CONTRIBUTION OF SMALL-SCALE POULTRY FARMING TO POVERTY REDUCTION IN OWERRI NORTH LOCAL GOVERNMENT AREA OF IMO STATE, NIGERIA

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BENIN CITY
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A PROJECT WORK SUBMITTED TO THE DEPARTMENT OF AGRICULTURAL ECONOMICS AND EXTENSION SERVICES OF THE UNIVERSITY OF BENIN

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CERTIFICATION

This is to certify that this research project was carried out by **NJOKU CHIOMA PRUDENCE** with Matric Number **AGR2004284** of the Department of Agricultural Economics and Extension Services, Faculty of Agriculture, University of Benin, Benin City, Edo State, Nigeria.

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Project Supervisor	**Head of Department**
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DEDICATION

This work is dedicated to God Almighty who through his unending love, mercies and faithfulness have guided me and remained my source of strength from the beginning of my academics journey to its completion. To my parents and sibling whose love, unwavering support, prayers and encouragement have been a constant source of inspiration throughout this journey and finally to my friends, for their love and friendship I enjoyed all through my academic journey.

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ABSTRACT

The study examined the contribution of small-scale poultry farming to poverty reduction in Owerri North Local Government Area of Imo State, Nigeria. 120 small-scale poultry farmers were selected using a two-stage sampling technique. Primary data were collected using a well-structured questionnaire and analyzed using descriptive statistic, the Foster–Greer–Thorbecke (FGT) poverty model and probit regression model.

The socio-economic analysis revealed that more than half of the farmers (55.83%) were male while about 44.17% were females. The mean age of the farmers was 48 years, while the majority were married and had secondary education. The average farming experience was 9 years. Majority (70%) of the farmers were married. The mean monthly income was ₦111,763.00.

Results of the FGT poverty analysis showed a poverty depth index of 0.1305 and a poverty severity index of 0.0413. The result obtained from the probit regression showed that household size had a positive and significant influence on poverty status at a 1% level. Major constraints identified included high feed cost, inadequate capital, disease outbreaks, poor electricity supply, and limited market access.

The study concludes that small-scale poultry farming contributes significantly to poverty. It is recommended that government and stakeholders enhance farmers' access to affordable feeds, credit facilities, veterinary services, and reliable market outlets to strengthen the sector's poverty-reducing potential.

CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND STUDY

Poverty is known to be a problem for both developing and developed countries in the world. Poverty is a state or condition in which an individual lacks the financial resources and essentials for a basic standard of living. Nnadi (2008) described poverty as a multidimensional concept involving not only material deprivation but also deprivation in terms of capability, vulnerability, and influence over institutions that affect one's life. Poverty is a multidimensional condition characterized by a severe lack of financial resources and access to essential services such as food, clean water, healthcare, education, and employment opportunities. According to the World Bank (2022), extreme poverty is defined as living on less than $2.15 per day, while moderate poverty refers to those living on less than $3.65 per day in lower-middle-income countries. Poverty goes beyond income deprivation; it includes social exclusion, vulnerability to economic shocks, and limited access to opportunities (United Nations Development Programme [UNDP], 2023).

The United Nations Sustainable Development Goal (SDG) 1 aims to **"end poverty in all its forms everywhere"** by 2030, emphasizing that poverty reduction requires not only financial inclusion but also improved access to education, healthcare, and infrastructure (United Nations, 2015). Poverty in Nigeria is a significant socio-economic challenge, characterized by low income, poor living conditions, limited access to education, inadequate healthcare, and food insecurity. According to Ajadi (2011)**,** the most telling social characteristic of the poor in Nigeria is exclusion. The major variants are exclusion from the labor market as manifested in the perennial and high unemployment rates, exclusion from basic housing and easy access to productive assets, public

utilities, and other services, and exclusion from meaningful participation in community activity, social life, and national development. Poverty generally is caused by different factors, namely, unemployment, poor social infrastructure, lack of basic amenities, and poor implementation of government policies, to mention a few.

Poverty remains one of the most pressing challenges in Nigeria, despite the country's vast natural and human resources. Nigeria has the largest population in Africa, yet it also has one of the highest poverty rates globally. About 133 million Nigerians suffer from multidimensional poverty, corresponding to a 63 percent poverty headcount as of 2021. This implies that approximately 6 out of 100 Nigerians are multidimensionally poor. Moreover, the national multidimensional poverty index (MPI) was estimated at 0.257 in 2021. This suggests that poor Nigerians experience about 26 percent of all possible derivations, including health and education (National Bureau of Statistics [NBS], 2023). The NBS (2022) indicates that 72% of rural Nigerians are poor, compared to 42% in urban areas. Poverty is more severe in rural areas, where agriculture is the primary livelihood.

Agriculture generally has many important roles to play in Nigeria's economic development, particularly in poverty reduction. Agriculture is a critical sector in Nigeria's economy, contributing to over 25% of the Gross Domestic Product (GDP) and employing about 70% of the labour force, particularly in rural areas (National Bureau of Statistics [NBS], 2023). Livestock farming, particularly poultry production, is vital in poverty reduction, employment creation, and food security in Nigeria. The poultry industry is one of the most commercialized subsectors of Nigerian agriculture, with an estimated 180 million birds and an annual production **of** 650,000 metric tons of eggs and 300,000 metric tons of poultry meat **(**FAO, 2020).

According to Ogebe, Ajiji, and Onuche (2020), poultry farming is a low-investment, high-return business, making it an accessible source of income for rural households, women, and youth.

Poultry is by far the largest livestock group and is estimated to be about 14 000 million, consisting mainly of chickens, ducks and turkeys (FAO 1999). In total, poultry products (egg and meat) constitute 30% of all animal protein consumed worldwide

Poultry products, especially eggs, and chicken meat, serve as affordable sources of high-quality protein, helping to reduce malnutrition among vulnerable populations **(**FAO, 2020). Nigeria ranks as the largest egg producer in Africa, producing about 10 billion eggs annually **(**World Bank, 2020). Expanding small-scale poultry farming can further improve household nutrition and increase food availability.

The Nigerian poultry industry contributes about 25% of the total livestock GDP and is crucial in reducing rural poverty **(**PwC, 2020). Smallholder poultry farmers comprise about 70% of total poultry producers, indicating their role in improving rural livelihoods (FAO, 2020).

1.2 STATEMENT OF PROBLEM

Poultry production is an important livelihood activity in rural areas of many developing countries, serving as a key source of income, employment, and food security. Several studies from Africa and Asia like Economic contribution of small-scale poultry production to rural households in Nigeria by Akinola *et al.,* Role of poultry farming in poverty reduction by Rahman *et al.,* have demonstrated that small-scale poultry farming significantly enhances household income, and food security, thereby contributing to poverty reduction (Birol and Asare-Marfo, 2008). Poultry farming is particularly important because it has low entry barriers, requires minimal land space, and provides a rapid return on investment, making it an accessible economic activity for rural households, including women and smallholder farmers.

The role of agriculture in poverty alleviation has been widely acknowledged in academic and policy discussions. Studies by Okuneye (2000) and Oni and Yusuf (2006) emphasize that

agricultural resources if effectively utilized, can serve as a major tool for poverty reduction in Nigeria. Despite these findings, much of the existing literature has focused broadly on agriculture as a whole, with limited studies examining the specific role of small-scale poultry farming in mitigating poverty, especially in rural Nigeria. This presents a significant knowledge gap that needs to be addressed. Given this, the following research questions will be asked

1. What are the socio-economic characteristics of small-scale poultry farmers in the study area?
2. What is the poverty status of the small-scale poultry farmers in the study area?
3. What are the determinants of poverty status of the small-scale poultry farmers in the study area?
4. What is their income utilization level and reinvestment habit?
5. What are the major constraints faced by the small-scale poultry farmers in the study area?

1.3 OBJECTIVES OF THE STUDY

The main objective of the study is to determine the contribution of small scale poultry farming to poverty reduction in Owerri North Local Government Area of Imo State.

