

## ANALYSIS OF FARM RECORD KEEPING AMONG SMALL-SCALE POULTRY FARMERS IN ADAVI AND OKENE LOCAL GOVERNMENT AREAS OF KOGI STATES, NIGERIA

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### ABSTRACT

This study assessed farm record keeping among small-scale poultry farmers in Adavi and Okene Local Government Areas of Kogi State, Nigeria. Eighty (80) small-scale poultry farmers were randomly selected for the study. Data collected were analyzed using descriptive statistics and poisson regression model. Results revealed most of the farmers aged between 26 – 35 years, majority (70.0%) had household size of less than six people and most had poultry rearing experience of 6 – 10 years and majority (81.2%) had tertiary education. Results also revealed production, financial and labour records were most kept farm records by the farmers which ranked 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup>, respectively. More so, 50.0% of the farmers kept farm records on daily basis. Perceived benefits of farm records by the farmers were; assist farmers to know if a profit is made or not ( $\bar{x} = 3.92$ ) and help to recall when farm operation started ( $\bar{x} = 3.76$ ). The factors that significantly influenced record keeping include age and sex ( $p < 0.10$ ), experience ( $p < 0.01$ ), educational level ( $p < 0.05$ ), birds in stock ( $p < 0.01$ ) and extension contact ( $p < 0.10$ ). Severe constraints faced by the farmers includes inadequate knowledge of comprehensive record keeping ( $\bar{x} = 2.30$ ) and lack of time for record keeping ( $\bar{x} = 2.25$ ). The study recommended that poultry farmers in the study area should be given adequate training on how to keep comprehensive farm record as well as sensitized on the benefits of farm records.

**Keywords:** Farm records keeping, small-scale, poultry farmers

### INTRODUCTION

Small-scale poultry rearing play a pivotal role as a source of livelihood for many rural households, especially in the developing nations Nigeria inclusive. Poultry keeping serves as a “safety net” and provides ready cash for emergency needs (Enoch *et al.*, 2010). The importance of poultry can also be explained by the fact that poultry has many advantages over other livestock. Poultry birds are good converter of feed into useable protein in form of meat and eggs, the cost of production per unit is relatively low with high returns and as well it requires relatively low take-off capital (Heise *et al.*, 2015). Poultry meat is believed to have little or no cholesterol and hence acceptable to consumers without religious or culture restrictions. More so, its length of production period is short hence capital is not tied down and egg production which is one of the major products of the enterprise is affordable by poor people when compared to other sources of animal protein (Aboki *et al.*, 2013).

However, in any enterprise, suitable and reliable availability of information in form of record is key for different kinds of decision making. Record is information that has efficiently and deliberately collected and suitably kept for future use (Minna-eyovwuna *et al.*, 2019). Record

keeping is therefore an important component of managing an efficient farm enterprise. Undutimi (2013) posited that, most small-scale farmers in Nigeria rarely give desired importance to record keeping in their farming operations. Farmers often talk of profit and loss not on basis of facts and figures obtained from record books, but from assumptions.

Billy (2012) reported that a farm enterprise decision that are not based on accurate farm record could lead to low benefits. Thus, an efficient management of farm operations require sound record keeping and record analysis. A farmer who keeps proper records will usually be able to handle issues better than the one who does not (Piggio, 2006). To this end, without well-kept written record, poultry farmers will have to depend on their memories when making decisions that concerns modification of their farm enterprise. It is worth noting that memories become unreliable particularly after some periods of time. Minna-Eyonwuna *et al.* (2019) stated that one possible approach to improving small-scale farming is through the use of farm records.

Despite the vital role of the poultry in livelihood of people, record keeping among small-scale farmers has remain a great problem. It was against the aforementioned that this study was

conceived to assess farm record keeping among small-scale poultry farmers in Adavi and Okene LGAs, Kogi State, Nigeria. Thus, the following objectives were addressed to: describe the socio-economic characteristics of the poultry farmers; identify the various types of farm records kept; examine the frequency of farm record keeping; assess their perceived benefits of farm records and determine the factors influencing farm record keeping by the poultry farmers in the study area.

