x_7 + \beta_8 x_8 + \varepsilon$$

The data collected were analyzed using both descriptive and inferential statistics. The descriptive statistics was employed to present the socio-economic characteristics of the meat consumers which include: age, sex, marital status, religion etc. while the inferential statistics was used to determine the factors responsible for consumers' preference for meat consumption, relationship between the amount of meat purchased and factors of demand. The inferential statistical tools employed include; marginal analysis and simple regression analysis. The regression was used to determine the level of significance between the demand for meat and level of income.

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \dots + \beta_6 x_6 + \beta_7 x_7 + \beta_8 x_8$$

$$Y = -24306.948 - 9.756x_1 + 10108.966x_2 + 2.546x_3 - 1.784x_4 + 3.202x_5 + 2.549x_6 + 47.970x_7 - 5.200x_8$$

(-3.306)    (-0.694)    (3.954)    (3.271)    (-1.299)    (2.805)    (12.046)    (3.676)    (-1.793)

The price and expenditure elasticity were derived from parameter estimates of the model using the following formulae:

Own-price elasticity:  $-1 + \frac{a_{ii}}{w_i} - \beta_1$

Where,  $a_{ii}$  = Expenditure

$w_i$  = Geometric mean of the budget share (dependent variables)

$\beta_i$  = Coefficient of household expenditure.

Cross-price elasticities =  $\frac{a_{ij}}{w_j} - \beta_1$

$$\frac{wi}{wi}$$

Where,  $a_{ii}$  = Expenditure

$w_i$  = Geometric men of the budget share (dependent variables)

$w_j$  = Geometric means of price of each of the other meat types

$\beta_i$  = Coefficient of household expenditure.

Expenditure elasticity:

$$1 + \beta_{ii} / w_i$$

Where,

$\beta_i$  = Coefficient of household expenditure,

$w_i$  = Geometric men of the budget share (dependent variables),

$w_j$  = Geometric means of price of each of the other meat types.

### Results and Discussion

The result of the study in Table 3 revealed that majority (92.3%) of the household demand for ruminant meat fall between the ages of 21 and 40 years and the mean age was approximately 31 years, which implies that the adult demand for ruminant meat more than the children and the aged people. It revealed that more than half (55.1%) of the respondents were female, while 44.9% of the household were male. Also, majority (73.1%) of the respondents had tertiary education, which implied that education enlighten the respondents on the importance of ruminant meat consumption. In addition, more than half 51.3% of the respondents had household sizes between 4 and 5, but 35.9% falls from 1 to 3. This revealed that larger percentage of the household size among the respondents falls from 4 to 6 which may likely improve their consumption of ruminant meat.

Number of household consuming ruminant on daily basis is presented in Table 4. From the table, majority (59.0%) of the respondents did not consume ruminant meat daily while only 19.0% of the respondents consumed ruminant meat daily. Also, 92.3% of the respondents consumed ruminant meat weekly while, only 7.7% of the respondents did not consume ruminant meat weekly. The result indicated that majority of the respondents consumed ruminant meat weekly. Furthermore, 66.7% of the respondents did not consumed ruminant meat monthly while only 33.3% of them consumed ruminant monthly. It also showed that 80.8% of the household respondents who demand for ruminant meat purchases meat between the prices of ₦351 and ₦650, only 7.7% of the household falls from the prices of ₦1 to ₦350 and 11.5% of the respondents falls from the prices of ₦651 and above.

In addition, the result from the table reveals that 85.9% of the respondents demanded other product meat, for instance; bone, hide and skin etc. while only 14.1% of the respondents did not demand for other product meat. It implies that majority of the respondents demanded for

other product meat. However, more than half (61.5%) of the respondents allocated income for ruminant meat between the prices of ₦ 100 and ₦ 2000, but 24.4% of the respondents falls from ₦ 2100 to ₦ 4000, 10.3% of the respondents falls between ₦ 4100 and ₦ 6000, 1.2% of the respondent falls from ₦ 6100 to ₦ 8000 and 2.6% of the respondents falls between ₦ 8100 and ₦ 10000. Above all, majority (97.4%) of the respondents allocated income for beef while only 2.6% of the respondents did not allocate income for beef.

