

CHALLENGES FACING CHICKEN PRODUCTION AND MANAGEMENT IN GANGLOTA, LOFA COUNTY, LIBERIA, WEST AFRICA

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ABSTRACT

Poultry production, particularly chicken rearing, plays a vital role in improving food security, nutrition, and household income in sub-Saharan Africa. Chickens provide affordable sources of animal protein through meat and eggs and generate quick returns due to their short production cycles and relatively low investment requirements. In Liberia, poultry farming is increasingly viewed as a promising avenue for rural development and poverty alleviation. However, despite this potential, chicken production remains constrained by several structural, economic, and technical challenges that hinder its sustainability. This study aimed to identify the key challenges affecting chicken production and management in Ganglota District, Liberia. A total of 52 poultry farmers were randomly selected and interviewed using structured questionnaires. Data were analysed using the Statistical Package for Social Sciences (SPSS). Results revealed that the majority of farmers (78.8%) practised free-range production systems, while 15.4% engaged in small-scale confined rearing and only 4.7% operated large-scale poultry enterprises. The most frequently reported challenges included thievery and insecurity (59.6%), lack of veterinary and extension services (56.0%), high input costs (51.2%), limited access to modern poultry technologies (69.0%), credit constraints (55.2%), inadequate market access (63.0%), and poor water availability (61.5%). The study concludes that poultry production in Ganglota is dominated by low-input systems that face significant management and institutional barriers. It recommends increased government support through affordable feed provision, strengthened extension and veterinary services, improved access to credit, and promotion of modern rearing technologies to enhance productivity and sustainability in the sector.

Keywords: *poultry production, Liberia, livelihoods, rural poultry, challenges, food security*

INTRODUCTION

In sub-Saharan Africa, poultry production, especially the raising of chickens, is crucial to people's lives, food security, and ability to generate revenue (Erdaw & Beyene, 2022). Compared to other livestock species, chickens offer rapid returns due to their short production cycles and minimal initial investment requirements. They are also an essential source of animal protein through their meat and eggs Bell and Weaver (2012). Poultry farming is increasingly recognised in Liberia as a promising industry to combat hunger and enhance rural development. Nevertheless, a number of obstacles hinder the expansion and sustainability of chicken

production, notwithstanding its potential (World Bank, 2020).

Smallholder and backyard farmers dominate Liberia's chicken market, frequently operating with little access to veterinary care, modern production equipment, and premium feed (USAID, 2018).

Low productivity, high mortality rates, and decreased profitability are the outcomes of this circumstance. Furthermore, Liberia's agricultural systems were severely damaged by the civil war (1989–2003), leaving behind inadequate infrastructure and institutional frameworks that still have an impact on poultry production (Mendez & Bacon, 2020).

In contrast to other animal-producing sectors, the poultry sub-sector has remained undeveloped despite attempts to revitalise agriculture (FAO, 2019).

Poor bio-security controls, high feed prices, restricted access to financing, insufficient disease management, and inadequate veterinary services are some of the main obstacles in chicken production (Mutua, 2018). The absence of vaccination programs and extension services makes diseases like avian influenza and Newcastle disease much more dangerous for smallholder farmers (Ahlers *et al.*, 2009). Farmers face competition from imported poultry products, which are frequently less expensive than locally produced chicken, making market access another difficulty (Bamidele *et al.*, 2020). This disparity hinders the expansion of Liberia's chicken sector and deters domestic production.

Poultry production in Liberia is also impacted by socioeconomic variables, such as gender inequality, poor educational attainment, and poverty. Accessing financing and training possibilities is difficult for women, who are often more active in backyard poultry farming (FAO, 2021). The sustainability of chicken farming is made more difficult by climate change, which increases risks due to changes in disease patterns and feed availability (Thornton *et al.*, 2015).

Identifying and analyzing the obstacles to chicken production is vital, given the critical role that poultry farming may play in alleviating food insecurity and improving livelihoods in Liberia. Strategies and policy interventions that can boost the poultry industry, lessen reliance on imports, and raise the standard of living for smallholder farmers will be informed by a thorough grasp of these limitations. Therefore, the purpose of this study is to examine the difficulties that

Liberia's chicken production faces, with an emphasis on the institutional, technical, economic, and environmental elements that influence the sector's performance.

Although Liberia's chicken industry is still in its infancy and mostly dependent on imports, it has enormous potential to improve rural livelihoods, nutrition, and food security (Sonaiya & Swan, 2004; FAO, 2021). Despite the fact that poultry is an essential source of reasonably priced animal protein, local producers are discouraged, and domestic expansion is limited by the availability and lower cost of imported chicken products (World Bank, 2020; Conteh, 2019). Among the many difficulties faced by smallholder and backyard farmers are insufficient veterinary and extension services, limited availability of high-quality feed and credit, inadequate infrastructure, and recurrent disease outbreaks like Newcastle disease (Bamidele *et al.*, 2020).

