

ECONOMIC ANALYSIS OF COST AND RETURNS STRUCTURE AMONG COOPERATIVE POULTRY EGG FARMERS IN IWO LOCAL GOVERNMENT AREA OF OSUN-STATE, NIGERIA

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ABSTRACT

This study investigates the cost-benefit analysis and profitability of cooperative poultry egg farming in Iwo Local Government Area, Osun State, Nigeria. Data were gathered through the utilization of a well structured questionnaire for interviews from One hundred (100) poultry egg farmers using simple random sampling techniques. The data was analyzed using a combination of descriptive statistics to summarize the data and inferential statistics to draw conclusions. Descriptive statistics revealed that 72% of respondents fell within the 30-50 age bracket, with a mean age of 36 years, indicating that they are in their prime working years. Furthermore, 85% of poultry business operators were males, the majority of whom had received formal education, with household size averaging 5 individuals and an average Income of ₦103,885 per month. The study also showed that farmers financed their poultry operations through various sources of funding their poultry egg production in the study area. The results of the budgetary regression analysis demonstrated that poultry egg production is a profitable and sustainable business opportunity. The findings indicated that for every ₦1.00 invested in poultry egg production, a profit of approximately ₦0.65 was generated, highlighting the viability and profitability of poultry egg farming in the study area. The overall positive Net Income of ₦365170.6591 indicated that poultry egg production is indeed reliable, viable and lucrative in the study area.

Keywords: Poultry, Farmers, Egg production, Cooperative societies, Cost and returns

INTRODUCTION

The Nigerian economy is still characterized by the significant contributions of the rural populace. However, the input from rural farmers, who constitute more than 80% of the Nigerian population, falls below the optimal level when compared to their counterparts in developed nations (FAO, 2014). Essentially, enhancing the economic foundation is intricately linked to boosting the agricultural productivity of rural farmers. Agriculture is a cornerstone of Nigeria's economy, contributing around 42% to the country's GDP and providing livelihoods for over 75% of the population, mainly in rural areas (CBN, 2018; Hassan, 2004), thus playing a crucial role in combating hunger and reducing the dependence on food imports (Peacock, 2010). The agricultural sector in Nigeria is diversified, comprising crops, livestock, fisheries, and forestry; notably, the livestock segment ranks as the country's second largest agricultural sub-sector, encompassing 17% of the population who opt to pursue either crop or animal production, or engage in both enterprises (Umen, 2016; Taru, *et al.*, 2010).

Poultry encompasses a diverse array of avian species that hold both nutritional and economic value for humans (Adesiyan, 2014). Domesticated chicken is reared for dual purposes: broilers for meat and layers for eggs, with supplementary meat obtained from culled layers. Poultry farming plays a

significant role in Nigeria's animal protein supply, ranking fourth among sources and contributing around 27% to the country's total meat production. Eggs, a fundamental product of poultry farming, are renowned for their exceptional nutritional value, providing a complete and balanced food source for humans. They serve as a cost-effective source of animal protein, compared to alternative animal protein sources, eggs are relatively more accessible and affordable for the general population (Olatunji & Abesogun, 2012). The pricing of eggs typically fluctuates based on market demand and supply dynamics over processes time. Being highly perishable, egg production necessitates optimized production and distribution. A significant labor force is necessary to support the entire egg value chain, encompassing handling, transportation, production, distribution, and marketing activities, thus holding significant potential for poverty alleviation. Additionally, inadequate animal protein intake remains a prevalent nutritional challenge in Nigeria, particularly among vulnerable populations, including low-income earners and those without formal wages (Okpeke & Ellah, 2018). Recent reports indicate a decline in the productivity and growth of Nigeria's poultry sector, attributed to escalating feed costs resulting from feed supply fluctuations, ingredient price hikes, poor feed quality, and production inefficiencies (Olatunji & Ifeanyi-Obi, 2011). Ume *et al.* (2016) highlighted the persistent inadequacy of access to animal protein sources in rural Nigeria which is a crucial component of the national diet.

