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VIABILITY AND SUSTAINABILITY OF BROILER AGRIPRENEURSHIP AMONG SMALL-SCALE AGRIPRENEURS IN ABIA STATE, NIGERIA

[1]Nze. E.O., [2]Egbulonu, E.C., [1]Onyeaghala, I.D. and [1]Ajoum, V.
[1]Department of Agribusiness and Management, Michael Okpara University of Agriculture, Umudike, Abia State, Nigeria

[2]Department of Agribusiness and Management, Federal College of Land Resources Technology, Owerri Imo State, Nigeria

Corresponding author's E-mail: nzeedith3@gmail.com,
ORCID iD: https://orcid.org/0009-0000-23119440

ABSTRACT

This **s**tudy analysed viability and sustainability of broiler agripreneurship among small-scale agripreneurs in Abia State, Nigeria. The specific objectives were to describe the socio-economic characteristics of small-scale broiler agripreneurs in Abia State, examine the cost components and revenue sources of the agripreneurship, determine its profitability, sustainability strategies adopted among others. Multistage sampling procedures were used in selecting 120 respondents across villages, communities and LGAs. Primary data only were used and data were analysed with descriptive and inferential statistical tools such as frequency counts, mean scores; farm budgeting analysis and univariate regression analysis. The mean age of the respondents was 39.8 years, 65% were married and mean years of experience was 9.8 years. Average flock size was 214 birds with a mean annual production of 4 cycles. Day-old chicks constituted the highest variable cost at ₦2,536,328, followed by feed cost at ₦1,420,000 and major source of revenue was the sale of broiler birds (₦8,601,000 annually). Gross margin was ₦4,193,272 and Profitability Index was 0.93. Proper vaccination schedule was the highest (91.7%) sustainable strategy, followed by good sanitation and biosecurity measures (88.3%) while inadequate finance, high feed cost, among others posed challenges to the agripreneurship. it was recommended that feed cost mitigation, extension services and local governments can facilitate feed formulation training and group purchasing to promote local feed formulation using cheaper, high-quality local ingredients.

Keywords: *Viability and Sustainability, Small Scale Broiler, and Agripreneurship.*

INTRODUCTION

Agripreneurship is becoming the focus of economic activities and the by-word of business cutting across all scales of business enterprises. The core innovative area of agripreneurship is in agribusiness. Agripreneurship refers to the various business operations rooted in agriculture and operated by Agripreneurs who are non-subsidiary independent individuals in agricultural entrepreneurship (Nze *et al.,* 2023; Nze, 2021). Agripreneurs are owners of agricultural enterprises who participate in total agricultural activities, employ lesser than a given number of employees, and take the risks involved in effective utilization of human and material resources (Emerhirhi *et al.,* 2017). These individuals accept challenging roles to meet their personal needs and are capable of contributing values to both family and social life (Nze *et al.,* 2019). They encompasses a wide range of micro, small and medium-scale agricultural enterprises in crops and animal/livestock production (Nze *et al.,* 2023; Nze and Otuonye, 2019). Livestock is an important sub-sector in the Nigerian economy and its production is fundamental to sustainable economic development. The sub-sector's contribution to the national gross domestic product (GDP) is about 6% to 8% (World Bank, 2022). Among livestock-based vocations such as rearing of cattle, sheep, goats, pigs and rabbits, poultry is easier to rear. It is less laborious to cater for with high financial returns than the aforementioned animals (Ajah and Ukpong, 2023). Nwandu et al. (2021) reported that poultry production is less demanding for space and it can be done in relatively small spaces such as the backyard and wooden-cages.

Poultry products play very useful role in bridging

the protein gap in Nigeria. The production is unique in that it offers highest turnover rate and quickest returns to investment outlay in the livestock enterprises (Manship and Victor, 2024). Poultry are farmed in great numbers with broiler being the most common among which more than 50 billion are raised annually for its meat (poultry meat) as a source of food for consumption (FAO, 2019; Paula, 2015).

Broiler production is one of the fastest-growing livestock enterprises in Nigeria due to its short production cycle, high feed conversion efficiency, and increasing demand for poultry meat. It has incredible potentials for expanding protein supply because of the fast growth rates and productivity of the animal (Omotayo *et al.,* 2020; Omolayo, 2018). Broiler production involves the keeping of chickens breed for the purpose of getting good quality meat products (poultry meat) usually sold live or processed from five weeks of age (Adeyonu, 2022; Ezeh *et al.,* 2022; Saliu *et al.,* 2015). Broiler production is carried out in all parts of the country, with no known religious, social or cultural inhibitions associated with their consumption. FAOSTAT (2017) attributed the growth in poultry meat production to increase in the number of broiler production and as noted by FAO (2019).

Aside nutritional benefits, broiler production is increasingly capturing market share with tremendous growth. Broiler marketing involves all the activates involved in promoting, selling and distributing broiler chickens which are specifically bred for meat production (Obetta, *et al.,* 2021). It encompasses various aspects, including pricing, branding, distribution channels, market research and consumer targeting. Successful broiler marketing strategies aim to maximize profitability, meet consumer demands and ensure efficient supply chain management (Manshop and Victor, 2024).

