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DEPARTMENT OF AGRICULTURAL TECHNOLOGY

ANIMAL PRODUCTION UNIT

ECONOMIC ANALYSIS OF SMALL SCALE POULTRY PRODUCTION IN RURAL AREA IN KWARA STATE

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BEING A RESEARCH WORK SUBMITTED TO THE DEPARTMENT OF AGRICULTURAL TECHNOLOGY, INSTITUTE OF APPLIED SCIENCES. KWARA STATE POLYTECHNIC, ILORIN KWARA STATE.

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CERTIFICATION

This is to certify that this research study was conducted by **AYENI OLUWATOMISIN SHIKEMI (HND/23/AGT/FT/0131)** and had been read and approved as meeting the requirement for the award of Higher National Diploma (HND) in Agricultural Technology of the Department of Agricultural Technology Institute of Agricultural Technology, Kwara State Polytechnic, Ilorin.

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DEDICATION

I dedicate this project to the Almighty God, who has been my source of strength, wisdom, and guidance throughout this journey. His divine favor and blessings have enabled me to complete this work. I give Him all the glory and honor for the gift of knowledge, perseverance, and determination that He has bestowed upon me.

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This project stands not only as a testament to my academic efforts but also as a reflection of the unwavering support system that has surrounded me. I am sincerely grateful to everyone who has played a role big or small in this journey.

May Almighty God reward you all abundantly.

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ABSTRACT

This study presents an economic analysis of small scale poultry production in rural areas of Kwara state. The data was collected through primary and analysed using economic and statistical tools. The results showed that small scale poultry production is a viable venture in rural areas, with high demand (55.8% sales weekly) and good profitability(58.3% Respondents recorded profit). The study also highlighted the challenges faced by small scale poultry farmers, such as disease outbreak (32.5%), high cost of feed (29.2%), poor Market access (22.5%), Lack of capital (14.2%) poor extension service and Government policy regulations (0.8%). Recommendations were made for improving the economic viability of small scale poultry production in rural areas, including Subsidize Feed, improve Access to veterinary, Access to Finance, capacity building, e.t.c. The findings of this study can serve as a valuable resource for policymakers and stakeholders in the agricultural sector, as well as for small scale poultry farmers looking to improve their economic sustainability.

CHAPTER ONE

1.1 Background of the study

One of the major challenges facing most developing countries is the satisfaction of the ever-increasing demand for calories and protein. Most African diets [Nigeria inclusive] are deficient in animal protein which result in poor and stunted growth as well as increase in spread of diseases and consequently death (Yusuf and Malomo 2007)

Animal protein sources include fish, egg, poultry meat, beef, milk, beacon, pork and mutton. They are delicious but not readily affordable. The common sources accessible to Nigeria populace are frozen fish, beef and poultry products [egg and meet]. Most farmers produce poultry especially in Kwara state Nigeria, however, the level of the productivity still remain local and small- scale.

Poultry farming is one of the most widespread and accessible forms of livestock production globally, playing a vital role in improving rural livelihoods, food security, and income generation. Small-scale poultry production is particularly significant in rural areas where resources are limited, and the economic activities are often centred on subsistence agriculture. Poultry, primarily chickens, offers a low-cost and low-maintenance opportunity for households to diversify their income streams while providing a valuable source of protein in the form of meat and eggs (FAO, 2020).

Small-scale poultry farming is an important agricultural activity, particularly in rural areas where it provides food, income, and employment opportunities. It plays a crucial role in alleviating poverty, enhancing food security, and fostering rural development. The activity is widely practiced in developing countries due to its low capital requirements, relatively fast returns, and adaptability to small-scale, low-input systems. According to the Food and Agriculture Organization (FAO), poultry farming contributes significantly to rural livelihoods by providing essential nutrients, particularly protein, in the form of eggs and meat, and generating supplementary income for households (FAO, 2014).

Small-scale poultry farming involves the rearing of chickens, ducks, turkeys, and other poultry species, often in backyard or semi-intensive systems. These systems are primarily managed by women, making poultry farming an important avenue for empowering women and promoting gender equality in rural areas. Women's involvement in poultry farming enhances their decision-making roles within households and provides them with an independent source of income (Kristjanson et al., 2014).

Poultry farming also contributes to food security by improving household nutrition. Eggs and poultry meat are affordable and rich sources of high-quality protein, essential fatty acids, and vitamins, which are critical for addressing malnutrition in developing countries. Furthermore, poultry farming provides an economic safety net for rural households, enabling them to diversify their income sources and reduce vulnerability to economic shocks (Alders & Pym, 2009).

It was revealed that 85% of rural families keep small ruminants and local fowls primarily as an investment and sources of manure or meat at home or for use during festivals (Okoli et al., 2004). This policy has encouraged many investments in poultry production in Nigeria. It has therefore, becomes a full time job for many and is considered to be a commercially viable enterprise. In spite of this, livestock production is still not keeping pace with the protein requirements of the rapidly increasing Nigeria population. Demand is more than supply. Since the responsibility of any civilized government is to provide adequate food and assure an atmosphere free from hunger and malnutrition, the Federal Government of Nigeria placed a ban on importation of frozen chicken and turkey parts to encourage massive poultry production locally [Agricultural Transformation Agenda 2012].

The economic impact of poultry farming extends beyond individual households to the broader rural economy. Activities such as feed production, hatchery operations, and poultry marketing create employment opportunities and foster linkages along the poultry value chain. This multiplier effect highlights the potential of small-scale poultry farming to drive rural economic development and promote inclusive growth (Mottet &Tempio, 2017).

1.2 Problem of statement

While small-scale poultry farming provides significant economic opportunities, rural farmers encounter multiple challenges that prevent them from maximizing its profitability. These challenges include inadequate access to veterinary services, poor-quality feeds, insufficient market access, and vulnerability to diseases. Limited financial resources and a lack of technical know-how further hinder their productivity. Consequently, these

constraints lead to high mortality rates, low yields, and minimal profits, making it difficult for rural farmers to improve their livelihoods through poultry farming.

1.3 Significance of the study

The significance of this study lies in its potential to enhance the economic viability and sustainability of small-scale poultry farming in Ilorin, North central Nigeria. By addressing key challenges such as limited access to resources, diseases, and market inefficiencies, the study aims to improve the productivity and profitability of poultry farmers, particularly those from marginalized groups. This can lead to increased income, food security, and employment opportunities, contributing to poverty reduction and rural development.

Additionally, the study will provide valuable insights for policymakers and development organizations, offering evidence-based recommendations to support the growth of small-scale poultry farming and its alignment with global development goals, such as poverty eradication, hunger reduction, and gender equality.

1.4 Research Questions

The study will address the following questions

1. What are the socioeconomic characteristics of small- scale poultry farmers in the study area?

2. What is the input cost in the study area?

3. What are the revenue streams in the study area?

4. What is the impact of input cost on profitability in the study area?

5. What are the challenges faced by poultry farmers in the area?

1.5 Objectives of the study

This study aims to fill these gaps by conducting an economic analysis of small-scale poultry production in some selected rural areas in Kwara State. The specific objectives include:

1. To determine the socioeconomic characteristics of small scale poultry farmers in the study area

2. To analyse the input cost on poultry farming in the study area

3. To identify revenue streams on poultry farming in the study area

4. To evaluate the impact of input cost on profitability of poultry farming in the study area

5. To examine the challenges faced by small scale poultry farmers in the study area

1.6 Justification of the study

This study is justified as it aims to address these challenges by analysing the economic aspects of small-scale poultry production, providing insights into improving productivity, profitability, and market access. By identifying viable solutions, the study contributes to enhancing the economic resilience of rural households and reducing poverty.

