Full Length Research Paper

Evaluation of the socioeconomic characteristics of poultry farmers in Oshimili North Local Government Area of Delta State, Nigeria

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The study assessed rural poultry extension services in Oshimili North Local Government Area of Delta State, Nigeria. Primary data were collected using interview schedule with 120 household poultry rearers that were selected randomly from four communities in the local government area. Data were analyzed using frequency counts, percentages, Pearson product moment correlation (PPMC) and analysis of variance (ANOVA). Findings showed that majority of the respondents were females 61.67 and 35% were above 50 years, and 70% were married with household size of 5 to 8 (30.83%), while 43.22% had no formal education. Also majority reared poultry on free range (53.3%), had stock sizes of ≤ 20 birds (77.50%) and 36.44% had poultry experience of above 15 years. About 92.50% had no contact with extension agent. There was poor access to improved poultry information and technologies (all < cut-off) while high needs were expressed with handling day old chicks and control of pest and diseases having mean=2.83 each and deworming (mean=2.78). Stock size (r= -0.312; p=0.001) and extension contact (r= - 0.455; p=0.001) were significant negatively related to rural poultry extension services required. Scavenge-based poultry farmers indicated the greatest need for extension services (F= 5.81; p = 0.01). It was recommended that Delta State ADP and affiliate programmes should deploy extension agents/facilitators to the study area and ensure that information and technologies on poultry are addressed.

Key words: Rural poultry, extension service.

INTRODUCTION

Food security involves adequacy in quantity and in quality. Animal protein is essential in human nutrition because of its biological significance. The realization of the importance of animal protein made various governments in Nigeria to pursue programmes to boost production of livestock to ensure the attainment of Food and Agriculture Organization (FAO) recommendation of 35 g/caput of animal protein per day (Olaniyi et al., 2008). Among the different kinds of livestock that can be profitably produced in the country, agriculturalists and nutritionists have generally agreed that developing the poultry industry in Nigeria is the fastest means of bridging the protein deficiency gap presently prevailing in the country (Harban et al., 1978; Olomu, 1996).

Poultry meat and eggs are important foods for improving nutritional and health status of humans particu-

larly the vulnerable populations. Village/rural poultry production is widely practiced in Africa. It involves any genetic stock of poultry (improved or unimproved) raised extensively, semi-intensively or intensively in relatively small numbers. The four classes of rural poultry production system on the basis of management and degree of commercialization are scavenge-based, free range, semi-intensive, intensive systems (Kekeocha, 1984) in Rushton et al. (1998). There is a minimal investment of inputs and labour but production is geared to consumption or sale (Sonaiya, 1995). Therefore, increasing its production would result in a positive impact on household food security both in increased dietary intake and income generation (Awuni, 2002). Some of the constraints facing poultry industry are shortage or high cost of good quality feed, prevalence of diseases, poor management

practices, poor infrastructure and marketing, facilities, lack of credit (Imoukhuede, 1994; Omotosho, 1997). Olaniyi et al. (2008) however found that the major constraints to utilization of poultry production technologies were poor access to capital and inadequate extension contact. Fawole (2006) stated however that prospect for sustainable poultry production in Nigeria is high given locally available resources and suggested proper information dissemination, management and utilization as a way to increase poultry production in Nigeria. Williams and Williams (1984) in Age et al. (2002) reported that if the country wants to increase substantially the protein level in its peoples diet, then a more dynamic and aggressive livestock policy, especially in the areas of livestock extension would need to be vigorously pursued.

Extension is designed to help rural people satisfy their needs, interests, desires and basically to solve problems. Extension as the means by which farmers receive information and technologies is important for improving agricultural productivity and efficiency. Van den Ban and Hawkins (1998) stated that the major role of agricultural extension in many countries in the past was seen to be transfer of new technologies from researchers to farmers. Now it is seen more as a process of helping farmers to make their own decisions by providing them a range of options in a given innovation from which they can choose and by helping the farmers to develop insight into the consequences of each option. Agbamu (2005) identified some of the problems militating against extension service in most developing countries as inadequacy and instability of funding, poor logistics support for field staff, ineffective agricultural research-extension linkage, and disproportionate extension agents to farm family ratio. Others are lack of clientele participation in programme development, insufficient and inappropriate agro technologies for farmers. The problems by implication also affect the extension services to the poultry sub-sector.