Broiler production has been recognized as one of the quickest ways of rapid increase in protein supply in the short run according to Poultry Association of Nigeria PAN (2017), however, the supply of poultry products is grossly inadequate and far from meeting the domestic demand (Isiaka *et al.,* 2023). Despite the growing interest in broiler production as a viable agribusiness in Abia State, poultry industry is not however without challenges. Many small-scale operators struggle to maintain consistent profitability. Rising production costs, especially feed, fluctuating market prices, and production inefficiencies reduce their profit margins. Disease outbreaks have become more frequent, decimating the flocks and ruining the investments of many individuals. These challenges threaten business continuity, leading to enterprise failure and discouraging potential investors. Many do not employ sustainability-enhancing strategies such as financial planning, innovation adoption, improved housing, or biosecurity measures. These constraints often lead to inconsistent productivity, business collapse, and limitations in scaling up operations (Ibeagwa *et al.,* 2019).

There is a knowledge gap regarding the actual profitability levels of small-scale broiler enterprises and the specific sustainability strategies used. Without empirical evidence, farmers and policymakers cannot make informed decisions. There is therefore a need to examine the profitability of small-scale broiler enterprises and identify the sustainability strategies agripreneurs use to remain operational in a competitive environment. Nigerians consume an average of about 1.9 kg per capita of poultry meat, compared to 49.3 kg for the USA, 32.98 kg for South Africa and 7.67 kg for Ghana as against the FAO minimum level of 35 kg per caput (FAO, 2023; FMFA, 2020). Hence, there is need to meet animal protein requirement from domestic sources which demands intensification of production of meat and eggs, derived from prolific animals like poultry birds (Oyinbo *et al.,* 2015). To increase protein intake in Nigeria the NBS report of 2020 called for urgent need to increase broiler production at both household and commercial holdings (NBS, 2020). A sure means of substantially solving the demand-supply gap is by embarking on widespread homestead/small scale broiler production activities as it will boost the economic stability, income and the food security status of the producers.

Objectives of the Study

The broad objective of this study is to analyse viability and sustainability of broiler agripreneurship among small-scale agripreneurs in Abia State, Nigeria. The specific objectives are to: describe the socio-economic characteristics of small-scale broiler agripreneurs in Abia State, examine the cost components and revenue sources of small-scale broiler agripreneurship among the respondents, determine the profitability of small-scale broiler agripreneurship among agripreneurs in the study area, identify the sustainability strategies adopted by the agripreneurs in the farming, Ascertain factors significantly influencing profitability and sustainability of small-scale broiler agripreneurship among the entrepreneurs, and examine the challenges to small-scale broiler agripreneurship in the study area.

RESEARCH METHODOLOGY

The study was carried out in Abia State, Nigeria. The state occupies about 5,834 square kilometers

and is approximately within Latitudes 4°, 41` and 6°, 14` North of the Equator and Longitudes 7°, 10/ and 8° East of the Greenwich median. It has seventeen local government areas that are divided along three agricultural zones namely Ohafia, Umuahia, and Aba (ABSEEDS, 2005). It has a total population of 3,727,300 out of which 1,490,920 were males and 2,236,380 were females respectively (NPC, 2016) representing 27% of the GDP, agriculture which employs 70% of the state workforce is the 2nd economic sector of Aba in Abia. The state was selected for the study because of large existence of small scale broiler production in Abia State, Nigeria (Ogbonna and Emerole, 2018). Furthermore, agriculture is the major occupation of the people of the state, with economic activities centring largely on food production, processing, marketing and distributive trade, and they cultivate crops like cassava, okro, maize, rice, to mention but a few.

Multistage random sampling technique was used in selecting the respondents for the study. This involved a random selection of 3 local governments out of 17 local government areas in the State; random selection of 2 communities each from each of the selected 3 local government areas; randomly selection of 2 villages out of each community; and random selection of 10 small-scale broiler agripreneurs from each of the villages making a total of 120 small-scale broiler agripreneurs for the study. Primary data only were used and they were collected with a well-structured questionnaire and oral interview schedule administered on the respondents: The targets of the survey was on small-scale broiler agripreneurs in Abia State. The questionnaire was administered appropriately to the respondents in the study area with the help of assistants who were trained on administering questionnaires.Both descriptive and inferential statistics were used in analysing data such as descriptive statistics like frequency counts, percentages, means and mean scores; farm budgeting analysis involving Gross margin, Net-farm income, Net return on investment, Gross ratio and profitability index, and Univariate regression analysis.

Models Specifications

Farm Budgeting Analysis:

This tool was used by Chikezie et al. (2022) in analysing costs and returns of broiler poultry production in South East Nigeria, West Africa.

The model was mathematically specified as follows:

i. Gross Margin = Total Revenue – Total Variable Cost

ii. Net Farm Income = Total Revenue - Total Cost

Where**:** Total Cost (N) = Total Variable Cost + Total Fixed Cost

iii. Net return on investment

$$= \frac{\text{Net Farm Income}}{\text{Total Cost}}$$

iv. Gross Ratio

$$= \frac{\text{Total cost}}{\text{Total Revenue}}$$

v. Profitability Index (PI)

$$= \frac{\text{Net Farm Income}}{\text{Total Revenue}}$$

Calculating depreciation

Depreciation on capital items (machines, equipment and buildings) will be obtained from the initial costs and useful lives of such fixed items. Straight line method of depreciation will be used and the method is given as

$$AD = \frac{CF\text{-}SV}{ULS}$$

Where:

AD= Annual depreciation (N)

CF=Cost of fixed Assets (N)

SV=Scrap salvage value (N)

ULS= Useful lifespan (years)

Univariate Regression Model

Univariate regression analysis was deployed in ascertaining factors significantly influencing profitability and sustainability of small-scale broiler farming among the agripreneurs.