Productivity is also limited by socioeconomic factors, such as gender inequality, and climate unpredictability raises production risks by influencing disease incidence and feed supplies (FAO, 2019; Thornton *et al.*, 2015). Liberia will continue to be dependent on chicken imports if these barriers are not removed, and the sub-sector's potential to aid in the fight against poverty and promote sustainable rural development will not be fulfilled (Mendez & Bacon, 2020).

The objective of the study was to assess the level of knowledge and practices of poultry farmers in Ganglota regarding disease prevention, feeding, and housing. To evaluate the availability and accessibility of veterinary services, quality feed, and marketing opportunities for poultry farmers in the study area. To recommend practical and sustainable solutions that can enhance chicken productivity and improve the livelihoods of poultry farmers in Ganglota.

MATERIALS AND METHODS

Study Design

The study employed a descriptive, cross-sectional survey design with multiple approaches to data collection and analysis.

Study Location

The study was carried out in Ganglota, a rural community in Lofa County, Liberia. The geographical coordinates are Longitude: West 9°29'49" and Latitude: North 7°25'21". The area has two main seasons: the rainy season (May–October) and the dry season (November–March). Ganglota was specifically chosen for this study because of its high prevalence of free-range chicken production. The soil type in the area is latosol, which is typically found in tropical regions. Latosols are generally reddish in colour and suitable for agricultural activities, including the rearing of poultry, goats, and ducks. The study area also features diverse physical characteristics such as hills, valleys, and forested zones, which influence both farming and livestock production practices.

Sampling Techniques

A cross-sectional survey was used to collect data from the study population. A total of 52 poultry producers from the community were selected and administered structured questionnaires.

Data Collection

Data for this study were obtained from both primary and secondary sources. Primary data

were collected through direct observations and the administration of comprehensive, guided questionnaires to the respondents. Secondary data were obtained from the Central Agricultural Research Institute (CARI), Livestock and Fisheries Department, using both documented and undocumented sources.

Data Analysis

The collected data were entered into a computer and analysed using the Statistical Package for the Social Sciences (SPSS, version 21.0). The analysis primarily employed descriptive statistics, including frequencies and percentages, to summarise and present the findings.

RESULTS AND DISCUSSIONS

Social-economic characteristics of the respondents

Table 1 shows that the majority of respondents (63.5%) have household sizes ranging between 20 and 29 members. This indicates that relatively large households are common in the study area. About 17.3% of households have between 30 and 39 members, while 13.5% fall within the range of 15–19. Only 5.7% of households reported sizes between 40 and 50. These findings suggest that extended family living arrangements may be prevalent, which could have implications for resource sharing, food security, and livelihood strategies.

Table 1: Household Size of Respondents

Household size range	Frequency	Percent
15 – 19	7	13.5
20 – 29	33	63.5
30 – 39	9	17.3
40 – 50		5.7
Total		100.0

Table 2 presents the gender distribution of respondents. Out of the total 52 respondents, 23 (44.2%) were male, while 29 (55.8%) were female. This indicates that females

constituted the majority of the study population, suggesting a slightly higher level of female participation compared to their male counterparts.

Table 2: Gender of respondents

Gender	Frequency	Percent
Male	23	44.2
Female	29	55.8
Total	52	100.0

Table 3 presents the age distribution of respondents. The findings indicate that 4 respondents (7.7%) were between the ages of 10–15 years, 15 respondents (28.8%) were between 16–25 years, while the majority, 33 respondents (63.5%), were above 26 years of

age. This shows that most of the respondents were adults, reflecting a population largely composed of individuals who are more likely to be economically active and responsible for household decision-making.

Table 3: Age of respondents

Age range	Frequency	Percent
10-15 years	4	7.7
16-25 years	15	28.8
+26 years	33	63.5
Total	52	100.0

Table 4 shows the analysis of respondents' educational attainment, indicating a predominance of low levels of formal education within the study area. Approximately 26.9% of respondents (14 individuals) reported having no formal education, reflecting significant barriers to literacy and skills development. The largest proportion, 32.7% (17 respondents), had completed primary education, while 30.8% (16 respondents) attained secondary education. In contrast, only 7.7% (4 respondents) possessed a high school diploma, and a marginal 1.9% (1 respondent) had achieved tertiary education.

