

**ECONOMICS OF RURAL HOUSEHOLDS' POULTRY (BROILER) MEAT
CONSUMPTION IN OVIA NORTH-EAST LOCAL GOVERNMENT AREA,
EDO STATE, NIGERIA.**

BY

**Osaheni Anthony ASIRIUWA
AGR1600015**

**BEING A PROJECT SUBMITTED TO THE DEPARTMENT OF
AGRICULTURAL ECONOMICS AND EXTENSION SERVICES, FACULTY
OF AGRICULTURE, UNIVERSITY OF BENIN, BENIN CITY IN PARTIAL
FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE
BACHELOR OF AGRICULTURE (B.AGRIC) (WITH OPTION IN
AGRICULTURAL ECONOMICS AND EXTENSION SERVICES)**

JANUARY 2023

CERTIFICATION

This is to certify that this research work was carried out by Osaheni Anthony ASIRIUWA with matriculation number AGR1600015 of the Department of Agricultural Economics and Extension Services, Faculty of Agriculture, University of Benin, Benin City, Edo State, Nigeria.

Mr. O. Igbinidu
Project Supervisor

Sign & Date

Dr. (Mrs.) M. J. Koyenikan
Head of Department

Sign & Date

DEDICATION

This project is dedicated to God Almighty, the alpha and omega whose love, mercy and grace has guided my path. And also to my parents whom God Almighty has used to provide for me.

ACKNOWLEDGMENTS

I want to thank God for His mercies and divine supply throughout my stay in school and also for the people he brought my way that has impacted my life positively.

I greatly acknowledge my project supervisor Mr. Igbinidu, O. for the professional work he extended to me which enabled me complete this work and also for his advice and support , and I pray that God will reward him abundantly.

My unreserved gratitude goes to my Dean, Prof. E. R Orhue, my HOD Dr. (Mrs) M. J. Koyenikan, my course adviser Dr. S. O. Konkwo, Prof. C. I. Ada - Okungbowa, Prof. C. O. Emokaro, Prof. K. O. Ilavbarhe, Prof. F. E. Omoregbe, Prof. D. U. Okoedo-okojie, Dr. (Mrs) O. B. Izekor, Dr. O. Ojogho, Dr. J. Osabuohien, Dr. (Mrs) C. O. Egonmwan, Dr. J. Ahmadu, Dr. J. Egbodion, Mr. G. U. Uwana, Miss. O. Anozie and Mr. A. Ehihie. May God bless you all.

With a heart full of gratitude, I acknowledge my parents, Mr and Mrs Obazee Asiriwa and my siblings for their moral , financial, spiritual and all kinds of support given to me throughout the thick and thin of my academic pursuit. May God bless you all abundantly. Amen.

TABLE OF CONTENTS

	Page
Title page	i
Certification	ii
Dedication	iii
Acknowledgements	iv
Table of Contents	vi
List of Tables	vi
Abstract	vii
CHAPTER ONE: INTRODUCTION	
1.1. Background of the Study	1
1.2. Problem Statement	3
1.3. Objectives of the Study	4
1.4. Hypotheses of the Study	4
1.5. Justification of the Study	4
CHAPTER TWO: LITERATURE REVIEW	
2.1 Conceptual framework	6
2.2 Theoretical Framework	8
CHAPTER THREE: RESEARCH METHODOLOGY	
3.1 Study Area and Scope	11
3.2 Sampling procedure and sample size	12
3.3. Data collection	12
3.4 Analytical techniques	13
CHAPTER FOUR: RESULT AND DISCUSSION	
4.1 The Socio-economic Characteristics of Respondents	16
4.2 Households Broiler Meat Form Consumption Preference	21
4.3 Households Preferred Meat Substitute Consumption Pattern	23
4.4 Household Expenditures On Broiler Meat Consumption	26
4.5 Factors Affecting Demand For Broiler Meat	30
4.6 Constraints facing the demand for broiler meat	33
CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS	
5.1. Summary	37
5.2. Conclusion	38

5.3. Recommendations	39
REFERENCES	40
APPENDIX	42

LIST OF TABLES

Table	Title	Page
4.1:	Socio-economic Characteristics	19
4.2:	Households Broiler Meat Form Consumption Preference	22
4.3:	Household preferred meat substitute consumption pattern	25
4.4:	Household expenditures on meat consumption	28
4.4b:	Household broiler meat expenses per month (summary)	29
4.5:	Factors Affecting Demand For Broiler Meat	32
4.6:	Constraints facing the demand for broiler meat	36

ABSTRACT

The main aim of this study was to examine the economics of rural households broiler meat consumption pattern in Ovia North-east Local Government Area Of Edo state, Nigeria. Specifically to describe the socio-economic characteristics of households in the study area, examine household broiler meat form consumption preference of respondents, examine households preferred meat substitute consumption pattern in the study area, estimate the expenditure on broiler meat in the study area, examine factors affecting demand for broiler meat and identify constraints facing the demand for broilers.

A two-stage sampling method was used to select one hundred and twenty households for this research. Descriptive statistics such as frequency counts, percentage and mean score was used in this study.

Findings of the study shows that majority of households respondents were men. A change in the price of broiler meat will lead to a change in quantity demanded. The results shows that for every ₦1 spent on meat 37 kobo is spent on broiler meat. Change in the income of the consumer will also lead to a change in quantity demanded.

