



FARMERS PERCEPTION AND UTILIZATION OF POULTRY EXTENSION SERVICES IN OWERRI AGRICULTURAL ZONE OF IMO STATE, NIGERIA.

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ABSTRACT

Poultry farming constitutes an important sector in agricultural development as an important source of protein. The study determined farmers' perception and utilization of poultry extension services in Owerri Agricultural Zone of Imo State, Nigeria. Poultry farmers would not break even in their business enterprise without adoption of improved techniques of farming. One hundred and twenty farmers were randomly selected for the study and data were analyzed using descriptive statistics, such as percentages, means, frequency and ordinary least square multiple regression analysis. The results revealed that education was an important factor that determined farmers' participation in extension programmes. Young farmers were also more receptive to extension programmes. The results also revealed that their major sources of information were from extension agents with mean score of 2.7 and fellow farmers with a score of 2.6. The farmers also adopted the use of improved breeds, regular litter replacement and regular vaccination of birds with a mean score of 2.8 respectively. The utilization of artificial brooder, debeaking, feed supplement and feed mill were however low. They had good access to extension services and were trained to handle problems arising from pests and diseases. Their major constraints to the utilization of innovations were finance and high cost of livestock feeds. It is recommended that farmers should be encouraged to form co-operative societies to enable them access loans from financial institutions.

Kew word: Farmers, Perception, Poultry, Extension service

1.0: Introduction

Poultry constitutes an important component of agricultural economy in many developing countries. In many countries today, poultry farming happens to be the largest and the most reared livestock, (Swanson, 2008). In Nigeria, poultry farming serves either for subsistence or commercial purpose. It involves raising birds such as fowls, turkeys, ducks, geese, and guinea fowls purposely for meat, egg production and other by-products. It is an important instrument to socio-economic change, improved income, and quality of rural life in Nigeria (Apantaku *et al.*, 2004). Poultry meat and egg production are very important means of bridging the gap in animal protein. The meat of poultry stands out of all livestock sources as it has very low quantity of cholesterol (Oladoya and Olusanya, 2007). As a result of the low cholesterol content in poultry product, it gives it a general acceptability among different age groups, both young and old. Also no

taboo or religious belief is attached to poultry products and its consumption. Therefore, the importance of poultry is of great importance to the national economy as it has become a popular industry for small farm holders that have great contribution to the economy of the nation. Ojo (2005) stressed that poultry production represents an appropriate system to feed the fast growing population of Nigeria and to provide income for small scale farmers. Nwosu (2005) suggested that improved management and feeding system tremendously increased the egg and meat production of local chicken in Nigeria.

Balogun (2006) stated that if Nigeria would be self-sufficient in animal production, the roles of livestock extension programme should be given prominent priority now than ever. Generally, these farmers need improved production techniques for optimal result. These technologies should be properly disseminated by extension staff in order to boost farmers' capacity to poultry



production. Balogun (2006) stated that if Nigeria would be self-sufficient in animal protein requirement, the role of livestock extension programme should be given prominence now than ever and that well trained extension officers were expected to have positive effect on livestock management system and production techniques. This paper addressed the following specific objectives

1. To describe the farmers' socio-economic characteristics,
2. investigate farmers' perception on the role played by poultry extension services,
3. determine farmers level of utilization of improved poultry technologies ,
4. ascertain farmers' perceived constraints to effective utilization of poultry extension services, and
5. determine factors affecting the utilization of poultry extension.

2.0 Methodology

The study was conducted in Owerri Agricultural Zone of Imo State, Nigeria. Imo State lies in the rainforest zone and is located in the south eastern region of Nigeria. The state has a total land area of 5100 km² and a population of 3,934,899 people. It lies within latitude 4⁰, 45¹ and 7⁰, 15¹ north of the equator and longitude 6⁰, 25¹ east of the Meridian (NPC, 2006). The state is made up of 27 Local Government Areas (LGAs). Imo State is divided into three agricultural zones namely; Okigwe, Orlu and Owerri. Owerri agricultural zone is comprised of the following local government areas: Owerri Municipal, Owerri West, Owerri North, NgorOkpala, Aboh-Mbaise, Ezinihitte-Mbaise, Ahiazu-Mbaise, Ohaji/Egbema, Oguta, Ikeduru and Mbaitoli. The people of the zone were predominantly farmers and traders. Most residents of Owerri Agricultural Zone consume poultry products (chicken) in different forms (fried, garnished, used in cooking and for soup preparation).