The result of findings from Table 5 below reveals that 93.6% of the respondents gave reasons for preferring ruminant meat to other meat, for instance, it is affordable, it is easy to get and highly nutritious while 6.4% of the respondents did not have any reason for preferring ruminant meat. It indicates that majority of the respondents gave reason for preferring ruminant meat.

Also from the table below, more than half (61.5%) of the respondents consumed ruminant meat twice daily, 28.2% consumed ruminant meat thrice per day and only 10.3% consumed ruminant meat once per day. Furthermore, 73.1% of the respondent consumed 2 pieces of ruminant meat, only 25.6% of the respondent consumed 1 piece of ruminant meat and 1.3% consumed 3 pieces of ruminant meat. It shows that majority of the respondents consumed 2 pieces of ruminant meat.

#### **Healthy Status of meat consumption.**

The result findings from Table 6 below reveals that 89.7% of the respondents had reasons for low consumption of meat, for instance, it contains high content, high cholesterol, diabetes, obesity, infertility in women, cancer etc. while only 10.3% did not have reasons for low consumption. It implies that the majority of the respondent had reasons for low consumption. It further revealed that the majority (79.5%) of the respondent commented on the effect of health information on the demand for ruminant meat, for instance, too much of ruminant meat causes diabetes, cancer, infertility in women because of its fat content e.t.c while only 20.5% of the respondent said that health information did not affect the demand for ruminant meat.

#### **Factors affecting the demand for meat**

The result in Table 7 below showed that more than half (59.0%) of the respondents had their income between ₦ 41000 and ₦30000, 28.2% falls between ₦ 431000 and 1460000, 9.0% falls between ₦ 61000 and ₦ 490000, 2.5% falls between ₦ 491000 and ₦ 4120000 and 1.3% falls between ₦ 4120000 and above.

Also, 74.3% of the respondents purchases ruminant meat between the prices of NO and ₦ 4400, the 0 implies that some did not purchased ruminant meat but consumed it, 24.4% of the



respondent purchases ruminant meat between the prices of ₦ 401 and ₦ 800 and only 1.3% purchases at the prices of \$4801 and above.

The Table also revealed that 59.0% (more than half) of the respondents purchases other meat between the prices of ₦ 4501 and ₦ 1000, only 23.1% of the respondents buys other meat at the prices between ₦ 40 and ₦ 500, the 0 means that some of the respondents did not buy other meat but consumed it, only 15.3% of the respondents buys other meat at the prices from ₦1001 to ₦1500 and only 2.6% purchases the prices of ₦ 1501 and above.

In addition, 66.6% (more than half) of the respondents had their ruminant meat market near or 1km to their household, only 1.3% of the respondent had their ruminant meat very near to their household, only 29.5% had theirs far or 2km to their household and only 2.6% had theirs very far or 3km to their household.

Furthermore, 85.9% of the respondent commented that taste affect the demand for ruminant meat while only 14.1% of the respondent commented that taste did not affect the demand for ruminant meat..

Table 7 below also illustrates that 73.1% (majority) of the respondents commented that price affect the demand for ruminant meat while only 26.9% of the respondents commented that the price did not affect the demand for ruminant meat.

Effect of price substitute on ruminant meat

In addition, 73.1% (majority) of the respondents commented that the price of substitute meat affect ruminant meat while only 26.9% of the respondent commented that the price of substitute meat did not affect ruminant meat.

Effect of demand for ruminant meat

Lastly, from the table below, 60.3% (more than half) of the respondents commented that the demand for ruminant meat affect other meat varieties while 39.7% of the respondent commented that the demand for ruminant meat did not affect the demand for other meat varieties.