It can be concluded that male respondents are more in the study area, broiler meat is one of the most consumed meat in the study area. Quantity demanded of broiler meat

is highly dependent on consumers income, price of broiler meat and healthy benefits of broiler meat.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the Study

Agriculture involves the rearing of animals (Poultry Included) and planting of crops for the use of man. Poultry farming (being a sub-sector of agriculture) is one of the most important livestock sectors in many countries of the world, with a rapid growth and industrialization. This is due to consumer preference for poultry products, population growth, increased purchasing power, and urbanization processes (Food and Agriculture Organization, 2020). Poultry farming is a form of animal husbandry that deals with the rearing of domesticated and scientifically improved birds either for commercial purpose or for personal consumption, and they include; Turkey, Ducks, Geese, Guinea Fowl, Quail, Chicken, Pigeon and so on.

In Nigeria, poultry birds are raised mainly for the purpose of meat and egg production. Other product such as feathers and bones can also be gotten from poultry birds.

Broilers are poultry birds raised for the purpose of meat and can attain a weight between 2.5kg to 3.5kg at 5 to 12 weeks of age depending on breed and management/environment. Broiler chickens meat is a good source of animal-based

protein (Chia, Tanga, Van Loon, Dicke, 2019). It has lower raising costs and higher efficiency than other meat species (Dalle Zotte, Gleeson, Franco Ruiz, Cullere, and Lorenzo, 2020). Broiler meat is mainly from fast-growing broilers (Ross 308 broilers) and slow-growing broilers (Label Rouge).

The slow-growing broilers are harvested at a more mature age (usually a minimum of 81 days) than conventional fast-growing lines (between 35 and 42 days) (Chabault, Baéza, Gigaud, Chartrin, Chapuis, Boulay, Le Bihan-Duval, 2012). In addition, the Global broiler production generally defines slow growth as the "growth rate equal or less than 50 g/D averaged over the growth cycle (Rayner, Newberry, Vas and Mullan, 2020). Poultry Meat is well accepted in many countries for some reasons which includes; high efficiency, traditional use, availability, nutritional content, nature of the meat etc. In addition to its low caloric value, it is easily digestible and chewable due to the short meat fibers in its structure (Aral, Aydin, Demir, Akin, Cevger, Kuyululu, 2013).

Poultry Meat can be eaten immediately after cook and also can be used in preparing various African dietary and other meat products such as meatloaf, meatpie, hamburger, sausages, meatballs etc. And can also be fried, dried or grilled as barbeque.

1.2 Statement of Problem

In underdeveloped and developing countries like Nigeria the population of undernourished people has been on the rise since 2014, reaching an estimated 821 million in 2017 (FAO, 2018). One of the major causes of this is low protein intake of most people living in developing countries. Poultry Meat as a good source of protein and other nutrients like vitamins and minerals is really needed in such countries. And also broilers have a rapid growth because of their good feed conversion ratio which makes it possible to produce 1 kg of meat from a commercial broiler chicken only about 1.7 kg of feed is needed (FAO, 2015).

Since the 1980s there has been a continued increase in the global demand for livestock-derived foods (Clonan, Roberts, Holdsworth, 2016), including Poultry Meat. Now in Nigeria, poultry meat continues to increase in price and as a result, reduction in demand as it rises above the purchasing power of most consumers. An increase in population means an increase in demand which can cause a decrease in supply that will then lead to increase in price which will eventually lead to increase in malnutrition and poverty.

1.3 Objectives of Study

The broad objective of the study is to examine the economics of rural households broiler meat consumption pattern in Ovia Northeast local government of Edo State, Nigeria. The specific objectives were to;

1. describe the socio-economic characteristics of broiler meat consuming households in Ovia Northeast local government;
2. examine households broiler meat form consumption preference of respondents in the study area;
3. examine households preferred meat substitute consumption pattern in the study area;
4. estimate the expenditure on broiler meat in the study area;
5. examine factors affecting demand for broiler meat in the study area; and
6. identify constraints facing the demand for broilers in the study area.

1.4 Justification of Study

According to World Bank (2019), the development of agriculture remains one of the most effective tools to end extreme poverty, boost shared prosperity and feed a projected 9.7 billion people by 2050. For Nigeria to be able to achieve this more attention and focus needs to put into the agricultural sector. To meet this demand,

agriculture in 2050 will need to produce almost 50 percent more food, feed and biofuel than it did in 2012 (FAO, 2017).

Broilers as a part of poultry which is a part of the agriculture sector, have wonderful characteristics from their growth rate down to their meat quality and nutritional value, is a good option to focus on. Many works has been done on broiler production, works which includes Economic Analysis of Broiler Production in Lagos State Poultry Estate, Nigeria (Olorunwa, 2015). Economic Analysis of Broiler Production in Peninsular Malaysia (Abdurofi, Ismail, Kamal and Gabdo, 2016). And so on, but none has been done specifically on a complete demand analysis of poultry meat. It is important to analyze the demand of poultry meat, so as to know all factors affecting the demand for poultry meat and how to solve them. And this study to a great extent can give answers to many questions about the demand for poultry meat.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Conceptual framework

The term demand conveys a wider and definite meaning than in the ordinary usage. Ordinarily demand means a desire. It is interpreted as a want backed up by purchasing power or product that consumers are willing and able to purchase at different prices during a give period.

Demand is based on individual and community expectations. This is considered to be a part of demand theory, in which the individual is seen as the best judge of his or her need.

The law of demand explains the functional relationship between price of a commodity and the quantity demanded of the same commodity. The law states that the prices and quantities demanded of a commodity are inversely related with every other thing being equal i.e. the higher the price of a commodity, the lower the quantity that would be demanded. The phrase "other things remaining equal". In order to establish the price-demand relationship demand law makes a number of assumptions as follows; income is constant, constant price of other goods, no change in the size and composition of population and no change in tastes, preferences,, habits etc.