Multi-stage random sampling technique was employed to select 120 farmers for the study. In the first stage, 4 local government areas, namely Mbaitoli, Ikeduru, Owerri West and AbohMbaise were randomly selected for the study. Two communities were also randomly selected from each Local Government Area to give a total of eight (8) communities. The communities were, Ubomiri, AlaenyiOgwa, Obili, Ihiagwa, Akabo, Ugirike, Amuzu and Uvuru. Fifteen poultry farmers were randomly selected from each community to give a total of 120 farmers for the study. Data were obtained from both primary and secondary sources. The primary data for this work were collected using structured questionnaire which was administered by the researcher with the help of Imo Agricultural Development Programme (ADP) staff. Secondary information were obtained from relevant publications such as journals, text books, conference proceedings, etc. The data collected were analysed using percentages, means and ordinary least square multiple regression.

3.0 Results and Discussion

3.1 Personal characteristic of the respondents

The field results showed that the mean age of the respondents was 33.95 years. This implies that the farmers were middle aged. Age is an important characteristic that determines the ability to pursue and learn new innovations (Adisa and Adekoya, 2011). They were mostly males (71.67%) and married (85%). Also the mean years spent in school was 14.2 years. This showed that they were fairly educated which implied they would accept and adopt farm technologies more than illiterate farmers (85%). Adejo et al, (2012) reported that the more educated the farmers are the more they become willing to accept innovations. Their mean house-hold size was 11.5 persons, while the mean stock size was 469 birds. The flock size is an indication that they were not just farming for domestic consumption alone but also for commercial purposes. Majority (65%) belonged to one social group or the other.

Table 1: Social and Economic Characteristics of Respondents

Variables	Frequency	Percentages	Mean
Sex			
Male	86	71.67	
Female	34	28.33	
Total	120	100	
Marital status			
Married	102	85	
Single	18	15	
Total	120	100	
Age			
21-30	11	9.17	
31-40	34	28.33	
41-50	44	36.67	33.95
51-60	25	20.83	
61-70	6	5	
Total	120	100	
Level of education			
No formal education (years)	—	—	
1-6	11	9.17	
7-12	23	19.17	
13-18	67	55.83	14.2
19-24	19	15.83	
Total	120	100	
Household size			
1-5	56	46.67	
6-10	49	40.83	
11-15	15	12.30	11.5
Total	120	100	
Flock size			
< 201	20	17	
201-400	27	22	
401-600	25	21	469
601-800	48	40	
Total	120	100	
Membership of social organization			
Yes	78	65	
No	42	35	
Total	120	100	

Source: Field Survey Data, 2014

3.2 Sources of information available to the farmers

Table 2 shows that extension agents, fellow farmers and radio were the most effective sources of poultry extension information available to the

farmers, with mean effectiveness of 2.7, 2.6 and 2.5 respectively. Agbamu (2011) reported that there is increasingly low extension-farmer ratio in Nigeria which results in low coverage and inefficiency in service delivery. On the other hand,

the use of posters, newspapers and newsletters were not important sources of information to the

farmers. This could be due to the low literate level of the respondents.

Table 2: Sources of information available to the farmers

Sources of information	Very effective (3)		Effective (2)		Non effective 1		Weighed mean	Remark	Rank
	F	%	F	%	F	%			
Extension agent	85	70.8	29	24.2	6	5	2.7	Very effective	1 st
News paper	5	4.2	29	24.2	86	71.7	1.3	Not effective	
Cooperative	58	48.3	52	43.3	10	8.3	2.4	Effective	4 th
Fellow farmers	80	66.7	32	26.7	8	6.7	2.6	Very effective	2 nd
Agric show	48	40	57	47.2	15	12.5	2.3	Effective	5 th
News letter	3	2.5	11	9.2	106	88.3	1.19	Not effective	
Television	51	42.5	32	26.7	37	30.8	2.1	Effective	6 th
Radio	81	67.5	17	14.2	22	18.3	2.5	Effective	3 rd
Posters	7	5.8	12	10	101	84.2	1.2	Not effective	

Source: Field Survey Data, 2014

3.3 Frequency of extension contact

Table 3 shows the distribution of farmers according to the rate of extension agents' visitation. Majority of the farmers (35.83%) were visited forth nightly. This is an indication of regular visitation by the extension agents which will in turn facilitate the rate of adoption of improved innovation by farmers. This finding is

supported by Ekwe (2004) who reported that extension agents help to transfer improved technologies to farmers through regular visits which can create an avenue for one-on one interaction between the farmer and the extension agent. Keinde (2004) reported that farmers' response to adoption of new innovation can be increased by number of extension contacts.