The specific objectives are to:

1. Describe the socio-economic characteristics of small-scale poultry farmers in the study area
2. Estimate the poverty status of the small-scale poultry farmers in the study area.
3. Examine the determinants of poverty status of small-scale poultry farmers in the study area.
4. Determine their income utilization level and reinvestment habits.
5. Identify the major constraints faced by the small-scale poultry farmers in the study area.

1.4 JUSTIFICATION OF THE STUDY

Poverty is still a major problem in Nigeria, especially in rural areas where people have limited job opportunities, few resources, and little financial support. Agriculture has always been seen as a way to reduce poverty, but small-scale poultry farming, in particular, has great potential to improve livelihoods, create jobs, and provide food. Despite this, its impact on poverty reduction has not been well studied, and many farmers do not get the support needed to maximize their potential. This study is important because it will provide a clear understanding of how small-scale poultry farming helps reduce poverty in Owerri North LGA. By looking at farmers' income, reinvestment habits, and challenges, the research will suggest ways to improve the poultry sector. The findings will be useful for agricultural organizations, policy makers, and anyone interested in helping small-scale farmers succeed.

CHAPTER TWO

2.0 LITERATURE REVIEW

This chapter reviews literature that is relevant to this research. This is done in three ways such as: Conceptual review, theoretical review and empirical review.

2.1 CONCEPTUAL FRAMEWORK

2.1.1 POULTRY FARMING

Poultry generally is a term which is used to refer to all species of domesticated birds raised primarily for the purpose of producing egg and/or meat and for pleasure. Poultry farming is the practice of raising domesticated birds such as chickens, turkeys, guinea fowl, quail, ducks, and geese for the purpose of producing meat, eggs, and, in some cases, feathers (Onu, 2016). It is one of the most common and profitable forms of livestock production worldwide, particularly in developing countries like Nigeria, where it plays a significant role in food security and rural livelihoods. Poultry farming can be practiced on a small, medium, or large scale, with small-scale or backyard systems being the most prevalent in rural areas due to their low capital requirements and quick returns.

In Nigeria, poultry farming is one of the most common types of livestock farming because it requires relatively low capital and provides quick returns. According to Ojo (2003), poultry farming plays a major role in improving the income of rural households and providing them with a steady source of protein. It is often practiced on a small scale by individuals or families, using local or semi-improved breeds.

Small-scale poultry farmers usually raise between 50 and 500 birds, either in their backyards or in small poultry houses. They often rely on family labor, locally available feeds, and basic veterinary care. Despite these limitations, small-scale poultry farming has continued to grow due to the increasing demand for eggs and chicken meat in both rural and urban areas (Adepoju and Salau, 2007).

The importance of poultry farming goes beyond food production. It also creates employment and reduces rural-urban migration. Ekunwe and Soniregun (2007) noted that women and youth are particularly active in poultry production, which helps them contribute to household income and gain financial independence. This makes poultry farming a useful tool for poverty alleviation and rural development.

2.1.2 COMMONLY RAISED POULTRY BIRDS

Chickens are the dominant species in Nigeria's poultry sector, particularly broilers (for meat) and layers (for egg production). Indigenous chickens are also widespread in rural areas due to their hardiness and adaptability to local conditions. Other birds such as turkeys, ducks, and quails are gaining interest in niche markets but remain less common in commercial operations (Ezeakonamba and Nwankwo, 2024).

2.1.3 TYPES OF POULTRY PRODUCTION SYSTEMS

There are three common types of poultry production systems in Nigeria:

1. **Backyard or Village System:** Characterized by free-range birds relying on household scraps and minimal input. This system is widespread in rural areas and serves primarily subsistence purposes.

2. **Semi-Intensive System:** Birds are housed but also have limited access to outdoor space. They receive supplemental feeding and basic health management.
3. **Intensive or Commercial System:** Birds are reared in a confined environment with modern equipment, structured feeding programs, and systematic disease control. Though capital-intensive, it offers the highest returns and productivity (Isiaka *et al.,* 2023).

2.1.4 NUTRITIONAL BENEFITS OF POULTRY PRODUCTS

Poultry products are vital for addressing malnutrition and food insecurity in Nigeria. Eggs are nutrient-dense, providing essential proteins, vitamins (A, D, E, and B12), and minerals such as selenium and choline. Poultry meat is a healthier alternative to red meat, being rich in lean protein and low in fat. These attributes make poultry products an affordable and accessible source of animal protein, particularly for low-income households (FAO, 2023).

2.1.5 POVERTY AND POVERTY REDUCTION

Poverty is a situation where a person or household lacks the basic things they need to live a decent life, such as food, shelter, clothing, education, and healthcare. It can be seen in both rural and urban areas, but it is often more serious in rural communities where people depend heavily on farming and have limited access to social services. According to Nwachukwu and Ezeh (2007), poverty is not just about having little money, but also about being excluded from opportunities that can help a person improve their life. In a lame man's term, it means not having enough to feed and clothe a family, not having a school or clinic to visit, not having the land on which to grow one’s food or a job to earn one’s living, not having access to credit. It means insecurity, powerlessness and exclusion of individuals, households and communities.

Poverty does not only mean lack of money or physical items; it also involves the absence of natural, social, and human resources. Natural capital refers to things like land, water, animals, trees, and minerals. Physical capital includes equipment, machines, buildings, and land improvements (Ellis, 2010). In general, poverty means a person is unable to earn enough income to meet their basic needs. This condition affects many areas of life and is still a major problem in many African countries after colonial rule, including Nigeria.

Poverty reduction refers to the efforts and strategies aimed at improving the well-being of people who are living in poverty. It is not just about increasing income, but also about making sure that individuals have access to basic needs like food, education, healthcare, clean water, and shelter. Poverty affects many areas of life, so reducing it means giving people both the opportunity and support to live a better life.

According to Wijekoon *et al.* (2021), poverty reduction is the process of improving both the economic and social conditions of poor people, so they can overcome different forms of hardship. This includes helping people raise their income and also giving them access to quality education, good health care, and better living conditions. Similarly, the Springer Economic Reference (2020) describes poverty reduction as helping individuals or households move above the poverty line while also reducing other forms of deprivation such as poor housing, lack of clean water, unemployment, and poor health.

These definitions show that poverty reduction is multi-dimensional. It is not just about money. It involves giving people the tools and support they need to change their lives.

2.1.6 FEATURES OF POVERTY

Poverty can be identified through several common features, especially in developing countries like Nigeria. These features show how poverty affects people's daily lives, their well-being, and their opportunities. Below are some major features of poverty:

I. Low Income: People living in poverty usually earn very little, often below the national poverty line. Their income is not enough to cover basic needs such as food, shelter, healthcare, and clothing. Low income limits their ability to save or invest in productive activities. It also exposes them to more risk during emergencies. As Ayinde and Yusuf (2018) noted, income poverty is the most common and direct form of poverty in Nigeria.

II. Unemployment: A major sign of poverty is the lack of stable employment. Many poor people do not have jobs, and those who do are often underemployed—working in low-paying, informal, or temporary positions. Without decent jobs, they cannot support their families or plan for the future. Ibrahim and Adebayo (2018) explained that youth unemployment is one of the strongest drivers of rural poverty in Nigeria.

III. Illiteracy: Poor people often have low levels of education or no education at all. This makes it hard for them to get good jobs, understand important information, or benefit from government programs. Illiteracy keeps people from reaching their full potential. Olayemi and Balogun (2020) observed that illiteracy is both a cause and consequence of poverty, especially in rural households.

IV. Overcrowded Living Conditions: Poverty is also seen in the way people live. Many poor families stay in crowded or poorly built homes, with several people sharing small spaces. These environments often lack basic services like clean water, proper toilets, or waste disposal. Adeyemi

(2021) reported that most rural poor households in Nigeria live in unhygienic and congested living spaces that affect their health and dignity.

