



## Determinants of Farm Record Keeping among Small Scale Poultry Farmers in Kogi State, Nigeria

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### Abstract

The study examined the factors influencing farm record keeping among small scale poultry farmers in zone A axis of the Kogi ADP comprising of -Yagba- East, Yagba-West, Kabba-Bunnu, Ijumu, and Mopamuro Local Government Areas. Using a three stage random sampling technique, 120 poultry farmers spread across the 5 LGAs within the zone A of Kogi ADP in Kogi State were randomly selected. With the aid of binary Logistic regression model, data obtained was analyzed. Nine (9) variables were hypothesized to influence small scale poultry farmer's probability of record keeping. Out of which six (6) education, marital status, flock size, extension contact, occupation and experience were significant at 1%, 1%, 5%, 5%, 10% and 10% levels of significant respectively. They were also positively signed, a phenomenon which indicate that those variables were found to influence the probability of poultry farmers to use record keeping in the study area. However, extension contact was not significant at the level of measurement. It is therefore recommended that education at all levels and in all its forms and packages, both formal and informal should be encouraged in order to stem up the ante of the poultry farmers' knowledge base, especially in the aspect of poultry record keeping.

### Keywords:

Flock size, record keeping, poultry farmers, small scale, education

### 1. Introduction

Nigerian agriculture is characterized by considerable regional and crop diversity. In terms of diversity, the agricultural sector features tree and food crops, forestry, livestock and fisheries. The National Bureau of Statistics (NBS) (2012), has it that crops (the major source of food) accounted for about 30% of the Gross Domestic Products (GDP), livestock about 5%, forestry and wildlife about 1.3% and fisheries accounted for 1.2%. However, the ability of the Nigerian economy to experience accelerated growth both now and in the nearest future largely depends on how well we can exploit the inherent potentials that lie within the agricultural sector which is a major employer of labour and also account for a considerable shares of the export revenue and GDP.

Unstable and often inappropriate economic policies (of pricing, trade and exchange rate), the

relative neglect of the sector and the negative impact of oil boom were important factors responsible for the decline in its contributions.

Poultry production in the Nigeria early seventies was in the hands of rural farmers. Though, no exact estimate of its actual share of contribution in terms of percentage of household income is available, it is anybody's guess as to how a regular assured small cash flow play very crucial role in the household economy of the people in the lowest strata of the economic ladder. Poultry for the poorest people had added advantage by way of regular day-to-day cash returns by sale of eggs and also periodic cash income from sale of birds for meeting the occasional family exigencies. It requires minimum capital and ensures quick return. Keeping of farm records is affected by certain factors. According to Adisa et al. (2017), most of the farmers do not keep comprehensive record because they claimed that it is not beneficial to them.

The major constraint to farm record keeping in the study area was time constraint. This could be as a result of mixed enterprises which do not allow the poultry farmers to concentrate more only on poultry farming. Other constraints to farm record keeping in the study area includes; lack of interest, forgetfulness, problem of mix enterprise, and government tax.

Farm record keeping involves collecting an account of a farmer's daily operations in the farm. There is no universally accepted definition of farm records. However, Odunsi et al., (2005) gave two definitions for farm record keeping. Record keeping is keeping of detailed records by a farmer of his farm's daily operations, income and expenses. He added that record keeping refers to data collection activity of a research organization which involves the keeping of records of a group of farmers with some guidance and support from the researcher.

Farm record keeping is a key practice used by very successful farmers. Essentially, accurate written farm records are very helpful. Soludo (2002) stated that a farmer who has a well-kept farm record is in a more favourable position to access credit facility from financial institution than one who has no farm records. According to Johl and Kapur (2001a), when farmers keep records, they continuously give the needed information for state and national farm policies such as land and price policies.

Farmers often talk of profit and loss not on the basis of facts and figures derived from record books, but from intuition. This failure to keep records results in part from the subsistent nature of production and the educational background of the farming communities. Although the most important information is committed to memory from year to year, this system has a number of shortcomings.

Despite the importance of farm records to the growth of farm business, farmers often consider it as a difficult task (Poggio, 2006) and therefore the decisions they make are guided by vague estimates and guesses based on their past experience of farming (Johl and Kapur, 2001b). This state of affairs warrants a situation where policy formulation, planning agricultural programmes, monitoring and evaluation becomes difficult because data collection from the records of farmers is practically impossible. It is imperative for policy-makers to convey information to producers by demonstration projects, technical assistance, and education programmes.