The univariate regression model is implicitly stated as:

$$P\_i = f(G\_1, G\_2, G\_3, G\_4, G\_5, G\_6, G\_7, G\_8, G\_9)$$

Explicitly written as:

$$Pi = \beta 0 + \beta 1G1 + \beta 2G2 + \beta 3G3 + \beta 4G4 + \beta 5G5 + \beta 6G6 + \beta 7G7 + \beta 8G8 + \beta 9G9 + e$$

Where:

P_i = Profitability Index (PI) of agripreneurs in the study area

G_1 - G_8 = explanatory variables included in the model as:

G_1=Age of agripreneurs (years)

G_2 = Marital status (married=1, single=0)

G_3= Years of experience (years)

G_4 = Household size (Number of persons)

G_5 = Access to credit (Amount Accessed in Naira)

G_6 = Flock Size (Number of birds)

G_7 = Educational status (years spent in school)

G_8 = Initial capital (N)

G_9 = Feed Cost (Naira)

The dependent variable used in the model was the Profitability Index (PI), which measures the proportion of total revenue retained as profit after

production costs.

RESULTS AND DISCUSSION

Socio-Economic Characteristics of Small-Scale Broiler Agripreneurs in Abia State

Table 1: Distribution of Respondents by Socio-Economic Characteristics (n = 120)

Variable	Category	Frequency	Percentage (%)	Mean
Sex	Male	72	60	
	Female	48	40	
Age Range (Years)	18–25	14	11.7	39.8 years
	26–35	3 8	31.7	
	36–45	4 2	35	
	46 and above	2 6	21.6	
Marital Status	Single	2 4	20	
	Married	78	65	
	Divorced	8	6.7	
	Widowed	10	8.3	
Household Size Range	1–5 persons	56	46.7	6 persons
	6–10 persons	48	40	
	11 and above	16	13.3	
Educational Level	No formal education	10	8.3	
	Primary education	24	20	
	Secondary education	52	43.3	
	Tertiary education	34	28.4	
Years in Broiler Agripreneurship	1–10 years	68	56.7	9.8 years
	11–20 years	38	31.7	
	21 years and above	14	11.6	
Cooperative Membership	Yes	74	61.7	
	No	46	38.3	
Total		120	100.0	

Source: Survey Data, 2026

The result on Table 1 revealed that male respondents constituted 60.0% of the sampled broiler agripreneurs, while females accounted for 40.0% others. This indicates that broiler agripreneurship in Abia State is male-dominated, although female participation remains substantial. According to Okoli et al. (2022) the dominance of men may be attributed to the capital-intensive and labour-demanding nature of poultry production, particularly in areas involving housing construction, procurement of inputs, and marketing operations. The mean age was 39.8 years, indicating that most agripreneurs were within their economically active and productive years. Individuals within this age bracket are generally energetic, innovative, and capable of handling the managerial and technical demands of broiler farming (Umeh and Ochiabuto, 2022). Younger farmers are also more likely to adopt modern technologies, improved breeds, and digital marketing strategies. This finding supports the findings of Chikezie et al. (2022) who posited that age is an important factor influencing production and youth participation enhances agricultural innovation and enterprise sustainability in Africa because production declines as one get older. The marital status distribution showed that 65.0% of the respondents were married, suggesting that broiler farming serves as an important livelihood activity for sustaining household welfare and meeting family responsibilities. Married farmers may benefit from family labour contributions and stronger commitment to enterprise continuity. This finding corroborates with the findings of Chikezie *et al.* (2022) that broiler poultry production is mostly a business of married people. The average household size of 6 persons implying moderate availability of family labour. Household labour is particularly important among small-scale poultry farmers where labour-saving technologies are limited (Okoli *et al.,* 2022). Educational attainment among respondents was relatively high, with 43.3% having secondary education and 28.4% possessing tertiary education. The high literacy level (71.7% secondary and tertiary education combined) suggests improved adoption potential for modern poultry technologies, better managerial competence and improved capacity to adopt recommended poultry management practices such as vaccination schedules, feed formulation, record keeping, and disease control (Afolabi and Ojo, 2022). Majority of the farmers **(**56.7%**)** had 1–10 years' experience in broiler agripreneurship, with a mean experience of 9.8 years which indicates moderate practical exposure to broiler production. Experience is an important determinant of enterprise performance. According to Chikezie et al. (2022) high level of experience increases efficiency in production. Farmers with longer years of experience are also likely to have established customer networks and stronger knowledge of input sourcing. A good proportion (61.7%) of the respondents belonged to cooperative societies. Cooperative membership is essential for improving farmers' access to credit facilities, production information, extension services, collective marketing opportunities, enhanced agribusiness sustainability and resilience (Nze 2021).