Furthermore, the study aligns with global priorities, including the Sustainable Development Goals (SDGs), particularly those targeting poverty eradication - SDG 1(FAO, 2014), hunger reduction - SDG 2(Alders & Pym, 2009), and gender equality -SDG 5 (Kristjanson et al., 2014). It also bridges existing research gaps by focusing on the unique challenges and

opportunities in rural poultry systems, providing data-driven recommendations for policymakers, development organizations, and farmers (Ochieng et al., 2013). With its emphasis on sustainable and inclusive development, this research offers practical pathways for strengthening rural economies and fostering equitable growth, making it an essential contribution to the discourse on agricultural and rural development.

CHAPTER TWO

LITERATURE REVIEW

2.0 POULTRY PRODUCTION

The term “poultry” in agriculture generally applies to a wide variety of birds of several species including chicken, guinea fowls, pigeons, ducks, geese, turkey, swans, peafowl, ostriches, pheasants, quails and other game birds kept for eggs or meat production (Alders, Robyn). Chicken (Gallus domesticus) is the most common poultry dominating the small holder poultry production systems of Africa hence, it is sometimes considered synonymous with poultry. The domestic fowls (chickens) belong to the order “Galli” it originated in the tropical countries of the world, therefore birds from any country in the world can be easily introduced to the tropics with little difficulty of adaptation (Mgbakor Miriam Ngozi and E. NzeadachieChinonso 2013).

Commercial hybrids (layers and broilers) all over the world are being propagated for production of eggs and meat. The hybrid layers usually start laying, at about 20 weeks of age and peak egg production is attained during the first production cycle. The average production rate of commercial layers usually remains very close to 0.9 eggs per day (Ashagidigbi et al., (2011)).

However, as the age increases, their egg production decreases. This situation is further aggravated during the second production cycle. Appetitive behaviour of hens is also affected during the later stage of production age. The climatic conditions have also been known to affect the production behaviour of the laying hens (Ashagidigbi, W.M, S.A. Sulaiman and

A. Adesiyan (2011)). In areas where climate is hot and humid, commercial hybrids produce an average of 180- 200 eggs per year, while in more temperate climate, birds can produce between 250-300 eggs per year. The production cycle of eggs may also be influenced by many other factors such as breed, mortality rate, body weight, laying house lightening schedule, feed and culling (Spielman, D.J. & Pandya-Lorch, R. 2009.).

After one year of production, layers are culled and used for meat purpose without exploiting their full inherent potential, which can be exploited up to second production cycle (Spielman, D.J. & Pandya-Lorch, R. 2009). The factors like diseases and market rates usually reflect a miserable picture of annual flock replacement while rearing new pullets for profitable egg production.

Moreover, keeping aged hens as such is uneconomical because of gradual decline in egg production with more erratic clutch cycles and poor feed efficiency in the relatively heavy layers. Therefore, pullets and spent layers must be managed effectively and efficiently in order to get maximum output and profitability (Beutler, 2007). However, very little research work has been conducted under local climatic conditions in Pakistan to exploit the production potential of spent layers.

Over the years there have however been human interventions on the natural habitat through domestication and research which have resulted with different management systems. This manipulation on the natural habitat is simply as a result of rise in the standard of living of Nigerians, which consequently makes the call for high demand for eggs and poultry-meat

become substantial because most people cannot raise their own poultry. Essentially there are three (3) main prevailing management systems in Nigeria

2.1 POULTRY MANAGEMENT

The aim of management is to provide the conditions that ensure optimum performance of the birds (Alabi and Aruna (2006)). Given reasonable conditions, broody hens are very successful at hatching their chicks, but good hatchability using artificial incubation (both large and small) relies on careful management of temperature, humidity, ventilation, position and egg turning. During incubation, the egg loses water vapour through its shell. The rate of water loss depends on both the shell structure and the humidity of the air surrounding the egg. The quality of the hatch also depends on the age and health of the breeder flock, and on the evenness and cleanliness of the eggs set. (Bell and Weaver, 2001)

Housing management

Housing management is one of the key components of poultry farming, as it plays a critical role in the health, welfare, productivity, and profitability of poultry enterprises. Proper housing ensures that birds are protected from external threats, such as predators and harsh weather, and provides an environment conducive to growth and egg production. Newly hatched birds have a poor ability to control body temperature, and require some form of supplementary heating, particularly in the first few days after hatch. Many developing countries are located in tropical areas where minimal heating is required. Indeed, the emphasis in these countries – particularly for meat chickens – is on keeping the birds cool. (Bell and Weaver, 2001)

Health management

Health management is an essential aspect of poultry farming, directly impacting the productivity, profitability, and sustainability of poultry operations. Effective health management practices help minimize disease outbreaks, reduce the use of antibiotics, and ensure the overall welfare of the birds.

Health programmes are planned and implemented with an emphasis on preventive measures in accordance with veterinary recommendations, and it may include but is not limited to vaccination, parasite control, medication, vermin control, hygiene, health status sampling, and bio security. Health problem are diagnosed with reference to all symptoms and signs, and checked against specialist advice where doubt exists. (Bell and Weaver, 2001)

Litter materials and management

Broiler litter is the material used as bedding in poultry houses to absorb faecal waste from birds and to make the floor of the house easy to manage. Common litter materials are wood-shavings, chopped straw, sawdust, shredded paper and rice hulls, and a wide range of other materials are used in different regions around the world. Litter should be light, friable, non-compressible, absorbent, quick to dry, of low thermal conductivity and – very important – cheap. After use, the litter comprises poultry manure, the original litter material, feathers and spilled feed. The litter quality in a shed is determined by the type of diet, the temperature and the humidity. The recommended depth for litter is between 10 and 20 cm. Sawdust can result in high dust levels and respiratory problems. Dust particles in the litter capable of causing health problems in the birds are derived from dried faeces, feathers, skin and litter;

their adverse effects arise because they carry or incorporate bacteria, fungi and gases. (Bell and Weaver, 2001)

Management of lighting

Poultry have seasonal and daily biological rhythms, both of which are mediated by light, particularly day length. For day length to exert its controlling effect, there needs to be a dark phase (night) when light levels should be less than 0.5 lux. Day length and light intensity during the breeder bird's life have an important role in development of the reproductive system. The difference in day lengths and light intensities between the rearing and the laying phases is the principal factor responsible for controlling and stimulating ovarian and testicular development (Lewis and Morris, 2006). The response to increases in day length and lighting intensity depends on the body weight profile during rearing, which in turn depend on the nutritional regime. The effects of light are predominantly on the rate of sexual maturation and egg production.

The two types of artificial lighting commonly provided are incandescent and fluorescent. Incandescent globes are cheaper to install, but have lower light efficiency and a shorter life. Fluorescent lights are three to four times as efficient and last about ten times as long, but have variable performance in cold weather. The colour of the light rays has an effect on chickens' productivity. For example, green and blue lights improve growth, and lower age at sexual maturity, while red, orange and yellow lights increase age at sexual maturity, and red and orange lights stimulate egg production. Birds are calmer in blue light, so blue lights

are recommended for use during depopulation in commercial operations. (Lewis and Morris, 2006)

Lighting programmes for broilers: Lighting programmes for commercial broiler operations vary widely from company to company, and depend on the strain of bird used, the housing type (naturally ventilated versus controlled-environment), the geographical location and the season. Where light can be excluded from sheds, birds are typically reared under low-intensity (5 to 10 lux) lighting, to keep them calm and to prevent feather pecking. During early brooding, 25-35 lux is used to stimulate feeding. (Lewis and Morris, 2006).