V. Corruption and Inequality: In many places, poverty is worsened by corruption and unfair systems. Poor people are often denied access to benefits or resources because of bribery or favoritism. Corruption diverts funds meant for public services, making it harder for the poor to get help. Udo and Emmanuel (2021) argued that structural inequality and corruption prevent poor people from accessing economic opportunities and public support.

VI. Limited Access to Healthcare: Another key feature of poverty is poor access to medical services. Many poor people cannot afford hospital bills or transportation to clinics. They often rely on traditional medicine or self-treatment. When sickness strikes, they may lose work time or fall deeper into poverty. Bello and Usman (2020) highlighted that inadequate health services are a major form of deprivation among Nigeria's rural poor.

2.1.7 THE ROLE OF POULTRY FARMING IN POVERTY REDUCTION

Poultry farming serves as a practical and accessible means of poverty alleviation, especially in rural communities. Its relatively low start-up cost and short production cycle make it an appealing livelihood strategy for low-income households. Income earned from the sale of eggs and meat enables families to meet basic needs such as food, healthcare, and education. Furthermore, poultry production generates employment across various points in the value chain, from feed supply to marketing, thus supporting broader economic activity.

Studies have shown that poultry farming improves household food security by increasing access to affordable protein. It also empowers women and youth who often face barriers to land access or

larger-scale agricultural investments. When supported with infrastructure, micro-credit, and training, poultry farming becomes a sustainable livelihood capable of lifting households out of poverty.

2.2 THEORETICAL FRAMEWORK

Over the years, various scholars have developed different theories to explain the causes and persistence of poverty, especially in developing countries like Nigeria. These theories have helped researchers, policymakers, and development practitioners understand the nature of poverty and design appropriate strategies for poverty reduction. For the purpose of this study, the following theories are relevant: the Basic Needs Theory, Labour Market Theory, Theory of Power, Structural Poverty Theory, Natural-Circumstantial Theory, and Human Capital Theory.

2.2.1 BASIC NEEDS THEORY

The Basic Needs Theory, originally popularized by Streeten et al. (1981), is based on the idea that poverty occurs when individuals or households are unable to access the essential goods and services necessary for survival and a decent life. These include food, shelter, clothing, education, and healthcare. According to Okungbowa and Udeh (2022), poverty cannot be understood by income alone but by how far people are deprived of basic human needs. In many rural areas of Nigeria, small-scale poultry farmers face difficulty meeting these needs due to low income, poor infrastructure, and limited access to social services. The theory is relevant to this study as it emphasizes that poverty alleviation must focus not just on income generation but also on improving access to life's essentials.

According to Bangei (2004), the basic needs approach to poverty alleviation programs should include several components. The economic component aims to promote broad-based economic

growth and create employment and income generation opportunities for both the poor and non - poor, with special attention given to the poor. This approach uses targeting instruments, necessitating the proper identification of the poor, the causes of poverty, and the needs of the poor. The social services component, as described by Olayemi (1998), should provide education, healthcare, sanitation services, clean water, and nutrition, as well as physical and socio-economic infrastructure such as electricity and a good road network. The safety net component should offer relief to the disabled, elderly, destitute, and those experiencing temporary poverty.

2.2.2 LABOUR MARKET THEORY

The Labour Market Theory explains poverty in terms of the structure of the labor market, which is often divided into formal and informal sectors. According to Piore (1979), the informal sector, where many poor people are concentrated, is characterized by low wages, job insecurity, and lack of social protection. This is true for most small-scale poultry farmers in Nigeria who operate outside formal support systems and are exposed to market fluctuations, poor working conditions, and lack of access to financial institutions. As noted by Ayinde *et al.* (2020), the informal nature of rural labor contributes to persistent poverty among agricultural workers. Therefore, this theory helps in understanding why economic participation does not always translate to poverty reduction.

2.2.3 THEORY OF POWER

The Theory of Power links poverty to inequality in power and access to resources. It argues that those with political or economic power are better able to access and control resources, while the powerless are excluded (Bradshaw, 2007). In Nigeria, access to agricultural inputs, government support, and markets is often determined by political connections or favoritism. Small-scale poultry farmers, especially those in remote areas, are usually excluded from these benefits. This

theory supports the idea that addressing poverty requires addressing inequality and ensuring fair access to opportunities for all.

2.2.4 STRUCTURAL POVERTY THEORY

The Structural Poverty Theory attributes poverty to systemic issues in society such as poor infrastructure, weak institutions, lack of education, and unequal land distribution. According to Brady (2019), structural poverty is not the result of personal failure but of barriers embedded in the economic and social systems. In rural Nigeria, limited access to veterinary services, extension agents, good roads, and electricity hampers the productivity of small-scale poultry farmers and keeps them in poverty.

The Structural Poverty Theory, which is sometimes called the Progressive Social Theory, is a modification of Karl Marx's explanation of poverty. Unlike the Individual Attributes Theory, which believes that people are poor because they lack motivation or personal effort, the Structural Theory argues that many poor people actually want to succeed but are stopped by barriers in the system. These barriers exist in several parts of society such as education, health, housing, the economy, and politics. Poor people do not lack the will to work; instead, they lack fair access to opportunities that would help them improve their lives.

This theory explains that the structure of the economic system favors the rich and powerful, while the poor are left behind, no matter how hardworking they are. For example, in Nigeria, the minimum wage is not enough to support a family, and working conditions for people at the bottom level of society are often poor. Small-scale poultry farmers, for instance, may work every day but still remain in poverty because of poor access to veterinary care, high cost of feed, lack of good roads, and limited market access.

One of the biggest barriers is the lack of good jobs, especially for people with lower levels of education. Employment opportunities are limited, and the few jobs available in the informal sector usually pay very little. Although education and skill training are seen as important ways to break poverty, in reality, many poor communities still suffer from poor funding of schools. In disadvantaged areas, schools often have untrained teachers, outdated books, poor learning environments, and low motivation to learn. This makes it harder for the poor to use education as a way out of poverty.

2.2.5 HUMAN CAPITAL THEORY

The Human Capital Theory, developed by Becker (1993), explains that poverty can be reduced by investing in people's skills, education, health, and experience. Individuals with higher levels of education and training are more productive and have better chances of improving their income. For small-scale poultry farmers, access to training on poultry management, disease control, and marketing can significantly improve their productivity and profitability. As observed by Olayemi *et al*. (2020), human capital development is a critical factor in agricultural growth and rural poverty reduction.

These theories collectively help to explain the multiple causes of poverty and the different ways through which small-scale poultry farming can serve as a tool for poverty alleviation. They highlight the importance of both personal effort and external support, as well as the need to remove structural and environmental barriers to success.

2.3 EMPIRICAL REVIEW

The research studies by Olanrewaju et al. (2012), Akangbe et al. (2015), and Ilori et al. (2021) each employed structured and rigorous methodologies to investigate the role of poultry farming in alleviating poverty among small-scale farmers in Nigeria. While all three studies adopted quantitative research approaches, they differed in their sampling techniques, data collection tools, and analytical frameworks, reflecting the unique focus and objectives of each study.

Olanrewaju *et al*. (2012) conducted their research in Oyo State, selecting 104 small-scale poultry farmers using a multistage sampling technique. This approach allowed for a systematic selection of respondents across different local government areas, ensuring regional representation and diversity in the dataset. The researchers collected primary data through structured questionnaires, which included sections on household demographics, poultry farm characteristics, and income sources. For data analysis, they applied descriptive statistics to summarize socio-economic variables and used the Foster-Greer-Thorbecke (FGT) poverty index to measure the incidence, depth, and severity of poverty among the respondents. This methodology was crucial in quantifying the extent to which poultry income influenced poverty reduction in the study area.

