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Effects of Extension Activities on Poultry Production in Ondo State, South Western Nigeria

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Abstract: Poultry industry in Nigeria is a very vital sector of the country's economy. It is a sector that could serve as a major source of animal protein for the citizens if certain limitations to her effectiveness are removed with effective advisory services. The study examined the effect of agricultural extension services on the production of poultry farmers in Ondo State south western Nigeria. Specifically it identified new production technology being introduced by extension personnel to the farmers, determined the effect of extension activities on respondents poultry management practices and output among others. Eighty poultry farmers were randomly selected and interviewed using interview schedule to obtain primary data. Descriptive statistics and Pearson Product Moment correlation technique were used to analyse the data. Results showed that most of the poultry farmers (32.50%) were in the middle age 46-57 years with about 90% of them having formal education. The respondents were mostly small scale farmers as 65% of them had less than 1000 birds. Some of the improved technologies being introduced to the farmers include use of improved breeding stock, improved housing management technique, Nutritional management, vaccination and disease prevention strategy poultry waste recycling with effective record keeping technique. Results showed that there is a significant relationship between extension visitation and poultry management practices of the respondents. Five percent of the respondents asserted that extension visitation improved their farm record keeping which enhanced effective planning and waste control while 76.6% asserted that extension activities has improved their farm output. Agricultural Extension services if effectively and efficiently managed could serve as a veritable tool for transformation of poultry sector in Nigeria.

Key words: Extension, production, innovation, adoption, poultry industry

INTRODUCTION

The role of agriculture in Nigerian economy cannot be underscored. This is because of the increasing population rate of 3% per annum and food production rate of 2% per annum has causes food deficit The consequence which is increasing rate of poverty in the country.

Poverty is associated with poor health and disabilities especially among the children. This was brought about or aggregated by protein calories malnutrition. UNICEF (1995) classifies Nigeria as a country with severe child malnutrition and very high under 5 mortality rate. The worsening food situation in view of the fast population growth rate is a threat to household food security 43% of Nigeria population lived below poverty level in 1992, while Federal office of statistics report of 1999 claimed that about 66% of the population lived below poverty levels (UNDP, 2000) asserted that over 60% of Nigerians still live below poverty level.

In view of the above, it is inevitable that animal production in the country must be improved. Animals provide people with benefits that are both economic and not purely extra food and capital (the living bank account). In bad times, use animals can be sold or eaten. Thus from a holist point of view animals occupy an important position in sustaining the income of families (Iyayi, 2002). Tewe (1997) asserted that when meat and other animal products are persistently excluded from meals, the human body reacts by draining its already scarce nitrogen balance with attendant adverse effects on growth reproduction, lactation, health and survival. The ability of the average Nigerian family to sustain animal protein consumption and or sale therefore becomes a sensitive barometer for assessing not only the physical but also economic well being of the nation.

Livestock production in particular is an instrument to socio-economic change, improved income and quality of rural life in Nigeria (Okumadewa, 1999). It is an important source of protein presently producing about 36.5% of

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total intake of Nigerians. In livestock production, poultry occupies a prominent position in providing animal protein as it accounts for 25% of local meat production in Nigeria.

Economic boom in Nigeria in the 1960's and 1970's enhanced the growth of poultry sector from modest estimate of 0.7 million exotic chicken in 1963 to an estimated 40 million in 1983. The increasing growth rate was affected by crisis which rocked the sector in the middle late 1980's where highly escalated prize of poultry inputs such as drugs, feed and equipment was experienced. The attendant effect was the withdrawal of many poultry farmers from production. In the middle 1990's the sector witnessed rapid growth again with an estimated poultry population of 72 million out of which 86.17% were traditionally managed and 13.83% commercially managed (RIM, 1992). The concept of traditional management of poultry production has limited poultry output and growth of this sector. A factor that has been attributed to poor advisory services and poor access to information on improved techniques of production especially in the area of biotechnological applications and improved marketing strategies. With the above, it becomes inevitable that the agricultural extension sector has a significant role to play in improving poultry production in Nigeria as they have the expertise to understand the socio-psychological position of the farmers as it relates to information dissemination and adoption of innovation. In view of this it is important to have empirical information on the contributions of agricultural extension sector in improving poultry production in Nigeria.

The study examines the effect of agricultural extension activities on poultry production in South Western, Nigeria.

The specific objectives of the study include to:

- Examine the socio-economic characteristics of respondents
- Ascertain the poultry farmers level of awareness of agricultural extension activities
- Identify new production technologies being introduced by extension services to the poultry farmers
- Determine the effect of extension activities on farmers poultry management practices and output

Hypotheses:

HO_1: There is no significant relationship between extension activities and farmers poultry management practice

HO_2: There is no significant relationship between extension activities and respondents level of output.

MATERIALS AND METHODS

The study was carried out in Ondo State South Western Nigeria. The state lies between 40° 30[1] and 60° E 80^0 15 [1]N. It has tropical climate with two district season (dry and rainy season). The state has luxuriant vegetation of high forest in the Southern part and sub-savannah forest in the Northern part. The primary occupation of the people is farming (which include both crop and livestock production).

