INTERNATIONAL JOURNAL OF
POULTRY SCIENCE

Influence of Training on Farmer's Productivity in Poultry Production in Kogi State, Nigeria

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Abstract: The study examined the influence of training on the productivity of poultry farmers in kogi state, Nigeria. The data used for the study were obtained using structured questionnaire and was administered to 200 poultry extension contact farmers. Descriptive statistics, percentages, sigma scoring and multiple regression models were used to analyze the data. The study revealed that majority of the poultry contact farmers were males (95.50%). The average birds per farmers was found to be 380 birds, while the mean age, farming experience and farm income were 46 years, 9 years and N185,000.00, respectively. Frequency of participation in training programmes revealed that extension training has the highest level of frequency followed by formal education. The sigma scores recorded for both extension training (5.950) and formal education (5.974), confirmed the high level of usage of the two training programmes. The regression results to determine the effect of the training programmes on the productivity of poultry farmers showed that all the training programmes were positively related to farmer's income. Only extension training (7.305) and formal education (3.310) were significantly related to farmer's income. It was therefore recommended that government should organize regular training for rural farmers as a way of improving their productivity.

Key words: Training, poultry, contact farmers, productivity

INTRODUCTION

Training programmes in agriculture is design to develop farmers so as to make them better entrepreneur and decision makers and to help them organize themselves into effective associations and institutions (Famuyiwa *et al.*, 2012). Advancement in science and technology create demand for teaching and learning. The learning processes which were once effective sooner or later become obsolete. Therefore, in order to keep abreast with new innovations there is need for continuing training programmes to assist farmers understand new concepts and apply new knowledge in farming.

Ajayi (2008) define training as a planned and systematic effort to modify or develop knowledge, skills or attitude through learning experience, to achieve effective performance in an activity. Thus, training in a work situation is concerned with extending and developing employee's capabilities and enabling them perform better in their jobs. Training can be short or long-term. Short term training encompasses a variety of programmes such as seminars, workshops, conferences and symposia varying from one to six months in duration. Onasanya (2009) defined long-term training as administrative, management, scientific or technical training of full-time or part-time in nature extending longer than 120 calendar days. Thus long-time training includes certificate and degree programmes.

Frayne and Geringer (2000) noted that training is an attempt to polish those qualities which person has and which his position will require. This may mean putting him in a situation in which he has to show initiative and take the best out of a person. Thus, training assist an employee in whatever is not doing well which can be rectify, such training must be relevant to job description and performance.

The educational level of a worker accounts for his performance. Greater productivity could be achieved through improved knowledge or skills which could be achieved through proper training and development. It is obvious that farmers with requisite educational training and experience would help in using the knowledge, skill and attitude gained for a better performance.

Alibaygi and Zarafshani (2008) opined that training helps in obtaining people with right skills, knowledge and attitude to run progressive and flexible entrepreneur. Hence, training can be conceived in the first instance to achieve higher performance in the job and also raise the level of development of the employee. Low investment or lack of training activities hinders farmer's productivity and hence poor performance on the job (Kayoed, 2001). It is in the light of the importance attached to the need for farmers training that this study seeks to investigate the effect of training on the productivity of poultry farmers in Kogi State, Nigeria.

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Theoretical framework: This study was hinged on the theory of human resource management as expressed by Ngala and Odebero (2010). The central postulate of this theory is that proper management of staff invariably translates into enhanced productivity (P). The key concepts housed by this theory are: Acquisition (A); Development (D); Motivation (M) and Maintenance of staff (Ma). As an equation specified thus:

$$P = f(A, D, M \text{ and } Ma)$$

The personal function of staff acquisition is carried out on the basis of pre-entry qualifications, that is, pre-service training and other relevant experience. Staff development however, involves well-planned activities intended to enhance farmer's productivity through the job training programmes. Besides, well develop workers are easier to maintain for the overall success of a business. Put otherwise, it does not suffice to acquire, deploy and assign tasks to new staff. Rather, it is imperative that they are constantly developed among other management practices, to increase their effectiveness as they face the reality and expectation of the farming profession. Given the trust of this theory, the researcher posits that well trained farmers are better prepared to cope with current and emerging farming challenges compared to their less trained colleagues.

MATERIALS AND METHODS

Study area: The study area is Kogi state of Nigeria. Kogi state was created in August, 1991 out of kwara and Benue states. The State is located in the Central region of Nigeria. The headquarters of the state is Lokoja which is situated at the confluence of rivers Niger and Benue making the state be to popularly known as the confluence state. The state like any other state in the country, have three senatorial districts (Western, Central and Eastern senatorial districts). The state consists of 21 Local Government Areas (LGAs) and is located between latitude 6°30'N and 8°50' N and longitude 5°51'E and 8°00'E.

