

Factors Influencing Farmer Adoption of Improved Poultry Production Practices in Ahiazu Mbaise Local Government Area of Lmo State, Nigeria

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ABSTRACT

The study was conducted to determine the awareness and knowledge of poultry production techniques of farmers in Ahiazu Mbaise Local Government Area, Imo State. A purposive sampling procedure was used to select 85 poultry farmers who were interviewed for the study. Findings revealed that majority of the poultry farmers were males within the age bracket of 30 – 39 years. Majority of the farmers did not belong to any poultry association (65.1%), and (69.9%) of them preferred the keeping of layers than any class of poultry production. Poultry farmers showed a high level of awareness of the production techniques on improved and automatic housing (85.1%), feeds and feeding (88%) and daily routine operation (80.7%). However their awareness of diseases and parasites (13.3%) and marketing strategies (14.5%) was very low. Farmers were of the opinion that radio (92.7%) and Television (90.3%) were the main source of their awareness on poultry production techniques. Also, inadequate capital (83.2%) and high cost of feeds (86.8%) were the most severe constraints encountered by the farmers in their operation.

Keywords: Farmer Adoption, Improved Poultry Production, Marketing Strategies, Diseases and Parasites

INTRODUCTION

The Nigerian poultry industry is less capitalized and it is based on small holdings owned by the peasant farmers (Anosike, 2019). Birds usually perform at a low level and hence, production cost is higher and consequently selling prices of poultry products are higher beyond the reach of average Nigerians (Ogba *et al.*, 2020 and Ahaotu *et al.*, 2020 a). Thus, per capital consumption of poultry products is lower in most tropical countries, thereby giving rise to protein deficiency factors in food in these countries since feed cost represent over 70% of the total cost of poultry production, reduction in feed cost is expected to reduce production cost and hence lower the prices of poultry products within the range that an average Nigerian can afford there by increasing the per capital consumption of the products (Ahaotu and Lawal, 2018; Okonkwo and Ahaotu, 2019).

Diseases and parasites, mortality, high cost of fixed inputs reported by Olu-Igbanibo and Ahaotu, (2019), give poultry farmers' serious challenges

and thus, hinder the poultry business. This culminates to low production and subsequently reduced income which frustrates the business venture and sometimes lead to financial bankruptcy. Technical proficiency usually account for most crises experienced in poultry production. Therefore, there is the need for a diagnosis in the area of poultry production technique by the commercial poultry farmers and thus identify deficiencies and solutions to them if the poultry enterprise is to be profitable and maintained.

Cross-breeding promises to improve productivity of local chicken by increasing egg production and size of chickens. Educational programmes using the existing genome is potentially useful in developing the already present chickens in the area. Combined inputs and crossbreeding will have high potential for adoption and quick improvement.

For Nigeria to attain rapid economic growth and development there is the need for attention to be paid to all sectors of agriculture. There is the need for significant improvements in the livestock

industry and poultry in particular. Events of the past decades indicate that the demand and supply gap for animal protein intake is so high (Aboki *et al.*, 2013, Esiobu *et al.*, 2014 and Ohajianya *et al.*, 2013). Poultry farmers, like other producers in the agricultural sector are rational, thus, they would increase their supply if they are sure of making higher profit *ceteris paribus* (Adetayo *et al.*, 2013 and Ahaotu *et al.*, 2020 b). Higher profit thus ensures the sustainability of the industry. Poultry business, like any other farming involves a lot of risks and uncertainties. To circumvent these, poultry farmers try out several production methods in a bid to irk out reasonable earnings.

Much research has been conducted to find solutions for improving productivity in agriculture especially local chicken production, but those farmers who are expected to be the end users utilize very few research results. The important element of any innovation is the appropriate adoption of such technology. However, despite different innovations which have been generated in various parts of Nigeria, little or no research has been done to assess adoption and subsequent impact of these interventions. This study was therefore designed to evaluate the adoption and impact of local chicken recommended production practices, constraints to adoption of recommended practices and household income from local chicken. Results obtained will provide suggestions and recommendations for the proper and sustainable intervention approach to be conducted to improve local chicken production. Constraints to adoption need to be identified to help intervention providers to select the most appropriate approach for local chicken production improvement.