The sampling technique and sample size include the collection of the list of poultry farmers from the state extension co-coordinating unit i.e. Agricultural Development Project (ADP). From the list of about 200 registered poultry farmers, 40% were randomly selected for the study. A pre-tested and validated structured questionnaire was administered on the poultry farmers to obtain primary data for the study. The primary data was analysed using descriptive statistics (Frequency and percentages), chi square and Pearson Product Moment Correlation.

RESULTS AND DISCUSSION

The study revealed that 28.75% of the respondents were females. Most of the respondents (32.5%) were between 46-55 years, 21.25% were between 36-45 years, 17.5% between 56-65years while 7.5% were above 65years as shown in Table 1. Table 1 revealed that 73.7% were married, 40% of the respondents had secondary school education, 15% completed primary school while 6.25% had tertiary education but 10% had no formal education.

Table 1: Socio-economic characteristic of respondents

Characteristics	Frequency	%
Sex		
Male	57	71.25
Female	23	28.75
Age		
25-35 years	7	8.75
36-45 "	17	21.25
46-55 "	26	32.50
56-65 "	14	17.50
60 and above	6	7.50
Marital status		
Married	59	73.75
Single	8	10.00
Divorced	6	7.50
Widow	7	8.75
Level of education		
Adult literacy school	7	8.75
Primary school	12	15.00
Secondary school	32	40.00
Tertiary institution	21	26.25
No formal education	8	10.00
Primary occupation		
Farming	52	65.00
Artisan works	21	26.25
Civil servant	27	33.75

The level of education is expected to correspondingly affect rate of technology adoption. Williams and Williams (1984), Okunlola (2003) asserted that level of education influences adoption of new technologies among farmers in Nigeria.

The primary occupation of the respondents is farming as 65% stated in Table 1 that they are primarily into farming.

The study indicated that 77.5% of the farmers source their poultry stock from certified hatchery implying that they have access to good stock. This could be because most of those who are into production for commercial purposes use exotic breeds which are only available at the certified hatcheries. The study revealed further that 61.25% of the respondents obtain day old chick from these sources, 22.50% purchase stock at point of lay while 16.25% acquire their stock at 4 weeks old as stated in Table 2. With the result, it could be asserted that most respondents require advisory services on environmental issues environment like temperature, humidity and nutritional factors.

Table 2 also reveal that most poultry farmers (65%) in the area of study are small scale farmers as they have below 1000 birds, 15% had above 5, 000 birds. Most of the respondents (32.5%) also rear broilers, 28.75%, rear Hen, while 10% combined both hen and broiler.

The study revealed that before agricultural extension visitation to the respondents, 81.6% of them were not aware of the use of improved breeding stock for production. However, 70 and 15%, respectively became aware of the improved breading stock after extension visitation as shown in Table 3.

Table 3 indicated that only 10% of the respondents were very much aware of improved housing management technique for poultry production before contact with extension. From the results, 89.9% of the respondent did not understand methods of effective nutritional management for poultry production before their contact with extension, however, after contact with extension they could understand how to prepare poultry ration for best output. About 94.5, 90.1 and 96.0%, respectively, were not aware of waste recycling technique nor vaccination for diseases prevention in and effective farm record keeping before their contact with extension.

The result in Table 3 has shown that contact with extension activities helped to improve the level of awareness of 93% of respondents on waste recycling, which would be useful for ruminant feeding, fish feed, vaccination or disease prevention techniques (87% of respondents) in poultry production. Seventy seven percent also obtained information on how to keep adequate financial records of their poultry transaction after interacting with the extension contacts. This would help in budgeting and planning with introduction of cost effective measures for optimum production.

Extension visitation: Extension visitation is important for awareness of new technologies, about 87% of the farmers claimed that the extension agent visited their farms out of which 63% claimed that the extension agents visit fortnightly, 5.0% asserted that the visitation is weekly, 18.4 stated that the visitation of extension agents is quarterly while 13.3 were never visited by extension personnel. Tabla 4 The reason why majority were visited

Table 2: Respondents poultry stock characteristics

Characteristics	Frequency	%
Sources of poultry stock		
Local breed	18	17.50
Hatchery	62	82.50
Stages of purchase		
Day old	49	61.25
Point of lay	18	22.50
4 weeks old	13	16.25
Average poultry birds population		
≥ 1000 birds	52	65.00
1001-2000 birds	11	13.25
2001-3000 birds	7	8.75
3001-4000 birds	4	5.00
4001-5,000 birds	4	5.00
≤ 500	4	5.00
Type of breeds		
Hen only	25	28.75
Broiler only	26	32.50
Cockerel only	12	15.00
Hen and broiler	8	10.00
Hen broiler and turkey	5	6.25
Hen broiler cockerel	6	7.50