Table 3: Distribution of Respondents by Extension Visitation

Extension visitation	Frequency	Percentage (%)
Once in a fortnight	43	35.83
One in a month	28	23.33
Once in 3 months	14	11.67
Once in 6 months	7	5.83
Once in 2 months	7	5.83
Once a year	21	17.5

Source: Field survey data, 2014

3.4: Farmers' level of utilization of improved poultry technologies

Table 4 shows that the farmers level of utilization of improved breeds, regular vaccination programmes and regular litter replacement were very high with a weighed mean of 2.8 respectively. The high level of utilization could be

due to the activities of Extension Service in the area or the high level of risks common in poultry production. Debeaking and use of feed mill were low with mean values of 2.3 and 2.4 respectively while the use of feed supplement and artificial brooding were very low with mean values of 2.1 each.

Table 4: Distribution of Farmers according to their level of utilization of poultry extension services

Level of utilization of improved technologies	Very high		High		Low		Weighed mean	Rank
	F	%	F	%	F	%		
Utilization of improved breed	98	81.7	15	12.5	7	5.3	2.8	1 st
Regular vaccination	101	84.2	10	8.3	9	7.5	2.8	1 st
Artificial Brooding of chicks	11	9.2	109	90.8	—	—	2.1	4 th
Feedmilling	75	62.5	32	26.7	3	2.5	2.4	2 nd
Debeaking	65	54.2	27	22.5	28	23.3	2.3	3 rd
Feed supplement	49	40.8	36	3.0	35	29.2	2.1	4 th
Regular litter replacement	101	84.2	9	7.5	10	8.3	2.8	1 st

Source: Field Survey Data, 2014

3.5 Perception of Poultry Farmers on Extension Services

The field survey showed that respondents felt extension services linked them to sources of poultry drugs and to sources of funds and with mean values of 3.8 and 3.5 respectively. It was also indicated that they had good access to extension services and were trained to handle poultry diseases and pests with mean values of 3.7 and 3.3 respectively. The farmers were also directed to sources of markets for their produce

and were prepared to face future challenges that came their way. They were however not able to solve all their management problems. According to Akinnagbe and Ajayi (2006) the products of agricultural research can never be relevant until they have been delivered to the end users-farmers. Small-holder farmers which dominate the landscape of developing world need to improve farming by acquiring adequate knowledge and information (UN, 2005)

Table 5: Perception of Poultry Farmers on Extension Services

Poultry extension Service	Strongly Agree		Agree		Undecided		Disagree		Strongly Disagree		Mean	Rank
	F	%	F	%	F	%	F	%	F	%		
I have access to extension services	30	25	50	42	20	17	15	12	5	4	3.7	2 nd
Links me to sources of poultry drugs	40	33	40	33	20	17	11	9	9	8	3.8	1 st
Comes timely to inoculate my birds	20	17	50	42	20	17	10	8	20	17	3.3	4 th
I am better trained to handle poultry diseases/pests	20	17	50	42	15	12	20	17	15	12	3.3	4 th
I am linked to sources of fund	30	25	40	33	25	21	15	13	10	8	3.5	3 rd
Extension service solves all my management problems	5	4	5	4	10	8	60	50	40	34	1.96	6 th
It provides markets to my poultry produce	25	21	40	33	15	12	26	22	14	12	3.3	4 th
It prepares me for future challenges	10	8	30	25	40	34	30	25	10	8	3.0	5 th



Source: Field Survey Data, 2014

3.6 Constraints to farmers' utilization of poultry extension technologies

Table 6 shows that financial incapacitation and high cost of livestock feeds were the major constraints to farmers' utilization of improved technologies, with a mean value of 2.8. The subsistence nature of Nigeria's agriculture and

poor attitude of financial institutions towards funding of agriculture makes farming to be very unprofitable. On the other hand, irrelevant nature of extension packages, unavailability of extension agents were perceived by the respondents not to be a constraint to their utilization of improved technologies.