In a similar vein, Akangbe *et al.* (2015) carried out their study in Oyun and Offa Local Government Areas of Kwara State. The researchers employed purposive sampling to select 194 respondents who were actively engaged in small-scale poultry farming. Their use of purposive sampling was strategic, it ensured that only farmers with relevant experience and economic dependence on poultry were included. Descriptive statistical techniques and Pearson product moment correlation (PPMC) were used to analyze the data. The results revealed that the majority (62.4%) of the respondents were married, more than half (59.3%) were male with the mean age of 35.5years. The average period of poultry keeping experience was 7years. The effect of income on poverty

reduction revealed that it has highly contributed to the purchase of food stuff for the family, payment of their children's school fees, and payment of house rent of 79.4%, 27.8%, and 42.8% of the respondents, respectively. Product Moment Correlation revealed that only the level of education (r= 0.182*, p= 0.011) of the farmers showed a significant relationship with the extent to which egg and meat has contributed to respondents' income. The result showed a significant relationship between the income and selected effect of income made (purchase of foodstuff for the family (r=0.149*, p=0.038) the payment of children school fees (r= 0.204**, p= 0.004), payment of rents (r= 0.159*, p= 0.027) and purchase of furniture(r= 0.161*, p= 0.025) in reducing the farmers' poverty. The study thus concludes that savings made from small scale poultry farming were not enough to meet the needs of farmers, the effect of income on their poverty reduction has highly contributed to the purchase of food stuff for the family, the payment of their children's school fees and payment of house rent. The study recommends among others, the need for farmers to increase their flock sizes for more income and the Government should help to subsidize and make readily available the vaccines, drugs, feeds and poultry equipment to reduce their cost of production.

Ilori *et al*. (2021) took a more analytical approach in their study of poultry egg producers in Oyo State. They employed a combination of stratified and random sampling techniques to select 120 respondents, ensuring a balanced representation of farmers who accessed microcredit and those who did not. This sampling strategy was instrumental in facilitating a comparative analysis between the two groups. The data collection instrument was also a structured questionnaire, designed to extract detailed information on production costs, revenue, access to credit, and socio-economic conditions. For data analysis, they used budgetary analysis to estimate the profitability of poultry operations and Tobit regression models to identify factors influencing profitability.

Additionally, the FGT poverty index was applied to evaluate poverty status among the respondents. This methodological framework enabled the researchers to draw robust conclusions about the impact of financial access on farmer performance and household welfare.

CHAPTER THREE

3.1 RESEARCH METHODOLOGY

3.1 AREA AND SCOPE OF STUDY

The study was carried out in Owerri North Local Government Area of Imo State, located in the southeastern region of Nigeria. Owerri North Local Government Area was chosen as the study location because, according to Kanu *et al*. (2024), Imo State is known for its agricultural activities, including poultry farming, which plays a significant role in the local economy. The area is recognized for its growing poultry industry and serves as a hub for egg production and marketing within the region. The headquarter of Owerri North Local Government is Orie Uratta which encompasses an area of approximately 198 square kilometers. According to the 2006 census, the population of Owerri North LGA was 175,395 but estimates suggest that by 2020, the population had increased to approximately 283,903 (National Population Commission, 2006; NPC Projection,2020). Geographically, Owerri North LGA is positioned at approximately 5.4567° N latitude and 7.1027° E longitude .The climate of Owerri North LGA is characterized by a tropical wet climate, with an average annual temperature of around 26.4°C. The area experiences a significant amount of rainfall throughout the year. The wet season typically spans from March to October, while the dry season occurs from November to February (Wikipedia). The region's climate and favorable agricultural conditions have contributed to the prominence of poultry farming in Owerri North LGA, making it a suitable location for this study.

3.2 SAMPLING PROCEDURE

A two stage sampling method was used in this study. For the first stage, purposive sampling was employed in selecting five (5) communities out of 19 communities within Owerri North Local

Government Area based on the information about their popularity in poultry production. These communities included: Emekuku, Mbaoma, Emii, Uratta, Ihite. For the second stage, proportionate random sampling was employed to select small-scale poultry farmers from each of the five purposively selected communities. The number of small-scale poultry farmers chosen from each community was determined based on its proportion relative to the total number of poultry farmers across the selected areas, in order to obtain a total sample size of 120.

3.3 DATA COLLECTION

The data that was used to accomplish the objectives of this study was primary data; obtained from field survey by the use of a well-structured questionnaire with open and closed ended questions. Secondary data from textbooks, publications, journals, library etc were used to support the findings of the study.

3.4 ANALYTICAL TECHNIQUE

The following tool of analysis was employed to achieve the objectives of the study:

3.4.1 DESCRIPTIVE STATISTICS

Objective 1 and objective 4 were analysed using descriptive such as mean, frequency count and percentage and presented in tables.

3.4.2 FOSTER-GREER-THORBECKE (FGT) MODEL

This was used to achieve objective 2. It measures the incidence, depth, severity of poverty among small-scale poultry farmers. This model will help identify how many farmers are poor, how far below the poverty line they fall, and how severe the poverty is across the group. The general formula for the FGT model is:

$$P_{\alpha}=\frac{1}{n}\sum_{i=1}^{q}\left(\frac{z-yi}{z}\right)^{\alpha} \qquad \text{----------(1)}$$

Where:

$P\alpha$ = FGT poverty index

n = Total number of respondents

q = Number of respondent below poverty line

z = Poverty line

yi = Income of the ith poor respondent

α = Poverty aversion parameter and takes on values 0,1, 2.

If $\alpha=0$: Poverty incidence (headcount ratio), which describes the proportion of the population that falls below the poverty line.

$\alpha=1$: Poverty depth (poverty gap), which shows the size of the income deficit per individual in the study, which gives the proportion of the poverty line required by an average household per person to get out of poverty.

$\alpha=2$: Poverty severity index (inequality among the poor).

3.4.3 POVERTY LINE

The poverty line which has been described by World Bank, (2005), as the minimum expenditure required by a household to fulfill the basic food and non-food needs, is basically the level of consumption needed for a household to escape poverty. The choice of poverty line depends on the use for which it is to be put. For this study, relative poverty is going to be taken into consideration. The poverty line was used to categorize the respondent into poor and non-poor. The respondent with per capita income less than the mean per capital income would be classified as poor while those with per capita income equal or greater than the mean per capita income will be classified as non-poor.

Per capita income (PCI) = $\frac{Total\ household\ income}{Household\ size}$ ----------(2)

Mean Per capita income (PCI) = $\frac{Per\ capital\ income\ (PCI)}{Sample\ size}$ ----------(3)

3.4.4 PROBIT REGRESSION MODEL

This was used to achieve objective 3. The Probit model is suitable for binary dependent variables, in this case, the poverty status of farmers, where:

1 = Poor

0 = Not Poor

The model estimates the probability that a farmer is poor based on a set of explanatory variables such as age, education, household size, access to credit, poultry farming experience, farm size, etc.

The functional form of the Probit model is:

$$P(Y=1|X) = \Phi(X\beta) \text{ ---------- (4)}$$

Where:

P(Y=1|X) = Probability that a farmer is poor given the explanatory variables

Φ = Standard normal cumulative distribution function

X = Vector of independent variables

β = Vector of coefficients to be estimated

3.4.5 LIKERT SCALE

To achieve objective 5, three point Likert type scale was used to measure the degree of seriousness of constraint faced by the small scale poultry farmers in the study area with the most serious constraint given the highest number. It is represented as follows:

3- Very serious

2- Serious

1- Not serious

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION

4.1 SOCIOECONOMIC CHARARCTERISTICS OF SMALL-SCALE POULTRY FARMERS IN THE STUDY AREA

Presented in Table 1 is the socio-economic characteristic of the small-scale poultry farmers.

GENDER

The result for gender indicates that more than half (55.83%) of the small-scale poultry farmers were males while about 44.17% were females. This implies that more males are more involved than the females. This does not conform to the study by Okitoil *et al.* (2007) which revealed that poultry farming is a popular activity among rural women in most countries. However, the finding supports Oyeyinka (2011) who reported that about 66.3% of poultry farmers in Oyo State were males.