The state share common boundaries with Niger, Plateau, Nasarawa states and Federal Capital Territory (FCT) to the North and Benue state o the East. To the west, it is bounded by kwara, Ondo and Ekiti states and to the south by Enugu, Anambra and Edo states. Kogi state has a total population of about 3, 278, 487 people with land area of about 30, 354.74 square kilometers (KADP, 2003).

The state has about 2 million hectares of cultivable land with only about 0.5 million hectares were currently under cultivation (KADP, 2003). The state is well supplied with river valleys and swamp lands for dry season farming. The major food crops grown in the state are yam, cassava, maize, sorghum, rice, millet, cowpea, pigeon, pea, groundnut, bambaranut, cocoyam, sweet potato, beniseed, melon, banana, plantain and cotton. Fruits and leafy vegetables such as okra, pepper, fluted pumpkin and spinach are highly cultivated in the area. Tree crops grown in the state are: cashew, oil palm, citrus, cocoa, coffee and kolanut. Cattle, sheep, goats and poultry are the major animals reared. Fish is common along the riverside areas.

Sample and sample size: Kogi state is divided into twenty (20) agricultural blocks under the Kogi Agricultural Development Project (KADP). Each block is also divided into ten Village Extension Circles (VEC). In all, there are 200 extension circles. In each circle ten contact farmers are appointed to work with the Extension Agent in the area. From each of the extension circle, one contact farmer must be a poultry farmer. Those poultry contact farmers in each extension circle were purposively selected for this study. In all, a total of 200 poultry contact farmers were involved in the survey.

Contact Farmers (CF) are selected by the extension agents with possible assistance from the village elders from among the farmers in the circle. The contact farmers are the channel through which the recommended practices will spread to other farmers. Contact farmers are the models for other farmers. They are usually the most progressive practicing farmers in the village. Their standards of living are usually above other farmers in the area. Contact farmers are usually the first beneficiaries of training packages. Therefore the effects of training programme in poultry production are supposed to be felt most by the contact farmers.

Instrument: The study was carried out at the end of 2012 in kogi state of Nigeria. Both primary and secondary data were used for the study. Secondary data for the study were collected from the headquarter of KADP at lokoja. The primary data on the other hand were collected through field survey with the use of structured questionnaire. The questionnaire were administered to the selected contact farmers by the researcher with the assistance of the extension agents attached to the areas.

Prior to the administration of the questionnaire, the instrument were validated. Test and re-test reliability were carried out. Face and content validity of the instrument was established by a team of researcher and were incorporated into the finally produced questionnaire.

Data collection technique: The distribution and collection of completed questionnaire was done by the researcher with the assistance of the extension agents and enumerators of KADP. All the instruments were successfully completed, recovered and analyzed by the researcher.

Method of data analysis: The data were analyses using addition, mean, percentages, sigma scoring method and multiple regression models.

Model specification

Sigma scoring method: Sigma scoring method was used to determine the level of use of the various training programmes. The sigma method of scoring used to calculate the index of use of training programmes is based on the principle that ordinary frequency number and percentages can be standardized by mathematical procedures in order to obtain normalized standard score, such standard scores cab be used in parametric statistical analysis. This method was used by Ibitoye (2012), Audu *et al.* (2010) and Agbamu (2006) to study the level of use of agricultural practices.

The level of use of training programmes by poultry farmers can be obtained through sigma scoring method by following the steps below (Ibitoye, 2012).

First obtain the percentage of farmers who used the particular training programmes:

$$\frac{\text{No. of farmers using the training}}{\text{Total no. of respondents}} \times 100$$

- The second step is to divide the percentage obtained by two and minus the answer from 100
- The third step is to check the answer obtained on the statistical table of normal deviates to obtain the sigma distance
- The next step is to increase the value of the sigma distance obtained by a constant value of 2 and multiplying the result by the same constant of 2

Finally, the sigma score is obtained by subtracting the answer from 10. This is because sigma method assigns weight in reverse direction on a 10 point scale.

Decision rule: Any mean score less than 5 is considered as low level of use.

Multiple regression model: Multiple regression models were used to assess the effect of training programmes on the productivity of poultry farmers in Kogi state, Nigeria. The income generated from poultry production by the respondents was used as a measure of performance or productivity.