Regression analysis on price, cost quantity consumed, proportion of income allocated for ruminant meat, cost of other meat

Multiple R -0.924%, R-Square = 0.854%, Adjusted R square = 83.7%

Standard error = 11500.67804

**Regression equation**

$$Y = \beta_0 + \beta_1 X_1 + (\beta_2 X_2) + (\beta_3 X_3) + (\beta_4 X_4) + (\beta_5 X_5) + (\beta_6 X_6) + (\beta_7 X_7) + (\beta_8 X_8)$$

$$Y = -24306,948 - 9.756x_1 + 10108.966x_2 + 2.546x_3 - 1.784x_4 + 3.202x_5 + 2.549x_6 + 47.970x_7 - 5.200x_8 + e$$

$$Y = (-3.306) \quad (-0.694) \quad (3.954) \quad (3.271) \quad (-1.299) \quad (2.805) \quad (12.046) \quad (3.676) \quad (-1.793)$$

Let (\*\*\*) represent significant level at 1% Let (\*) represent significant level at 10%

Test of Hypothesis:  $F_{cal} = 50.584$ ,  $F_{tab} = 4.95$        $F_{cal} > F_{tab}$  : Hypothesis Rejected

$H_0$ : The hypothesis was rejected and was tested in null form, therefore, there is no significant relationship between the demand for ruminant meat and level of income realized for meat consumers in the study area.

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

This study was carried out to determine the demand for ruminant meat in Oyo East Local Government Area of Oyo State. The study revealed that majority (92.3%) of the respondents were in their active age, both male and female were ably represented. More than half of the respondents were married (61.6%). A larger percentage (51.3%) of household size were between 4 and 6 and majority (73.1%) of the respondents had education at tertiary level. The study also revealed that larger percentage of the respondents 92.3% demand for ruminant meat weekly. Majority of the respondent (97.4%) allocated income for beef. Furthermore, majority (80.8%) of the respondents purchased ruminant meat per kg between the prices of ₦351 and ₦4650.

The study also revealed that 73.1% of the respondents demanded for ruminant meat because of price, 85.9% demand for ruminant meat due to taste, only 97.4% demand for ruminant meat because of its odour, 91% demand for ruminant meat due to colour, 64.1% demand for ruminant meat for other meat qualities and 20.5% demand for ruminant meat due to health information while some did not indicate any factor.

However, beef and chevron are elastic while mutton is inelastic as a result of their expenditure elasticities. Cross price elasticity's revealed that the various meat types are substitutes for the other.

The null hypothesis was also rejected because income did not affect the demand for meat, so there is significant relationship between the demand for ruminant meat and the level of income realized for meat consumers.

### **Conclusion**

Demand for ruminant meat in Oyo East Local Government Area is relatively high. The empirical results of this study suggest several and points of interest for researchers, policy makers, planners and traders with involvement in Nigeria livestock production and marketing. Change in ruminant meat price could bring about significant change patterns among households. The estimates from LA/AIDS MODEL on meat products demand are consistent with economic theory.

### **Recommendations**

In order to improve the demand for ruminant meat of the respondents, the following recommendations might be worthy of consideration.

It is envisaged that proper implementation will help increase the demand for ruminant meat. More emphasis should be laid on the awareness and orientation level of demand for ruminant meat and then need to demand for ruminant meat because ruminant meat is one of the major sources of protein which is essential for growth and development of the body.

Government should provide hygienic slaughtering house in order to prevent contamination of meat which reduce the chance of passing meat inspection.

**Table 3: Socio-economic characteristics of respondents**

Socio-economic characteristics	Frequency	Percentage (%)
<b>Age</b>		
1-20	2	2.6
21-40	72	92.3
41-50	4	5.1
<b>Sex</b>		
Female	43	55.1
Male	35	44.9
<b>Marital Status</b>		
Single	26	33.3
Married	48	61.6
Widowed	4	5.1
<b>Educational Status</b>		
Tertiary level	57	73.1
Secondary level	10	12.7
Primary level	2	2.6
No Formal Education	5	6.4
Adult Education	2	2.6
Islamic Education	2	2.6
<b>Household Size</b>		
1-3	28	35.9
4 – 6	40	51.3
≥7	10	12.8
<b>Total</b>	<b>78</b>	<b>100.0</b>