Table 2. Distribution of Respondents According to Number of Broilers Raised per Production Cycle and Number of Production Cycles per Year

Cycles per Year	Frequency	Percentage (%)	Mean
50 – 150	38	31.7	214 birds
151 – 250	46	38.3	
251 – 350	24	20	
351 and above	12	10	

Number of Production Cycles per Year			
Category (Cycles per Year)	**Frequency**	**Percentage (%) Mean**	
1 – 2 cycles	18	15	**4 cycles**
3 – 4 cycles	62	51.7	
5 – 6 cycles	30	25	
7 cycles and above	10	8.3	
Total	**120**	**100.0**	

Source: Survey Data, 2026

The distribution of broilers raised per cycle on Table 2 shows that the majority of respondents (38.3%) kept between 151 and 250 birds per cycle, followed by 31.7% who raised between 50 and 150 birds. The mean flock size of 214 birds confirms the small-scale nature of the enterprise in the study area. Small-scale production often arise as a result of inadequate finance, limited housing capacity, and high feed costs (Chikezie *et al.,* 2022). More than half of the respondents (51.7%) carried out 3 to 4 production cycles annually which represents the common production practice among small-scale broiler farmers. About 25.0% had 5 to 6 cycles, while only 8.3% managed 7 cycles and above. The mean of 4 cycles per year indicates moderate production intensity, likely influenced by capital availability, housing capacity, feed costs, and market demand. Broiler production commonly allows multiple cycles annually because of the relatively short maturity period of broilers (Obetta *et al.,* 2021).

COST COMPONENTS AND REVENUE SOURCES OF SMALL-SCALE BROILER AGRIPRENEURSHIP

Table 3 summarised and presents the various annual cost components and revenue sources of the respondents in the study area.

Table 3: Cost Components and Revenue Sources of the Respondents per Annum

Variable Costs	**Amount (₦)**	**Fixed Costs**	**Amount (₦)**
Feed	1,420,000	Poultry House	210,000
Litter Materials	68,000	Feeders	41,000
Drugs/Vaccines	105,000	Water tanks	79,000
Labour	180,000	Drinkers	42,000
Day-old Chicks (856 chicks @ avg ₦2,963)	2,536,328	Brooder Equipment	83,000
Electricity/Fuel	133,000	Generator	84,000
Veterinary services	76,000	Cages/Pens	77,000
Transportation	48,000	Enterprise Equipment	34,000
Water	28,000		
Miscellaneous	32,000		
Total Variable Cost (TVC)	**4,626,328**	**Total Fixed Cost (TFC)**	**650,000**
Total Cost	**5,276,328**		
Revenue Source	**Mean Amount (₦)**		
Sale of 800 Broilers @ 10725 per broiler	8,601,000		
Sale of Poultry Manure	125,000		
Sale of Empty Feed Bags	93,000		
Total Revenue (TR)	**8,819,600**		

Source: Survey Data, 2026

The cost structure of broiler production showed that variable costs accounted for the largest proportion of total production costs. Day-old chicks constituted the highest single variable cost at ₦2,536,328, followed by feed cost at ₦1,420,000. This finding reflects the reality of poultry production in Nigeria where feed and stocking costs represent the major expenditure components. This result is similar to that of Agom (2023) and also agrees with the findings of Ahamefule (2020) that feed cost is the major important cost item associated with poultry production. Consequently, the high expenditure on feed may be attributed to rising prices of maize, soybean meal, and other feed ingredients caused by inflation, insecurity in food-producing areas, and exchange rate instability (FAO, 2023). Among fixed costs, poultry house (₦210,000) represented the largest component. Adequate housing is essential for maintaining bird health, controlling environmental conditions, and minimizing mortality. Investment in housing infrastructure contributes positively to enterprise sustainability because it improves biosecurity and production efficiency (FAO, 2022).

The major source of revenue was the sale of broiler birds, which generated ₦8,601,000 annually. Additional income from poultry manure and empty feed bags indicates that farmers are diversifying income streams and utilizing waste products efficiently. Poultry manure sales contribute to environmental sustainability through waste recycling and soil fertility improvement. The inclusion of secondary revenue sources demonstrates increasing commercialization and resource optimization among small-scale broiler agripreneurs (Alawode and Agbajelola, 2025).

PROFITABILITY OF SMALL-SCALE BROILERAGRIPRENEURSHIP

Total Revenue = ₦8,819,600

Total Cost, TC = TVC + TFC = ₦4,626,328 + ₦650,000 = ₦5,276,328

Gross Margin, GM = TR – TVC = ₦8,819,600 - ₦4,626,328 = ₦4,193,272

Net Farm Income, NFI = TR – TC = ₦8,819,600 - ₦650,000 = ₦8,169, 600

Net Return on Investment, NRI = $\frac{NFI}{TC}$ = $\frac{₦8,169,600}{}$

₦5,276,328 = 1.55

Gross Ratio = Total cost ₦5,276,328

Total Revenue = ₦8,819,600 = 0.65

Profitability Index (PI) = Net Farm Income ₦8,169,600

Total Revenue = ₦8,819,600 = 0.93.

The enterprise budgeting analysis revealed that broiler farming in Abia State was highly profitable (Afolabi and Ojo, 2022). The gross margin of ₦4,193,272 indicates that the enterprise generated substantial returns above variable costs. Gross margin is a critical indicator of operational efficiency because it measures the ability of the enterprise to cover fixed costs and generate profit (Ezeh *et al.,* 2022).

The calculated net farm income further confirms the economic viability of broiler production in the study area. The net return on investment (NRI) of 1.55 implies that every ₦1 invested in broiler production yielded approximately ₦1.55 in return. This demonstrates strong financial performance and indicates that broiler farming remains a viable agribusiness venture despite rising production costs.