Statement of Problem

The production of eggs and poultry meat is gradually alleviating the protein deficiency in numerous African nations. Presently, Nigeria's per capita daily protein consumption stands at an estimated 45.4g (Iyangbe and Orewa, 2009). Poultry farming serves as a vital supplemental income source for smallholder farm families and rural households, enhancing their economic well-being (Taru *et al.*, 2010). Moreover, the primary objective of many farming enterprises is profit generation (Afolabi *et al.*, 2013). FAO (2014), small-scale commercial poultry farming often faces challenges in attaining efficiency due to constraints in sourcing quality inputs such as chicks and feed, as well as marketing the products. Empowering small-scale farmers, who make up the bulk of the farming community, can be achieved most effectively by improving their operational efficiency. Nigeria is among the most vulnerable nations when it comes to inadequate food intake among its citizens. The issue of food scarcity is so severe that an average individual struggles to provide three square meals for their family.

This dire situation has led some to resort to begging in order to put food on their tables, primarily due to the scarcity of stable job opportunities. Furthermore, those fortunate enough to secure employment often find themselves earning meager wages, with a significant portion living on Earning below the poverty line of \$1 per day, unable to afford a balanced meals (Oluwasanya, Nwankwo, Aladegoroye & Ojewande, 2020). Nigeria's agricultural sector, which contributes approximately 42% to the country's GDP, has been historically overlooked by governments. Despite its potential, the poultry industry currently engages only 10% of the population and employs less than 15-18% of the workforce, primarily due to its subsistence nature (Afolabi *et al.*, 2013). To meet the country's basic dietary needs, Nigeria must significantly increase its poultry production, aiming for 10-20 billion eggs and 0.3-0.6 million tonnes of poultry meat annually (Hamra, 2010). However, the country's economic dependence on oil, which accounts for 60% of government revenue and over 97% of export earnings (Vanguard, 2017; Agbaese *et al.*, 2014), hinders the development of other sectors, including agriculture. Nigeria's economic growth has been hindered by the failure of past governments to diversify the economy, instead relying heavily on oil revenues. This lack of diversification has led to unsustainable import practices, including the importation of agricultural commodities in which Nigeria has a comparative advantage. Inconsistent policies and corruption have further exacerbated the issue, squandering

national profits that could have been invested in poverty alleviation and economic growth. To address its developmental challenges, Nigeria must prioritize diversification as a strategic and competitive solution. The country currently faces the pressing issues of food insecurity and poverty (Ahungwa et al., 2014), underscoring the need for a diversified economy that can drive sustainable growth and development. Despite ongoing efforts, Nigeria has struggled to meet the growing demand for protein, a crucial nutrient for citizens' health and well-being. The country's protein intake falls short of the World Health Organization (WHO), Food and Agriculture Organization (FAO), and United Nations University (UNU) (2007) recommended daily minimum of 54g per person, with at least 20g (37.04%) derived from animal sources. In Nigeria, the three most popular rare frozen fish, beef, and poultry egg and meat. The usefulness of any food for body building depends on the amount of protein it contains.

The poultry egg industry, a part from providing employment and a livelihood to thousands of people in Nigeria, also provides high quality nutritious food. The egg is a complete protein with excellent quality nutrients; one egg will give go protein and egg-white protein has biological value of 100, the highest biological value of any single protein, Food and Agriculture Organization 2002. Eggs hell is a good source of calcium. The nutritional status of many Nigerians is characterized by low calorie and protein in takes and Nigerians' greatest problem is that of inadequate animal protein in their diets. The Food and Agriculture Organization in 1989 recommendation for daily protein consumption is 60g per person out of which 35g is expected to be from animal sources. Thus, wide spread malnutrition will become more evident in the country if there is no substantial improvement in poultry production as major source of protein. Poultry meat and eggs play a very useful role in bridging the protein gap in Nigeria. They are palatable and generally acceptable. This acceptability cuts across nearly all cultural and religious boundaries in the country. The importance of poultry to the national economy cannot be overemphasized, as it has become popular industry for the small holders that have great contribution to the economy of the country. The enterprise has assumed greater importance in improving the employment opportunity and animal protein production in Nigeria. To this end, and up-to-date knowledge of the profitability and efficiency of resource utilization in the industry will goal on way in bridging some knowledge gap and help in formulating policies aimed to increased and make more profitable poultry production in the country.