AGE

The result shows that majority of the respondent (59.17%) were between the ages 46-55 years, 24. 17% were between 36-45 years, 12.50% were above 55 years old and 4. 17% were between ages 26-35 years. This suggests that the poultry farmers were matured, responsible and could make decisions on their own. The mean age of the respondent in the study area is 48 years old. The average age of 48 implies that most poultry farmers have several years of farming experience and are likely to have developed effective production and management skills overtime, Oladejo *et al*. (2012). This could also suggest a relatively low participation of youths in poultry farming, as younger individuals often migrate to urban areas in search of white collar jobs or they may perceive agriculture as less profitable, Ezeh *et al*. (2017).

TABLE 4.1: SOCIOECONOMIC CHARACTERISTIC OF THE POULTRY FARMERS IN THE STUDY AREA

Variables	Categories	Frequency (N)	Percentage (%)	Mean (Std dev)
Gender	Male	67	55.83	
	Female	53	44.17	
Age	Below 25 years	-	-	48 years (7)
	26 – 35 years	5	4.17	
	36 – 45 years	29	24.17	
	46 – 55 years	71	59.17	
	Above 55 years	15	12.50	
Marital status	Single	-	-	
	Married	90	75.00	
	Divorced/Widowed	30	25.00	
Education	No formal	2	1.67	
	Primary	23	19.17	
	Secondary	81	67.50	
	Tertiary	14	11.67	
Farming Experience	1 – 5	19	15.83	9 years (4)
	6 – 10	60	50.00	
	11 – 15	34	28.33	
	16 – 20	4	3.33	
	Above 20 years	3	2.50	
Household size	1 – 3	17	14.17	5 persons (1)
	4 – 6	96	80.00	
	7 – 9	7	5.83	
	Above 10	-	-	
Housing system	Deep litter	102	85.00	
	Battery Cage	4	3.33	
	Backyard	14	11.67	
Monthly income	< 50,000	4	3.33	111,763.9 (43,938.15)
	50,001 – 100,000	57	47.50	
	100,001 – 150,000	38	31.67	
	150,001 – 200,000	17	14.17	
	Above 200,000	4	3.33	
Market distance from farm	1km	13	10.83	2.85 km (0.950)
	2km	20	16.67	
	3km	64	53.33	
	4	18	15.00	
	5	5	4.17	
Access to credit	Yes	37	30.83	
	No	83	69.17	

Source: Field Survey, 2025

MARITAL STATUS OF SMALL-SCALE POULTRY FARMERS IN THE STUDY AREA

The result showed that majority (75%) of the poultry farmers were married, 25% were either divorced or widowed. This suggests that most of the small-scale poultry farmers in Owerri North LGA are responsible family heads that may depend on the proceeds from poultry farming to secure a livelihood to cater for household needs. This demographic feature reflects the role of marriage in providing social and economic stability, potentially influencing resource-sharing and labor allocation within farming households Emeka *et al*. (2017). Additionally, married individuals may benefit from mutual support networks and shared responsibilities, enhancing their resilience to economic shocks and vulnerabilities Emeka *et al.* (2017). The result in this study agrees with Haddabi *et al.* (2019) who revealed that 75% were married. Oyeyinka (2011) also found similar results for married people (66.3%) who were also engaged in poultry production.

EDUCATIONAL LEVEL

The result reveals that the majority (67.5%) of the small-scale poultry farmers had secondary education, 19% had primary education, and 11% had tertiary education while 1.67% had no formal education. This implies that most of the small-scale poultry farmers in the study area are reasonably educated and possess the basic literacy skill. The dominance of farmers with secondary education suggests that they are capable of reading and interpreting written instructions on feed composition, vaccination schedule and record keeping. This enables them make informed decisions and adapt more easily to technological innovations. Abebayo *et al.* (2019) emphasized that education enhances farmer's capacity to access and utilize agricultural information thereby improving their management, efficiency and effectiveness. This demographic trend may reflect improved access to secondary education in the region or the prioritization of education as a pathway to socioeconomic advancement (Abayomi 2017).

Conversely, the small proportion of respondent without formal education suggests that literacy is increasingly becoming essential for modern agricultural participation.

FARMING EXPERIENCE

The result showed that majority of the poultry farmers (50%) had a farming experience of 6 to 10 years, 28.3% had a farming experience of 11 to 15 years, 15.83% had 1 to 5 years, 3.33% had 16 to 20 years and 2.5% of the poultry farmers spent above 20 years. The mean farming experience is 9 years, indicating that most of the small-scale poultry farming in the study area are moderately experienced.

The mean value of 9 years observed in this study aligns with the findings of Abubakar *et al*. (2018), who reported an average of 8.5 years of poultry farming experience among small-scale farmers in Kaduna State, Nigeria. This implies that poultry farming in the study area is not a new venture, but one which most of the farmers have spent years building, both technical skills and resilience.

HOUSEHOLD SIZE

The result showed that an overwhelming majority (80.00%) of the small-scale poultry farmers had a household size of 4–6 persons, 14.17% had 1–3 persons, and 5.83% had 7–9 persons. The mean household size was 5 persons. Larger household sizes can be a double-edged sword in the sense they may provide a source of unpaid family labour, thereby reducing production costs, but they also increase consumption demands, potentially straining household resources and affecting the poverty status (Ogunfiditimi, 2016). The predominance of medium-sized families may reflect a balance between labour availability and consumption pressure.

HOUSING SYSTEM

The result showed that the deep litter system was the most common (85.00%), followed by the backyard system (11.67%) and the battery cage system (3.33%). The predominance of the deep litter system suggests that most small-scale poultry farmers in Owerri LGA utilize low-cost, traditional housing methods that are accessible and require less technical knowledge and capital investment compared to the battery cage system.

MONTHLY INCOME

The result showed that nearly half of the poultry farmers (47.50%) earned a monthly income between ₦50,001–₦100,000 from all sources. A further 31.67% earned between ₦100,001–₦150,000, while smaller proportions earned higher or lower amounts. The mean total monthly income was ₦111,763.9. This distribution indicates a moderate level of earnings within the poultry farming community, which is largely dependent on the scale of operation and market access. It also suggests that most small-scale poultry farmers in the study area earn a moderate income that contributes meaningfully to household welfare and poverty reduction. This result aligns with the findings of Ogunleye *et al.* (2017), who reported an average monthly income of ₦105,000 among small-scale poultry farmers in Oyo State, Nigeria.

DISTANCE OF FARM FROM THE MARKET

The result shows that 53.33% of the poultry farmers reported that the nearest market to their poultry farm was about 3km away, 16.67% had a distance of 2km, 15% had 4km, 10.83% had 1km, while 4.17% operated at a distance of 5km from the market. This implies that the majority of the farmers had moderate proximity to the market, which is an advantage for marketing poultry products and purchasing farm inputs.

Short market distance plays a vital role in determining the profitability and efficiency of poultry enterprises. Farmers who operate closer to markets often experience lower transportation costs, quicker access to input supplies, and reduced spoilage or mortality risks, especially when marketing live birds or eggs. According to Ojo (2018), proximity to markets enhances farmers' ability to sell their produce promptly, reduces post-harvest losses, and improves income stability. Olaniyi *et al*. (2020) also noted that easy market accessibility encourages production expansion and strengthens the link between farmers and buyers, ultimately enhancing rural income generation.

The result also indicates that only a small proportion (4.17%) of the poultry farmers had farms located as far as 5 km from the market. Such farmers may incur higher transport expenses and face delays in accessing buyers or inputs, which could reduce profit margins. This observation aligns with the findings of Adenegan *et al*. (2017)**,** who reported that long market distances often discourage smallholder participation and limit income from agricultural ventures.

ACCESS TO CREDIT

The result showed that a significant majority (69.17%) of the poultry farmers had no access to credit, while only 30.83% had access. The highest percentage of poultry farmers lacking access to credit underscores significant financial constraints and limited opportunities for investment and enterprise expansion within the small-scale poultry sector in Owerri LGA (Abayomi, 2017). This limited access to formal financial services can hinder farmers' ability to invest in quality inputs, modern equipment, and scale up their operations, potentially constraining productivity and income growth.