Lighting programmes for layers and breeders: Light is critical for the onset and maintenance of egg production. Increasing day length (from winter to summer) during the rearing period stimulates the onset of sexual maturity, whereas shortening day length (from summer to winter) has the opposite effect. Early onset of lay may not be beneficial as it may predispose to reproductive problems. Where artificial lighting is possible, a constant day length (of between 12 to 16 hours per day) during the rearing period has been shown to result in a delayed onset of lay, and is the preferred rearing treatment. Shortening day length or too little light will discourage egg production, and must be avoided once the birds are in lay. (Lewis and Morris, 2006)

Ventilation management

All poultry houses need some form of ventilation to ensure an adequate supply of oxygen, while removing carbon dioxide, other waste gases and dust. In commercial operations, minimum ventilation is often practised in colder climates, but not generally in tropical ones

(Glatz and Bolla, 2004). In large-scale automated operations, correct air distribution can be achieved using a negative pressure ventilation system. When chicks are very young, or in colder climates, the air from the inlets should be directed towards the roof, to mix with the warm air there and circulate throughout the shed. With older birds and in warmer temperatures, the incoming air is directed down towards the birds, and helps to keep them cool. Evaporative cooling pads can be placed in the air inlets to keep birds cool in hot weather. Tunnel ventilation is the most effective ventilation system for large houses in hot weather.

Tunnel ventilation: These systems are popular in hot climates. Exhaust fans are placed at one end of the house or in the middle of the shed, and air is drawn through the length of the house, removing heat, moisture and dust. Evaporative cooling pads are located at the air inlets. The energy released during evaporation reduces the air temperature, and the resulting airflow creates a cooling effect, which can reduce the shed temperature by 10 °C or more, depending on humidity. Maximum evaporation is achieved when water pumps are set to provide enough pad moisture to ensure optimum water evaporation. If too much water is added to the pads, it is likely to lead to higher relative humidity and temperatures in the shed.

Poultry production represents a very large and diverse. There are many facets of production, and hence many areas that are potential concern for the welfare of the animals involved. These areas may include, among others, housing of laying hens, beak trimming, toe clipping, spent hen disposal, molting of laying hens, feed restriction, lighting programs, growth rates and resulting effects of chicken and turkey broilers, transportation, pre-slaughter

management, slaughter, and handling (Ismat et al., (2009)). While research is actively being conducted in methods to improve welfare in most if not all of these areas, recommendations for present management schemes is to have producers ensure they are making the most of the research that has already been completed, using the best management practices that are possible.

2.2.0 PROBLEM FACING POULTRY PRODUCTION AND POSSIBLE SOLUTIONS

2.2.1 SITE EFFECTS ON POULTRY PRODUCTION

The type and intensity of poultry production and its development opportunities largely depend on site effects. Site effects are expressed through the importance of seasonal differences, the interactions between poultry and crop production, and the access to services and markets. Seasonal factors such as the differences between dry and wet seasons or winter and summer influence the availability of feed resources, the occurrence of diseases and the need for housing.

The distance of the producer from market affects the availability of inputs and services for production and the opportunities and ways of selling products. This is expressed in the relative importance accorded to poultry production for either food security or income generation. (Alders, R.G. & Pym, R.A.E. 2009)

2.2.2 CHICKEN DISEASES AND CAPACITY OF VETERINARY SERVICES

High mortality, often due to Newcastle disease, is a disincentive for owners to invest in improving their poultry raising activities. Other common diseases are fowl cholera, duck plague, internal and external parasites, and highly pathogenic avian influenza (HPAI). It is important to ascertain whether sufficient animal health services exist, including: qualified veterinary staff and vaccinators, means of communication, cold chain and transport availability, animal health education, and sale and control of veterinary medicines at national, regional and village level. (Alders, R.G., Bagnol, B. & Young, M.P. 2010).

2.2.3 FEEDING AND FEED SUPPLY

The rising cost of poultry feed is a major challenge for small-scale farmers, as it directly affects profitability. Kondombo (2005) suggested the use of locally available feed resources and by-products to mitigate this issue.

Inadequate and poor quality feed resources can make any expansion of the poultry sector impossible. The ready availability of commercial feed can be an important requirement for the promotion of semi-intensive production, and is essential for intensive family poultry production. (Sonaiya, E.B. 2006).

2.2.4 FEEDS

A regular supply of feed, over and above maintenance requirements, is essential for improved productivity in all four family poultry systems. Careful attention should be paid to ensuring adequate and balanced feed resources. When feed resources are scarce, it is preferable to maintain a few birds in production than more birds without sufficient food for production. A list of feed resources available to family poultry producers was compiled from

surveys undertaken in the Asia and Pacific region (Cahaner, A. 2008) and in Nigeria ((Olukosi, O.A. &Sonaiya, E.B. 2003).

Commercial feeds

A common recommendation is to use commercially manufactured feed. However, many farmers find this too costly and the supply irregular. In Malaysia, small flocks of poultry are fed on "domestic feed", a reduced-price feed marketed by feed millers with a lower "nutrient density"6 than commercial broiler diets. Such "feed dilution or extension" takes many forms, including the use of lower density feeds such as grower feed for producing hens; and skip-a-day feeding where the recommended feed type is used, but not provided every day. The most common method is to purchase "pre-mixes". These usually contain protein, vitamins and minerals, to which basal feed ingredient(s) is added as necessary. In fully commercial operations, the basal ingredients will be food grains (yellow maize, guinea corn, wheat, rice, oat, millet), tubers (cassava, yam, potatoes) or plantains.(Olukosi, O.A. &Sonaiya, E.B. 2003)

2.2.5 Housing and other infrastructure

Housing and other infrastructure requirements vary considerably depending on the production system concerned. The basic requirements for poultry housing are space, ventilation, light and protection. Poultry houses provide shelter from predators and bad weather, and can improve poultry production. They also assist with easy handling of birds if individual treatment or vaccination becomes necessary. Care must be taken to use designs and materials that do not promote infestations of internal and external parasites and the

transmission of infectious disease agents. Villagers value their poultry, but most are left to fend for themselves under completely free-range conditions. The chickens find their own feed and water, breed at random, lay their eggs where they find it suitable to do so and raise their chicks on their own. Villagers slaughter or sell their chickens only when necessary and, in many regions, eggs are not collected for sale or consumption, but rather left for the hen to hatch. Housing for semi-intensive family poultry production systems builds on the efficiency of SFRB by adding the provision of supplementary feed to complement its deficiencies, improved housing and transport facilities to get increased numbers of birds to market. To promote cost efficiency, poultry houses including nests should be designed for local conditions and use local materials. Small chicks should be kept with their mother at night in a “night basket”, a conical cage with a floor. A night basket may be made from bamboo or thin pieces of wood. Dry cut straw, rice husks, sawdust or shavings of 8-10 cm depth can be used as litter. In the morning, the chicks should be removed from the night basket and kept in a day basket. The basic requirements for poultry housing for small-scale intensive poultry production are well covered in the FAO technical guide on small-scale poultry production (FAO, 2004a). The guide also provides guidance on appropriate nests, perches, feeders, waterers and brooders. Designing housing for small-scale intensive poultry production is challenging, as it must meet bio-security standards within a capital investment level that can be justified by the scale of operation. In addition to poultry housing, pest-proof storage areas for supplies such as feed and areas for support personnel to change or wash their boots and clothes are also required. As the birds are constantly enclosed, they are unable to supplement their diet by scavenging. This means that the producer must provide

100 percent of their feed and water. The feed must be nutritionally balanced according to the type of bird being raised (e.g. age and breed) and free from microbial contamination. Feed must be stored in an area where it cannot be interfered with by rodents or wild birds (which can introduce disease agents) or become moist (to prevent fungal growth). For example, pigeon droppings have contaminated poultry feed and led to outbreaks of ND in chickens ingesting the contaminated feed. Aflatoxins ingested on moist grain will greatly reduce the productivity of birds and cause immunosuppression in those that consume it. (Dolberg, F. 2008)