2.1.1 Demand Analysis

The very basic assumption of demand theory proposes that consumers intend to maximize the utility of their consumption decisions. The consumer hence has to allocate the budget among the commodities consumed such that the maximum satisfaction is achieved.

According to the neoclassical economic theory of consumer behaviour, each individual consumer is confronted with market determined prices of various commodities, with the consumer having only a known fixed money income. It is these prices, according to Jhingan (2007), that help the consumers to allocate their income to various goods and services. Thus according to the theory, the amount of a commodity that a consumer would purchase therefore depends on the price of the commodity and the money income of the consumer.

2.1.2 Some Factors Affecting Demand

1. The Price of the Commodity
2. Prices of Other Commodities
3. Natural Disaster
4. Government Policies
5. A Change in Real Income
6. The Tastes, Fashion and Preferences of Consumers

7. The Size of the Population
8. The Distribution of Income Among the Population
9. Expectation of a Change in Price
10. Weather and Climate
11. Government Policy

2.2 Theoretical Framework

According to Federal Office of Statistics (2010), in the consumer survey carried out, food is reported to be a dominant component of expenditure both in rural and urban areas. It was discovered that the per capital household income in the wages sector was higher than that for the self-employed and that cash expenditure on food in urban areas is higher than in the semi-urban and rural areas (Adamu 2010). It was also observed that household size and its composition serve as the main determinants of household food consumption pattern in Nigeria. Davies (2004) stated that the general educational status of household head has a positive significant effect on nutritional status of household, just as the income position of the household head has an important influence on their consumption pattern. NPC (2022) explained household as "consisting of a person or group of persons living together usually under the same roof or in the same building or compound, who share the same

source of food and recognize themselves as a social unit with a head of household, they may or may not be related by blood". Each member may have different taste and prefer one commodity to the other, the household usually blends these variances of references so as to allocate their money income among the array of household consumer goods. The concept of rationality of consumer behaviour affirmed that consumers deliberately calculate and consistently choose among various consumer goods so as to maximize satisfaction or utility. In attempt to maximize satisfaction, the factors that availability and demand for the array of products would invariably affect the choice and utility. Some of these determinants according to Watson and Holman (2000) include possible prices of closely related commodities.

Poultry (Broiler) meat as a source of food

According (FAO, 2023) Poultry meat are among the animal-source foods most widely eaten at global level, across greatly diverse cultures, traditions and religions. Consumption of poultry meat - and of animal-source foods in general - has increased rapidly in past decades. Growing demand has mostly been driven by population growth, urbanization and rising incomes in developing countries. Chicken dominates meat consumption as it is generally affordable, low in fat and faces few religious and cultural barriers. Demand for poultry meat and eggs is expected to continue increasing due to population growth and rising individual consumption. The market for poultry meat is projected to increase regardless of region or income level, with

per capita growth slightly higher in developing than in developed regions. Poultry meat contribute to human nutrition by providing high-quality protein and low levels of fat, with a desirable fatty acid profile.

CHAPTER THREE

3.0 METHODOLOGY

3.1 Area and scope of study

The study was carried out in Ovia North East local government area of Edo State, Nigeria. There are 13 wards in Ovia North East Local Government Area; Adolor, Iguoshodin, Isiuwa, Oduna, Ofunmwegbe, Oghede, Okada East, Okada West, Okokhuo, Oluku, Uhen, Uhiere and Utoka (Manpower, 2022). Edo state lies within the geographical coordinates of latitudes 05°44' and 07°43' North of the Equator and longitudes 05°04' and 06°43' East of the Greenwich meridian. Edo state is bounded by the states of Kogi to the northeast and east, Anambra to the east, Delta to the southeast and south, and Ondo to the west and northwest; the Niger River flows along the state's eastern boundary. Benin City is the state capital and largest urban centre (Britannica, 2018, August 29). Edo state was formed in 1991 from the northern portion of Bendel state, the southern portion becoming Delta state. Prior to this, in 1963, the citizens of the territory had voted to separate from what was then the Western region, and the Mid-West region was created. This became Mid-Western state following the federal reorganization in 1967; from a second reorganization in 1976 until its division in 1991, it was named Bendel state. Edo state lies at elevations between 500 feet (150 m) in the south and more than 1,800 feet (550 m) in the north. Tropical rain forest covers most of the area. The state is

inhabited largely by the Edo (Bini) people, who are linked to the historic kingdom of Benin (Britannica, 2018, August 29).

Edo state occupies a total land area of 17,802 km. The population of the state is 3,233,366 (National population commission, NPC, 2006). A large proportion of the Benin population live in low income settlement and are engaged in occupations like trading, palm-oil processing and bronze casting. They also embark on small-scale, medium-scale and large-scale rearing of goats, sheep, pigs and poultry as well as marketing of their product. The study is focused on poultry meat consuming households in the study area.

3.2 Sampling procedure

A two-stage sampling procedure was adopted in the study area. The first stage involved a simple random sampling of three wards in Ovia North-east Local Government Area Of Edo state, Nigeria. The second stage involved a simple random sampling of 40 poultry meat consuming households from each ward to make a sample size of 120 households.

3.3 Data collection

Data was obtained from both primary and secondary sources. The primary data was collected from a cross sectional survey of poultry meat consuming household in Ovia

Northeast local government area of Edo State, with the use of a well-structured questionnaire.

The secondary data was obtained from journals, textbooks, newspapers, government establishment, universities, and research institutes. Data was collected on quantity of poultry meat consumed by households, constraints facing poultry meat consumption. Data was also collected on the socio-economic characteristics of respondents such as age, marital status, sex, income level, occupation and household size.

3.4 Analytical techniques

Data was analysed using both descriptive and inferential statistics. Descriptive statistics such as frequency counts, percentages and mean scores. And inferential statistics such as demand multiple regression analysis.