Objective of the Study

This study aims to conduct an economic analysis of the cost and returns structure of cooperative poultry egg farmers in Iwo Local Government Area of Osun State, Nigeria. The specific objectives of the study are to profile the socio-economic characteristics of poultry egg farmers, estimate production costs and sales, investigate funding sources, and identify constraints affecting profitability

LITERATURE REVIEW

Determinant of poultry industry

Approximately 75% of the global rural impoverished population relies on livestock as a vital and active component of their sustenance. The majority of livestock farmers are engaged in poultry farming as well. Within the rural impoverished communities, poultry farming plays a critical role in supporting livelihoods, serving as a means to enhance household protein intake and generate income during financial hardships. This is due to the swift accessibility of earnings from poultry-related activities, such as selling eggs or birds, to address immediate household needs in times of crisis.

Furthermore, poultry contributes significantly to household nutrition, with many rural impoverished families depending on their own poultry production to fulfill the majority of their animal protein and essential micronutrient requirements. These micronutrients are particularly crucial for child nourishment, especially in rural regions of developing nations where chronic malnutrition and micronutrient deficiencies are prevalent. In Nigeria, Poultry products, such as meat and eggs, are still viewed as indulgent or high-end items by a significant portion of the population. In rural areas, poultry consumption is often limited to special occasions, with households relying on their own flocks for meat and eggs. In contrast, urban residents tend to consume more poultry products due to their higher purchasing power and greater access to fresh and frozen poultry in markets, restaurants, and fast-food outlets. Eggs are a staple in urban diets, while poultry meat is consumed more sporadically. Nigeria's poultry industry is a vital contributor to the country's economic growth, providing a substantial source of nutritious eggs and meat that are rich in protein, essential for a healthy diet. Eggs also play a crucial role in confectionary preparation and vaccine production.

Moreover, the poultry sector offers employment opportunities, consequently generating income opportunities for the population. The industry holds considerable economic relevance, providing food security, income generation and poverty reduction. Despite the established infrastructure in the country, including poultry farms, feed manufacturing facilities, hatcheries, and meat processing plants, many of these facilities remain idle due to challenges associated with high input costs, working capital, and competition from inexpensive imports.

The Nigerian government has implemented various measures, such as import embargoes and increased tariffs, to promote local poultry production. Poultry farming has emerged as a vital industry for producers, making a significant contribution to the country's GDP and job opportunities. To ensure the sustainability and productivity of the poultry industry in Nigeria, efficient farming practices are essential. One of the most significant cost factors in poultry production is feeding, which accounts for more than 70% of the total expenses incurred in producing eggs and broilers, underscoring the need to enhance feed formulation systems to boost production levels. Poultry farming is a crucial agricultural activity prevalent in all rural communities across Africa. While many rural communities traditionally relied on local resources, recent efforts by researchers and development agents highlight the importance of smallholder poultry production in poverty alleviation and household food security.

The poultry sector plays a vital role in the economy, offering a range of off-farm job opportunities and income streams that benefit individuals and communities. Poultry is well established in the country with substantial infrastructure (poultry houses, feed mills hatcheries and processing plants) already on ground. However, most of these items became idle for reasons associated with high cost of strategic inputs and working capital as well as competition from cheap imports. The embargo placed on the importation of poultry products in 2002 which has also been reviewed many times over by successive administrations to include outright ban, increased tariff and duties by the Federal Government is aimed at encouraging local production.

The challenge therefore, is how to produce poultry products at substantial levels in order to bridge the protein demand-supply gap in the nearest future (Bosnjak, 2019). Research has found out that high temperature is detrimental to efficient production and reproduction by poultry (Bosnjak, 2019). Optimum production efficiency can be achieved by effective utilization of the available inputs thus improving the levels of outputs. The efficiency with which farmers use available resources and improved technology is important in agricultural production (Rahji, 2018). Increased efficiency

associated with the quality of resources used with right choice of better technology, reduce wastage and increase production, wrong choices on the types of inputs and technologies to adopting poultry production in a particular location and at a particular time results in poor efficiency and eventually poor outputs. To achieve optimum production level, resources must be available, whatever quantity resources must be efficiently utilized to maximize output.

Empirical Review

Shittu, Nwankwo & Ezeude (2023). A study was conducted among poultry egg producers in Osun State, Nigeria, to gather insights into their demographic characteristics, farming practices, and profitability. A total of 105 poultry egg farmers participated in the study, selected through proportional random sampling techniques. Data were collected using structured questionnaires and analyzed using descriptive statistics and budgetary regression to estimate cost and returns and profitability of poultry egg production, socio-economics characteristics of the respondents.

