ARCN International Journal of Advanced Academic and Educational Research
ISSN: 2360-9909. Volume 14, Issue 12, (January, 2025) pages 35 – 41
OTL: 27261-452237-014123
arcnjournals@gmail.com
https://arcnjournals.org

PROFITABILITY AND BUSINESS STRATEGIES IN POULTRY FARMING: AN EVALUATION OF DIFFERENT PRODUCTION SYSTEMS IN SELECTED POULTRY FARMS IN MAIDUGURI, BORNO STATE, NIGERIA

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Abstract: *The poultry business has in recent years occupied a leading role among different communities in Nigeria. The potential for further growth is obvious in view of the value of eggs and poultry meat as basic protective foods in the human diet. However, almost 70% of poultry production is practiced by small-scale farmers where birds are raised in small numbers by the traditional extensive or semi-intensive, low-input-low-output systems. This study was conducted to assess the growth and production performance of different chicken varieties (Exotic and Local breeds) in selected poultry farms within Maiduguri Metropolitan council of Borno State, Nigeria. Data was collected from 60 farmers using purposive sampling technique. The data collected were analysed using simple statistical tool of means and percentage. The result shows majority (58%) of poultry farmers are male, married (68%) with more than 80% less than 50 years of age. 68.3% of the respondents had post-secondary education, however, 75% did not undergo any formal training in poultry production. Even though 73.3% of the respondents had farming experience of between 1-10 years, the lack of any formal training in poultry production had significant effect on the production levels of the famers. The main conclusion to be drawn from this study is that flock size, feed, and labour have significant positive effects on the value of output. There is therefore the need to massively educate poultry farmers through deployment of extension agents for effective and efficient allocation of all the variable inputs.*

Keywords: *Growth, Performance, Poultry, Productivity.*

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Introduction

The poultry business has in recent years occupied a leading role among different communities in Nigeria. It is a very important source of livelihood for most rural communities because it provides ready cash for emergency needs, supplies the fast-growing human population with high quality protein, and contributes significantly to food security, poverty alleviation and sound management

of natural resources, FMARD (2013). Poultry production in Nigeria is one of the most important agriculture subsectors in the country with about 87% of rural households' rear poultry, with an average flock size of 6.9 birds FAO, (2018). The potential for further growth is obvious in view of the value of eggs and poultry meat as basic protective foods in the human diet Daghir, N.J., (2008). Almost 70% of poultry production is practiced by small-scale farmers where birds are raised in small numbers by the traditional extensive or semi-intensive, low-input-low-output systems FAO (2018). Poultry represents a farmer's first investment in the livestock ladder (followed by goats/sheep and then cattle) as a way of increasing income and emerging from the poverty trap. The share of commercial poultry production by the private sector is expanding rapidly in Nigeria, and now account for 50% of egg production and 60% of meat production Bhuiyan, et al., (2011). The country's standing poultry population is at present 180 million birds, a substantial increase from about 151 million birds in the last five years (Onwualu, 2011; FAO, 2018). However, most poultry house in rural settlements of the country are substandard and handled by less competent farm operators who are not favourably disposed to using relevant or new approaches to managing poultry production efficiently and thus affecting poultry yield adversely (FAO, 2018). According to Adedeji et al., (2013), Poultry production systems are however influenced by some factors which are; types of poultry (Birds), housing, Socio-economic background of the respondent, health, disease, Feed source & feeding, Sales and Disposal.

Dessie, T., and Ogle, B., (2001) acknowledges that development of innovative ideas for improving rural poultry production requires a complete understanding of the system and its operators; and that research directions and strategies should be geared to addressing the farmers' real problems and constraints so as to help them expand and become self-sufficient. This in turn, according to them, requires careful and detailed analysis and understanding of farmer's circumstances and practices before undertaking any other research and/or development activity. For example, the purpose for which a farmer keeps poultry determines his or her management practices. On the other hand, the development and transfer of appropriate technology should be a function of farmers' socio-economic and management practices at the field level. This research was therefore, conducted to assess the growth and production performance of different chicken varieties (Exotic and Local breeds) in selected poultry farms within the study area in order to acquire baseline data on rural poultry production in the area. The survey was undertaken with the following objectives:

1. To examine and analyze the problems and constraints impeding the development of poultry production in the area
2. To identify possible opportunities and strategies that could solve these problems.