- 1. Objective one:** To describe the socio-economic characteristics and household structure of broiler meat consuming households in the study area. Simple descriptive statistics such as frequency counts, mean scores, and percentage was used to achieve this objective.
- 2. Objective two:** To examine household broiler meat form consumption preference of respondents. Simple descriptive statistics such as frequency counts, mean scores, and percentage was used to achieve this objective.
- 3. Objective three:** To examine households preferred meat substitute consumption pattern in the study area. Simple descriptive statistics such as

frequency counts, mean scores, and percentage was used to achieve this objective.

4. Objective four: To estimate the expenditure on broiler meat consumption in the study area. Simple descriptive statistics such as frequency counts, mean scores, and percentage was used to achieve this objective.

5. Objective five: To estimate factors affecting demand for broiler meat. Simple demand function equation was used

$$Q_x^d = f(P_x, I, P_y, T, P_s, E, P_z, S)$$

Where:

Q_x^d = quantity demanded of commodity x

P_x = price of commodity x

I = consumers income

P_y = price of complementary goods

T = Taste

P_s = price of substitute goods

E = broiler meat quality

P_z = population size

S = health benefits of broiler meat

For the explicit model, the quantity demanded was estimated using linear regression analysis

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

Where:

Q_d = quantity demanded of commodity x

X_1 = price of commodity x

X_2 = consumers income

X_3 = price of complementary goods

X_4 = Taste

X_5 = price of substitute goods

X_6 = Broiler meat quality

X_7 = population size

X_8 = health benefits of broiler meat

β_0 = constant

$\beta_1 - \beta_8$ = coefficient of $X_1 - X_8$ respectively

6. Objective six: To identify constraints facing the demand for broilers. This was analysed using a five point likert scale of Strongly agreed (5), Somewhat agreed (4), Neither agree nor disagree (3), Somewhat disagree (2), Strongly disagree (1).

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION

A total of one hundred and twenty (120) copies of questionnaire were administered to one hundred and twenty households in the study area. This section presents the results obtained and the breakdown of the results of the data analysis.

4.1 Socio-Economic Characteristics Of Respondents

The results on Socio-economic characteristics are shown in Table 4.1 and explained below;

Age of respondents

Results from Table 4.1 shows that 40.83% of the respondents are below the age of 30, 30% of the respondents are within the age of 30 to 49, 24.17% of the respondents are within the age of 50 to 69 and 5% of the respondents are from 70years and above. Analysis also shows that the mean age is 37years. This suggests that there are more of younger respondents in this study.

Sex distribution of respondents

Results from Table 4.1 shows that 58.33% of respondents were males while the remaining 41.67% were females. This suggests that men are more than women in the study area.

Marital status of respondents in the study area

Results from Table 4.1 shows that 43.33% of the respondents are single, 44.17% are married, 1.67% is divorced, 10% are widowed and 0.8% is separated. This suggests that more proportion of broiler meat consumers are either married or single.

Household size

The results from Table 4.1 shows that 64.17% of households have less than five (5) household members, 15% have 5 household members and 20% have more than 5 household members. This suggests that more households have less than 5 household members in the study area. And a mean household size of broiler meat consumers is 4 persons per household. This further suggests that it is likely to find about 4 persons in every broiler meat consuming household in the study area.

Educational level of respondents

Results from Table 4.1 shows that 58.33% of the respondents have tertiary education, 31.67% have secondary education, 5.83% have primary education and 4.17% have

no formal education. This suggests that there are more educated people in this study area.

Major occupation of respondents

Results from Table 4.1 shows that 21.67% of the respondents are government workers, 35.83% are self-employed, 6.67% are contract workers, 11.67% work under private company and 24.17% are unemployed. This implies that more people are self-employed in the study area.

Total income of household

This is a combination of both the income of each respondent and income contribution of their respective household members.

Results from Table 4.1 shows that 7.50% of households monthly income is less than ₦50,000, 41.67% of households earn between ₦50,000 to ₦99,999 monthly, 40% of households earn between ₦100,000 to ₦199,999 monthly and 10.83% earn ₦200,000 and above. Analysis also shows the mean of households income to be ₦120,208. This implies that there are more households earn between ₦50,000 to ₦199,999 monthly income in the study area.

Table 4.1: Socio-economic Characteristics

Characteristics		Freq	%	Mean
Age range	<30	49	40.83	
	30-49	36	30.00	
	50-69	29	24.17	
	70+	6	5.00	
	Total	120	100.00	
Age (years)				37
Sex	Male	70	58.33	
	Female	50	41.67	
Marital status	Single	52	43.33	
	Married\	53	44.17	
	Divorced	2	1.67	
	Widowed	12	10.00	
	Separated	1	.83	
	Total	120	100.00	
	Household size range	<5	77	64.17
5		18	15.00	
>5		25	20.83	
Total		120	100.00	
Household size (no)				4
Educational level	No formal education	5	4.17	
	Primary	7	5.83	
	Secondary	38	31.67	
	Tertiary	70	58.33	
	Total	120	100.00	
Major occupation	Government worker	26	21.67	
	Self employed	43	35.83	
	Contract worker	8	6.67	
	Private worker	14	11.67	

	Unemployed	29	24.17	
	Total	120	100.00	
Monthly income range	<50,000	29	24.17	
	50,000-99,999	50	41.67	
	100,000-199,999	31	25.83	
	200,000+	10	8.33	
	Total	120	100.00	96875
No of income earners in HH (range)	<5	111	92.50	
	5	8	6.67	
	>5	1	.83	
	Total	120	100.00	3
Other Income earners contribute to HH expenses	Yes	112	93.33	
	No	8	6.67	
	Total	120	100.00	
Total household income (range)	<50,000	9	7.50	
	50,000-99,999	50	41.67	
	100,000-199,999	48	40.00	
	200,000+	13	10.83	
	Total	120	100.00	
Total household income (NGN)				120208
Field survey, 2022				