2.2.6 CHOICE OF APPROPRIATE STOCK FOR EACH PRODUCTION SYSTEM

Genetically “improved” specialized meat or egg-type chickens are widely available in developed and developing countries, and are used by the large majority of large-scale commercial poultry producers and companies. These birds have been bred exclusively for meat or egg production and require high-level inputs in terms of nutritional and health management to express their genetic potential. These birds are typically three or four-way crosses between “sire” and “dam” lines selected for different aspects important for either meat or egg production. General-purpose indigenous breed birds are ubiquitous in the rural regions of nearly all developing countries. In contrast with the above specialized “breeds”, these birds have, for the most part, considerably lower genetic potential for meat and egg production, but are able to survive, reproduce and produce meat and eggs in the often harsh, semi-scavenging village environment. There is, however, significant variation in productivity between the various indigenous breeds and ecotypes across different regions, within and between countries, and indeed in the climatic and nutritional environments

typically experienced by the birds. In addition to these two types, a number of dual-purpose breeds/crossbreds are available in certain regions. These have been bred exclusively to express relatively good meat and egg production under moderate climatic and nutritional management conditions, rather than the optimal conditions required by specialized meat and egg types. Commercial layers developed from imported parent stock have the capacity to lay more than 300 eggs per year, while indigenous hens often lay only 40 to 60 eggs (FAO, 2010a).

To achieve a laying rate corresponding to more than 300 eggs per year, under confinement housing, a commercial layer hen requires something like 100-110 g per day of a high-quality layer diet containing 11.7 MJ metabolizable energy, 180 g crude protein and 35 g calcium per kg. The typical scavenge-able feed resource base would provide only a fraction of this, which means that these birds are unsuitable for un-supplemented extensive production systems, if reasonable productivity is required. (Cahaner, A. 2008)

2.2.7 BIOSECURITY

Bio-security risks and requirements vary according to the production system involved. The range of bio-security measures that can be promoted when developing poultry projects include: segregation measures (confinement, controlling contacts with other birds, introduction of healthy birds only), cleaning (shelters, equipment, clothes and shoes) and decontamination measures. As rural poultry includes small-scale intensive, semi-intensive and extensive production systems, the bio-security issues to be addressed must be tailored accordingly. Investing in adequate bio-security practices remains difficult for small-scale

intensive poultry producers with low profit margins, especially with huge fluctuations in feed prices. Lack of access to information and education, mainly for women, continues to result in households and producers that are unfamiliar with the germ theory of disease and the science behind good nutrition and poultry husbandry. For a new project to effectively address bio-security issues, it will likely require communication and education components as well as a participatory approach to the development of a bio-security plan. As small-scale non-industrial intensive and traditional household poultry production may occur side-by side within one village, a cooperative, community approach may be needed to develop effective, realistic bio-security measures (in the case of free-roaming birds, in particular, the whole village becomes the epidemiological unit). Bio-security does not start or stop at the household or farm gate. It is important to consider bio-security along the whole value chain, including in live bird markets and between markets and the producer's home. (Ahlers et al. (2009) and FAO (2008))

2.2.8 MARKETING AND VALUE CHAIN DEVELOPMENT

Marketing

In many instances, family poultry production is not the main household income-generating activity, and formal marketing links for production inputs and outputs are generally non-existent. However, in many countries well-established informal trading networks supply the majority of live chickens and ducks, as well as eggs. The absence of developed poultry sectors in combination with consumer taste preferences for local breed's results in a premium price for native birds, driving the demand for native breeds raised in family poultry

production systems. If consumers prefer to buy live birds to ensure freshness and disease freedom, then marketing will be organized in a way that ensures live bird trading along the entire value chain. Considerable transport costs occur from the collection of birds from relatively small native chicken flocks in rural areas. Only a few birds are ready for sale from a single-family poultry flock at any point in time. Therefore, self-marketing of birds in urban centres by members of family poultry-producing households is often not profitable. Collection of larger batches and transport by live bird traders may be the only option to ensure access to higher value markets. The absence of competition and other marketing options for rural farmers can result in information asymmetry and exercise of market power between family poultry producers and traders. However, traders face considerable collection and transport costs in rural areas. (Gausi, J.C.K., Safalaoh, A.C.L., Banda, J.W. &Ng'ong'ola, D.H. 2004)

Value chain development

Poultry can contribute to income generation only where appropriate value chains are present. Value chains are groups of people and processes through which a commodity is supplied to the final consumer. Incentives, information and other formal and informal linkages connect the people involved in the chain. Understanding the value chain is vital to building the basis for sustainable interventions and value chain development. A variety of tools from different disciplines are available to identify and analyse the various components of the value chain. The chosen assessment and intervention approach for poultry value chains should be guided by the objectives of the intervention or project. In general, poverty reduction and income generation projects focus on increasing output, product prices and

traded volumes for producers. Many development projects have also been conducted to reduce the risk of disease transmission among poultry and between poultry and humans. These interventions are more likely to be sustainable if incentives such as increased income generation are ensured.

Further, establishment of a new value chain or changes to existing value chains requires the identification of companies and entrepreneurs able to overcome the financial and social costs. Development projects can contribute to this process, but should be careful not to crowd out entrepreneurial activity. Rigorous and multi-disciplinary value chain analysis plays an important role in ensuring the sustainability of such projects. (Saleque, M.A. 2007)

2.2.9 INPUTS, OUTPUTS AND EFFICIENCY

Depending on the production system and its intensity, the inputs into rural poultry production can include different levels of feeding, housing, healthcare, labour and the birds themselves. These inputs can be valued either in terms of their direct cost or their opportunity cost.

The main outputs from small poultry production are food for home consumption, either in the form of poultry meat or eggs, and income from the sale of these products. In Asia, small poultry manure is used as feed for fish when poultry are raised on top of the ponds as part of an integrated system, for example, fish-cum-duck farming. Poultry also plays important social and cultural roles in the lives of rural people, not least for building social relations with other villagers. Ritual use of poultry is found on all continents and local breeds have a specific role in this respect. (Rushton, J. 2009).

2.3 Economics of Poultry Production

The economics of poultry production plays a pivotal role in understanding the financial viability and sustainability of poultry farming. As one of the most important sectors in agriculture, poultry farming involves several economic factors, such as cost of production, market prices, supply chains, and profitability. This section will discuss the key economic elements involved in poultry production, including production costs, revenue generation, profitability, and economic challenges.

2.3.1 Cost of Poultry Production

The cost of poultry production is typically divided into fixed costs and variable costs. Understanding these costs is essential for determining the profitability of poultry farming.

- Fixed Costs

Fixed costs are expenses that do not change with the scale of production, such as:

1. Infrastructure: This includes the cost of poultry housing, equipment (feeders, waterers, etc.), and other essential facilities.
2. Depreciation: The wear and tear on buildings, equipment, and other assets that lose value over time.
3. Insurance: Costs related to insuring poultry flocks against diseases, accidents, or environmental factors.

- Variable Costs

Variable costs change with the scale of poultry production and include:

1. Feed: Feed is the largest variable cost in poultry farming, accounting for 60-70% of the total production costs (Zhao et al., 2016).

2. Labor: Wages paid to farm workers for managing daily operations.
3. Medication and Health Care: Costs associated with maintaining bird health, including vaccines, veterinary services, and other health-related expenses.
4. Utilities: Costs of electricity, water, and gas used to maintain proper environmental conditions in the poultry house.
5. Transportation: Costs incurred in transporting feed, birds, and products to market.