4.2 POVERTY STATUS OF SMALL-SCALE POULTRY FARMERS

SUMMARY STATISTICS OF EXPENDITURE

Table 4.2 presents the summary statistics of household expenditure. The mean household expenditure was ₦210,505.4 per annum, with a minimum of ₦73,700 and a maximum of ₦297,350. With a mean household size of 5 persons, the mean expenditure per capita was calculated to be ₦47,386.02. This per capita expenditure was used as the poverty line for this study, following established economic practice where individuals spending less than this amount are classified as poor.

Table 4.2: SUMMARY STATISTICS OF EXPENDITURE AND MEAN EXPENDITURE PER CAPITA OF THE POULTRY FARMERS IN THE STUDY AREA

	Expenditure (₦)	Household size	Expenditure per capita (₦)
Mean	210,505.4	5 persons	47,386.02
Min	73,700	2	14,740
Max	297,350	8	101,725
Std. dev	39,853.58	1 person	

Source: Field Survey, 2025

POVERTY INDICES

To comprehensively assess the poverty status, the Foster-Greer-Thorbecke (FGT) indices were employed. The results are presented in Table 4.3.

Using the mean per capita expenditure (₦47,386.02) as the poverty line, the headcount ratio (FGT_0) was 0.5917. This implies that 59.17% of the small-scale poultry farmers in Owerri LGA

live below the poverty line. This is a significant proportion, indicating that a majority of the poultry farmers are poor. The poverty depth index (FGT_1), which measures how far the poor are from the poverty line, was 0.1305 (13.05%). This implies that the poor poultry farmers in the study area would require about 13.05% of the poverty line income to be raised out of poverty and be classified as non-poor. The poverty severity index (FGT_2), which gives more weight to the poorest of the poor, was 0.0413 (4.13%), indicating a low level if inequality among the poor households, meaning that poverty is fairly distributed among them.

Table 4.3 FGT INDICES SHOWING THE POVERTY INCIDENCE, DEPTH AND SEVERITY OF THE POULTRY FARMERS IN THE STUDY AREA.

Poverty line = Mean Expenditure per Capita = ₦47,386.02

Poverty level	Index	%	Std Error
Incidence (FGT_0) / Headcount ratio	0.5917	59.17	0.04482
Depth (FGT_1)/Short Fall	0.1305	13.05%	0.0139
Severity (FGT_2)	0.0413	0.0067	0.0067

Source: Field Survey, 2025

When a more stringent poverty line, two-thirds of the mean per capita expenditure (₦31,590.68), was applied to assess core poverty, the headcount ratio fell to 14.17%. This indicates that while a majority is poor, a smaller segment lives in extreme poverty. The depth and severity indices also reduced to 1.88% and 0.48%, respectively.

The high headcount ratio of 59.17% underscores the prevalence of poverty among small-scale poultry farmers. Despite their engagement in a potentially lucrative enterprise, a considerable portion continues to grapple with economic hardship. This finding aligns with Tsue *et al.* (2013), who reported a 57.4% poverty incidence among cassava farmers. The normalized poverty gap of 13.05% suggests that, on average, the poor would need this percentage of the poverty line to be lifted out of poverty, highlighting the depth of their financial deprivation.

Table 4.3.1: FGT INDICES SHOWING THE POVERTY INCIDENCE, DEPTH AND SEVERITY OF THE POULTRY FARMERS IN THE STUDY AREA.

Poverty line = Two-thirds of Mean Expenditure per Capita = ₦31,590.68

Poverty level	**Index**	**%**	**Std Error**
Incidence (FGT_0) / Headcount ratio	0.1417	14.17	0.04482
Depth (FGT_1)/Short Fall	0.0188	1.88	0.0064
Severity (FGT_2)	0.0048	4.8	-0.0027

Source: Field Survey, 2025

4.3 DETERMINANTS OF POVERTY STATUS

To identify the factors influencing the poverty status of the poultry farmers, a probit regression model was estimated. The results are presented in Table 4.4.

The model was statistically significant (Prob > chi2 = 0.0000), with a Pseudo R^2 of 0.4083, indicating that the explanatory variables jointly explain about 40.83% of the variation in the poverty status of the poultry farmers.

The result showed that household size was the only variable that had a positive and significant influence on the poverty level at a 1% significance level ($p<0.01$). The coefficient of 1.144

suggests that larger household sizes are associated with a higher probability of being poor. This is because larger families have higher consumption needs, which places a greater strain on household income, often pulling them into poverty despite their engagement in income-generating activities like poultry farming, Ukoha *et al*. (2010).

Conversely, the result indicated that age, sex, marital status, farming experience, income, and location had no significant influence on the poverty level of the poultry farmers at a 5% level of probability. The non-significance of income in this model may be due to the fact that the poverty measure is based on expenditure, and the income captured may not fully reflect the fluctuations and informal nature of earnings.

Table 4.4: PROBIT ANALYSIS SHOWING THE DETERMINANTS OF POVERTY STATUS OF POULTRY FARMERS

Variables	**Coefficient**	**Std. err.**	**Z**	**P> |z|**
Age	-0.011**	0.0279	-0.39	0.694
Sex	-0356**	0.3212	-1.11	0.268
Marital status	0.045**	0.3740	0.12	0.905
Household size	1.431**	0.248	5.73	0.000**
Experience	-0.054**	0.0488	-1.12	0.265
Income	-0.002**	0.0044	-0.49	0.626
Location	-0.146**	0/1289	-1.14	0.256
_cons	-0.407	1.5826	-2.57	0.010

Number of obs = 120; LR chi2(8) = 78.95; Prob > chi2 = 0.000; Pseudo R2 = 0.4896; Log likelihood = -41.1476

Table 4.4b: Marginal effects

Variables	Dy/dx	Std. err.	Z	P> |z|
Age	-0.02	0.0536	-0.39	0.693
Sex	-0687	0.613	-1.11	0.263
Marital status	0.09	0.0722	0.12	0.905
Household size	0.276	0.018	15.29	0.000
Experience	-0.015	0.0093	-1.13	0.260
Income	-4.17e-07	8.52e-07	-0.49	0.625
Location	-0.283	0.0250	-1.14	0.248

The marginal effects in a probit regression represent how a one-unit change in an independent variable affects the probability of the dependent variable occurring, while holding other variables constant. In this study, the marginal effects show how changes in socioeconomic characteristics such as age, sex, marital status, household size, farming experience, income, and location influence the likelihood of a farmer being poor.

From the result, household size had a marginal effect of 0.276 and was statistically significant at the 1% level ($p<0.01$). This implies that a one-unit increase in household size increases the probability of a farmer being poor by 27.6%, holding other factors constant. In other words, larger households are more likely to fall below the poverty line because of the higher consumption burden placed on available income.

Other variables such as age, sex, marital status, farming experience, income, and location had insignificant marginal effects, indicating that changes in these variables do not have a statistically

meaningful influence on the poverty status of small-scale poultry farmers in the study area. This result aligns with findings by Ukoha *et al*. (2010), who observed that household size significantly increases the likelihood of being poor among rural farming households in Nigeria.