4.2 Households Broiler Meat Form Consumption Preference

The results on households broiler meat form consumption preference are shown in Table 4.2 and explained below;

Most preferred form of broiler meat consumption

Results from Table 4.2 shows that 15% of respondents prefer to consume broiler meat in boiled form, 13.33% prefer to consume broiler meat in grilled form, 43.33% prefer broiler meat in fried form, 2.50% prefer broiler meat in roasted form and 25.83% have no particular form in which they prefer to consume broiler meat. This suggests that more respondents prefer to consume broiler meat in fried form.

Frequency of broiler meat consumption

Results from Table 4.2 shows that 1.67% of households consume broiler meat daily, 34.17% consume broiler meat weekly, 20% consume broiler meat monthly and 44.17% consume broiler meat occasionally. This suggests that most households in the study area consume broiler meat occasionally.

Consumption of broiler meat as a staple food

Results from Table 4.2 shows that 58.33% of households in the study area consumer broiler meat as a necessary or basic diet, while 41.67% of households in the study area do not consume broiler meat as a staple diet. The results suggests that more percentage of households consume broiler meat as an important diet.

Table 4.2: Households Broiler Meat Form Consumption Preference

		Freq	%	Mean
Most preferred form of consumption	Boiled	18	15.00	
	Grilled	16	13.33	
	Fried	52	43.33	
	Roasted	3	2.50	
	Any form	31	25.83	
	Total	120	100.00	
Frequency of consumption	Daily	2	1.67	
	Weekly	41	34.17	
	Monthly	24	20.00	
	Occasionally	53	44.17	
	Total	120	100.00	
Consume broiler meat as staple food	Yes	70	58.33	
	No	50	41.67	
	Total	120	100.00	

4.3 Households Preferred Meat Substitute Consumption Pattern

The results on households preferred meat substitute consumption pattern are shown in Table 4.3 and explained below

Preferred substitute to broiler meat

Results from Table 4.3 shows that 13.33% of households in the study area prefer to substitute beef for broiler meat, 15.83% prefer to substitute turkey for broiler meat, 18.33% prefer to substitute goat meat for broiler meat, 17.50% prefer to substitute pork meat for broiler meat, 18.33% prefer substitute fish for broiler meat, 7.50% prefer to substitute bush meat for broiler meat, 6.67% have no substitute for broiler meat and 2.50 prefer to substitute egg for broiler meat. This suggests that more households in the study area will prefer to substitute goat meat or fish for broiler meat.

Reasons for substitution of broiler meat

Results from Table 4.3 shows why households in the study area prefer to substitute other meats for broiler meat as seen in 4.2.5 above. 42.50% of respondents indicated taste of the meat to be the reason for their substitute, 5% indicated satisfaction to be the reason for their substitute, 7.50% indicated variety to be the reason for their substitute, 19.17% of respondents indicated price of the meat to be the reason for their substitute, 1.67% indicated their income level to be the reason for their

substitute, 10.83% indicated health benefits to be the reason for their substitute, 12.50% indicated preference to be the reason for their substitute and 0.83% indicated colour of the meat to be the reason for their substitute. This results suggests that most respondents see taste of the substitute meat to the reason for their substitute.

Table 4.3: Household preferred meat substitute consumption pattern

		Freq	%	Mean
Preferred substitute to broiler meat	Beef	16	13.33	
	Turkey	19	15.83	
	Goat meat	22	18.33	
	Pork	21	17.50	
	Fish	22	18.33	
	Bush meat	9	7.50	
	None	8	6.67	
	Egg	3	2.50	
	Total	120	100.00	
Reasons for substitutes	Taste	51	42.50	
	Satisfaction	6	5.00	
	Variety	9	7.50	
	Price	23	19.17	
	Income	2	1.67	
	Health benefits	13	10.83	
	Preference	15	12.50	
	Colour	1	.83	
	Total	120	100.00	
Field survey, 2022				

4.4 Household Expenditures On Broiler Meat Consumption

This includes monthly income spent on broiler and monthly income spent on other meat. Results are shown in Table 4.4 and explained below.

Monthly Income Spent on Broiler Meat

Table 4.4 shows that the highest percentage (39.17%) of broiler meat consuming household in the study area spent less than ₦5,000 on broiler meat consumption and also shows that 10% of broiler meat consuming household in the study area spent ₦20,000 and above on broiler meat consumption. Analysis also show a mean of ₦8,354 spent to purchase broiler meat.

Monthly Income Spent On Other Meat

Table 4.4 shows that 32.50% of other meat (excluding broiler meat) consumed by broiler meat consuming household in the study area spent between ₦10,000 to ₦19,999 on other meat consumption and also shows that 16.67% of other meat consumed by broiler meat consuming household in the study area spent less than ₦5,000 on other meat consumption. Analysis also show a mean of ₦14,063 spent to purchase other meats.

The mean of the results suggests that 37% of households money income spent on meat is used to purchase broiler meat and 63% is used to purchase other meats. This means that for every ₦1 spent on meat in the study area 37kobo is spent on broiler

meat and the remaining 63kobo is spent on other meats. This also implies that a good percentage of money income spent on meat in the study area is spent on broiler meat.