- Total Cost

The total cost of poultry production combines both fixed and variable costs. Managing and reducing production costs, especially feed, is crucial to increasing profitability in poultry farming. The total cost also varies depending on the type of poultry being raised (broilers, layers, etc.) and the production system used (intensive vs. extensive).

2.3.2 Revenue Generation in Poultry Production

Revenue generation in poultry farming primarily comes from the sale of poultry products, including:

1. Broilers: Meat production from broilers is the primary revenue stream. The revenue depends on the market price per kilogram of poultry meat.
2. Eggs: For egg-laying hens, the sale of eggs provides the primary income. Egg prices fluctuate based on supply and demand, local market conditions, and feed costs.
3. By-products: Some farmers also generate income from selling poultry manure, feathers, and other by-products.

The revenue from poultry production can vary significantly depending on market conditions, consumer demand, and regional factors. The profitability of poultry farming is largely dependent on how efficiently producers can convert feed into weight gain or eggs.

2.3.3 Profitability in Poultry Farming

Profitability in poultry farming depends on several factors, including:

- Feed Conversion Efficiency (FCE)

One of the most important factors affecting profitability is the feed conversion efficiency, which is the ratio of the amount of feed consumed by the birds to the weight gain or egg production. Higher feed conversion ratios lead to more efficient production and reduced feed costs, thus increasing profitability.

Broilers: A typical feed conversion ratio for broilers is about 1.7 to 2.0, meaning that it takes 1.7–2.0 kg of feed to produce 1 kg of body weight (Baucells et al., 2009).

Layers: For egg production, feed conversion efficiency is measured by the number of eggs produced per kilogram of feed.

Improving feed conversion and minimizing feed waste are key strategies to enhancing profitability.

- **Market Prices and Demand**

The price of poultry products (meat and eggs) is subject to fluctuations based on market demand, regional supply chains, and consumer preferences. For instance, in times of high demand (such as holidays or festivals), prices can spike, leading to higher revenues.

Market prices are influenced by factors such as:

1. Consumer Demand: Shifts in consumer preferences for poultry products can impact prices. For instance, organic or free-range poultry often commands a higher price.
2. Supply and Demand Imbalances: A shortage in poultry production (due to disease outbreaks, for example) can drive prices up, while oversupply can lead to price reductions.

- **Economies of Scale**

Larger poultry operations benefit from economies of scale, meaning that as the scale of production increases, the per-unit cost of production decreases. Larger farms often have access to better technology, can negotiate better feed prices, and have more streamlined operations. However, small-scale farms can still be profitable if they focus on niche markets, such as organic or free-range poultry.

2.3.4 Economic Challenges in Poultry Production

Despite its potential for profitability, poultry production faces several economic challenges:

- **Feed Costs**

Feed represents the largest single cost in poultry production, accounting for 60-70% of total costs (Zhao et al., 2016). The price of feed is influenced by factors such as the cost of grains (corn, soybeans, etc.), global market conditions, and weather patterns. Fluctuations in feed prices can significantly affect the overall cost of production and profitability.

- **Disease and Health Management**

Diseases such as avian influenza, Newcastle disease, and others can have devastating financial impacts on poultry producers. These diseases may cause widespread mortality, reduce production, and lead to increased veterinary costs. Additionally, the costs of controlling outbreaks (e.g., culling infected flocks) can severely impact profitability.

- **Environmental Factors**

Environmental factors, including temperature, humidity, and ventilation, can affect the productivity of poultry. Managing the environment in poultry houses can require substantial investment in equipment (e.g., heating, cooling, and ventilation systems). Extreme weather events, such as floods or droughts, can also disrupt production.

- **Market Volatility**

Poultry markets can be highly volatile. Factors like changes in consumer preferences, competition, and trade policies can affect poultry prices. For example, the rise in popularity of plant-based diets has led to fluctuating demand for poultry meat in some markets.

- **Labour Costs**

Labour is another significant cost in poultry production. The need for skilled labor to manage day-to-day operations and maintain flock health is essential, but labor costs can be a burden, especially in labor-intensive production systems.

2.4 Analytical Techniques Used in Poultry Economics

Several analytical techniques are used to assess the economics of poultry production, including:

- **Cost-Benefit Analysis (CBA)**

Cost-benefit analysis is used to evaluate the profitability of poultry production by comparing the total costs to the total benefits (revenues). This analysis helps farmers and investors determine whether the poultry venture will be financially viable.

- **Break-even Analysis**

Break-even analysis helps poultry farmers determine the minimum level of production required to cover all costs. It calculates the point at which total revenues equal total costs, indicating no profit or loss. This analysis is vital for decision-making and planning.

- **Profitability Ratios**

Profitability ratios, such as return on investment (ROI) and return on assets (ROA), are used to assess the financial performance of poultry farms. These ratios help farmers and investors measure the efficiency of their capital and operational expenditures.

CHAPTER THREE

RESEARCH METHODOLOGY

This chapter discusses the methods and procedures used to gather data on the challenges and profitability of small-scale poultry farming in rural areas of Kwara State. The research methodology is designed to ensure accuracy, validity, and reliability in analyzing the objectives of the study.

3.1 Study Area

The research focuses on rural areas in Kwara State, Nigeria. The study area is specifically located in selected villages in Ilorin metropolis. The surgery sites are oke-ose, oke-oyi, Ara, Eleko, Akuo and Lajolo. These areas are characterized by agricultural activities and are home to a significant number of small-scale poultry farmers.

3.2 Research Design

The study adopts a descriptive survey design to explore the economic analysis of small-scale poultry farmers and assess their profitability. This approach allows for a detailed analysis of the current state of poultry farming in rural areas in Kwara state, providing both qualitative and quantitative data.

3.3 Sampling population and Sample size

The target population will include small-scale poultry farmers operating in selected rural areas in Ilorin east local government area of Kwara state. The farmers engaged in rearing chickens, turkeys, ducks, and other poultry for meat and eggs, predominantly for local consumption and small-scale distribution. A multi-stage sampling technique will be employed to select 120 poultry keepers in the study area. Six villages will be selected using purposive Sampling technique due to the high concentration of poultry keepers in the selected villages. Twenty (20) respondents will be randomly selected from each of the six villages to give a total of 120 respondents for the survey.

3.4 Data Collection Methods

Data were collected using the following instruments:

Structured Questionnaires: Contained closed- and open-ended questions designed to gather information on farming practices, challenges, and profitability.

Field Observations: Allowed first hand assessment of farm facilities, stock health, and farming techniques.

3.5 Data Analysis Techniques

Descriptive Statistics: Percentages, means, and frequency tables will be used to summarize demographic characteristics and key variables.

CHAPTER FOUR

4.0 RESULT AND DISCUSSION

4.1 SOCIOECONOMIC CHARACTERISTICS OF RESPONDENTS

4.1.1 Distribution of Respondents by Gender

The table 4.1.1 below shows the distribution of respondents by Gender. The table below showed that 56.7% of the respondents are male while 43.3% of the respondents are female. This indicates that male poultry farmers are more prevalent than female poultry farmers in the study area.

Table 4.1.1: Frequency Distribution of Respondents by Gender

Gender		Frequency	Percent
	Male	68	56.7
	Female	52	43.3
	Total	120	100.0

4.1.2 Distribution of Respondents by Age

The table 4.2 below showsthe age distribution of respondents. The table revealed that 35.8% of the respondents were aged 31–40 years, while another 35.8% were less than 30 years. In addition, 19.2% were aged 41–50 years, 3.3% were between 51–60 years, and 5.8% were above 60 years. The mean age of this distribution is 37 years. This indicates that the majority of the poultry farmers are within the active and youthful age brackets.