Their problems can be attributed to several factors ranging from proper record keeping, resources available, technical proficiency to job experience. These usually culminate to low productivity/production and subsequently reduced income which not only frustrates the venture but can even lead to financial bankruptcy. Record keeping

usually account for most crisis experienced in poultry production, since so many factors influence farmers probability to keep records. These call for a full scale probe into the area of factors affecting farm record keeping with the hope to ascertain the major determinant of record keeping among small scale poultry farmers. The specific objectives are to:

Describe the socio-demographic characteristics of poultry farmers.

Determine the factors affecting farm record keeping among the poultry farmers.

## 2. Materials and methods

The study was carried out in Zone A area of Kogi State Agricultural Development Project (KGADP). Kogi State Agricultural zones are classified into four zones- Zone A, B, C and D. Zone A comprises Yagba-East, Yagba-West, Kabba-Bunu, Ijumu, and Mopamuro Local Government Areas with its headquarters at Aiyetero-Gbede. The zone is made up of six (6) extension blocks and 35 cells.

A three (3) – stage random sampling technique was used for the study. Firstly, three (3) Local Government Areas (LGAs) were purposely selected from zone A area of Kogi State Agricultural Development Project because poultry production in these area is high when compared to the other local government areas. These LGAs include Ijumu, Yagba-west and Kabba/Bunu. Secondly, two (2) villages were randomly selected from each L.G.A making a total of six (6) villages. Thirdly, twenty (20) poultry farmers were randomly selected from each village. A total of 120 respondents were used for the study. The primary data for this study was obtained through the use of structured questionnaire. For the socio economic characteristics of poultry farmers and to determine the factors affecting farm record keeping by poultry farmers', descriptive and inferential statistical tools such as mean, frequency distribution tables, percentages and logit regression analysis were employed.

## 3. Results and discussion

### 3.1 Socio – economic Characteristics of the Respondents

Results showed that the majority (58.3%) of the respondents were in the age range of 31-50 years, 5% and 36.7% were between 21-30 years and above 50 years respectively. The average age was 35 years. This implies that most of the respondents are in their productive age group. It is expected that farmers in such age bracket could carry out various operations involved in poultry farming. This finding supports Okanta et al., (2003) who reported that only those farmers within the productive age group of 20-45

years are likely to possess the necessary strength to carry out production operations.

Majority (76.7%) of the respondents were males, while 23.3% were females. Although the ratio of females to males is low, it still shows that women have a fair representation in the poultry industry in the study area. Assasie (2008) observed that women may go into farming to meet demands at the home. He further explained that gender has proven to be an essential variable for analysing roles, responsibilities, constraints, opportunities, incentives, costs and benefits in agriculture. This finding agrees with Adekoya (2005) who observed that male farmers contribute more to the poultry production.

The socio-demographic characteristics also showed that, 44.2% of the respondents had secondary education, 30% had primary education; 25% had tertiary education, while 0.8% had no form of formal education. This relatively higher educational status may encourage acceptance of innovation which could raise farm productivity and income.

Table 1 also shows that 58.4% of the poultry farmers had flock size of 31-90, 30% had 91 and above flock size, while 11.7% of the respondents had flock size between 1 and 30. The average flock size recorded in the area was 69 flocks. This implies that majority of the poultry farmers are keeping small number of birds. This situation gives an indication of the level of investment the respondents have put into the poultry business. The small numbers of birds kept by poultry farmers is likely to reflect on their farm record keeping behaviour because according to Johl and Kapur (2001c), the subsistence nature of farming does not produce any incentive for keeping farm records and farmers cannot engage separately trained accountants to help them in farm accounting. Singh (2001) further added that small-scale farmers are likely not to show interest in keeping farm records because they know that because of the small size of their farm holdings they will not be able to effect economies of scale.

### 3.2 Factors Affecting Farm Record Keeping

Table 2 provides results of the binary logistic regression model to determine factors that affect farm record keeping by poultry farmers. The model's estimates shows that variables such as education, occupation status, flock size, experience, and marital status were significant in determining the attitude of poultry farmers towards record keeping.

The marginal effect of gender was negatively signed and not statistically significant. This implies that male poultry farmers were less likely to keep farm record. This could be attributed to the involvement of male poultry farmers in other farming activities which may not avail them the

necessary time and attention given to the poultry sector.