Source: Field Survey, 2015

Table 4: Distribution of respondents by Elasticity of demand for meat product

Elasticity of demand for meat product	Frequency	Percentage
<b>Quantity consumed daily</b>		
Non consumer	59	75.6
Consumer	19	24.4
<b>Quantity consumed weekly</b>		
Non consumer	6	7.7
Consumer	72	92.3
<b>Quantity consumed monthly</b>		
Non consumer	52	66.7
Consumer	26	33.3
<b>Price per kg</b>		
1 – 350	6	7.7
351 – 600	63	80.8
>650	9	11.5
<b>Other product meat</b>		
Non consumer	11	14.1
Consumer	67	85.9
<b>Proportion of income ₦</b>		
100 – 2000	48	61.5
2100 – 4000	19	24.4
4100 – 6000	8	10.3
6100 – 8000	1	1.2
8100 - 10000	2	2.6
<b>Proportion of income for Mutton</b>		
Non consumer	66	84.6
Consumer	12	15.4
Total	78	100.0

**Table 5: Distribution of respondents by consumers' preference for meat.**

Consumers' preferences for meat	Frequency	Percentage (%)
<b>Reason for preferring ruminant meat</b>		
No reason stated	5	6.4
Reason stated	73	93.6
<b>Period of consumption</b>		
Once	8	10.3
Twice	48	61.5
Thrice	22	28.2
<b>Quantity required per person per day</b>		
1	20	25.6
2	57	73.1
3	1	1.3
Total	78	100.0

Source: Field survey, (2015)

**Table 6: Distribution of Respondents by Healthy Status of Meat Consumption.**

Healthy status of meat consumption	Frequency	Percentage (%)
<b>Reason for low consumption</b>		
No reason	8	10.3
Reason	70	89.7
<b>Effect of information</b>		
No comment	16	20.5
Commented	62	79.5
Total	78	100.0

Source: Field survey, (2015)

**Table 7: Distribution of respondents by factors affecting the demand for meat**

Factors affecting the demand for meat	Frequency	Percentage(%)
<b>Income(₦)</b>		
1000-30000	46	59.0
31000-60000	22	28.2
61000-90000	7	9.0
91000-120000	2	2.5
> 120000	1	1.3
<b>Cost of ruminant meat ₦</b>		
1-400	19	24,4
401 – 8000	58	74.3
>801	1	1.3
<b>Cost of other meat ₦</b>		
0-500	18	23.1
501-1000	46	59.0
1001-1500	12	15.3
>1501	2	2.6
<b>Nearest of ruminant meat market</b>		
0	1	1.3
1	52	66.6
2	23	29.5
3	2	2-6
<b>Effect of ruminant meat on other meat</b>		
Comment	23	29.5
No comment	55	70.5
<b>Effect of taste</b>		
Comment	11	14,1
No comment	67	85.9
<b>Effect of price</b>		
Comment	21	26.9
No comment	57	73.1
<b>Effect of price of meat substitute</b>		
Comment	21	26.9
No comment	57	73.1
<b>Effect of odour</b>		

Comment	2	2.6
No comment	76	97.4 <sub>4</sub>
<b>Effect of colour</b>		
Comment	7	9.0
No comment	71	91.0
<b>Effect other meat qualities</b>		
Comment	28	35.9
No comment	50	64.1
<b>Effect of demand for ruminant meat</b>		
Comment	31	39.7
No comment	47	60.3
Total	78	100.0
Source: Field survey, (2015)		

**Table 8: Variables in the equation**

Parameter	Variable	Coefficient	T- value
Ft	Constant	-24306.948	-3.306
Ft	Price of meat/kg	-9.756	-0.694
Ft	Quantity consumed	10108.966	3.954***
Ft	Proportion of income for meat	2.546	3.271***
Ft	Proportion of income allocated for mutton	-1.784	-1.299
Ft	Proportion of income allocated for chevron	3.202	2.805***
Ft	Proportion of income allocated for beef	2.549	12.046***
Ft	Cost of ruminant meat	47.97	3.676***
Ft	Cost of other meat	-5.200	-1.793*

Source: Data analysis, 2015

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