Table 4.2: Frequency Distribution of Respondents by Age

Age		Frequency	Percent
	31 - 40	43	35.8
	41 - 50	23	19.2
	51 - 60	4	3.3
	Above 60	7	5.8
	Less than 30	43	35.8
	Total	120	100.0

4.1.3 Distribution of Respondents by Household Size

The table 4.1.3 below shows the distribution of respondents by household size. The table revealed that 68.3% of the respondents had a household size of 5 or less, while 26.7% had between 5–10 members, and only 5.0% had a household size of above 10

members. This indicates that the majority of poultry farmers have relatively small household sizes.

Table 4.1.3: Frequency Distribution of Respondents by Household Size

Household Size		Frequency	Percent
	5 - 10	32	26.7
	5 or less	82	68.3
	Above 10	6	5.0
	Total	120	100.0

4.1.4 Distribution of Respondents by Level of Education

The table 4.4 below shows the distribution of respondents by Level of Education. The table showed that 4.1% of the respondents had no formal education, while 9.2% had primary education, while 19.2% had secondary education, while 67.5% had Tertiary education. The data shows that poultry farming in the study area is mostly practiced by educated individuals, with over two-thirds (67.5%) having tertiary education.

Table 4.1.4: Frequency Distribution of Respondents by Level of Education

Level of Education		Frequency	Percent
	No formal Education	5	4.1
	Primary	11	9.2
	Secondary	23	19.2
	Tertiary	81	67.5
	Total	120	100.0

4.1.5 Distribution of Respondents by Primary Occupation

The table 4.1.5 below shows the primary occupation of the respondents. The table showed that 63.3% of the respondents were poultry farmer, while 10.8% of the respondents were crop farmers, whole 20.8% were into business and 5% were salary and wages employer. The data reveals that 63.3% of respondents are primarily engaged in poultry farming, making it the dominant occupation.

Table 4.1.5: Frequency Distribution of Respondents by Primary Occupation

Primary occupation	Frequency	Percent
Poultry farming	76	63.3
Crop farming	13	10.8
Business	25	20.8
Salary/Wage employment	6	5.0
Total	120	100.0

4.1.6 Distribution of Respondents by Years of Experience.

The table 4.1.6 below shows the years of experience of the respondents. The table showed that 52.5% of the respondents had an experience less than 5 years, while 28.3% of the respondents had an experience of about 5-10 years and 19.2% of the respondents had an experience that is above 10 years. The majority of poultry farmers (52.5%) have less than 5 years of experience, indicating recent growth in the sector.

Table 4.6: Frequency Distribution of Respondents by Years of Experience

Years of Experience	Frequency	Percent

	less than 5years	63	52.5
	5-10years	34	28.3
	Above 10years	23	19.2
	Total	120	100.0

4.1.7 Distribution of Respondents by Poultry Type

The table 4.1.7 below shows the distribution of respondents by the poultry type they raised. The table showed that 55% of the respondents raised broilers, while 32.5% of the respondents raised layers, while 8.3% raised local breed and 4.2% raised Noilers. The most commonly reared poultry bird is the broiler (55.0%). This shows that farmers in the study area favour commercial breeds for faster returns, though some maintain local breeds for resilience and diversity.

Table 4.1.7: Frequency Distribution of Respondents by Poultry Type

Poultry Type	Frequency	Percent
Broiler	66	55.0
Layers	39	32.5
Indigenous(local breeds)	10	8.3
Noilers	5	4.2
Total	120	100.0

4.1.8 Distribution of Respondents by Flock size

The table 4.1.8 below shows the distribution of respondents by Flock size. The table showed that 48.3% of the respondents had a flock size lesser than 100, while 38.3% of the respondents had a flock size that ranges from 100-500 and 13.3% had a flock size of 501-1000.The data shows that small-scale poultry farming is most common (48.3%),indicating that the majority of poultry farmers in the study area are involved in low- to moderate-investment ventures, likely due to financial or space constraints.

Table 4.1.8: Frequency Distribution of Respondents by Flock Size

Flock size	Frequency	Percent
Less than 100	58	48.3
100-500	46	38.3
501-1000	16	13.3
Total	120	100.0

4.1.9 Distribution of Respondents by Source of Labour

The table 4.1.9 below shows the distribution of respondents by Source of Labou**r.**The table showed that 51.7% of the respondents used family labour, while 30.8% used Hired labour and 17.5% used both family and hired labour. This indicates that poultry farming in the area is predominantly small-scale and family-managed.

Table 4.1.9: Frequency Distribution of Respondents by Source of Labour

Sources of Labour	Frequency	Percent
Family	62	51.7
Hired	37	30.8

	Both	21	17.5
	Total	120	100.0

4.2 INPUT COST OF RESPONDENTS

4.2.1 Distribution of Respondents by Feed Cost

The table 4.2.1 below shows the distribution of respondents by feed cost. The table revealed that 65.0% of the respondents spent N150, 000 or less on feed, while 35.0% spent above N400, 000. This indicates that a majority of the poultry farmers operate on a relatively low feed budget, suggesting small-scale production among most respondents. The mean of the feed cost is N137, 549.

Table 4.2.1: Frequency Distribution of Respondents by Feed Cost

Feed Cost		Frequency	Percent
	<= N150,000	78	65.0
	Above N400,000	42	35.0
	Total	120	100.0

4.2.2 Distribution of Respondents by Foundation Stock Cost

The table 4.2.2 below shows the distribution of respondents by foundation stock cost. The table revealed that 65.0% of the respondents spent N100, 000 or less on foundation stock, while 15% spent between N100, 000 – N200, 000, and 18.3% spent between N200, 000 – N400, 000. Additionally, 1.7% spent above N500, 000. This indicates that the majority of poultry farmers invested minimally in acquiring their foundation stock. The mean of this distribution is N124, 000.

Table 4.2.2: Frequency Distribution of Respondents by Foundation Stock Cost

Foundation Stock Cost	Frequency	Percent
<= N100,000	78	65.0
Above N500,000	2	1.7
N100,000 - N200,000	18	15
N200,000 - N400,000	22	18.3
Total	120	100.0

4.2.3 Distribution of Respondents by Vaccination Cost

The table 4.2.3 below shows the distribution of respondents by vaccination cost. The table revealed that 83.3% of the respondents spent between N10, 000 – N30, 000 on vaccination, while 9.2% spent between N5, 000 – N10, 000. In addition, 4.2% spent above N30, 000, and 3.3% spent N5, 000 or less. This indicates that the majority of poultry farmers incur a moderate vaccination cost, suggesting efforts to maintain flock health within a manageable budget. The mean of this distribution is N14, 365.

Table 4.2.3: Frequency Distribution of Respondents by Vaccination Cost

Vaccination Cost	Frequency	Percent
<= N5,000	4	3.3
Above N30,000	5	4.2
N10,000 -N30,000	100	83.3
N5,000 - N10,000	11	9.2

	Total	120	100.0

4.2.4 Distribution of Respondents by Labour Cost

The table 4.2.4 below shows the distribution of respondents by labour cost. The table revealed that 53.3% of the respondents spent between N10, 000 – N30, 000 on labour, while 23.3% spent N5, 000 or less, and 19.2% spent above N30, 000. Additionally, 4.2% spent between N5, 000 – N10, 000. This indicates that the majority of poultry farmers incur moderate labour costs. The mean of this distribution is N20, 750.