Several Studies had interest in the relationship between training and job performance. Odinga and Bakkabulindi (2011) examined the effectiveness of training on job performance using regression model. Onasanya (2009) used regression model to investigate the effect of training on farmer's productivity in Yewa North area of Ogun State, Nigeria. The result showed a positive relationship between training and farmers productivity. Similar positive correlation between training and Job productivity also exist in the fields of management (Frayne and Geringer, 2000; Alibaygi and Zarafshani, 2008) and eduation (Olaniyan and Ojo, 2008).

The regression model was specified as follows:

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + ei$$

Where:

Y	=	Farm Income from poultry Production (N)
a	=	Constant (Intercepts)
X_1	=	Extension training (No. of times attended in a year)
X_1	=	Formal Education (No. of years spent in school)
X_3	=	Seminars, Workshops and Conferences (No. of times attended in a year)
X_4	=	Community Resource Person (No. of times attended in a year)
b_1-b_4	=	Coefficients of Independent Variables
ei	=	Stochastic error term

RESULTS AND DISCUSSION

The socioeconomic characteristic of the respondents is presented in Table 1. The socioeconomic variables considered for this study include: sex, age, educational status, marital status, farm size, farming experience and farm income.

The study showed that the males constitute the majority of the respondents (95.50%), while the remaining 4.5 percent were females. This result agrees with Ibitoye (2013) who reported that more men were found in farming in kogi state than women. The high percentage of male farmers in the state is expected because farming in Nigeria is done manually by the rural farmers and most of the major operations require a lot of energy which may be too tedious for most women to do. Age distribution of the respondents showed that majority of them falls within the productive age bracket of 21 and 60 years (87%). The mean age for the respondents was found to be about 46 years. Onasanya (2009) classified productive age of farmers to be between 20 and 55 years. This implies that majority of the respondent are still within the productive age. Ibitoye (2013) also asserted that only those farmers within the productive age group of 20-50 years are likely to possess the necessary strength to carry out farming operations.

The distribution of respondents into the educational levels revealed that only one percent had no formal education. About 12 percent of them had primary education, while about 70 percent others had secondary school certificate. The remaining 17 percent had one form of tertiary education or other. It is thus obvious that the levels of education of contact farmers in the state are generally high. This is expected because these groups of farmers are the role model for other farmers in their areas. Ibitoye (2011) found a positive and significant relationship between the level of education and adoption of improved cassava varieties in Kogi state.

Table 1: Socioeconomic characteristic of the respondents

Variables		Frequency	Percentage	Mean
Sex	Male	191	95.50	
	Female	1	4.50	
Total		200	100.00	
Age (year)				
less than 21		18	9.00	46
21-40		66	33.00	
41-60		108	54.00	
Above		60	8	4.00
Total		200	100.00	
Educational status				
No formal education		2	1.00	
Primary education		24	12.00	
Secondary education		140	70.00	
Tertiary education		34	17.00	
Total		200	100.00	
Marital status				
Single		36	18.00	
Married		164	82.00	
Widow		0	0.00	
Total		200	100.00	
Farm Size (No. of birds)				
Less than 100		37	18.00	380
100-500		114	57.00	
Above 500		49	24.00	
Total		200	100.00	
Farming experience (year)				
Less than 5		28	14.00	9
5-10	104	52.00		
Above 10	68	34.00		
Total	200	100.00		
Farm income (n'000)				
Less than 100		36	18.00	185
101-200		92	46.00	
201-300		70	35.00	
Above 300		2	1.00	
Total		200	100.00	

Source: Field Survey (2012)

The marital status of the respondent shows that majority of them (82%) were married while the remaining 18 percent were single. The analysis of the farm size of the respondents showed that 18.50 percent kept less than 100 birds. The majority of the poultry contact farmers kept between 100 and 500 birds in their poultry house. The average bird for the study was found to be about 380. The result of the study revealed that 52 percent had been in poultry farming business for more than 10 years while 14 percent had less than 5 years experience. The survey on farm income of the respondents showed that about 18 percent had less than N100, 000 as annual farm income from poultry production. About 46 percent had farm income of between N100, 000 and N200, 000, while 35 percent had between N201, 000 and N300, 000 as income from poultry farming. The remaining one percent had above N300, 000 as farm income. Judging by the small number of birds kept by the farmers coupled with the general low level of farm income, it implies that majority of the farmers is still operating at the subsistence level. This is in agreement with the opinion of Famuyiwa *et al*. (2012) that over 90 percent of the country food supply come from the agricultural population who are small holder farmers.

The summary of the frequency of participation in training programmes is presented in Table 2.