This distribution demonstrates that while a fair proportion of the population has access to basic and intermediate levels of education, progression to higher education remains

extremely limited. Such educational disparities are critical, as they have direct implications for socio-economic development, employment opportunities, and adoption of modern practices within the community (UNESCO, 2022). The low representation at higher educational levels suggests structural challenges such as limited access to schools, financial constraints, and possibly socio-cultural factors that hinder educational advancement. Moreover, the high proportion of respondents with little or no education may constrain effective participation in community development initiatives, reduce the capacity to engage with technical innovations, and perpetuate cycles of poverty (World Bank, 2021).

Overall, the findings underscore the urgent need for targeted educational interventions to

enhance literacy and skills acquisition in the area, thereby fostering human capital

development and improving socioeconomic outcomes.

Table 4: Level of Education of Respondents

Level of education	Frequency	Percent
No education	14	26.9
Primary education	17	32.7
Secondary education	16	30.8
High School diploma	4	7.7
Tertiary education	1	1.9
Total	52	100.0

Table 5 shows that the majority of respondents were unemployed. Out of 52 respondents, only 10 (19.2%) reported being employed, while 42 (80.8%) were not employed. This indicates a high

unemployment rate in the study area, reflecting limited access to formal job opportunities and highlighting potential economic vulnerability among households.

Table 5: Employment Status of the respondents

Employment status	Frequency	Percent
Employed	10	19.2
Not Employed	42	80.8
Total	52	100.0

The livelihood distribution of respondents indicates that agriculture constitutes the dominant means of subsistence in the study area (Table 6). Among the 52 respondents, only 3.8% (2 individuals) reported livestock farming as their primary source of livelihood, while a larger proportion, 71.2% (37 individuals), relied mainly on crop cultivation. In addition, 25.0% (13 respondents) engaged in off-farm activities such as petty trading, casual labor, or other non-agricultural jobs.

The predominance of crop farming highlights the agrarian nature of the community's economy, which is consistent with patterns observed in many rural areas of sub-Saharan Africa, where crop cultivation serves as the backbone of household income and food security (FAO, 2020). The relatively low proportion of respondents engaged in

livestock farming may reflect constraints such as limited capital, disease challenges, and inadequate technical knowledge required for animal husbandry. Meanwhile, the significant presence of respondents in off-farm activities suggests a degree of livelihood diversification, likely aimed at coping with agricultural risks such as price fluctuations, low yields, or climate variability (World Bank, 2021).

Overall, the findings reveal that while agriculture, particularly crop cultivation, remains central to rural livelihoods, off-farm income sources are increasingly important for supplementing household needs. This underscores the necessity of supporting both agricultural productivity and non-farm economic opportunities to enhance livelihood resilience and reduce poverty.

Table 6: Main Source of Livelihood of Respondents

Livelihood source	Frequency	Percent
Livestock farming	2	3.8
Crop cultivation	9	71.3
Others (Off-farm job)	13	25.0
Total	52	100.0

Most respondents (78.8%) practised free-range poultry production, showing its dominance as the most accessible and low-cost system in the study area (Figure 1). A smaller proportion (15.4%) engaged in small-scale confined systems, reflecting the gradual

adoption of semi-intensive practices. Only 4.7% operated large-scale confined systems, indicating very limited commercial poultry production. Overall, the results highlight a reliance on traditional systems with minimal adoption of modern intensive methods.