Table 4.2.4: Frequency Distribution of Respondents by Labour cost

Labour Cost		Frequency	Percent
	<= N5,000	28	23.3
	Above N30,000	23	19.2
	N10,000 - N30,000	64	53.3
	N5,000 - N10,000	5	4.2
	Total	120	100.0

4.2.5 Distribution of Respondents by Utilities Cost

The table 4.2.4 below shows the distribution of respondents by utilities cost. The table revealed that 41.7% of the respondents spent between N10, 000 – N20, 000, while 40.0% spent between N20, 000 – N50, 000. In addition, 13.3% spent N10, 000 or less, and 5.0% spent above N50, 000. This indicates that most poultry farmers incur moderate utility

expenses, reflecting a relatively balanced cost structure for electricity, water, and other essential services.

Table 4.2.4: Frequency Distribution of Respondents by Utilities cost

Utilities Cost		Frequency	Percent
	<= N10,000	16	13.3
	Above N50,000	6	5.0
	N10,000 - N20,000	50	41.7
	N20,000 - N50,000	48	40.0
	Total	120	100.0

4.2.6 Distribution of Respondents by Access to Credit

The table 4.2.6 below shows the distribution of respondents by Access to credit. The table showed that 40% of the respondents had access to credit while 60% of the respondents did not have access to credit. This indicates that most farmers are self-financing their operations, which may limit their ability to expand, invest in quality inputs, or adopt modern practices.

Table 4.2.6: Frequency Distribution of Respondents by Access to Credit

Access to credit		Frequency	Percent
	Yes	48	40.0
	No	72	60.0

	Total	120	100.0

4.2.7 Distribution of Respondents by Source of Capital

The table 4.2.7 below shows the distribution of respondents by Source of Capital. The table showed that 58.3% used personal savings to fund their business, while 12.5% used bank loan, while 10.8% used Government grants and 18.3% used cooperative to fund their business. The finding shows that personal savings are the primary source of capital for most poultry farmers (58.3%), suggesting a strong reliance on self-funding.

Table 4.2.7: Frequency Distribution of Respondents by Source of Capital

Source of Capital	Frequency	Percent
Personal Savings	70	58.3
Bank Loan	15	12.5
Government Grants	13	10.8
Cooperatives	22	18.3
Total	120	100.0

4.2.8 Distribution of Respondents by increase in input cost

The table 4.2.8 below shows the distribution of respondents by increased in input cost. The table showed that 95.8% of the respondents reportedan increased in input cost while 4.2% of the respondents reported a decreased in input cost. This indicates that most poultry

farmers (95.8%) have experienced a rise in input costs, indicating a widespread challenge in the poultry sector.

Table 4.2.8: Frequency Distribution of Respondents increase input cost

Input cost increase?	Frequency	Percent
Yes	115	95.8
No	5	4.2
Total	120	100.0

4.2.9 Frequency Distribution of Respondents by Highest increased input

The table 4.2.9 below shows the distribution of respondents by highest increased input. The table showed that 79.2% of the respondents reported an increased in feed, while 6.7% reported increased in electricity while 7.5% reported an increased in vaccine and 6.7% reported an increased in labour. The cost of feed is the highest increased input among poultry farmers. This sharp rise in feed prices poses a major financial burden, making feed the most critical area needing cost-management solutions or policy support.

Table 4.2.9: Frequency Distribution of Respondents by Highest increasedinput

Highest increased input	Frequency	Percent
Feed	95	79.2
Electricity	8	6.7
Vaccines	9	7.5
Labour	8	6.7
Total	120	100

4.3 REVENUE STREAMS OF RESPONDENTS

4.3.1 Distribution of Respondents by Main Revenue Source

The table 4.3.1 below shows the distribution of respondents by Source of Main Revenue. The table showed that 35.8% of the respondentsearned their main revenue from sales of eggs, while 52.5% earned their revenue from sales of live birds, while 10.8% from sales of manure and 0.8% from others. This shows that poultry farming in the area is primarily meat-oriented, though eggs and byh-products also contribute significantly to income.

Table 4.3.1: Frequency Distribution of Respondents by Sourceof Main Revenue

Main Revenue Source		Frequency	Percent
	Sales of eggs	43	35.8
	Sales of live birds	63	52.5
	Sales of manure	13	10.8
	Others	1	0.8
	Total	120	100.0

4.3.2 Distribution of Respondents by Average Monthly Income

The table 4.3.2 below shows the distribution of respondents by Average Monthly Income. The table revealed that 34.2%, 57.5%, 7.5%, 0.8% of the respondents average monthly income were below #100,000, between #100,000-#500,000, #500,000-#1,000,000 and above #1,000,000 respectively. This indicates that high-income poultry farming is rare, and most farmers operate within modest profit margins, potentially limited by scale, access to markets, or resources.

Table 4.3.2: Frequency Distribution of Respondents by Average Monthly Income

Average Monthly Income		Frequency	Percent
	less than #100,000	41	34.2
	#100,000 - #50,000	69	57.5
	#500,000 - #1,000,000	9	7.5
	above #1,000,000	1	0.8
	Total	120	100.0

4.3.3 Distribution of Respondents by Sales Frequency

The table 4.3.3 below shows the distribution of respondents by Sales Frequency. The table revealed that 19.2% of the respondents sell on a Daily basis, while55.8% sell on a weeklybasis and 25% sell on a monthly basis. This indicates a steady and frequent sales pattern for the majority, reflecting ongoing market demand and production flow, especially for eggs and meat.

Table 4.3.3: Frequency Distribution of Respondents by Sales Frequency

Sales Frequency		Frequency	Percent
	Daily	23	19.2
	Weekly	67	55.8
	Monthly	30	25.0
	Total	120	100.0

4.3.4 Distribution of Respondents by Access to Grant

The table 4.22 below shows the distribution of respondents by Access to Grant. The table indicated that 40% of the respondents received Grant while 60% did not have access to Grant. This indicates that grant accessibility is limited, potentially due to lack of awareness, complex application processes, or inadequate funding programs.

Table 4.2.2: Frequency Distribution of Respondents by Access to Grant

Access to Grant		Frequency	Percent
	Yes	48	40.0
	No	72	60.0
	Total	120	100.0

4.3.5 Distribution of Respondents by Other Income Stream

The table 4.3.5 below shows the distribution of respondents by other Income Stream. The table revealed 35% of the respondents have other Income Stream while 78% of the respondents had no income stream. This indicates that majority depend entirely on poultry, a significant portion diversifies their income to enhance financial stability.

Table 4.3.5: Frequency Distribution of Respondents by Other Income Stream

Other Income Stream		Frequency	Percent
	Yes	42	35.0
	No	78	65.0
	Total	120	100.0

4.4 IMPACT OF INPUT COST ON PROFITABILITY OF RESPONDENTS

The table 4.4 below showsthe analysis of input costs among poultry farmers shows that feed cost is the highest financial burden, with a mean score of 3.46, making it the most significant expense in poultry production. Foundation stock cost ranks second (3.02), followed by labour and vaccine costs, which are considered moderate by most farmers.

Electricity and other utilities rank lowest, with mean scores of 2.4 and 2.21 respectively, indicating that these are less financially demanding.

Overall, the findings highlight that feed and foundation stock are the major cost drivers in poultry farming, and efforts to reduce these costs could greatly improve farmer profitability and sustainability.