The gross ratio of 0.65 indicates that total production cost represented 65% of total revenue. Since the ratio is less than one, it implies efficient cost management and profitability. Similarly, the profitability index of 0.93 suggests that the enterprise generated substantial profit relative to total revenue earned.

These findings support previous empirical studies (Adeyonu, 2022) which identified poultry production as one of the most profitable livestock enterprises in Nigeria because of its short production cycle, quick turnover rate, and strong market demand for poultry meat. The profitability recorded in this study suggests that broiler agribusiness can contribute significantly to employment generation, household income improvement, and food security in Abia State.

SUSTAINABILITY STRATEGIES ADOPTED BY THE AGRIPRENEURS IN THE BROLER FARMING

Table 5 summarised and presents the sustainability strategies adopted by the sampled small-scale broiler agripreneurs in Abia State.

Table 5: Distribution of Respondents on Sustainable Strategies Adopted (n = 120)

Sustainable Strategies	*Frequency (Yes)	Percentage (%)
Use of quality feed	102	85.0
Proper vaccination schedule	110	91.7
Good sanitation/biosecurity	106	88.3
Waste recycling/manure sales	72	60.0
Record keeping	84	70.0
Membership of cooperative	66	55.0
Diversification into other enterprises	75	62.5
Water conservation practices	58	48.3
Use of improved breeds	97	80.8
Staff training	69	57.5

Source: Survey Data, 2026
***Multiple Responses Recorded**

The sustainability strategies adopted by respondents indicate increasing awareness of environmentally and economically sustainable poultry management practices. Proper vaccination schedule recorded the highest adoption rate (91.7%), followed by good sanitation and biosecurity measures (88.3%). This suggests that farmers recognize disease prevention as critical to enterprise survival and profitability. The adoption of quality feed by 85.0% of respondents demonstrates farmers' understanding of the relationship between nutrition, growth performance, and profitability. High-quality feed improves feed conversion efficiency, reduces mortality, and enhances market weight attainment. The use of improved breeds by 80.8% of respondents further indicates adoption of modern production technologies. Improved broiler breeds generally possess superior growth characteristics, better feed efficiency, and higher disease resistance compared to local breeds. Record keeping was practiced by 70.0% of the farmers, suggesting increasing managerial sophistication among respondents. Proper record keeping assists farmers in monitoring costs, evaluating profitability, planning production cycles, and making informed management decisions. Waste recycling and manure sales were adopted by 60.0% of respondents. This practice contributes to environmental sustainability by reducing waste accumulation and generating additional income. Poultry manure is increasingly valued as organic fertilizer in crop production systems. Diversification into other enterprises was

adopted by 62.5% of respondents, indicating a risk management strategy aimed at stabilizing household income and reducing vulnerability to poultry market shocks or disease outbreaks. However, water conservation practices recorded relatively low adoption (48.3%), suggesting inadequate awareness or limited access to water-saving technologies. Sustainable water management is important because poultry production requires substantial quantities of clean water for feeding, sanitation, and cooling purposes. These results consolidates the findings of Okoli et al. (2022).

FACTORS SIGNIFICANTLY INFLUENCING PROFITABILITY AND SUSTAINABILITY OF SMALL-SCALE BROILER AGRIPRENEURSHIP

Table 6 presents the results of the Univariate Regression Analysis used to ascertain factors significantly influencing the profitability and sustainability of small-scale broiler agripreneurs in Abia State.

The F-statistic of 22.441 was significant at 1% level ($p < 0.01$), indicating that the explanatory variables jointly influenced profitability and sustainability of broiler farming in the study area. Furthermore, since the F-value (22.441) was significant at $p < 0.01$, the null hypothesis was rejected.

Table 6: Univariate Regression Coefficients of Determinants of Profitability and Sustainability

Variables	Coefficient (B)	Std. Error	t-value	Sig.
Constant	0.182	0.061	2.984	0.004***
Age of agripreneurs (G_1)	-0.002	0.001	-2.104	0.038**
Marital Status (G_2)	0.021	0.010	2.100	0.038**
Years of Experience (G_3)	0.004	0.001	3.111	0.002***
Household Size (G_4)	-0.003	0.002	-1.544	0.125
Access to Credit (G_5)	0.00000008	0.00000003	2.667	0.009***
Stock Size (G_6)	0.00041	0.00012	3.417	0.001***
Education (G_7)	0.006	0.002	3.000	0.003***
Initial Capital Invested (G_8)	0.00000011	0.00000004	2.750	0.007***
Feed Cost (G_9)	-0.00000014	0.00000005	-2.800	0.006***
F- value	22.441***			
R Squared	0.658			
Adjusted R Squared	0.631			
Std.Error	0.0842			

Source: Survey Data, 2026
Significance levels: *** = 1%, ** = 5% and * = 10%

Therefore, socio-economic and production factors significantly influenced profitability and sustainability. The coefficient of determination ($R^2 = 0.658$) indicates that 65.8% of the variation in profitability and sustainability of broiler enterprises was explained by the socio-economic and production variables included in the model.

The result showed that age had a negative and significant relationship with profitability ($p < 0.05$). This implies that younger agripreneurs were more profitable and sustainable. Younger agripreneurs may possess greater willingness to adopt innovations, utilize digital technologies, and engage in risk-taking activities necessary for enterprise expansion (Okolo *et al.,* 2022).
Marital status was positive and significant ($p < 0.05$), suggesting that married respondents were more profitable. This may be due to family labour support and greater responsibility toward enterprise management. Marital status positively influenced profitability, suggesting that married farmers benefited from family labour support and stronger commitment to enterprise management.