The results showed that majority of poultry egg farmers (71.4%) were within the economically productive age group, with an average age of 46.5 years. The demographic profile of the participants revealed that 81.9% were male, 87% had formal education, and the average household size was 5 members. Furthermore, the study found that poultry egg production was a viable venture, with profitability indices ranging from 0.37 to 0.41 per bird, depending on the scale of production, specifically 0.41 for large-scale, 0.37 for medium-scale, and 0.40 for small-scale production budgetary regression. The internal rate of return on investment (IRR) was determined to be 68.4%, 59.7%, and 66.1% for the respective scales, with operating ratios (OR) of 0.58, 0.41, and 0.59. Consequently, the study recommends that poultry egg farmers focus on reducing feed costs and implementing efficient management practices (particularly utilizing battery cages) to optimize profitability in poultry egg farming. Additionally, farmers are encouraged to explore cooperative funds as an alternative source of investment capital, and consider utilizing locally compounded feeds to lower overall production expenses. The government should considered providing subsidies on agricultural amenities and ensure that lending institutions adhere to official regulations regarding interest rates and loan conditions.

METHODOLOGY

Area of Study

The research was conducted in Iwo Local Government Area, situated in Osun State, Nigeria. Historically, Iwo city was part of the old Oyo State before emerging as a prominent township in Osun State. As one of the thirty Local Government Areas in Osun State, Iwo is nestled inland in the South-Western region of Nigeria. Osun State, named after the River Osun, shares borders with Kwara State to the North, Ekiti and Ondo States to the East, Ogun State to the South, and Oyo State to the West. Iwo town serves as the central hub, with two additional Local Council Development Areas (LCDAs) and is home to the Osun State Agricultural Development Programmes (OSSADEP). According to the 2006 Nigeria National Population Census, Iwo Local Government Area is the most populous in Osun State, with a population of 191,348 and covering a land area of 7245 km². The town is renowned for its Arabic/Islamic education, commercial, and agricultural activities.

Materials and Methods of data collection

This study employed a mixed-methods approach, utilizing both primary and secondary data sources. Primary data were collected through a structured questionnaire administered personally with oral

interview conducted on sampled cooperative poultry egg farmers in the study area. Secondary data were sourced from reputable online sources, textbooks, journals, articles, dissertations, and other relevant publications. Both descriptive and inferential statistical methods were used to analyze the data. Descriptive statistics, including frequency tables, percentages, and means, were employed to examine the socio-economic characteristics of poultry egg farmers, their sources of finance, and the constraints affecting the profitability of poultry egg production. Inferential statistics, specifically budgetary regression analysis, were used to assess the profitability of poultry egg production. A multi-stage sampling technique was used for the study. In the first stage, Iwo zone was selected from Osun-State. In the second stage, Iwo local government area was selected out of four local government areas in Iwo zone. In the third stage, five communities / towns were also chosen due to its high concentration of poultry farmers in major villages and towns within the local government area. In the last stage, simple random technique was employed to select twenty-five respondents from each communities making a total of one hundred and twenty-five (125) poultry egg farmers. Out of one hundred and twenty-five questionnaires distributed, one hundred and ten (110) were retrieved while only ten (10) of the retrieved questionnaires were discarded due to incomplete information given by the respondents. Only one hundred (100) questionnaires obtained from poultry egg farmers were used for the study area as sample size.

Cost and Returns, and Profitability in Poultry Egg Production

Model Specification

Gross Margin analysis was used to determine cost and return structure of the poultry egg production. The model is specified below:

Gross Margin Analysis

$$GM = TR - TVC \dots\dots\dots equ (1)$$

Where:

GM = Gross Margin

TR = Total Revenue

TVC = Total Variable Cost

A positive GM indicates that the operating cost is being covered and the business can be sustained. In this study, the GM analysis is targeted at the 12 months poultry egg production cycle, i.e.

(a) Net Income Analysis

Net income is the difference between the total revenue (TR) and total cost (TC). Mathematically,

$$NI = TR - TC \dots\dots\dots equ (2)$$

where,

NI = Net Income or Profit (₦)

TR = Total Revenue made from the sale of egg

TC = Additional of TVC and TFC

TVC = Total Variable Cost.