Parameters Estimates

Table 4.5: PROBIT ANALYSIS SHOWING THE DETERMINANTS OF POVERTY STATUS OF POULTRY FARMERS

Variables	**Coefficient**	**Std. err.**	**Z**	**P> |z|**	**95% conf. interval**	**Upper bound**
					Lower bound	
Age	**-0.059**	**0.0413**	**-1.44**	**0.1511**	**-0.1402**	**0.021**
Sex	0.162	0.4006	0.41	0.685	-0.6226	0.9475
Marital status	0.267	0.440	0.61	0.544	-0.5952	1.1291
Household size	1.144	0.2668	4.29	0.0000**	0.6214	1.6673
Experience	-0.001	0.0498	-0.02	.983	-0.0987	.096500965
Income	3.76e-06	4.55e-0.6	0.83	0.408	-5.16e-06	0.0000
Location	.0592	0.1546	0.38	0.702	-0.2439	0.3622
_cons	-5.821	2.2618	-2.57	0.010	-10.2546	-1.3882

Number of obs = 120; LR chi2(8) = 39.85; Prob > chi2 = 0.000; Pseudo R2 = 0.4083; Log likelihood = -28.8772

Table 4.5b: Marginal effects

Variables	dy/dx	Std. err.	Z	P> |z|	Lower bound	Upper bound
Age	-0.008	0.0537	-1.47	0.140	-0.0184	0.0026
Sex	-022	0.0534	0.41	0.685	-0.0831	0.126
Marital status	0.036	0.0587	0.61	0.544	-0.1038	0.1507
Household size	0.153	0.025	6.11	0.000	-0.0132	0.2017
Experience	-0.0001	0.0066	-0.02	0.983	-0.0288	0.0129
Income	5.02e-07	5.96e-07	-0.84	0.400	-6.66e-06	1.67e-06
Location	-0.008	0.0205	0.38	0.701	-0.0324	0.0482

Source: Field Survey, 2025

4.4 UTILIZATION AND REINVESTMENT OF POULTRY INCOME

An analysis of how poultry farmers utilize their income provides critical insights into the contribution of the enterprise to household welfare and its potential for poverty reduction. The result showed in Table 4.6 details the income and expenditure patterns.

TABLE 4.6: INCOME AND EXPENDITURE PATTERNS

Items	Mean (₦)	Std dev (₦)	Min (₦)	Max (₦)
Income				
Poultry	111763.9	43938.15	45000	240000
Other Source	94797.98	45914.73	3000	280000
Total Income	**206561.9**	**80102.19**	**10000**	**440000**
Expenses from Income				
Rice	28830.11	12953.53	6600	23200
Beans	11606.4	5338.136	3250	6600
Red oil	3846	1701.105	1600	8400
Ground oil	4590	2155.203	2050	45600
Yam	24114.94	11013.32	600	16700
Plantain	7898.706	3457.962	2700	1880
Garri	10467.26	4251.934	3600	20000
Healthcare	11231.43	4758.32	2000	90000
School fees	50500	17511.34	12000	24000
Other expenses	15657.75	13507.49	4000	8000
Total	**168742.6**			
Saved/Reinvested	**37819.28**			

Source: Field Survey, 2025

The mean annual income from poultry was ₦111,763.9, while income from other sources averaged ₦94,797.98, giving a total mean annual household income of ₦206,561.9. This shows that poultry farming constitutes a significant source of livelihood, contributing about 54% of the total household income.

The expenditure pattern reveals that a large share of the total income was spent on various household needs. The highest expenditure was on school fees (₦50,500), constituting 24.45% of the total income. This is followed by spending on food items such as rice (13.96%), yam (11.67%), and garri (5.07%). Spending on healthcare accounted for 5.44% of total income.

The total expenses amounted to ₦168,742.6, leaving a mean savings/reinvestment amount of ₦37,819.28, which is 18.31% of the total income. This level of reinvestment is relatively low and suggests that most of the income generated from poultry production is channeled towards meeting immediate household needs such as food, school fees, and healthcare. Low reinvestment implies that farmers have limited capacity to expand their production scale, adopt improved technologies, or upgrade housing and equipment, which are all essential for enhancing productivity and profitability. When reinvestment is low, the enterprise tends to remain small-scale and less competitive, creating a cycle where income remains just sufficient for consumption but inadequate for capital accumulation.

The result showed in Table 4.7 further breaks down the expenditure relative to poultry income specifically. It shows that 44.20% of the income generated from poultry was spent on household consumption and services, while only 9.91% (₦20,462.78) was saved or reinvested back into the poultry enterprise.

The high expenditure on education and food highlights the role of poultry income in supporting human capital development and ensuring food security. The significant allocation to school fees indicates a long-term commitment to breaking the cycle of poverty through education (Olayemi, 1998). However, the low rate of reinvestment (less than 10%) is a cause for concern. It suggests that the profitability of the enterprise may be low, or the income is primarily used for sustenance, leaving little for capital accumulation and expansion. This can create a cycle where the business remains small-scale, limiting its potential to generate higher incomes that could effectively lift households out of poverty.

TABLE 4.7: EXPENDITURE RELATIVE TO POULTRY INCOME

Item	**Percentage of Total Income (%)**	**Percentage of poultry income (%)**	**Average Expense from Poultry (₦)**
Rice	13.96	7.55	15599.03
Beans	5.62	3.04	6279.845
Red oil	1.86	1.01	2080.945
Ground oil	2.22	1.20	2483.499
Yam	11.67	6.32	13047.81
Plantain	3.82	2.07	4273.732
Garri	5.07	2.74	5663.493
Healthcare	5.44	2.94	6076.961
School fees	24.45	13.23	27323.9
Other expenses	7.58	4.10	8471.898
Total Spent	**81.69**	**44.20**	**91301.12**
Total Saved	**18.31**	**9.91**	**20462.78**

Source: Field Survey, 2025

4.5 CONSTRAINTS FACED BY SMALL-SCALE POULTRY FARMERS

The result in Table 4.8 shows that the high cost of feeds ranked as the most serious constraint with a mean score of 2.98. Feed is the major input in poultry production and accounts for about 60–70% of total production costs. The high price of feed ingredients such as maize and soybean meal makes feed very expensive for small-scale farmers. This reduces their profit margin and sometimes forces them to reduce the quantity or quality of feed given to their birds, which affects growth, egg production, and overall performance. This finding agrees with Udofia *et al*. (2015), who reported that the high cost of feed remains a major limitation to poultry farming in Nigeria.

The next major challenge was inadequate capital (Mean = 2.75). Starting and running a poultry farm requires significant investment in housing, equipment, chicks, and feed. Most of the farmers (69.17%) had no access to formal credit and relied mainly on personal savings or small loans from friends and relatives. The lack of adequate capital prevents farmers from expanding production or adopting improved technologies. This supports the findings of Abayomi (2017)**,** who observed that limited access to finance is a key factor restricting the growth of smallholder poultry farms.

Disease outbreak and bird mortality also posed a serious challenge (Mean = 2.71). Common diseases such as Newcastle disease, Gumboro, and Fowl pox can cause heavy losses. In addition, the high cost of drugs and vaccines (Mean = 2.47) and poor knowledge of proper vaccination practices make disease control difficult. Weak veterinary extension services further worsen the situation. As a result, many farmers live in constant fear of losing their flocks.

Another major problem identified was poor electricity supply (Mean = 2.55). Electricity is important for storing vaccines and running equipment used for lighting and brooding. Irregular power supply limits farm operations and affects those who wish to process or store poultry

products. This finding shows that infrastructure problems such as poor electricity can directly affect agricultural productivity.

Inadequate market access (Mean = 2.51) was also found to be a serious constraint. Many farmers sell their birds to middlemen at low prices because they lack access to reliable market information and structured marketing channels. This reduces their profit and discourages expansion. Similar observations were made by Olaniyi *et al.* (2020), who noted that limited market access often prevents small-scale farmers from benefiting fully from their production efforts.

Other constraints identified include inadequate labour (Mean = 2.23), poor access to quality chicks (Mean = 2.17), theft (Mean = 2.05), and limited access to loans (Mean = 2.01). These problems, though ranked lower, still contribute significantly to the difficulties faced by poultry farmers. Farmers also mentioned inadequate housing and equipment (Mean = 2.18) as a challenge, especially for those with limited capital.