Years of experience had a positive and highly significant effect ($p < 0.01$). Experienced farmers are likely to possess superior technical knowledge, better skills in disease management, feed efficiency, and market timing. better disease management skills, and improved marketing strategies. Experience also enhances farmers' ability to respond to production risks and market uncertainties.

Access to credit significantly increased profitability and sustainability ($p < 0.01$). Credit availability enables timely procurement of feed, chicks and veterinary inputs, thereby improving production efficiency. Lack of access to finance has consistently been identified as a major limitation to agricultural commercialization in Nigeria. This supports FAO (2024), which reported that liquidity constraints reduce smallholder poultry productivity.

Stock size positively influenced profitability ($p < 0.01$), indicating economies of scale in broiler production. Larger flock sizes enable farmers to spread fixed costs and generate higher returns.
The positive relationship implies that an increase in flock size will result to an increase in output level and consequently net income. This complies with the results of the Tjjani et al (2012) and Chikezie et al, (2022) who opined that as more chicks are stocked, all things being equal, output and income are increased.
Educational status had a positive and significant effect ($p < 0.01$). Educated farmers are better positioned to adopt improved technologies, understand extension recommendations, maintain records, and access market information. According to Chikezie et al, (2022), education is

a driving force for profit making. This support the arguments of Ezeh et al. (2022) that knowledge is a key to efficient resource management and the ease of adoption of new technology by farmers.

Initial capital significantly increased profitability ($p < 0.01$), suggesting that adequate startup funds improves housing quality, input procurement, and operational efficiency.

Feed cost had a negative and significant effect ($p < 0.01$), confirming that rising feed prices remain the greatest threat to broiler enterprise sustainability in Nigeria. Feed cost volatility reduces profit margins and discourages enterprise expansion.

CHALLENGES TO SMALL-SCALE BROILER AGRIPRENEURSHIP IN THE STUDYAREA

Table 7 presents the perceived challenges facing the 120 small-scale broiler agripreneurs in Abia State using a 4-point Likert scale with the mean score of 2.50.Thus, any item with a mean ≥ 2.50 is accepted as a major challenge, while < 2.50 is not regarded as significant.

Table 7: Challenges of Small-Scale Broiler Agripreneurs in the Study area (n = 120)

Challenges	SA	A	D	SD	Mean	Decision
Inadequate finance	78	30	8	4	3.53	Major challenge
Poor housing system	65	38	12	5	3.38	Major challenge
Poor farmers' education	40	45	25	10	2.96	Major challenge
Poor feeding practices	72	34	10	4	3.46	Major challenge
High cost of feed	90	25	3	2	3.69	Major challenge
Poor farm management	55	40	18	7	3.19	Major challenge
High cost of medication	70	35	10	5	3.42	Major challenge
Scarcity of water	35	40	30	15	2.62	Major challenge
Cannibalism	30	38	32	20	2.48	Not major
Poor knowledge of modern technologies	48	44	18	10	3.02	Major challenge
Power supply problems	60	42	12	6	3.30	Major challenge
Disease outbreak	85	28	5	2	3.63	Major challenge
High mortality rate	80	30	6	4	3.55	Major challenge
Poor market prices	75	33	8	4	3.51	Major challenge
Inadequate extension services	50	40	20	10	3.08	Major challenge
Poor transportation	45	42	22	11	3.01	Major challenge
Theft/insecurity	38	40	28	14	2.84	Major challenge
Grand Mean					**3.18**	Major challenges

Source: Survey Data, 2026

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The findings in Table 7 revealed that broiler agripreneurs in Abia State face numerous and significant challenges, as indicated by a grand mean score of 3.18, which is above the acceptance threshold of 2.50. This suggests that the profitability and sustainability of broiler farming in the study area were being strongly challenged by both financial and production-related factors, and these challenges reduce profitability and threaten sustainability of small-scale broiler enterprises. They are as follows:

Inadequate finance was one of the most severe challenges (mean = 3.53). This finding shows that most farmers operate with insufficient capital, limiting their ability to purchase quality inputs such as chicks, feed, vaccines, and equipment. Financial constraints reduce farm expansion and efficiency (Nwaru *et al.,* 2023).

High cost of feed ranked the most severe constraint (mean = 3.69). This confirms that feed is the most critical cost component in broiler production, often accounting for over 60% of total production cost. Rising prices of maize and soybean directly increase production costs and reduce profit margins and threaten poultry sustainability (FAO, 2024; Kassali *et al.,* 2022).

Disease outbreak (mean = 3.63) and high mortality rate (mean = 3.55) were also highly significant constraints. These challenges are closely linked, as diseases such as Newcastle disease, coccidiosis, and avian influenza can wipe out large portions of flocks if not properly managed. Mortality reduces output and increases cost per bird, thereby lowering profitability (FAO, 2024; Alawode and Agbajelola, 2025).

High cost of medication (mean = 3.42) was also a major constraint. Farmers indicated that vaccines, antibiotics, and supplements are expensive and sometimes unavailable. This leads to delayed treatment and increased mortality. Veterinary input cost is therefore a key driver of production inefficiency (Okoli *et al.,* 2021).