Table 4.4

Input Cost	Very Low	Low	Moderate	High	Very High	Mean	Rank
	Frequency(%)	Frequency(%)	Frequency(%)	Frequency(%)	Frequency(%)		
Feed Cost	2 (1.67)	5 (4.17)	53 (44.17)	56 (46.67)	4 (3.34)	3.46	1
Foundation Stock Cost	3 (2.5)	16 (13.33)	77 (64.17)	24 (20)	0 (0)	3.02	2
Labour Cost	12 (10)	21 (17.5)	57 (47.5)	27 (22.5)	3 (2.5)	2.9	3
Vaccine Cost	9 (7.5)	25 (20.84)	61 (50.84)	25 (20.84)	0 (0)	2.85	4
Electricity Cost	28 (23.34)	35 (29.17)	40 (33.34)	16 (13.34)	1 (0.84)	2.4	5
Other Utilities Cost	32 (26.67)	42 (35)	37 (30.84)	7 (5.84)	2 (1.67)	2.21	6

4.4.1 Distribution of Respondents by Profitability Level

The table 4.4.1 below shows the distribution of respondents by profitability level. The table revealed that 58.3% of the respondents considered their poultry farming profitable, while 30.0% rated it as very profitable. In addition, 10.8% reported it as barely profitable and only

0.8% stated it was not profitable. This indicates that the majority of poultry farmers perceive their business as financially rewarding, with only a few experiencing minimal or no profit.

Table 4.4.1: Frequency Distribution of Respondents by Profitability Level

Profitability level		Frequency	Percent
	Very Profitable	36	30.0
	Profitable	70	58.3
	Barely Profitable	13	10.8
	Not Profitable	1	0.8
	Total	120	100.0

4.4.2 Distribution of Respondents by Cost Management

The table 4.4.2below showsthe distribution of respondents by cost management strategies. The table revealed that 35.8% of the respondents managed costs by reducing their flock size, while 33.3% sought credit to cope with expenses. Additionally, 20.8% relied on loans, and 10.0% opted to change their supplier. This indicates that most poultry farmers respond to financial pressures through adjustments in production scale or external financial support.

Table 4.4.2: Frequency Distribution of Respondents by Cost Management

Cost Management		Frequency	Percent
	Reduce Flock	43	35.8
	Seek Credit	40	33.3

	Loans	25	20.8
	Change Supplier	12	10.0
	Total	120	100.0

4.5 CHALLENGES FACED IN POULTRY BY THE RESPONDENTS

4.5.1 Distribution of Respondents by Major Constraints

The table 4.5.1 below shows the distribution of respondents by major constraints faced in poultry farming. The table revealed that 32.5% of the respondents identified disease outbreak as their major constraint, followed by high cost of feed at 29.2%. Additionally, 22.5% reported poor market access, 14.2% cited lack of capital, while 0.8% each mentioned poor extension services and government policies and regulations. This indicates that disease and feed cost are the most pressing challenges affecting poultry farmers in the study area.

Table 4.5.1: Frequency Distribution of Respondents by Major Constraints

Major Constraints	Frequency	Percent
High Cost of feed	35	29.2
Disease Outbreak	39	32.5
Poor market access	27	22.5
Lack of Capital	17	14.2
Poor extension services	1	0.8
Government Policies and regulations	1	0.8

	Total	120	100.0

4.5.2 Distribution of Respondents by Measures Taken

The table 4.5.2 below shows the distribution of respondents by measures taken to address challenges in poultry farming. The table revealed that 30.8% of the respondents responded by joining cooperatives, while 26.7% opted for sourcing alternative feed. Additionally, 23.3% focused on improving biosecurity measures, and 19.2% sought financial assistance. This indicates that most poultry farmers are adopting collective action and cost-saving strategies to overcome challenges in their operations.

Table 4.5.2: Frequency Distribution of Respondents by Major Constraint

Measure Taken		Frequency	Percent
	Sourcing alternative fee	32	26.7
	Joining Cooperatives	37	30.8
	Seeking financial assistance	23	19.2
	Improving biosecurity measures	28	23.3
	Total	120	100.0

4.5.3 Distribution of Respondents by Support Needed

The table 4.5.3 below shows the distribution of respondents by type of support needed to enhance poultry farming. The table revealed that 35.0% of the respondents expressed the need for subsidized feed, while 24.2% indicated the need for access to veterinary services.

Additionally, 15.8% requested training and capacity building, 13.3% preferred government grants or loans, and 11.7% identified market linkages as essential. This indicates that the majority of poultry farmers require feed support and veterinary services to improve productivity and profitability.

Table 4.5.3: Frequency Distribution of Respondents by Support Needed

Support Needed		Frequency	Percent
	Subsidized feed	42	35.0
	Access to veterinary services	29	24.2
	Training and capacity building	19	15.8
	Market linkages	14	11.7
	Government grants/loans	16	13.3
	Total	120	100.0

CHAPTER FIVE

5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 SUMMARY

This study focused on the economic analysis of small-scale poultry farming in selected rural areas of Kwara State, with an emphasis on profitability, input costs, revenue streams, and challenges. The research involved 120 respondents and employed descriptive statistics for analysis.

Key findings include:

- **Socioeconomic Profile**: Most respondents were male (56.7%) and in the active age bracket (mean age: 37 years). A significant number had tertiary education (67.5%), indicating educated involvement in poultry farming. Over 63% were full-time poultry farmers, with 52.5% having less than five years of experience.
- **Poultry Production Characteristic**s: The majority raised broilers (55%) and kept flock sizes below 100 birds (48.3%). Family labour was the most common labour source (51.7%).
- **Input Costs:** The greatest financial burden was feed (mean = 3.46), followed by foundation stock and labour. 95.8% of farmers reported an increase in input costs, with feed being the most affected.
- **Revenue Streams**: Most farmers earned revenue from the sale of live birds (52.5%) and eggs (35.8%). Only 7.5% earned above ₦500,000 monthly. Sales were mostly on a weekly basis (55.8%).

- **Profitability**: A total of 88.3% found poultry farming profitable to very profitable. However, profitability was constrained by rising costs.
- **Challenges**: The most critical challenges were disease outbreaks (32.5%) and high cost of feed (29.2%). Other constraints included poor market access, lack of capital, and weak extension services.
- **Support Needs**: Respondents identified the need for subsidized feed (35%), veterinary services (24.2%), and training (15.8%) as top priorities.

5.2 CONCLUSION

The study has demonstrated that small-scale poultry farming in rural Kwara State holds great potential for income generation, employment, and food security. However, its sustainability is currently threatened by rising input costs, especially feed, and vulnerability to disease outbreaks. Despite these challenges, the sector remains largely profitable and attractive, particularly to educated youth and women.

To optimize its impact, there is a critical need for targeted interventions from government and stakeholders in the areas of input support, training, market access, and financial empowerment. With the right policy framework and support mechanisms in place, small-scale poultry farming can significantly contribute to rural development and poverty reduction in Nigeria.

5.3 RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made to improve the productivity and profitability of small-scale poultry farming in the study area:

1. **Subsidize Feed and Key Inputs**

Government and development agencies should provide feed subsidies or support local production of feed to lower the input cost burden, especially since feed accounted for nearly 80% of input cost increases.

2. **Improve Access to Veterinary Services**

Veterinary extension services should be expanded in rural areas to reduce mortality from disease outbreaks. Mobile vet clinics and subsidized vaccines can also be considered.

3. **Access to Finance and Credit Facilities**

Most farmers rely on personal savings. Microfinance institutions and cooperatives should be supported to provide low-interest loans and grants tailored to small-scale poultry operations.

4. **Capacity Building and Training**

Organize periodic training for poultry farmers on improved husbandry, disease prevention, and cost-effective feeding practices to increase efficiency.

5. **Enhance Market Access and Value Chain Linkages**

Establish market linkages through cooperatives or digital platforms to reduce exploitation by middlemen and ensure better pricing for eggs and poultry.

6. **Support for Cooperatives and Farmer Groups**

Encourage farmers to form or join cooperatives for better access to bulk inputs, training, and negotiation power in the market.

7. **Implement Biosecurity Measures**

Introduce and enforce biosecurity protocols and provide infrastructure to limit disease outbreaks and improve flock survival rates

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