However constraints such as taxation (1.38)**,** government policies (1.18)**,** and lack of extension services (1.07) were rated as not serious. This may be because most small-scale poultry farmers operate informally and have little contact with government agencies. The low score for extension services shows that most farmers no longer expect much technical support from public agricultural officers, as also observed by Ezeh *et al* (2018)**.**

Table 4.8: CONSTRAINTS FACED BY SMALL-SCALE POULTRY FARMERS IN THE STUDY AREA

S/N	Constraints	Mean	Std. Deviation
1.	High cost of feeds	2.98	0.129
2.	Diseases and mortality	2.71	0.456
3.	Inadequate market access	2.51	0.580
4.	Inadequate capital	2.75	0.472
5.	Inadequate labour	2.23	0.530
6.	Access to credit (loans)	2.01	0.761
7.	Theft	2.05	0.563
8.	Poor access to quality chicks	2.17	0.436
9.	High cost of drugs and vaccines	2.47	0.564
10.	Poor electricity supply	2.55	0.516
11.	Inadequate housing and equipment	2.18	0.485
12.	Taxation	1.38	0.609
13.	Government policies	1.18	0.423
14.	Lack of extension services and support	1.07	0.250

Source: Field Survey, 2025; **Mean ≥ 2.0 – Serious; ≤ 2.0 – Not Serious*

CHAPTER FIVE

5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 SUMMARY

This study examined the contribution of small-scale poultry farming to poverty reduction in Owerri North Local Government Area of Imo State, Nigeria. The specific objectives were to describe the socio-economic characteristics of the farmers, determine their poverty status using the Foster–Greer–Thorbecke (FGT) model, examine the determinant of poverty status, determine their income utilization and investment habit and identify the major constraints affecting small-scale poultry production in the study area.

A total of 120 small-scale poultry farmers were selected through a two-stage sampling technique. Primary data were obtained using a well-structured questionnaire and analyzed with descriptive statistics, the FGT poverty model and probit regression model.

The result revealed that the mean age of respondents was 48 years, indicating that most farmers were within the active and productive age group. The majority were married, and about two-thirds had secondary education, suggesting that they could easily understand and adopt improved farming practices. The average farming experience was about nine years, showing that most of the respondents were familiar with the enterprise. The income analysis revealed that poultry farming contributed substantially to household income, with a mean monthly income of ₦111,763.

The FGT poverty indices indicated a poverty depth of 0.1305 and a severity index of 0.0413, meaning that poor farmers would need about 13.05% of the poverty line income to escape poverty and that income inequality among them is relatively low. The probit regression result further

showed that household size had a positive and significant influence on poverty status at a 1% level, implying that farmers with larger households were more likely to be poor. Other variables such as age, sex, marital status, farming experience, income, and location were not statistically significant, suggesting that they had limited influence on the poverty level. The major challenges faced by farmers included the high cost of poultry feed, inadequate capital, disease outbreaks, poor electricity supply, and limited access to markets. Despite these constraints, the study found that small-scale poultry farming remains an important source of livelihood, income generation, and poverty reduction among households in Owerri North LGA.

5.2 CONCLUSION

The study concludes that small-scale poultry farming plays a significant role in reducing poverty among rural households in Owerri Local Government Area. It provides employment, generates income, and enhances food security, thereby improving the standard of living of the farmers. The relatively low poverty indices among poultry farmers confirm that poultry production serves as an effective means of livelihood diversification and income enhancement. Socio-economic characteristics such as education, farming experience, and access to productive resources greatly influence the extent to which farmers benefit from poultry farming.

The study also established that the determinants of poverty among small-scale poultry farmers are largely socio-demographic, with household size being the most significant factor influencing poverty. This implies that while income from poultry helps reduce poverty, large families can offset these gains.

However, the full potential of poultry farming is hindered by several challenges such as high production costs, limited credit access, and inadequate infrastructural support. Addressing these

problems will not only boost productivity but also expand the positive impact of poultry farming on poverty reduction and rural development.

5.3 RECOMMENDATIONS

1. Based on the findings of this research, it is recommended that both government and private financial institutions should create flexible and affordable credit schemes for small-scale poultry farmers to help them increase their production capacity. There is also a need for policies that support local feed production and regulate feed prices, as the high cost of feed remains one of the major constraints in poultry farming.
2. Since large household size increases the likelihood of poverty, farmers should be encouraged to embrace family planning and better household management practices to reduce dependency burdens.
3. Farmers should also be encouraged to form cooperative societies to enable them to pool resources, access credit facilities, and market their products more effectively. Lastly, more training opportunities should be provided for farmers in the areas of farm management, record keeping, and financial literacy to promote efficiency and sustainability in poultry production.

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APPENDIX

RESEARCH QUESTIONNAIRE

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

Dear Respondent,

My name is Njoku Chioma Prudence, a final year student of the above university carrying out a research on the Contribution of Small-Scale Poultry Farming to Poverty Reduction in Owerri North Local Government Area

All information that will be provided from this study will be treated as confidential and used solely for academic purposes. I request for your honest response and opinions. Thank you.

Yours Faithfully

Njoku Chioma Prudence

Please tick [√] the appropriate option and provide answers in the blank spaces

SECTION A: SOCIOECONOMIC CHARACTERISTICS

1. Location of farm: _____

2. Age (years): _____

3. Sex: a) Male [ ] b) Female [ ]

4. Marital Status: a) Single [ ] b) Married [ ] c) Divorced [ ] d) Widowed [ ]

5. Educational level: a) No formal education [ ] b) Primary school [ ] c) Secondary school [ ] d) OND/NCE [ ] e) HND/B.Sc [ ] f) Others (Specify) _____

6. Household size: _____

7. Years of experience in poultry farming (years): _____

8. Type of housing system: a) Deep litter [ ] b) Battery cage [ ]
c) Backyard/free range [ ]

9. Do you have access to credit for poultry farming? a) Yes [ ] b) No [ ]

10. If yes, what is the source of your credit? a) Bank [ ] b) Microfinance [ ]

c) Cooperative [ ] d) Friends/ Relatives [ ] e) Others [ ]

11. How far is the market from your farm (km)? _____

12. On average what is your monthly income from poultry farming? ₦_____

SECTION B: POVERTY STATUS AND DETERMINANT OF POVERTY

13. Please fill in the average amount spent on the following listed items monthly

ITEMS	FOOD ITEMS			NON-FOOD ITEMS	
	Quantity	**Unit Price (₦)**	**Total price (₦)**	**Items**	**Amount (₦)**
Rice				Rent	
Yam				Electricity	
Garri				Healthcare	
Egg				School fees	
Fish				Transportation	
Meat				Clothings	
Beverages				Body care (soap, cream etc)	
Maize and other cereals				Others	
Milk					
Beans					
Bread					
Leafy vegetables					

14. What is your startup capital? a) Personal savings [ ] b) Loan [ ] c) assistance from relatives [ ] d) Others (Specify): _____

15. Do you have other source of income? a) Yes [ ] b) No [ ]

16. How much from other farm activities and non-farm activities do you earn? ₦ _____

17. How many people depend on your income in the household? _____ persons

18. Do you think your small-scale poultry farming has improved your financial well-being? a) Yes [ ] b) No [ ]

SECTION C: UTILIZATION AND REINVESTMENT

19. How much do you spend from your poultry income on:

S/N	Items	Quantity	Price per unit	Total
1	Rice			
2	Garri			
3	Red oil			
4	Groundnut oil			
5	Beans			
6	Yam			
7	Plantain			
8	School fees			
9	Health care			
10	Household maintenance			
11	Toiletries			
12	Other expenses			

17. How much do you save? ₦_____

SECTION E: CONSTRAINTS

19. What are the major constraints you face in poultry production?

S/N	Constraints	Very serious 3	Serious 2	Not serious 1
1	High cost of feeds			
2	Diseases and mortality			
3	Inadequate market access			
4	Inadequate capital			
5	Inadequate labour			
6	Access to credit (loans)			
7	Theft			
8	Poor access to quality chicks			
9	High cost of drugs and vaccines			
10	Poor electricity supply			
11	Inadequate housing and equipment			
12	Taxation			
13	Government policies			
14	Lack of extension services and support			