TFC= Total Fixed Cost

Empirically, NI is conventionally computed as the difference between the gross margin and the total fixed cost (TFC).

(c) Enterprise Performance Ratio Analysis

The following business performance ratio were computed, namely:

Profitability Index (PI) = NI/TRequ (3)

Operating Ratio (OR) = TVC/TRequ(4)

Internal Rate of Return on Investment (RRI) = NI/TC x 100%equ (5)

Rate of Return on Variable Cost (RRVC) = TR – TVC /TC x 100%equ (6)

Benefit cost ratio = B/Cequ(7)

RESULTS AND DISCUSSIONS

Socio-economic characteristics of small-scale cooperative poultry egg farmers

The study's findings revealed a significant gender disparity among poultry egg farmers, with males constituting 85% of the respondents, while females accounted for only 15%. This suggests that males continue to play a dominant role in agricultural activities. Furthermore, the age distribution of the respondents showed that a substantial 72% were below 50 years old, with an average age of 36 years. This indicates that the majority of poultry egg farmers are in their prime working years, possessing the energy, vitality, and potential for high productivity.. This aligns with the assertion made by Hamra (2010) that individuals within the age bracket of 20-50 are economically active and are likely to exhibit a strong drive towards productivity. The study also unveiled that a substantial 73% of the respondents were married, with only 21% being single, 5% divorced, and 1% widowed. This suggests that most of the respondents are family-oriented individuals with dependents, implying that their livelihoods and farming activities likely support not only themselves, but also their families..

This observation resonates with the findings of Epeju & Okpara (2020), who noted that between 94 to 99.5% of the farmers surveyed were married. The marital status of the respondents could potentially impact their access to resources, productivity levels, and overall profitability. Furthermore, the study highlighted that majority of the respondents (72%) had moderate-sized households, comprising between 3-6 individuals, with a mean household size of 5 persons, indicating a relatively modest family structure which is conducive for balancing production and consumption, thereby providing a favourable environment for a profitable farming venture. The findings showed a significant disparity in the level of experience among respondents, with only a small fraction (11%) having 1-5 years of experience in poultry egg production, while a substantial majority (89%) boasted more than 5 years of experience, indicating a high level of expertise and familiarity with the industry.

This indicated that the poultry farmers are highly seasoned, possessing a wealth of experience that could significantly contribute to the success of their farming operations. Data presented in Table 1 indicated that 10% had no formal education, educational background of the respondents showed that 20% had primary education, 56% had secondary education, and 14% had tertiary education. Notably, a significant majority (90%) of the farmers had undergone formal education, indicating a relatively high level of educational attainment among the respondents. In terms of income, 27% of the

respondents earned below ₦100,000 per month, 29% earned between ₦100,000 and ₦200,000, 21% generated between ₦200,001 and ₦300,000, 10% earned ₦300,001- ₦500,000, and 13% earned more than ₦500,000 per month. Table 1 also illustrated that 36% of the respondents utilized a battery cage management system, while the majority (64%) employed a deep litter management system due to financial constraints and the inability to scale up their production.

Table 1: Cooperative poultry farmers by their socio-economic profile

Variable	Value	Frequenc y	Percentage	Cumulativ e frequency	Average
Sex	Male	85	85.0	85.0	
	Female	15	15.0	100.0	
Age (years)	≤30	14	14.0	14.0	
	31-40	35	35.0	49.0	
	41-50	23	23.0	72.0	
	51-60	19	19.0	91.0	
	Above 60	9.0	9.0	100.0	36 years
Marital status	Single	21	21.0	21.0	
	Married	73	73.0	94.0	
	Divorced	5	5.0	99.0	
	Widoed	1	1.0	100.0	
Household size	<3	10	10.0	10.0	
	3-6	72	72.0	82.0	
	7-9	12	12.0	95.0	
	10 & above	5	5.0	100.0	5 persons
Farming experience (years)	≤5	11	11.0	11.0	
	6-10	37	37.0	48.0	
	11-15	17	17.0	65.0	
	16-20	20	20.0	85.0	
Educational level (years)	>20	15	15.0	100.0	
	No formal education	10	10.0	10.0	
	Primary education	20	20.0	30.0	
	Secondary education	56	56.0	86.0	
	OND/NCE	7	7.0	9.0	
Monthly income (₦)	HND/BSC	7	7.0	100.0	14 years
	< ₦100,000	27	27.0	27.0	
	₦100,001- ₦200,000	29	29.0	56.0	
	₦200,001- ₦300,000	21	21.0	77.0	
	₦300,001- ₦500,000	10	10.0	87.0	