Table 4.4: Household Expenditures On Broiler Meat Consumption

	Categories	Freq	%	Mean
Monthly income spent on broiler meat (NGN)	<5,000	47	39.17	
	5,000-9,999	44	36.67	
	10,000-19,999	17	14.17	
	20,000+	12	10.00	
	Total	120	100.00	8,354
Monthly income spent on other meat (NGN)	<5,000	20	16.67	
	5,000-9,999	27	22.50	
	10,000-19,999	39	32.50	
	20,000+	34	28.33	
	Total	120	100.00	14,063

Field survey, 2022

Table 4.4b: Household broiler meat expenses per month (summary)

Variables	Units	Minimum	Maximum	Mean
Income spent on broiler meat	Naira	2,500	25,000	8,354.2
Qty of meat purchased / consumed by household	kg	1.90	18.8	6.2

**1.5kg = NGN 2,000*

4.5 Factors Affecting Demand For Broiler Meat

The results on factor affecting the demand for broiler meat are shown in Table 4.5 and explained below;

Price Of Broiler Meat

The results from Table 4.5 shows that there is an inverse relationship between the price of broiler meat and quantity demanded. The law of demand is a fundamental principle which states that there is an inverse relationship between price and quantity demanded. In other words. Conditional on all else being equal, as the price of a good increases, quantity demanded will decrease conversely, as the price of a good decreases, quantity demanded will increase. "When we say that a person's demand for anything increases, we mean that he will buy more of it than he would before at the same price, and that he will buy as much of it as before at a higher price" (Nicholson, Walter; Snyder, Christopher 2012). It can be said that the results of the analysis is in line with the law of demand.

Health Benefits Of Broiler Meat

The results from Table 4.5 study shows a direct relationship between health benefits of broiler meat and quantity demanded. This implies that the more households in the study area learn about the health benefits of broiler meat their demand for broiler meat increases.

Monthly Income

The results from Table 4.5 shows a direct relationship between the monthly income of the households and the quantity of broiler meat demanded. This implies that as income of consumers increase so also their demand for broiler meat.

Thus, the quantity of broiler meat that a household would purchase in the study area therefore depends on the price of broiler meat, the money income of the household and the rate at which the health benefits of broiler meat is known in the study area.

Table 4.5: Factors Affecting Demand For Broiler Meat

Model	Unstandardized Coefficients		Standardized Coefficients	t	Probability level.
	coefficient	Std. Error	Beta		
(Constant)	9307.99	2810.20		3.31	0.001
Price of broiler meat	-2310.13*	554.48	-.401	4.16	0.000
Price of complementary goods	506.44	499.43	.105	1.01	0.313
Taste of broiler meat	-211.09	460.69	-.042	0.45	0.648
Price of other meat	8.55	492.02	.002	0.01	0.986
Quality of broiler meat	64.19	492.16	.014	0.13	0.896
Health benefits of broiler meat	1260.49*	441.54	.299	2.85	0.005
Monthly income range	1842.37*	656.56	.239	2.80	0.006
Household size (no)	274.16	277.24	.080	0.98	0.325

Dependent Variable: qty purchased of broiler meat (kg)

**Significant at 1%*

4.6: Constraints facing the demand for broiler meat

Results from Table 4.6 shows some constraints facing the demand for broiler meat. Five point likert scale of Strongly agreed (SA), Somewhat agreed (SWA), Neither agree nor disagree (NAND)/Undecided, Somewhat disagreed (SWD) and Strongly disagreed (SD) was used.

Health Status

Results from Table 4.6 shows that 27.50% of respondents SA that their health status acts as a limiting factor to their demand for broiler meat, 16.67% of respondents SWA that their health status acts as a limiting factor to their demand for broiler meat, 8.33% was undecided, 15% of respondents SWD that their health status acts as a limiting factor to their demand for broiler meat and 32.50% of respondents SD that their health status acts as a limiting factor to their demand for broiler meat. This suggests that a greater percentage of respondents in the study area do not see their health status as a limiting factor to their demand for broiler meat.

Distance From Point Of Purchase

Results from Table 4.6 shows that 27.50% of respondents SA that the distance from point of purchase acts as a limiting factor to their demand for broiler meat, 10.83% of respondents SWA that the distance from point of purchase acts as a limiting factor to their demand for broiler meat, 8.33% was undecided, 20.83% of respondents

SWD that the distance from point of purchase acts as a limiting factor to their demand for broiler meat and 33.33% of respondents SD that the distance from point of purchase acts as a limiting factor to their demand for broiler meat. This suggests that a greater percentage of respondents in the study area do not see the distance from point of purchase as a limiting factor to their demand for broiler meat.

Age of Respondents

Results from Table 4.6 shows that 17.50% of respondents SA that their age acts as a limiting factor to their demand for broiler meat, 16.67% of respondents SWA that their age acts as a limiting factor to their demand for broiler meat, 7.50% was undecided, 24.17% of respondents SWD that their age acts as a limiting factor to their demand for broiler meat and 34.17% of respondents SD that their age acts as a limiting factor to their demand for broiler meat. This suggests that a greater percentage of respondents in the study area do not see their age as a limiting factor to their demand for broiler meat.

Colour of Broiler Meat

Results from Table 4.6 shows that 20% of respondents SA that the colour of broiler meat acts as a limiting factor to their demand for broiler meat, 15% of respondents SWA that the colour of broiler meat acts as a limiting factor to their demand for broiler meat, 9.17% was undecided, 7.50% of respondents SWD that the colour of broiler meat acts as a limiting factor to their demand for broiler meat and 48.33% of

respondents SD that the colour of broiler meat acts as a limiting factor to their demand for broiler meat. This suggests that a greater percentage of respondents in the study area do not see the colour of broiler meat as a limiting factor to their demand for broiler meat.