MATERIALS AND METHODS

Location of the Study

The study was conducted in Ahiazu Mbaise Local Government Area of Imo State, Nigeria. The GPS-coordinates of Ahiazu Mbaise are: 5° 32' 55.259" N 7° 16' 8.364" E. Ahiazu Mbaise local government area is found in Imo state, Southeast Nigeria. With its headquarters at Afor - Oru, Ahiazu Mbaise LGA consists of several towns and villages which include Akabor, Ogbe, Obodo-Ujichi, Ihitte Afor, Oru Ahiara, and Opara Nadim. The Igbo ethnic groups are the dominant tribal affiliation in Ahiazu Mbaise with Igbo and English as the commonly spoken languages.

Mbaise is a regional *area located* in Owerri Zonal *Area* of Imo State, southeastern Nigeria. The three Local Government Areas in Mbaise

are made up of about 404 km²; Aboh-Mbaise (185 km²), *Ahiazu Mbaise* (111 km²) and Ezinihitte Mbaise (108 km²). Ahiazu Mbaise is a Local Government Area of Imo State, Nigeria. It is as a result of a merger between Ahiara and Ekwerazu. Its headquarters are in the town of Afor-Oru. Ahiara is a city in Mbaise, Imo State, Nigeria. The people are respected for their ingenuity and diplomacy. The city stands about 16 miles between Owerri and Umuahia. Ahiazu Mbaise is a local government area in Imo State with administrative headquarters in Afor Oru. Ahiazu Mbaise local government area falls within the eastern senatorial district of Imo State otherwise known as Imo East Senatorial Zone alongside Aboh Mbaise, Ezinihitte Mbaise, Ikeduru, Mbaitoli, Ngor Okpala, Owerri Municipal, Owerri North and Owerri West local government areas. Ahiazu Mbaise local government area also forms a federal constituency alongside Ezinihitte Mbaise local government area.

Christianity and traditional religion are the widely practiced religions in Ahiazu Mbaise. Ahiazu Mbaise local government area is also known to have a very rich cultural heritage with a number of festivals such as the Iri ji Mbaise festival, the Iwa-akwa festival, and the Eyiri-eyi festival held periodically within the area.

The major occupation of the peoples is farming, where by the major crops grown are fruits and vegetables. Also many of the people in the local government are involved in livestock production like poultry and fishery.

Ahiazu Mbaise Local Government will be specifically selected for this study because of its contribution to the Poultry Industry in Nigeria and high concentration of poultry farmers within the area. The local government houses big poultry farms among others. Also the climate of this area has been adjudged to be the most suitable for poultry production in the south – western Geo – political zone of Nigeria. Through the assistance of the extension agents working in the local government area, the random sampling technique will be used to select eighty (85) medium and small scale poultry farmers from the five (5) autonomous communities in the study area. These will be Ogbe, Umumbiri, Umu-Okirika, Amano Obohia and Otulu respondents for the study. These autonomous communities will be purposively selected for the study because of the high concentration of poultry farmers in the area.

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Data Collection

A structured questionnaire will be used for collecting the data on the objectives of the study.

Data collected will be analyzed with the use of descriptive statistics like frequency counts, and percentages.