	>₦ 500,000	13	13.0	100.0	₦103,885
Management System	Battery cage	36	36.0	36.0	
	Deep litter	64	64.0	100.0	
Total		100	100		

Source: Field Survey, 2024

Sources of finance used by poultry egg farmers

Finance plays a pivotal role in the realm of production. It is imperative to delve into the various sources of finance utilized by farmers in order to propose strategic measures that guarantee uninterrupted access to these sources or present viable alternatives. The study's findings indicated that the primary source of funding for most poultry farmers was personal savings, with a significant majority (51%) relying on their own savings to finance their operations. Additional avenues of financing poultry egg production encompass cooperative loans (34%), commercial bank loans (5%), support from friends and relatives (3%), a combination of personal savings and cooperative loans (4%), and assistance from microfinance institutions (3%).

Table 2: Source of funds of cooperative poultry egg farmers in the study area

Source of funds			Cumulative frequency
	Frequency	(%)	
Personal Savings	51	51.0	51.0
Cooperative Societies	34	34.0	85.0
Commercial Banks	5	5.0	90.0
Micro finance Banks	3	3.0	93.0
Friends and Relatives	3	7.0	100.0
Personal savings and Cooperative societies	4	100.0	
Total	100		

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Source: Field Survey, 2024

Cost and return and profitability analysis in poultry egg production

A budgetary analysis was conducted to examine the cost and returns structure, as well as the profitability of the surveyed poultry egg farms. The analysis assessed various profitability measures, including Net Income, Gross Margin, Profitability Index, Operating Ratio, Rate of Return on Investment, Rate of Return to Variable Cost, and Benefit-Cost Ratio. The results showed a favorable profitability profile, with a Net Income of ₦365,170.66, Gross Margin of ₦386,096.46, and a Profitability Index of 0.40. Additionally, the analysis revealed an Operating Ratio of 0.58, a Rate of Return on Investment of 65.56%, a Rate of Return to Variable Cost of 168.11%, and a Benefit-Cost Ratio of 1.66. Notably, the findings indicate that for every ₦1.00 invested in poultry egg production, a profit of approximately ₦0.65 was generated, highlighting the viability and profitability of poultry egg farming in the study area. An initial analysis of Table 3 revealed that revenue from egg sales accounted for the majority at 85.54% of the total revenue, while only 14.46% was derived from the spent layers for the farmers. Additionally, it was noted that feed costs represented the largest portion at 53.85%, followed by stock birds at 40.20% of the total cost. Throughout the egg laying period, these two input costs accounted for over 93% of the total production cost, highlighting the significant impact of total variable cost on the farmers' production expenses. Overall, the positive Net Income of ₦365170.6591 indicated that poultry egg production is indeed reliable, viable and lucrative in the study area.

Table 3: Cost and returns and profitability of the poultry egg production.

Variables	Mean Value (₦)	Percentage (%)
Revenue from eggs	788838.6666	85.54
Revenue from Spent Layers	133349.0003	14.46
Total Revenue	922187.6669	100
Variable cost Inputs		
Cost of the stockt of birds	223457.8880	40.12
Cost of vaccine and drugs	88 .0098	0.02
Cost of disinfectants	46.7583	0.01
Cost of feeds	300000.9950	53.85
Labour cost	7861.7767	1.41
Electricity cost	28.9666	0.01

Transportation cost	4606.8345	0.82
Total Variable Cost	536091.2189	96.24
Total fixed cost	20925.6889	3.76
Total Cost	557016.9078	100N
Net Income	365170.6591	
Gross margin	386096.4556	
Profitability ratio	0.40	
Operation ratio	0.58	
Rate of returns on investment	65.56%	
Rate of return on variable Cost	168.11%	
benefit-Cost ratio	1.66	

Source: Field Survey, 2024.