Methodology

The study was conducted in 2023 to assess the growth and production performance of different chicken varieties (Exotic and Local breeds) in some selected poultry farms within Maiduguri Metropolitan council of Borno State, Nigeria. Data was collected from 60 farmers using purposive sampling technique. The data collected were analysed using simple statistical tool of means and percentage.

Results and Discussion

The socio-economic characteristics of poultry farmers in the study area is presented in Table 1. The result shows that 58.3% of the respondents were male while 41.7% were female. This shows that the business is male dominant and could be attributed to the culture of the people of the state where most sources of income are male dominated. The domination of poultry production by male in northern Nigeria has been reported by Sani and Tahir, (2000). It also shows that 11.7% of the respondents were of age 20-30 years, 23.3% were between 31-40 years, 46.7% were between of 41-50 years, 15% were between the ages of 51-60 while only 3.3% have 61 and above. The result indicates that the business is handled by people of older age of between 41-50 years (46.7%). Most youths of 40 years and below are seeking for white collar jobs, this collaborates with the studies of Dahiru (2012). Marital status indicated that (68.3%) of the respondents were married, 6.7% were single, 8.3% were divorced and 6.7% were widow/er. This shows that majority of the business is done by married men as they are responsible and have to cater for the family. The educational level is dominated (68.3%) by tertiary education followed by secondary, primary and Quranic education with 20%, 6.7% and 5% respectively. 75% of the respondent did not attend any kind of professional training in poultry production. This suggests that the respondents in the study area obtained the basic education required for accepting new technologies. Sennuga *et al*. (2020b) reported that highly educated farmers tend to adopt relevant agricultural technologies better than illiterate ones. The household size shows that 13.3% of the respondents have less than 5 members, 31.7% have 6-10 members, 33.3% have 11-15, 15% have 16-20 while 6.7% have more than 21 household size. This is good as large family size influences adoption of technology to cater for the family as observed by (Okeke Agulu and Onogwu, 2014; Sennuga *et al*., 2020a). Majority (73.3%) of poultry farmers have a farming experience of 1 – 10 years. Even though 73.3% of the respondents had farming experience of between 1-10 years, the lack of any formal training in poultry production had significant effect on the production levels of the famers. The main conclusion to be drawn from this study is that flock size, feed, and labour have significant positive effects on the value of output.

Table 1: Socio-economic characteristic of Poultry farmers in Maiduguri Metropolitan Council, Borno State, Nigeria

	Number of respondents (N=60)	Percentage (%)
Sex		
Male	35	58.3
Female	25	41.7
Age		
20-30	7	11.7
31-40	14	23.3
41-50	28	46.7
51-60	9	15
61 and above	2	3.3
Marital status		
Single	4	6.7
Married	41	68.3.
Divorced	11	8.3
Widow	4	6.7
Education level		
Primary	4	6.7
Secondary	12	20
Tertiary	41	68.3
Quranic	3	5
Professional Training		
Yes	15	25
No	45	75
Household size		
1-5	8	13.3
6-10	19	31.7
11-15	20	33.3
16-20	9	15
21 and above	4	6.7
Years of experience		
1 – 10	44	73.33
11 – 20	9	15
Above 20 years	7	11.67
Other source of income		
Trading	12	20
Civil service	33	55
Others	10	16.7
Nothing	5	8.3