Table 2: Frequency of participation in training programmes

Type of Training	Frequency of participation	Percentage of respondent
ETPK		
Always	184	92.00
Sometimes	12	6.00
Never	4	2.00
Total	200	100.00
FEIE		
Always	35	17.00
Sometimes	163	81.00
Never	2	1.00
Total	200	100.00
SWCGAPK		
Always	0	0.00
Sometimes	62	31.00
Never	138	69.00
Total	200	100.00
UCRPIFE		
Always	0	0.00
Sometimes	4	2.00
Never	196	98.00
Total	200	100.00

Source: Field Survey (2012). ETPK: Extension training on poultry keeping, FEIE: Formal education to improve effectiveness, SWCGAPK: Seminars, workshop and conferences by government agencies on poultry keeping, UCRPIFE: Use of community resource persons to improve farmers effectiveness

The table showed that extension training programme of kogi Agricultural Development Project rank first as about 92 percent of the respondents always attend the training programmes. This finding is not surprising because Kogi Agricultural Development Project used to organize Fortnight Training (FNT) programmes for their contact farmers using Subject Matter Specialists (SMS) from different fields of agriculture. FNT programme is the major tool used by KADP to pass information on new farming techniques to farmers. Majority of the contact farmers (99%) attended formal education and therefore the 99 percent of them indicated that they either always (17%) or sometimes (81%) attended formal education training.

The next frequently used training programmes are seminars, conferences and workshops with about 31 percent of the respondents indicating that they sometimes used them as a medium of training. The least frequently used training programme is the use of community resource person. This finding reveals that after acquiring formal education, extension training remains the only viable option through which farmers can acquire further training in agricultural production.

Table 3: Assessment of the level of use of the training programmes among the poultry farmers

Variables	Frequency	Percentage	Mean score
Extension training	196	98.00	5.950
Formal education	198	99.00	5.974
ASWC	62	31.00	3.970
CRP	4	2.00	1.348

Source: Field Survey (2012). ASWC: Attendance of seminars, workshops and conferences, CRP: Community resources persons

Table 4: Regression result of the effect of training on farmer's income in poultry production

Training programmes	Estimated coefficients	t-statistics	Level of significance
Extension training (x_1)	7.961	7.305	Significant at 1%
Formal education (x_2)	15596.349	3.310	Significant at 1%
ASWC (x_3)	10539.021	0.9994	Not significant
Community resource person (x_4)	60.976	0.174	Not significant
Constant	20527.682	0.669	
F-value R^2	37.349	0.581	Significant at 1%

Source: Field Survey (2012). ASWC: Attendance of seminars, workshops and conferences

This result is also in agreement with the finding of Odinga and Bakkabullindi (2011). The distribution of respondents according to the level of use of the various types of training programmes is presented in Table 3.

The result followed the same pattern with the frequency of use. Both extension training and formal training showed high level of use with sigma scores of 5.950 and 5.974 respectively. Seminars, conferences and workshops and the use of community resource persons showed a very low level of use. The study conducted by Famuyiwa *et al.* (2012) followed similar pattern with formal education and extension education showing high level of usage.

Table 4 Showed the effect of the four types of training on the income of the respondents.

The regression result of the estimated coefficient of multiple determinant (R^2) is 0.581 which implies that 58 percent variability in the income of poultry farmers was explained by the variable in the model while the remaining 42 percent could be attributed to error and omitted variables. The f-value of 37.349 is significant at 1 percent level which confirms the significance of the entire model. Extension training (X_1) is positively related to farm income and significant at 1 percent level. This implies that an increase in the extension training will translate into increase in income from poultry production. The effect of formal education (X_2) on farm income of respondents was found to be positively related and significant at 1 percent level. The positive relationship implies that formal education increases farmer's productivity and efficiency in poultry production. This result is expected because majority of the respondents are educated. This study validates the findings of Ibitoye (2011) who found that the level of formal education of farmers in kogi state of Nigeria yielded a positive and significant relationship to adoption of improved cassava varieties. Other training variable like seminars, conferences, workshops and community resource person were positively related to farm income but had no significant effects. Similar positive correlation between training and job productivity were registered by Onasanya (2009), Odinga and Bakkabulindi (2011) and Laogun (2012). Formal education enables the farmers to obtain useful information from media and other sources. Formal education aid farmers to accept new technologies more readily to improve their farm income.

Conclusions and recommendations: The findings from this study have led to the conclusion that the training of poultry farmers is significant correlates of productivity of farmers in kogi State of Nigeria. Hence, it is strongly recommended that farmers should be regularly trained by the extension agents. Government should also organize seminars, conferences and workshops for rural farmers. Incentives inform of farm inputs should be provided for farmers that attended them regularly.

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