Unavailability of Broiler Meat

Results from Table 4.6 shows that 15.83% of respondents SA that the unavailability of broiler meat in their area acts as a limiting factor to their demand for broiler meat, 16.67% of respondents SWA that the unavailability of broiler meat in their area acts as a limiting factor to their demand for broiler meat, 11.67% was undecided, 13.33% of respondents SWD that the unavailability of broiler meat in their area acts as a limiting factor to their demand for broiler meat and 42.50% of respondents SD that the unavailability of broiler meat in their area acts as a limiting factor to their demand for broiler meat. This suggests that a greater percentage of respondents in the study area do not see the unavailability of broiler meat in their area as a limiting factor to their demand for broiler meat.

Table 4.6: Constraints facing the demand for broiler meat

Factors	SA		SWA		Undecided		SWD		SD		Total	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Mean*	SD
Income level	43	35.83	46	38.33	13	10.83	7	5.83	11	9.17	3.86	1.2
Health status	33	27.50	20	16.67	10	8.33	18	15.00	39	32.50	2.92	1.7
Distance from point of purchase	32	26.67	13	10.83	10	8.33	25	20.83	40	33.33	2.77	1.6
Age	21	17.50	20	16.67	9	7.50	29	24.17	41	34.17	2.59	1.5
Colour of broiler meat	24	20.00	18	15.00	11	9.17	9	7.50	58	48.33	2.51	1.7
Unavailability of broiler meat in area	19	15.83	20	16.67	14	11.67	16	13.33	51	42.50	2.50	1.6

**Agreed (mean > 2.50)*

CHAPTER FIVE

5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

This research examines the economics of rural households broiler meat consumption pattern in in Ovia Northeast local government of Edo State, Nigeria. The specific objectives of the study were to describe the socio-economic characteristics of broiler meat consuming households in Ovia Northeast local government, examine household broiler meat form consumption preference of respondents in the study area, examine households preferred meat substitute consumption pattern, examine the economics of rural households broiler meat consumption pattern, examine factors affecting demand for broiler meat. Identify constraints facing the demand for broilers in the study are. The study focused on broiler meat consuming households in the study area. A two-stage sampling technique was used in selecting 120 households from the study area. Data was collected on income level of households, amount of income spent on meat, factors affecting the demand for broiler meat. Data was also collected on the socio-economic characteristics of respondents such as marital status, age of respondents, sex, occupation and household size. Data collected were analysed using both descriptive and inferential statistics.

Some Findings:

- The result obtained shows that a greater percentage of respondents were married. The study reported that a greater percentage of respondents were male. The average age was 37years. The average household size was four persons, while a greater percentage of respondents are educated.
- Results also show that for ever N1 spent on meat in the study area 37kobo is spent on broiler meat.
- Results also show that a greater percentage of respondents prefer broiler meat in fried form.
- Results also show that 24.17% of respondents were unemployed.
- Results obtained shows a direct relationship between demand for broiler meat and monthly income of households. It also shows a direct relationship between demand for broiler meat and healthy benefits of broiler meat.
- Results shows an inverse relationship between demand for broiler meat and the price of broiler meat.

5.2 Conclusion

Based on the findings, it can be concluded that:

Male respondents are more in the study, broiler meat is one of the most purchased meat in the study area. Quantity demanded for broiler meat is highly dependent on the price of broiler meat, income level of consumers also highly affect broiler meat demand and also the health benefits of broiler meat.

5.3 Recommendations

Based on findings of this research, the following recommendations are proffered;

1. Effort should be made by government and non governmental bodies that can help to reduce the rate of unemployment so that in turn demand for broiler meat will increase.
2. The price of broiler meat should be looked into and subsidized by government so as to reduce malnutrition rate and improve protein intake as price is a factor that greatly influence the demand for broiler meat as observed in this study.

REFERENCES

- Abdurofi, I., Ismail, M.M., Kamal, H.A.W. and Gabdo, B.H. (2016). Economic Analysis of Broiler Production in Peninsular Malaysia. *International Food Research Journal* **24**(2): 761-766.
- Adamu, S. O. (2010). Expenditure Elasticity of demand. *Journal of Nigeria Economics and social studies*. 8(3): 481-490.
- Aral Y. Aydin E. Demir P. Akin A.C. Cevger Y. Kuyululu Ç.Y.K, Arikan M.S. (2013). Consumer preferences and consumption situation of chicken meat in Ankara Province, Turkey. *Turkish J. Veterinary Animal Sci.* **37** (5) 582–587.
- Britannica (2018). Edo State Nigeria. Accessed on January, 2022. Retrieved from: <https://www.britannica.com/place/Edo-state-Nigeria>.
- Chabault, M. Baéza, E. Gigaud, V. Chartrin, P. Chapuis, H. Boulay, M. Le Bihan-Duval, E. (2012). Analysis of a slow-growing line reveals wide genetic variability of carcass and meat quality-related traits. *BMC Genet.* **13**: 90.
- Chia, S.Y. Tanga, C.M. Van Loon, J.J. Dicke, M. (2019). Insects for sustainable animal feed: inclusive business models involving smallholder farmers. *Curr. Opin. Environ. Sustain.*, **41**, 23-30. <https://doi.org/10.1016/j.cosust.2019.09.003>.
- Clonan, A. Roberts, K.E. Holdsworth, M. (2016). Socioeconomic and demographic drivers of red and processed meat consumption: implications for health and environmental sustainability. *Proceedings of the Nutrition Society*, **75**, 367-373
- Dalle Zotte, A. Gleeson, E. Franco Ruiz, D. Cullere, M. and Lorenzo, J. M. (2020). Proximate Composition, Amino Acid Profile, and Oxidative Stability of Slow-Growing Indigenous Chickens Compared with Commercial Broiler Chickens. *Foods* **9**:546.
- Davies, C. G (2004). "Linkage between Socio-Economic Characteristics, Food Expenditure pattern and nutritional status of low income Households. A critical Review ". *American Journal of Agric. Econ* **64**(5): 1017- 1024.
- Federal office of statistics (2010). Urban consumer survey in Akure, ondo and Owe Nigeria in 1998/1999 Lagos
- Food And Agricultural Organisation, (2023). Gateway to poultry production and products. Retrieved From: <https://www.fao.org/poultry-production-products/products-processing/en/>