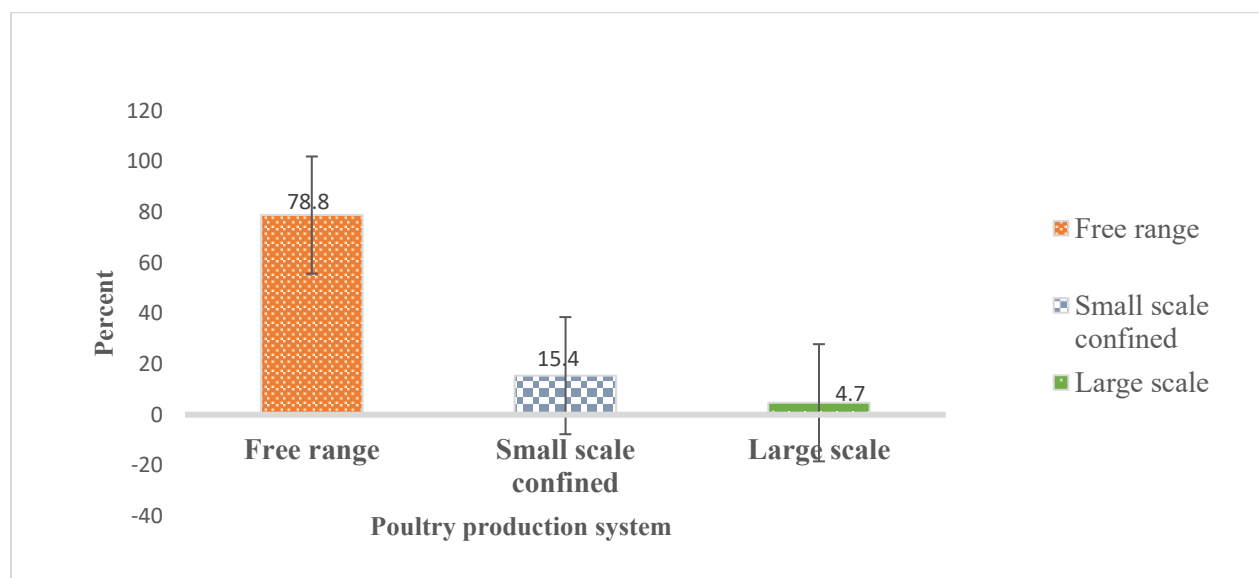

Figure 1: Poultry Production System

Table 7 shows that a slightly higher proportion of respondents (51.9%) rear chickens mainly for subsistence and household consumption, such as providing meat and eggs for family use. Meanwhile, 48.1% of respondents rear chickens primarily for income generation, highlighting the role of poultry as a source of livelihood. The close

percentages indicate that both purposes are nearly equally important in the community, with a small margin favoring consumption. This suggests that chicken rearing in the study area contributes significantly to both food security and economic empowerment of households.

Table 7: Purpose of rearing chickens

Purpose of Chicken rearing	Frequency	Percent
Subsistence/consumption	27	51.9
Income generation	25	48.1
Total	52	100.0

Table 8 shows the actors influencing rearing of poultry in line with challenges and opportunities. The findings show that water availability (61.5%) is the most important opportunity for poultry production, followed by feed availability (46.2%), and availability of quality breeds (42.3%). This suggests that natural resources and access to improved inputs provide favorable conditions for poultry farming.

Farmers also recognize skills in poultry production (42.3%) and selling prices for chicken/eggs (38.5%) as opportunities. These indicate that knowledge, skills, and reasonable market prices can support poultry as a sustainable livelihood.

On the other hand, poultry farmers face serious challenges, with the most pressing

being limited rearing technologies (69.0%) and poor market access (63.0%). These structural barriers restrict productivity and profitability.

Other major constraints include theft and insecurity (59.6%), inadequate veterinary/extension services (56.0%), and lack of access to credit (55.2%). These reflect gaps in institutional support and financial services that limit farmers' capacity to expand.

Moderate but notable challenges such as high initial input costs (51.2%), climate effects (44.2%), and predators (38.5%) further affect production. This highlights the vulnerability of smallholder poultry systems to environmental, financial, and bio security risks.

Table 8: Factors influencing the rearing of poultry

Challenges	Factors scale	Percent (%)
Feed availability	Opportunity	46.2
Theft/insecurity	Major challenge	59.6
Availability of production poultry skills	Opportunity	42.3
Availability of veterinary /extension services	Major challenge	56.0
Costs of initial inputs -e.g., housing	Major challenge	51.2
Availability of poultry rearing technologies	Major challenge	69.0
Access to credit	Major challenge	55.2
Availability of quality chicken breeds	Opportunity	42.3
Predators	Major challenge	38.5
Climate effects	Major challenge	44.2
Marketing and availability of markets	Major challenge	63.0
Selling prices for chicken /eggs	Opportunity	38.5
Water availability	Opportunity	61.5

Source: Field survey data, 2020

CONCLUSION

This study assessed the challenges and opportunities influencing poultry production in Ganglota District, Liberia. The findings reveal that poultry production is predominantly small-scale and characterized by traditional free-range systems, with only a few farmers engaging in semi-intensive or commercial rearing. While poultry rearing

contributes significantly to both household consumption (51.9%) and income generation (48.1%), farmers face considerable constraints that limit productivity and sustainability.

The most critical challenges identified include limited access to modern poultry rearing technologies (69.0%), inadequate markets (63.0%), theft and insecurity

(59.6%), weak veterinary and extension services (56.0%), and poor access to credit (55.2%). Additional barriers such as high input costs, predators, and climate effects further exacerbate production risks. Nevertheless, opportunities exist in the availability of water (61.5%), feed (46.2%), poultry production skills (42.3%), and access to quality chicken breeds (42.3%). These resources, if effectively harnessed, could strengthen poultry productivity and rural livelihoods.

Recommendations

The study recommends strengthening extension and veterinary services, alongside improved access to quality inputs, modern production technologies, and affordable credit to enhance poultry productivity.

It further emphasises market development, value chain strengthening, improved security, and rural infrastructure to support efficient production and distribution.

Finally, sustained policy and institutional support are essential for poultry production as a priority sub-sector for inclusive and sustainable rural development.

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