Source: Field survey, 2023

Table 2 shows knowledge and use of Production Variables of Poultry farmers in the study area. The result revealed that 71.7% of the respondents keep exotic birds and 80% of practicing farmers provide adequate protection such as housing and weather control. The housing units provided

were mostly concrete, constructed with zinc and wood materials. However, other poultry houses were smaller, made up of zinc walls and zinc-roof and used by farmers who kept relatively smaller sizes of stock. This has also been confirmed by Adeyemo and Onikoyi, (2012) when they said adequate housing with good ventilation is now gaining more acceptance in poultry farming. The results also show that 75% of the respondents feed their chicken twice a day, while 25% had their feeding regime once a day. Majority (75%) of the respondents used commercial feeds while 25% compound their feeds mixed supplemented feed. Because they did not undergo poultry training, most of them are educated and guided on how to feed their poultry by marketers/retailers and not by professional extension agents. 58.3% of the respondents clean their chicken houses on weekly basis with 70% provide adequate medication for their chicken while 30% of the respondents only provide medication when chickens had diseases outbreak. However, lack of technical knowledge in proper administration of medication was observed by the researchers. Olaniyi et al. (2008), and Aromolaran et al. (2013) reported that lack of technical knowledge is a challenge facing the poultry industry, as most people go into poultry farming simply because of the huge profit they see others getting, but fail to enquire the necessary knowledge involved in poultry production. 43.3% have a flock size of between 400 – 600 birds while 31.7% have a flock size of 200 – 400 birds per production cycle. Productivity was highly influenced by management quality and management practices such as feeding of balance diet, watering, lightening and medication were adequately provided. There was also provision of the necessary equipment for proper management of farm business. The results also show that 46.7% of the respondents fund their business from personal saving while 23% obtained loan from commercial bank to fund their poultry business. Lack of proper funding is a challenge that have slowed down the rate of production in the poultry industry in Nigeria. Anosike et al. (2018), reported that Lack of access to Loan and credit procurement was also identified in different research carried out by Adebayo and Adeola, (2005); and Aromolaran, (2013). The population manage their farms themselves or family members (50%) while others engage labour (20%) or assisted by friends (30%). The farming system is subsistence hence source of labour is always by self, family or friend and this is very common in northern Nigeria as reported by (Yusuf, 2018; Sennuga *et al*., 2020a)

Table 2: Production Variables of Poultry farmers in Maiduguri Metropolitan Council, Borno State, Nigeria

	Number of respondents (N=60)	Percentage (%)
Types of Birds		
Exotic	43	71.7
Native	17	28.3
Housing		
Permanent/Concrete	20	33.3
Cages	28	46.7
Temporary/zinc	12	20
Type of feeds used		
Commercial feed	45	75
Locally formulated	15	25

Feed regimes		
Once daily	15	25
Twice daily	45	75
As need arises	0	0
Sanitation		
Daily	17	28.3
Weekly	35	58.3
Monthly	8	13.4
Medication		
Adequate	42	70
Outbreak only	18	30
No	0	0
Flock size		
50 – 200	8	13.3
200 – 400	19	31.7
400 – 600	26	43.3
600 – 800	5	8.3
800 and above	2	3.3
Source of Capital		
Personal savings	28	46.7
Commercial Banks	14	23.3
Cooperative Societies	7	11.7
Relatives	11	18.3
Source of Labour		
Family labour	30	50
Hired labour	12	20
Family and hired labour	18	30

Source: Field survey, 2023

Conclusion

Arising from the finding of this study, it concludes that poultry production within the study area is practiced by small-scale farmers where birds are raised in small numbers by the traditional extensive or semi-intensive, low-input-low-output systems. The potential for further growth is obvious in view of the value of eggs and poultry meat as basic protective foods in the human diet. The socio-economic characteristic of respondents shows that the majority of poultry farmers are educated and that men are those who practice poultry farming. The main conclusion to be drawn from this study is that flock size, feed, and labour have significant positive effects on the value of output. There is therefore the need to massively educate poultry farmers through deployment of extension agents for effective and efficient allocation of all the variable inputs.

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