Improvement in information communication technology (ICT) is likely to increase the prospect of extension services delivery through television, radio, global system mobile (GSM), the internet and the print media to complement public sector extension services. Extension services to rural poultry development could take advantage of ICTs. Dessie and Ogle (2005) reported that experience has shown that intensive persuasion was needed to convince the rural poultry producers to introduce regular watering, feeding, cleaning of birds' night shelter and to take care of the young chicks before starting any research or development programme to attain the genetic potential of the local birds. Various agencies/institutions (governmental and non government-tal) including Delta State ADP are known to deliver extension services. Efforts are being made by the state and federal governments to increase the animal protein consumption of the average Nigerians from the current average of 10 g/capu/day by 2006 (Age et al., 2006). However, there are still noticeable problems of high prices, shortage and intake of animal protein in the diet of average Nigerians. The

trend and growth of the poultry industry is worrisome. Rural poultry production could not be said to have been affected by information and technologies disseminated by the extension service to improve production and thereby affect the lives of rural dwellers.

Delta State ADP has the mandate for extension delivery in the state. Oshimili LGA is expected to be covered by the ADP at the cell and block levels for the dissemination of information and technologies in all the sub-sectors of agriculture and the environment. It could not be categorically stated that the poultry producers have contact with extension agents or access improved poultry production information and technologies from any source. It is against this background that the study assessed rural poultry extension service delivery in Oshimili North Local Government Area of Delta State. The specific objectives were to:

(i) Examine the socioeconomic characteristics of poultry farmers in Oshimili North Local Government Area of Delta State
(ii) Examine the extent of contact of extension services with rural poultry farmers.
(iii) Identify the extension service-related constraints of rural poultry farmers.

H_1: There is no significant relationship between respondents' characteristics and poultry information access.
H_2: There is no significant difference between poultry extension services required by the different poultry management systems.

METHODOLOGY

The study area, Oshimili North Local Government Area (LGA) is one of the 25 local government areas in Delta State, Nigeria. Delta State is made up of three Senatorial Districts which are Delta North, Delta South and Delta Central. The State is one of the oil producing states in Nigeria located in the Niger Delta region in the south-south geo-political zone. The State covers an area of 17,698 km^2 with a coordinates of 5°30'N 6°00 with 25 local government areas. The main ethnic groups in the state are Igbo, Urhobo, Ijaw, Isoko and Itsekiri. It has a population of 4,098,291 comprising of 2,674,306 males and 2,024,085 females (NPC, 2006).

The major occupations of the people are farming, fishing and trading. The major livestock reared include poultry, piggery and goat while major crops produced are yam, oil palm, melon, cassava, maize. Rural poultry is prominent in the study area as every household seem to be involved in rural poultry production in Oshimili North LGA. The Local Government Area is made up of nine communities out of which four were selected namely Akwukwu–Igbo, Ibusa, Illah and Okpanam. Random sampling technique was used to select 30 rural poultry farmers/households from each of the communities to give a total sample size of 120. A well structured and validated questionnaire was administered to the respondents to collect the relevant data comprising of information on socioeconomic characteristics and poultry management and extension services on poultry from the respondents.

The dependent variable, access to poultry information was measured on a 3 – point Likert type scale (always = 3, sometimes =

Table 1. Socioeconomic characteristics of respondents.

Variable	Frequency	%	Mean
Age			
30 and below	23	19.17	40.06
31 – 40	20	20.00	
41 – 50	31	25.83	
>50	42	35.00	
Total	120	100.0	
Sex			
Female	74	61.67	
Male	46	38.33	
Marital status			
Single	20	16.67	
Married	84	70.00	
Divorced	-	-	
Widow	16	13.33	
Family size			
4 and below	37	30.83	
5 – 8	69	57.50	5.7
9 – 12	14	11.67	
Educational qualification			
No formal education	51	43.22	
Primary	16	13.56	
Secondary	18	15.25	
NCE	12	10.17	
OND/HND	13	11.02	
B. Sc and above	8	6.78	
Religion forbids poultry			
Yes	4	3.3	
No	116	96.7	
Total	120	100.0	
Major occupation			
Farming	54	45.00	
Trading	47	39.17	
Civil service	19	15.83	
Total	120	100.0	

Source: field survey Data, 2010.

2, never = 1). Poultry information required was also measured on a 3-point scale (not required=1, required=2, highly required=3) for the 14 items to give minimum=14 and maximum=42. Constraints encountered by the respondents were measured using a 3–point Likert type scale (very serious = 3, serious = 2, not serious = 1).

Data were analyzed using descriptive statistics mean, percent-tage, frequency, and standard deviation and inferential statistics, Pearson's product moment correlation (PPMC) was used to test relationships between selected socioeconomic characteristics and access to rural poultry extension services while analysis of variance (ANOVA) was used to test the difference in means of the different management systems with respect to rural poultry extension ser-vices required.