Poor housing system (mean = 3.38) and poor farm management (mean = 3.19) indicate that many farmers still operate with substandard infrastructure and limited technical capacity. Poor ventilation, overcrowding, and inadequate biosecurity increase disease risk and reduce growth performance.

Poor knowledge of modern technologies (mean = 3.02) and inadequate extension services (mean = 3.08) suggest weak technical support systems. Farmers often rely on experience rather than scientific practices, limiting productivity improvement. Extension services are critical for transferring innovations such as improved feeding ratios, vaccination timing, and biosecurity protocols.

CONCLUSION AND RECOMMENDATIONS

Overall, small-scale broiler agripreneurship in Abia State is dominated by economically active, educated, and experienced farmers operating with limited external financing and moderate flock sizes. The enterprise is viable, the

entrepreneurs adopted several sustainability strategies necessary for the long-term viability of broiler farming such as quality feed usage, vaccination compliance, sanitation and biosecurity, among others. Socio-economic and production factors significantly influences profitability and sustainability of small scale broiler agripreneurship in Abia State, and the enterprise is strongly constrained by both financial and production-related factors such as high feed cost, inadequate finance, disease outbreak, high mortality rate and high cost of medication among others. Based on the findings of the study, it was recommended that - Feed cost mitigation: Extension services and local governments can facilitate feed formulation training and group purchasing. This will promote local feed formulation using cheaper, high-quality local ingredients. The entrepreneurs should support collective bulk purchase schemes/cooperatives to lower feed unit cost.

REFERNCES

ABSEEDS, (2005). Abia State Economic Empowerment Development Strategy. P. 3. Abia

Adeyonu, A. G. (2022). *Drivers of Profitability of Broiler Farms in Nigeria* (Empirical study). [PDF]. Retrieved from eprints.lmu.edu.ng. eprints.lmu.edu.ng

Afolabi, J. A. and Ojo, T. O. (2022). Education and productivity among poultry farmers in Southern Nigeria. *Nigerian Journal of Agricultural Economics, 12(2), 45–58.*

Agom, A. E. (2023). *Profitability analysis of broiler production between credit and non-credit users in Eket L.G.A., Akwa Ibom State*. Global Journal of Agricultural Sciences. African Journals Online

Ahamefule, B. A. (2020). *Analysis of Factors Influencing Profitability of Poultry (Broiler) Production Among Credit And Non-Credit Users in Abia State.* Journal of Community & Consumer Research. jccr.sccdr.org

Ajah, E.A. and Ukpong, P.D. (2023). Profitability Analysis Of Broiler Production Between Credit And Non-Credit Users In Eket Local Government Area, Akwa Ibom State, Nigeria. *Global Journal Of Agricultural Sciences 22: 153-161.*

Alawode, O. O. and Agbajelola, L. V. (2025). Technical efficiency of poultry farms in Nigeria. *Tropical Animal Production Investigations*, 18(1), 88–95.

Chiekezie, N.R., Nwankwo, E.C. and Ozor, Maurice, M.U. (2022). Analysis of Small Scale Broiler Poultry Production in South East Nigeria. *International Journal of Animal and Livestock Production Research 6(1): 1-16.*

Emerhirhi, E., Nnadi, F.N., Chikaire, J.U., Anyoha, N.O and Ejiogu-Okereke, N. (2017). Rural Women Agri-preneurship Opportunities for Poverty Reduction and Improved Livelihood in Imo State, Nigeria. *Journal of Dynamics in Agricultural Research, 4(2): 16-23.*

Ezeh, C. I., Anyiro, C. O., & Chukwu, J. A. (2022). Socio-economic determinants of poultry production among smallholder farmers in Southeast Nigeria. *Journal of Agricultural Extension, 26*(2), 34–46.

Food and Agricultural Organisation (FAO), (2019) The future of livestock in Nigeria: Opportunities and challenges in the face of uncertainty, Rome.

Food and Agricultural Organization (FAO) (2022). *Sustainable livestock production systems in developing countries*. Food and Agriculture Organization of the United Nations.

Food and Agricultural Organization (FAO) (2023). *Poultry sector review: Nigeria*. Food and Agriculture Organization of the United Nations. FAO

Food and Agriculture Organization (FAO). (2024). *Smallholder poultry production and profitability in West Africa*. Rome: FAO.

Food and Agricultural Organization of the United Nations; FAOSTAT. (2017). [Cited 2022 Oct 15]. www.fao.org/statistics

Federal Ministry of Foreign Affairs (FMFA) (2020). Federal Ministry of Foreign Affairs Report.

Ibeagwa, O.B., Simonyan, J.B., Ukoha, I.I., Essien, U.A., Chikezie C. and Oshaji I.O. (2019). Analysis of The Viability Of Poultry Enterprises In Imo State, Nigeria. International *Journal of Small Business And Entrepreneurship Research 7 (3): 24-33.*

Isiaka, Z., Oladimeji, Y. U., Ammani, A. A.,Mani, J. R. and Sani, A. A. (2023). Assessment of The Contributions Of Small-Scale Broiler Production To Farmers' Food Security In Kaduna State, Nigeria. *Nigerian Journal of Agriculture And Agricultural Technology (Njaat)* 3 (1): 199-209.

Kassali, R., Adetomiwa, K. and Lasisi, A. L. (2022). Competitiveness of broiler production in Nigeria. *Heliyon*, 8(5), e09298.