Table 3: Awareness of innovations by the respondents

	Before extension visitation			After extension visitation		
Innovation	Very much %	Aware %	Unaware %	Very much %	Aware %	Not aware %
Use of improved breeding stock	8.3	10.1	81.6	70	15	15
Improved housing Management	10.0	5.0	85.0	38	53	19
Nutritional Management	3.4	6.7	89.9	81	11	8
Poultry waste recycling	2.0	3.5	94.5	93	3	6
Vaccination/ Disinfection	3.3	6.6	90.1	87	11	2
Financial record keeping	1.0	3.0	96.0	77	5	18

Table 4: Extension visit to respondent

		%
(A)	Visited by extension agent	86.7
	Not visited	13.3
(B)	Regularity of visit	
	(i) Fortnight visitation	63.3
	(ii) Quarterly visitation	18.4
	(iii) Weekly visitation	5.0

Table 5: Perception of respondents on extension visitation

Statement	Strongly agree %	Agree %	Undecided %	Strongly disagree %	Disagree %
Extension visitation has improved your farm record keeping	35	43.3	13.3	8.3	3.3
Your management practices has improved with contact extension	33.3	48.3	14.0	5.0	1.0
With extension activities you now effectively prevent and control diseases on your farm	25.0	61.7	10.3	0.00	4.7
Information from extension personnel has improved your nutritional practices	15	48.7	12.3	25.0	27.0
Your farm output has increased with extension activities	38.3	38.3	14.0	5.0	2.0
Extension visitation enhances your rate of adoption of new technology	14.3	50.0	9.0	26.7	3.3

Table 6: Relationship between extension contact and poultry management practice

Y	1.000						
X_1	-0.164	1.00					
X_2	0.159	0.888*	1.00				
X_3	0.281*	0.898**	0.895*	1.00			
X_4	0.095	0.753**	0.743**	0.803**	1.00		
X_5	0.165	0.58	0.390**	0.411**	0.334	1.00	
X_6	0.234*	0.888*	0.905**	0.921*	0.779*	0.351	1.00

$P \geq 0.05$, $p \geq 0.01$, Y = Extension contact, X_4 = Disease prevention control methods, X_1 = Record keeping, X_5 = Nutritional practices production, X_2 = Adoption of innovation, X_6 = Farm out put, X_3 = Management practices

fortnightly could be because the state presently operates extension training and visit system which involves fortnight visitation to the farmers.

Respondents perception of the effects of extension visitation: Table 5 indicated that, using likertscale, 35% of the respondents agreed that extension visitation helped improve their farm out put through paper record keeping. The table further revealed that extension visitation enhanced rate of new technology adoption as 50% of the respondents agreed to this, 26% strongly agreed while 10% were undecided. The frequency of extension visitation was found to improve respondents poultry management practices as 48% of the respondents agreed to statements relating to this, while 33% also strongly agreed.

Table 5 showed that 67% of respondents agreed that extension information enhanced disease prevention control on their poultry farm, while twenty five percent strongly agreed to this, but 4.7% disagreed. In the area of adoption of innovations on nutritional management, most of the respondents (48.7%) agreed to the fact that they accepted new technologies on this aspect. The effect of the above is that the animals are feed with balanced ration which would helped the birds to perform very well.

Table 5 also established the fact that extension visitation has really improved respondents levels of output. About 38.3% of the farmer agreed to this, 38.3% strongly agreed while 5.0% strongly disagreed and 2.0% disagreed. The implication of the above is that extension activities improves farmers levels of production due to information being disseminated on new technologies to the poultry farmers.

Hypothesis testing: Ho: There is no significant relationship between extension visitation and farmers, management practices.

The correlation table has shown that there is a significant correlation between extension visitation and poultry management practice thus the null hypothesis stated to this effect. Table 6 also indicated that there was a strong correlation between extension and output level. Therefore, the null hypothesis earlier stated is rejected. This could be because with effective disease control, poultry management practices, good nutritional management the birds performance would be enhanced thus improving the quantity and quality of farm produce. The table also shows strong correlation between record keeping adoption of innovation, management practices and disease control measures. The reason for this could be that with effective record keeping the farmer will know when to carry out certain activities like vaccination, routine maintenance of poultry housing units and basic hygiene. The resultant effect of this is that diseases out break are controlled and consequently farm output would be enhanced.

Correlation analysis showing relationship between extension contact and poultry management practice. This could be because the extension impact points deals mostly with effective poultry management practice such as, housing, environment, feeding, hygienic measures among others.

CONCLUSION

The study has shown that extension visitation improved poultry management practices and general level of adoption of innovation However, most of the poultry farmers are small scale farmers. There is therefore, the need to encourage the farmers to improve their present level of production through provision of certain incentives such as credit facilities and farm inputs to back new technolog-ies being introduced by extension personnel. There is also the need to strengthen the extension services unit to provide the required information especially on biotechno-logical applications, waste recycling, product marketing and diversification that will help farmers improve their level of production, income and standard of living.

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