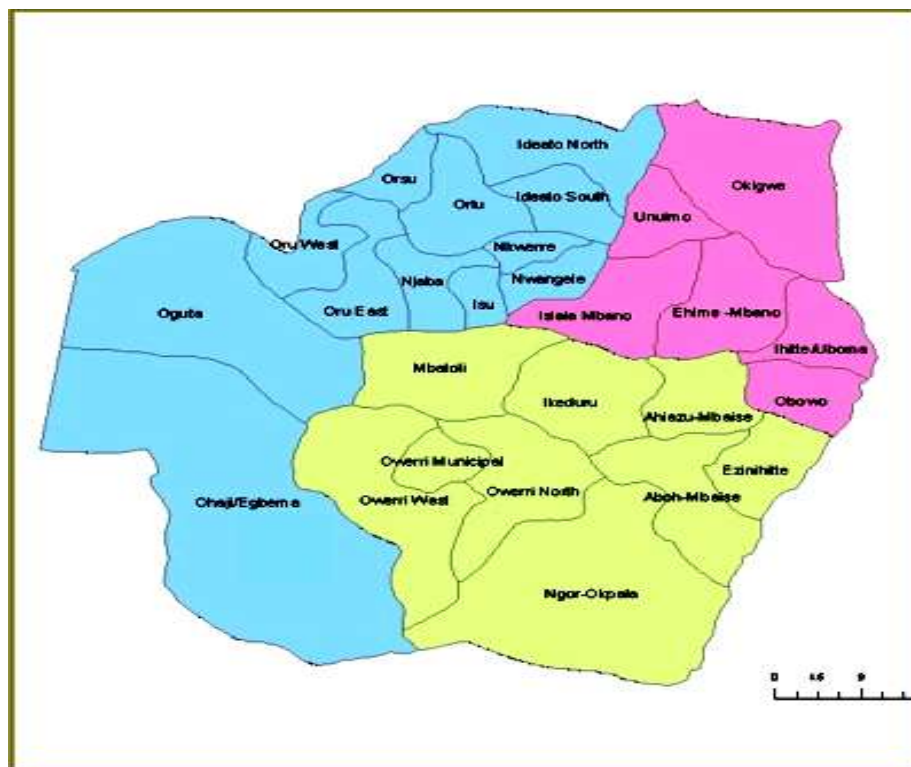


Fig1. Map showing the twenty Seven Local Government Areas of Imo State, Nigeria

RESULTS AND DISCUSSION

Personal Characteristics of Respondents

The personal characteristics examined include age, gender, marital status, level of education and family size of the respondents (Table 1). The results revealed that majority were within the age range of 30 – 39 years, 66.3% were male while 84.3% of them were well educated. The implication of this findings is that majority of the respondents might have acquired knowledge and skills involved in

poultry production through various forms of education they acquired during schooling.

The results further showed that 48.2% of the respondents have family size of 1 – 4 that help them on their poultry farms. Only a few 3.6% have a family size of 7 and above. The results also showed that majority of the poultry farmers 65.1% did not belong to any poultry association indicating that the association had no benefits to the farmers, hence reason why they were reluctant to be members of the poultry association.

Table1. Frequency distribution of the respondents in respect of personal characteristics (n= 83)

Age (yrs)	Frequency	Percentage (%)
20-29	30	36.1
30-39	36	43.4
40-49	14	16.9
50-59	3	3.6
Gender	Frequency	Percentage (%)
Male	55	66.3
Female	28	33.7
Marital Status	Frequency	Percentage (%)
Single	18	21.7
Married	55	66.3
No response	10	12.0
Educational level	Frequency	Percentage (%)
NCE and above	45	54.2

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Grade 2 and Secondary Education	25	30.1
Others	08	9.7
No response	5	6.0
Family size	Frequency	Percentage (%)
1-4	40	48.2
5-6	12	14.5
7 and above	3	3.6
No response	28	33.7
Membership of Poultry Association	Frequency	Percentage (%)
Yes	29	34.9
No	54	65.1

Source: Field Survey, 2019

Number of Birds at the Start of the Business

Table 2 showed that 65.1% of the respondents started poultry business with 50-100 birds while 26.5% started with 101-400birds. The finding implied that majority of the respondents started as small-scale farmers. This was probably when they were still learning the basic tenets of the profession. These findings agreed with (Ahaotu *et al.*, 2017 and Onu *et al.*, 2019a) who reported that peasant farmers start poultry production with fewer birds.

Number of Birds at Present

Table 2 indicated that majority of the farmers (89.1) keep between 100 and 900 birds as at the time of the study and while 2.4% keep 901-1100 birds, 6.1% keep above1,100. The finding showed that

the poultry business is profitable to some extent if the number of birds at present is compared to the number of birds at the start of the business.

Class of Poultry Being Raised

Table 2 revealed that majority of the respondents (69.9%) kept layers while minorities of 28.9% kept broilers and cockerels. From the findings, keeping layers is more profitable to the farmers than broilers and cockerels in the study area. Also people in the study area relied on other sources of meat like cattle and goat that are cheaper when compared to chicken that is taken mostly during the festive periods. This leaves eggs that have no substitute, as a viable product which may be sold locally or in other areas.