- Food and Agriculture Organization of the United Nations (FAO). (2020). *Gate way to poultry production and products*. Accessed March 2020. Retrieved from: <http://www.fao.org/poultryproduction-products/production/en/>.
- Food and Agriculture Organization, (2017). Regional Overview of Food Security and Nutrition in Africa 2016. *The Challenges of Building Resilience to Shocks and Stresses*. Accra.
- Jhiangan, M. L (2007). Demand and Law of demand: Micro-economics theory (pp 146-158). New Delhi Vrinda Publications (p) Ltd
- Manpower (2022). List of Wards in Ovia North East Local Government Area. Accessed on January, 2022. Retrieved from: <https://www.manpower.com.ng/place/ward-in-lga/275/ovia-north-east>.
- National Population Commission, NPC (2006). Post Enumeration Survey, NPC Wise, FCT, Abuja, Nigeria.
- National Population Commission, NPC (2022). 2023 Population and Housing Census Enumerators' Manual. Pg 18.
- Nicholson, Walter; Snyder, Christopher (2012). Microeconomic Theory: Basic Principles and Extensions (11 ed.). Mason, OH: South-Western. pp. 27, 154. ISBN 978-111-1-52553-8.
- Olorunwa, O.J. (2015). Economic Analysis of Broiler Production in Lagos State Poultry Estate, Nigeria. *Journal of Investment & Management*, 7 (1), 35-44. doi: org/10.1016/j.sbspro.2015.06.361.
- Rayner, A. C. Newberry, R. C. Vas, J. and Mullan, S. (2020). Slow-growing broilers are healthier and express more behavioural indicators of positive welfare. *Sci. Rep.* 10:15151.
- Watson and Holman (2000). Price Theory issues. 4th Ed. Houghton Mifflin company, Boston.
- WorldBank, (2019). Agriculture and Food. Accessed October 2021. Retrieved From: <https://www.worldbank.org/en/topic/agriculture/overview>.

APPENDIX

QUESTIONNAIRE

**DEPARTMENT OF AGRICULTURAL ECONOMICS AND EXTENSION
FACULTY OF AGRICULTURE
UNIVERSITY OF BENIN,
BENIN CITY, NIGERIA.**

Sir/Madam,

I am a final year student of the above named Department. This questionnaire is designed to obtain information on demand analysis for poultry meat in Ovia-North East Local Government Area of Edo State, Nigeria. The research is purely and solely for academic purpose and information supplied will be treated as confidential. To ensure reliable data collection for this study, your kind assistance is therefore solicited in answering the following questions. Please tick or fill in the necessary information as may be appropriate. Thanks for your anticipated cooperation.

Yours sincerely

Asiriuwa Osaheni Anthony.

A: SOCIO-ECONOMIC CHARACTERISTICS OF RESPONDENTS.

1. Sex: male [] female []
2. Age:
3. Marital status: single [] married [] divorced [] widowed [] seperated []
4. Household size:
5. Level of education: no formal education [] primary education []secondary education [] tertiary education []

6. What is your major occupation: government worker [] self employed [] contract worker [] work under a private company [] unemployed []

7. Monthly income:

8. How many income earners in your household including you:

9. Do the income earners contribute to the household expenses

a. Yes b. No

10. Input the total contributions of the income earner(s) below.

1st	2nd	3rd	4th	5th	6th	7th

B. To examine household broiler meat form consumption preference of respondents.

11. Do you consume broiler meat as one of your staple food? a. Yes () b. No ()

12. How often do you eat broiler meat a. Daily () b. Weekly () c. Monthly () d. Occasionally () e. Others specify -----

13. Most preferred form of consumption? a. Boiled () b. Grilled () c. Fried () d. Roasted e. Any form ()

C. To examine households preferred meat substitute consumption patterns and to examine the expenditure on broiler meat.

14. What is your preferred substitute for broiler meat? -----

15. Approximately how much of your monthly income do you spend on broiler meat?. -----

16. Approximately how much of your monthly income do you spend on other meat?. Specify below

Types Of Meat	Goat Meat	Beef	Pork Meat	Others specify	Others specify

Monthly Income Spent					
----------------------	--	--	--	--	--

17. What are your reasons for the substitute above? -----

D. Factors Affecting Demand For Broiler Meat

		Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
18	The price of broiler meat affect your demand for the meat					
19	Your income level affect your demand for broiler meat					
20	Price of complementary goods (things you consume along with poultry meat) such as rice, tomato, oil, gas/fire wood and others affect your demand for broiler meat					
21	The taste of broiler meat affect your demand for it					
22	Price of other meats affects					

	your demand for broiler meat					
23	The quality of broiler meat affect your demand for it					
24	Your household size affects your demand for broiler meat					
25	The health benefits of broiler meat affect your demand for it					

E. To Identify Constraints Facing The Demand For Broilers

		Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
26	Distance from point of purchase					
27	Unavailability of broiler meat in you area					
28	Your age					
29	Your income level					
30	Health status					
31	Colour of broiler meat					
	Others specify below					