The marginal effect of age was not statistically significant at the level of measurement. However, the negative value implies an inverse relationship. This implies that the higher the age of poultry farmers the lower the likelihood to keep farm record. Record keeping which is an innovation could easily be adopted by farmers in their productive age. Age of the farmer implies knowledge gained over time and plays an integral role in evaluating willingness to adopt an innovation (Sanginga, 1998). Older poultry farmers have gained experience in poultry production and are less likely to keep proper farm records. This finding agrees with Idrisa et al., (2012) who found that experience comes with time and has proven to be of great advantage, especially as the level of mastery increases with it.

Education shows a direct relationship with farm record keeping. The relationship was significant at 1%. This implies that the higher the years spent schooling the more the likelihood of keeping farm records. The positive relationship could be attributed to the fact that as one's number of years of schooling increases his level of knowledge increases and therefore enhances his ability to receive, decode and understand information. Education may facilitate the diffusion of new technology and as such has a positive relation with innovation adoption. More educated farmers are likely to appreciate the benefit of keeping farm record than their less educated counterparts.

Occupation status shows a negative relationship and was significant at 10%. This implies that the probability to keep farm record decreases with full time farmers. Poultry farmers who combine farming with other occupation are more likely to keep farm record. This result also agrees with Onyeyinka et al., (2011) who reported a significant relationship between farm record keeping and farmer status.

Flock size was directly related to farm record keeping. The relationship was significant at 5%. By implication, the higher the flock size, the more the likelihood to keep farm record. The probability to keep farm record increases when a poultry farmer has higher number of birds.

Experience shows a positive relationship with farm record keeping at 10% level of significance. Number of years in a particular enterprise may encourage the adoption of an innovation by farmers. Idrisa et al. (2012) argued that experience depicts a good signal for adoption. According to Agbamu (2006), experience impacts positively on innovation adoption.

Respondents' marital status also shows a positive relationship with farm record keeping at 1%

level of significance. This implies that married poultry farmers were more likely to keep farm record than the unmarried farmers. Marital status determines an individual's decision to demonstrate a mark of social responsibility.

Access to agricultural extension agents was significant at 10% and shows a direct relationship with the probability to keep farm record. Farmers'

contact with extension agents increases their level of awareness and knowledge on the adoption of agricultural innovation such as keeping of farm record. The higher the level of this knowledge, the more they are likely to keep farm record.

Table 1. Distribution of Respondents According to Socioeconomic Characteristics.

Socioeconomic Characteristics	No. of Respondents	Percentage	Mean/Mode
Age Category (years)			
21-30	6	5.0	
31-40	31	25.8	
41-50	39	32.5	
51-60	21	17.5	
61-80	23	19.2	35years
Total	120	100	
Gender			
Male	92	76.7	Male
Female	28	23.3	
Total	120	100	
Educational Status			
Informal Education (0 years)	01	0.8	
Primary Education (1-6 years)	36	30.0	
Secondary Education (7-12 years)	53	44.2	Secondary
Tertiary Education (Above 12 years)	30	25.0	
Total	120	100	
Flock Size			
1 - 30	14	11.7	
31 – 60	35	29.2	
61 - 90	35	29.2	69 flock
91 and above	36	30.0	
Total	120	100	
Poultry Farming Experience			
1-10	77	64.2	
11 – 20	30	25.0	11 years
21 and above	13	10.8	
Total	120	100	

Table 2. Output of the Binary Logistic Regression

Variables	Marginal Effect	P-values
Gender	-0.0711127	0.489
Age	-0.00189881	0.600
Education	0.0412956***	0.000
Occupation Status	-0.0569874*	0.074
Flock size	0.0025266**	0.014
Experience	-0.0092585*	0.073
Marital status	0.3688594***	0.008
Extension contact	0.1687352**	0.049
Constant	-1.1565	0.133

\*, \*\*, \*\*\* = significant at 10%, 5% and 1% respectively

Log likelihood = -63.215

#### 4. Conclusion and recommendations

The study examined the factors influencing farm record keeping among small scale poultry farmers. It can be concluded that farmers' level of education, marital status, occupation, experience and flock size influence the probability of poultry farmers to keep farm records. Recommendations

Based on the findings of the study, the following recommendations were made:

The Ministry of Agriculture through the State Agricultural Development Project should intensify their work on poultry farmers to enable them keep comprehensive farm records. This can be done by organizing frequent training programmes and follow-ups to enable poultry farmers keep systematic records.

Government and non-governmental organization should encourage both formal and extension education as these has been found to have significantly influenced record keeping. This can be done through the provision of resources needed to train the farmers formally and informally.

Financial support and other inputs should be given to poultry farmers by government and other relevant agencies to increase their scale of production.

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