Table2. Frequency distribution of the respondent in respect of number and class of birds used in production (n = 83)

Number of birds at the start of the business	Frequency	Percentage (%)
50-100	54	65.1
101-200	16	19.3
201-300	5	6.0
301-400	1	1.2
No response	7	8.4
50-100	54	65.1
101-200	16	19.3
201-300	5	6.0
301-400	1	1.2
No response	7	8.4
Number of birds at present	Frequency	Percentage (%)
100-300	26	31.3
301-500	28	33.7
501-700	12	14.5
701-900	8	9.6
901-1100	2	2.4
1100 and above	5	6.1
No Response	2	2.4
Class of poultry being raised	Frequency	Percentage (%)
Layers	58	69.9
Broilers	7	8.4
Cockerels	17	20.5
No response	1	1.2

Source: Field Survey, 2019

Awareness of Poultry Production Practices

The respondents that scored average and above were categorized as those that have high awareness

of poultry production practices while those that scored below average were categorized as the ones that have low awareness of poultry production practices.

Table3. Awareness of poultry production practices

Poultry Production Practices	Low awareness	Percentage (%)	High Awareness	Percentage (%)
Improved/automatic housing system	12	14.5	71	85.5
Feeds and feeding	10	12.0	73	88.0
Diseases/parasites prevention and control	72	86.7	11	13.3
Daily and special routine operations	16	19.3	67	80.7
Vital poultry records to be kept	23	27.7	60	72.3
Marketing strategies	71	85.5	12	14.5

Source: Field Survey, 2019

Awareness on Improved/ Automatic Housing System

Table 3 showed that 85.5% of the respondents have high awareness of improved housing system for keeping their birds while others (14.5%) have low awareness of it. This indicated that majority of the poultry farmers are aware of improved poultry houses like deep litter, battery cage system.

dead birds, collection of eggs, debarking, vaccination, despairing, delousing, culling and daily keeping of records that majority of the farmers are aware of (Adeyeye *et al.*, 2019 and Onubuogu *et al.*, 2014) and that 19.3% that have low awareness of the operations are likely to be those that are just part time that have no time for the business but who rely on hired labor alone.

Awareness on Feeds, Feeds Preparation and Feeding Methods of the Birds

Table 3 indicated that majority of the respondents (88.0%) are highly aware of feeds, feeds preparation and feeding method of the birds while 12.0% have low awareness of it.

Awareness on Vital Poultry Records to be Kept

Table 3 showed that majority of the respondents (72.3) have high awareness of vital records to be kept in poultry production while 27.7% have low awareness of vital records to be kept in poultry production. The finding is an indication that majority of the small scale poultry farmers in the study area are aware of record keeping. Though, they might not know the recording strategies, however, they keep records. Others that are not aware of it might be those with lower educational background and who do not take poultry business as priority for their means of livelihood.

Awareness on Disease/ Parasite Prevention and Control

Table 3 revealed that majority of the respondents (86.7%) have low awareness of various diseases, parasites and their preventions/controls while (13.3%) are highly aware of it. This finding indicates that the issues of disease and parasite prevention and control go beyond the knowledge of ordinary poultry farmer except being a veterinarian or otherwise, receive adequate information, knowledge and skills from the extension agents will go a long way in creating the awareness and control of diseases and parasites. These findings are in agreement with Onu *et al.*, (2019b).

Awareness on Marketing Strategies

Table 3 indicated that majority of the respondents (85.5%) have low awareness of marketing strategies of the poultry and poultry products while 14.5% of the respondents are highly aware of it. This is an indication that the respondents have not been gaining up to the expected profits and that they are adopting poor marketing strategies of their products.