Table 6: Constraints to Farmer's Utilization of Poultry Extension Technologies

Constraints	Very serious		Serious		Not serious		Weighed mean	Remark	Ranking
	F	%	F	%	F	%			
Financial incapacitation	101	84.2	18	15	1	0.8	2.8	V. serious	1 st
Lack of knowledgeable extension agents	22	18.3	80	66.7	18	15	2.0	Serious	6 th
Distance from extension office	65	54.2	40	33.3	15	12.5	2.4	Serious	2 nd
High cost of improved technologies	35	29.2	78	6.5	7	5.8	2.2	Serious	4 th
Difficulty in trying the technology	46	38.3	60	47.2	14	11.7	2.3	Serious	3 rd
Irrelevant nature of extension package	—	—	7	5.8	113	94.2	1.1	Not serious	9 th
Conduct of extensive staff	32	26.7	70	50.3	18	15	2.1	Serious	5 th
Comfortable with the existing practice	5	4.2	27	22.5	88	73.3	1.3	Not serious	8 th
Unavailability of livestock feed	28	23.3	5.2	43.3	40	33.3	1.9	Not serious	7 th
High cost of livestock feed	98	81.7	22	18.3	—	—	2.8	V. serious	1 st

Source: Field Survey Data, 2014

3.7 Determinants of Farmers utilization of improved Poultry Technologies

Table 7 shows that the exponential function was chosen as the lead equation. This is because it has the highest F-value, highest number of significant variables and highest coefficient of multiple determinations (R^2) of (0.7344). This result implies that about 73 percent of farmers' level of

usage was brought about by the combined effects of the socio-economic variables. The result also showed that education, farming experience, flock size, major occupation, social organizational membership and extension visitation were statistically significant at 1% level of significance and had direct relationship to usage of improved technology, while age, though significant at 1%

had negative relationship, implying that the older the farmers were, the less they were willing to use poultry innovation.

Conversely, the farmers' sex, marital status and house hold size were not significant at both 1% and 5% levels of significance. This means that they do not have any effect on the farmers' utilization of improved poultry technologies. It

was therefore concluded that the socio-economic characteristics were the determinants to farmers' utilization of improved poultry technologies. This result is supported by the findings of Nnadi and Amaechi (2004), Asiabaka, (2010) and Ifeanyi-Obi (2013).

Table 7 Determinants to Farmers Utilization of Improved Poultry Technologies

Explanatory variable	Linear function	Semi-log function	Exponential function	Double-log function
Constant	387.0142	265.1103	123.0737	146.0248
Sex	16.0964 (1.0824)	3.9214 (1.3654)	0.0094 (1.1899)	0.0792 (1.2899)
Marital status	13.1304 (2.4811)*	2.1183 (1.0516)	0.0071 (1.1094)	0.0844 (1.1837)
Age	-14.1174 (-1.0728)	-7.0822 (-1.1604)	-0.0094 (-3.2411) **	-0.0665 (-3.2126) **
Education	18.2903 (1.0829)	2.7913 (1.3393)	0.0081 (2.8929) **	0.0817 (2.6875) **
Farming experience	18.4023 (1.0751)	1.3015 (1.1213)	0.0059 (4.5385) **	0.0526 (2.8122) **
Household size	-16.0914 (-1.0593)	-4.1904 (-2.1481) *	-0.0082 (-1.1884)	-0.0819 (-2.7199) **
Flock size	16.4429 (3.8242) **	2.4667 (1.1561)	0.0093 (3.2069) **	0.0722 (1.0388)
Major occupation	16.0364 (1.0439)	1.8921 (2.9091) **	0.0083 (3.3201) **	0.0859 (1.2202)
Social organization membership	15.3912 (1.0977)	2.1144 (1.0659)	0.0064 (3.3201) **	0.0554 (3.2023) **
Extension visit	13.3304 (3.3109)	3.1174 (1.0514)	0.0088 (2.8387) **	0.0677 (1.3594)
R ²	0.4933	0.4126	0.7344	0.6438
F-cal	10.7239	7.6407	30.6001	19.5001
N	120	120	120	120

Source: Field survey Data, 2014

* = T significant at 5%

** = T significant at 1%

= Lead equation

Figures in parenthesis are t-ratios

4.0 Conclusion and Recommendations

This work assessed farmers' response to poultry extension services in Owerri Agricultural zone of Imo State, Nigeria. The result showed that the socio-economic characteristics of the farmers played important roles in farmers' adoption of innovations. The result also demonstrated that the farmers adopted the use of improved breeds, regular litter replacement and regular vaccination

of their breeds. They however did not adopt the use of artificial brooders. Their major constraints to adoption were finance and high cost of livestock feeds.

From the foregoing, the following recommendations were made:

- ii. Farmers should be encouraged to form co-operative societies to enable them access loans from financial institutions.



- iii. Continuous training programmes should be further organized for poultry farmers in the area in order to keep them abreast of the latest technologies in poultry production.
- iv. Young farmers should be encouraged to practice modern poultry farming by ensuring that technical information on better management practices are made available to young farmers by extension agents.
- v. Financial institutions should provide soft loans at a single digit interest to poultry farmers.

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