RESULTS AND DISCUSSION

Socioeconomic characteristics of respondents

Table 1 shows that 35% of the respondents were above 50 years which implies that majority of them were adults. This could be due to urban migration of the youths from the communities. The table also shows that 61.67% of the respondents were females. This indicates that majo-rity of those who keep poultry were females. This finding is similar to the study of Ekue et al. (2002), who reported that rural poultry keeping is traditionally the role of wo-men in many developing countries. The table also reveals that majority (70.0%) of the respondents were married, 57.50% had household size of 5 to 8 persons and 43.22% had no formal education. The result is similar to the findings of Moges et al. (2010) which found that most of the rural household poultry rearers in Ethiopia were illiterate. This implies that their capacity and ability to seek and understand information and knowledge rela-ted to their poultry business might be negatively affected. Furthermore, 96.7% do not have religious inclinations that forbid poultry rearing.

Poultry production information

Table 2 shows that 36.44% had poultry experience of greater than 15years, 77.5% had stock sizes of 20 and below. This agrees with Adene et al. (2006) who found that the household stocks ranged from 5 to 38 for chickens in Kano State, Nigeria while an average of 18.8 birds per household was reported by Khalafalla et al. (2001) in Sudan. This implies that majority of the respon-dents were small scale producers. Table 2 also shows that 45.0% of the respondents were engaged in farming, 80.8% were depended on family labour, 55.0% engaged in poultry production mainly for home consumption and sales. This agrees with the find-ings of Sonaiya (1990) and Dessie and Ogle (1996) that poultry farming objectives in Nigeria were mainly for home consumption and for sales hence there is prospect for poultry product-ion to grow and ensure food security and alle-viate poverty if adequately practiced. Majority (92.5%) of the respondents had no contact at all with any extension agent. This implies that farmers' access to improved technological information is limited.

Table 2 further reveals that majority (53.3%) of the respondents practiced free range system. The result is similar to Jens et al. (2004) who asserted that nearly all rural and peri-urban families in developing countries keep

Table 2. Poultry production information of the respondents.

Variable	Frequency	%	Mean
Poultry experience			
5 and below	29	24.58	
6 – 10	24	20.34	
11 – 15	22	18.64	11.3
>15	43	36.44	
Total	118	100.0	
Stock size			
10 and below	47	39.17	
11 – 20	46	38.33	
21 – 50	10	8.33	
51 – 100	3	2.50	58.417
101 – 500	9	7.50	
>500	5	4.17	
Total	120	100.0	
Sources of labour			
Personal	15	12.5	
Family	97	80.8	
Hired	8	6.7	
Total	120	100.0	
Reason for engaging on poultry			
Home consumption	46	38.33	
Sales only	8	6.7	
Consumption and sales	66	55.0	
Total	120	100.0	
Poultry mgt system practiced			
Scavenged base	25	20.8	
Free range	64	53.3	
Semi-intensive	16	13.3	
Intensive	15	12.5	
Total	120	100.00	
Contact with extension services			
Not at all	111	92.5	
Yearly	3	2.5	
Quarterly	3	2.5	
Monthly	3	2.5	
Weekly	0	0.0	
Total	120	100.00	

Source: field survey Data, 2010.

a small flock of free range chickens. This implies that majority of the respondents were low income earners. Also the result is similar to Abubakar et al. (2007) who reported that village chicken are reared under free range system where they scavenge around the homestead and the surrounding.

Table 3. Sources of improved practices on poultry n=120.

Sources	Frequency	%
Inputs/sellers	21	17.50
Para-veterinary services	13	10.83
NGOs	2	1.66
LGC Agricultural personnel	1	0.83
ADP extension agent (EAs)	4	3.33
Television	2	1.66
Radio	3	2.50
Newspapers	2	1.66
Bulletins	2	1.66
Outdoor broadcast	-	-
Role play	-	-
Cooperative societies	-	-
Family and friends	5	4.16

Source: Field survey Data, 2010, Multiple responses.

Sources of improved technologies and practices on poultry

Table 3 shows that input sellers and Para-vets indicated by 17.50 and 10.83% of the respondents respectively were the major sources of improved poultry technologies and practices in the study area. This is an indication that poultry production will be mainly traditional practices which are not likely to meaningfully improve food security and reduce poverty.