Awareness on Daily and Special Routine Operations

Table 3 showed that 80.7% of the respondents have high awareness of the daily and special routine operations involved in poultry production while the minorities (19.3%) have low awareness. The finding is a revelation of necessary operations like changing of litters, cleaning of cobwebs, regular supply of feeds and water, evacuation of

Sources of Awareness of Poultry Information on Production Techniques

Table 4 showed that a higher percentage (92.7%) of the farmers became aware of the recommended practices through Radio and (90.3%) from Television while a very few (18.9%) were aware

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of the practices through veterinary doctor and feed millers. Also those who got their awareness from the extension agents are few (30.1%). This is an indication that the extension agents in the area have not been disseminating adequate information on poultry production techniques.

Table3. Sources of awareness of poultry information on production techniques

Awareness Sources	Yes	No	Row total %
Radio	77(92.7)	06(7.3)	83(100)
Television	75(90.3)	08(9.7)	83(100)
Extension Agents	25(30.1%)	58(69.9%)	83(100)
Family/Friends	23(27.7)	60(72.3)	83(100)
Veterinary officers	15(18.3)	68(81.9)	83(100)
Poultry Association	43(51.8)	40(48.2)	83(100)
Feed Millers	15(18.9)	68(81.9)	83(100)

Source: Field Survey, 2019

Attitude of the Poultry Farmers towards Improved Poultry Production Practices

Table 5 showed that 30.1% of the respondents have unfavorable attitude towards improved poultry production practices while 69.9% showed favorable attitude towards improved poultry production practices in the study area. The finding revealed that majority of the respondents showed favorable attitude to improved poultry production practices which are an indication that majority of them want changes in respect of modern management

Table6. Constraints faced in Poultry Production by Poultry Farmers

Constraints	Not severe	Partially severe	Severe
Inadequate capital	10(12.0)	04(4.8)	69(83.2)
Inadequate of water supply	08(9.6)	70(84.4)	05(6.0)
High cost of feeds	07(8.4)	04(4.8)	72(86.8)
Marketing problems	09(10.8)	06(7.2)	68(81.9)
Disease and Parasites	08(9.6)	65(78.4)	10(12.0)
Labour supply	62(74.7)	10(12.0)	11(13.3)
Lack of credit facilities	15(18.1)	58(69.9)	10(12.0)
Poor weather condition	08(9.6)	68(81.9)	07(8.4)
Lack of veterinary knowledge	72(86.8)	8(9.6)	3(3.6)
Pilfering and theft	70(84.4)	05(6.0)	08(9.6)

Source: Field Survey, 2019

CONCLUSION AND RECOMMENDATION

The study concluded that majority of the farmers were aware and adhere to poultry production recommended practices and that their source of poultry production practices were radio, television, feed millers, and extension agents. The knowledge of poultry production practices was very high on improved automated housing, however majority of the poultry farmers were of the opinion that they are

practices of poultry production. Farmers that showed unfavorable attitude towards improved poultry production practices might be those that take to poultry business as part –time for means of livelihood. This is in agreement with Ahaotu *et al.*, (2019a). These authors reported that climate change is a major hindrance towards farmers approach to farming.

Table5. Attitude of the poultry farmers towards improved poultry production practices

Attitude	Frequency	Percentage (%)
Unfavourable	25	30.1
Favourable	58	69.9

Source: Field Survey, 2019

Constraints Faced in Poultry Production by Poultry Farmers

Table 6 shows the major constraints encountered by the farmers in the poultry business. The table shows that, inadequate capital (83.2%), high cost of feeds (86.8%) and marketing problems (81.9%) were the most severe constraints. Also, inadequate water (84.4%), diseases and parasites (78.4%) and poor weather condition (81.9%) were the partially severe constraints encountered, while problem of labour supply (74.7%), lack of veterinary knowledge (86.8%) and pilfering and theft (84.4%) were the constraints that were not severe for the poultry enterprises. This is in agreement with (Ononiwu *et al.*, 2017 and Ahaotu *et al.*, 2019b).

not aware of diseases/parasites and marketing strategies and production techniques.

Based on the findings of this study it is recommended, that government should provide veterinary personnel who will intimate the farmers of the routine management of poultry. Poultry farmers should be encouraged to join or form associations as this will foster unity among them, and enable them to benefit from government subsidies and loans. Also the extension agents

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should be encouraged to focus their extension activities on the poultry farmers who are not aware of their programmes.

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