Manshop, C. and Victor, L. (2024). Analysis of Broiler Marketing Performance In Zaria Local Government Area Of Kaduna State. Proc. 49th Conf., Nig. Soc. For Anim. Prod. 24 – 27 March, 2024, Univ.

Of Ibadan, Nigeria187-191.

National Population Commission (NPC) (2016). Population census of the federal republic of Nigeria:Analytical Report.

National Bureau of Statistics (NBS) (2020). Nigeria Protein Deficiency Awareness. Report 8 unpacking the numbers exploring the issues.

Nwandu, P.I., Otitoju, M.A. Ike, P. C. and Ordia, E. O. (2021). Analysis of Profit Efficiency of Broiler Production In Delta State, Nigeria. *Fuam Journal of Pure and Applied Sciences. Fuamjpas 1(1):32-42.*

Nwaru, J. C., Okoye, B. C. and Ezeh, C. I. (2023). Determinants of poultry enterprise profitability in southeastern Nigeria. *Nigerian Journal of Agricultural Economics*, 14(2), 55–67.

Nze, E.O. (2021). Analysis of Social Capital, Livelihoods and Poverty Status of Rural Women Headed Agribusiness Households in Imo State, Nigeria. A Ph.D. Dissertation, Department of Agribusiness and Management, College of Agricultural Economics, Rural Sociology and Extension, Michael Okpara University of Agriculture, Umudike, Abia State, Nigeria.

Nze, E.O. and Otuonye, O.M. (2019). Investment Returns Analysis of Small and Medium Sized Agripreneurs in Abia State, Nigeria. Agripreneurship: Roadmap to Food Security and Wealth Creation in Nigeria. Published in Honour of Prof. Oji Onu Ekumankama, Director, Centre for Entrepreneurship Development, Michael Okpara University of Agriculture, Umudike, Abia State, Nigeria, Pp 173-181.

Nze, E.O., Ene, C.H. and Orji, C.A. (2023). Profitability of Tumeric (Curcuma Longa Linn) Agribusiness among Agripreneurs in Abia State, Nigeria. Centennial Book of Readings on "Building A Resilient Root and Tuber Crops Farming System for Prosperity" to mark the Centennial Anniversary of National Root Crops Research Institute, Umudike Abia State, Nigeria (1923-2023). Pp 362-369.

Nze, E.O., Nwaru, J.C. and Igwe, K.C. (2019). Influence of Social Capital on Income Activities of Rural Women Agripreneurs in Imo State, Nigeria. *Journal of Community and Communication Research (JCCR),* 4 (2): 106-114.

Obetta, S. E., Emuedo, A. I. and Oji, C. (2021). Analysis of market structure, conduct and performance of poultry meat in Enugu State, Nigeria. *International Journal of Agricultural Science and Research, 11*(1), 1-14.

Ogbonna, S.I. and Emerole, C.O. (2018). Analysis Of Production And Profitability Of Chicken Egg Farms In Abia State, Nigeria. Scientific Papers Series Management, Economic Engineering In Agriculture And Rural Development, 18(3): 275 -280.

Ojo, S. O. (2022). Economic analysis of broiler production and constraints among small-scale poultry farmers in Kwara State, Nigeria. *Asian Journal of Agricultural Extension, Economics & Sociology, 40*(5), 15–27.

Okoli, C. G., Uchegbu, M. C. and Nwosu, C. (2021). Constraints to poultry production in Southeastern Nigeria. *Journal of Agricultural Extension*, 25(1), 33–48.

Okoli, I. C. and Udedibie, A. B. I. (2022). Poultry enterprise efficiency and sustainability in South-East Nigeria. *Journal of Agricultural Extension and Rural Development*, 11(4), 88–97.

Omolayo, J .O. (2018). Economic Analysis of Broiler Production in Lagos State Poultry Estate, Nigeria. *Journal of Investment and Management.7(1): 35 – 44.*

Omotayo, A. O., Olugbenga, O. A., and Bello, U. M. (2020). Economics of small-scale broiler production in Abuja, Nigeria: applications of stochastic frontier model and principal component analysis. *Research Journal of Animal Science*, 7(103): 120-130.

Oyinbo, O., Adah, I. D. and Rekwot, G. Z. (2015). Technical efficiency food security nexus in Kaduna State, Nigeria: A case study of poultry egg farmers. *The Journal of Sustainable Development,* 14(2), 224-259.

Poultry Association of Nigeria (PAN) (2017). History of the poultry association of Nigeria, Abuja.

Paula, B.O. (2015). Economic analysis of agricultural markets: *Nigerian Journal of agriculture*, pp. 20-29.

Saliu, L. A., Abdulrazaq, S. A. and Eleke, P. N. (2015). Production efficiency of poultry egg (layer) production in chikun and igabi local government areas of Kaduna State, Nigeria. *Nigerian Journal of Agricultural Economics,* 6(1), 40-52.

Tijjani H., Tijani B. A., Tijjani A. N. and Sadiq M. A. (2012). Economic analysis of poultry egg production in Maiduguri and environs of Borno State, Nigeria. *Scholarly Journal of Agricultural Science*, 2 (12), 319-324.

Umeh, G. N. and Ochiabuto, O. M. (2023). Sustainability practices among poultry

agripreneurs in South-East Nigeria. *Journal of Sustainable Agriculture and Environment, 15(2), 88–101.*

World Bank. (2022). *Enhancing proauctivity and sustainability in Nigeria's poultry sector*. World Bank Publications. World Bank.

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