Access to and need for improved poultry technologies and practices

As shown in Table 4, the respondents' access to identified technologies/practices was very low ranging from debeaking (1.03) to use of compounded feeds for birds (1.52) with all the mean scores less than mid point (2.00) and the standard deviation showing high dispersion from the mean. This might be due to the high proportion that had no contact with extension agents (92.50%) in Table 2 and poor coverage of the sources of improved practices in Table 3.

Table 4 also shows that majority of the respondents highly needed extension services in virtually all the areas such as on handling of the products and day old chicks, and control of pests and diseases (Mean score = 2.83). Low need was expressed for use of foot bath and marketing of the products since they have a mean score of (2.77) as compared to provision of water, washing of drinkers and clearing of poultry houses with mean scores less than 2.00.

Constraints to rural poultry production

Table 5 reveals that inadequate information and inade-

quate access to capital with (mean score = 2.96), inadequate extension agent contact with a mean score of (2.90), incompetence of extension agents (2.75) were the serious constraints while marketing of products (1.47), and pests and diseases (1.13) with mean scores less than 2.00 were less serious. This is similar to the findings of Olaniyi et al. (2008) who reported that the major constraint to utilization of poultry production technology was access to capital and inadequate extension contact.

Relationship between respondents' characteristics and poultry extension services required (correlations)

The correlation results between respondents' characteristics and poultry extension services required. The result shows that only stock size (r = -0.312) and contacts with extension agent (r = -0.455) had significant relationships with the poultry extension services required while age (r=0.166), family size (r=0.036), education (r=-0.075) poultry experience (r=0.175) were not significant at 0.05 level. The implication is that the respondents with less stock size tend to require more extension services than those with larger stocks. Also, those with more extension agent contact required less poultry extension services.

Poultry extension services required by different management systems (ANOVA)

Respondents who practiced scavenge-based system were those with the greatest need for poultry extension services (means=37.68) followed by those who operates free range system (mean=35.73). Those with the least requirement for the extension services were respondents practicing intensive management system (mean=30.29). The ANOVA result (F=5.81, p<0.01) is significant implying that there is a significant difference in the requirement of poultry extension service by respondents practicing the different poultry management systems.

Conclusions

Poultry extension was minimal in the study area due to poor contact with extension agents and poor coverage of improved poultry practices by the available information sources. The respondents who practiced scavenge based system requires more extension and those with small stock size had less contact with extension agent thus needed poultry extension services more. Rural poultry is constrained in the area by inadequate informa-tion, and lack of interest on the part of extension agents among others.

RECOMMENDATIONS

The following recommendations are made:

Table 4. Access to and need for improved poultry technologies and practices n=120.

Technology/practice	Access		Need	
	Mean	SD	Mean	SD
Washing of drinkers	1.08	0.876	1.86	0.853
Deworming	1.35	0.761	2.78*	0.537
Debeaking	1.03	0.851	2.74*	0.572
Control of pests and diseases	1.32	0.866	2.83*	0.461
marketing of products	1.04	1.00	2.77*	0.514
Brooding	1.28	0.823	2.55*	0.646
Use of foot bath	1.09	0.782	2.77*	0.530
Improved poultry breeds	1.38	1.15	2.71*	0.541
Feeding of the birds	1.52	0.856	2.76*	0.565
Culling	1.26	0.843	2.67*	0.599
Clearing of poultry house	1.21	0.752	1.49	0.789
Egg collection	1.09	1.03	2.68*	0.622
Handling especially day old chicks	1.24	0.811	2.83*	0.461
Provision of water for birds	1.15	0.824	1.87	0.849

Source: Field survey Data, 2010, *mean ≥2.0=access/required.

Table 5. Extension service-related constraints to rural poultry production (n = 120).

Constraints	Mean	Standard deviation
Inadequate information on improved practices	2.96*	0.239
No linkage to capital/money	2.96*	0.239
Inadequate extension agent contact to demonstrate skills and motivate farmers	2.90*	0.353
Poultry needs not identified	2.75*	0.506
No linkage to market produce	1.47	0.621
Pest/disease not prioritized	1.13	0.501

*serious (mean > 2.00) Source: Field survey Data, (2010).

1. There is need for Delta State ADP to deploy extension agents to the area and ensure poultry production practices are covered to address the required information and practices.

2. There is need to link poultry farmers up to credit facilities in order to develop rural poultry through technology adoption;

3. Extension service could also assist in organizing poultry farmers into groups and cooperatives in order to increas access to credit and other production (inputs);

4. There is need for other government and non-governmental (NGOs) bodies in the study area should provide extension support and enabling environment for rural poultry to thrive.

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