Constraints militating against profitability of cooperative poultry egg producers

Results of constraints hindering the profitability of cooperative poultry egg production in the study area outlined in table 4. An analysis of these constraints revealed that exorbitant feed expenses (98%), inadequate financial resources (90%), and high costs related to veterinary services and medications (88%) emerged as primary barriers impacting the profitability of poultry egg farming, followed by the lack of governmental support (80%) in the study area. Other significant obstacles included insufficient infrastructure such as roads (65%), marketing difficulties (50%), inadequate water supply, marketing challenges (50%), theft of eggs and poultry birds (44%), the scarcity of dependable workers and laborers (38%), and diseases and pests (23%). The severity of the high feed costs and inadequate finance emphasized the need for establishing a specialized credit program tailored to poultry farmers to alleviate these issues. By providing adequate financial assistance, farmers can acquire superior feeds, thereby improving the feed-to-egg conversion rate and overall business profitability. Producers of poultry products (eggs) encountered numerous challenges during the production phase. Table 4, depicted the results of the predicament analysis. The data indicated the exorbitant expenses of poultry feed emerged as the most pressing concern faced by producers, with 98%. This can be attributed to the increased costs of essential raw materials for feed production. This findings is consistent with the study conducted by Ezeano and Ohaemesi (2019), highlighting the significant impact of high poultry feed costs on producers. The substantial issue of costly poultry feed was closely followed by financial inadequacies, ranking second in the table, likely stemming from limited income generated by producers with modest farm holdings.

Table 4 : Constrains militating against profitability of cooperative poultry egg producers

Constraints to poultry egg enterprise	Yes		No		Rank
	Frequency	(%)	Frequency	(%)	
High cost of feed	98	98.0	1	1.0	1 st
Lack of government support	80	80.0	1	20.0	4 th
High cost of veterinary services & drugs	88	88.0	12	12.0	3 rd
Inadequate fund	90.0	93.0.	5	5.0	2 nd
Marketing problem	50	50.0	50	50.0	7 th
Pilferage and theft of eggs and birds	44	44.0	56	56.0	8 th
Lack of good roads	65	65.0	35	35.0	5 th
Lack of reliable attendants & workers	38	38.0	62	62.0	9 th
Diseases and parasites	23	23.0	77	77.0	10 th
Inadequate water supply	54	54.0	46	46.0	6 th

Source: Field Survey, 2024.

CONCLUSION AND RECOMMENDATIONS

Demographic distribution of respondents revealed a significant gender imbalance, with the vast majority (85%) being male, while only a few of them (15%) were females. The majority (72%) of respondents were aged 50 or below, with a mean age of 36years. Concerning marital status, the majority (73%) were married, while 21% were single. Additionally, 5% were divorced, and 1% were widowed, with an average household size of 5 individuals.

The poultry farmers in the study demonstrated considerable expertise in egg production, boasting an average of 13 years of experience per farmer. Moreover, the farmers showcased a high level of education, with an average annual income of ₦103,885. The data indicated that a minority of respondents (36%) utilized battery cage systems, while the majority (64%) employed deep litter management. An assessment of the funding sources for poultry egg production revealed that personal savings were the primary financial resource, complemented by cooperative loans, commercial banks, and assistance from family and acquaintances. Egg sales constituted the primary revenue stream for farms, whereas income from spent layers typically represented less than 20% of total revenue.

Furthermore, poultry egg farmers encountered challenges such as insufficient financing, elevated feed and veterinary expenses, among other obstacles. Benefit-Cost Ratio of 1.66. Notably, the findings

indicate that for every ₦1.00 invested in poultry egg production, a profit of approximately ₦0.65 was generated, highlighting the viability and profitability of poultry egg farming in the study area.

Conclusively, the positive Net Income of ₦365170.6591 indicated that poultry egg production is indeed profitable, viable and lucrative in the study area.

The study recommended that poultry egg farmers ought to consider establishing cooperative societies, with a particular emphasis on encouraging females participation in poultry farming activities. It is imperative for the government to persist in subsidizing agricultural loans, ensuring that the disbursing partners strictly adhere to the official interest rates and loan stipulations. Additionally, the government must strive to create a conducive environment that will further stimulate the patronage of poultry egg production among the farmers.

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