#### METHODOLOGY

The study was carried out in Adavi and Okene Local Government Areas of Kogi State, Nigeria. Kogi State lies between Latitude 6° 33' and 8° 44' North, and Longitude 3° 22' and 7° 49' East of the equator. The State covers an estimated land area of 29,833 km<sup>2</sup> with a human population of about 3,314,043 (NPC, 2006). Kogi State has a tropical wet and dry climate with an annual temperature range of 22.8°C to 33.2°C, and annual rainfall range between 1010 – 1520 mm. Primary occupation of the people is farming with the major crops grown include cassava, yam, maize, groundnut and melon, while livestock reared are goats, sheep, poultry and cattle.

Two-stage sampling procedure was employed to select respondents. The first stage

involved random selection of 10 villages, while third stage involved random selection of four small-scale poultry famers from each of the selected villages to get a total of 80 poultry farmers. Structured questionnaire complemented with interview schedule were used for the data collection. The data elicited were analyzed using descriptive and inferential statistics (Poisson regression model) as well as attitudinal measuring scale of five point Likert rating scale to measure the perceived benefits of record keeping. The scale was rated as strongly agree (SA) = 5, Agree (A) = 4, Undecided (UD) = 3, Disagree (D) = 2, Strongly disagree (SD) = 1 with mean bench mark of 3.0.

#### RESULTS AND DISCUSSION

##### Socioeconomic characteristics

Results in Table 1 indicated that 45.01% of the respondents were in age bracket of 26 – 35 years with a mean of 32.5 years implying that the poultry farmers were in their active age which likely to impact positively on their record keeping. Majority (78.87%) of the respondents were male, while 21.13% were female. This implies that poultry production in the study was mostly done by male who are desired to meet the needs of their family ranging from food, children school fees and health services.

**Table 1: Distribution of the respondents based on their socio-economic characteristics (n = 80)**

Variables	Frequency	Percentage (%)	Mean
<b>Age (years)</b>			
< 26	10	12.56	32.5
26 – 35	36	45.01	
36 – 45	28	35.03	
> 45	6	7.50	
<b>Sex</b>			
Male	63	78.87	
Female	17	21.13	
<b>Marital status</b>			
Married	53	66.24	
Single	25	31.32	
Widowed	2	2.44	
<b>Household size (number)</b>			
< 6	56	70.00	
6 – 10	20	25.00	
> 10	4	5.00	
<b>Experience (years)</b>			
< 6	12	15.02	
6 – 10	61	76.25	

Variables	Frequency	Percentage (%)	Mean
> 10	7	8.73	
<b>Education status</b>			
Adult education	2	2.44	
Primary	4	5.00	
Secondary	65	81.22	
Tertiary	9	11.34	
<b>Cooperative</b>			
Member	31	38.73	
Not member	49	61.27	
<b>Extension contact</b>			
Contact	50	62.41	
No contact	30	37.59	
<b>Annual Income (N)</b>			
< 500,000	50	62.32	890,140.60
500,000 – 1,000,000	15	18.84	
> 1,000,000	15	18.84	

Source: Field Survey, 2019

Most (66.24%) of the respondents were married, while 70.00% of the respondents had household size of less than six people, 25.00% and 5.00% had household size of between 6 – 10 and above 10 people, respectively. Majority (76.25%) of the respondents had poultry rearing experience of between 6 – 10 years with a mean of 6.4 years. This implies that poultry keeping was not new in the study area. Also, majority (81.22%) of the respondents acquired secondary school education, while 11.33%, 5.00% and 2.45% acquired tertiary, primary and adult education, respectively. This implies that, the poultry farmers were literate which could likely impact positively on their record keeping. It is obvious that education helps an individual to understand the importance of record keeping. This agrees with the finding of Enoch *et al.* (2010) who reported that education is likely to influence an individual record keeping. Most (61.27%) of the respondents were not members of cooperative. This poor cooperative membership of the farmers was capable of affecting their access to government assistance as well as farm record keeping. However, 62.41% of the respondents had access to extension service, while 37.59% of them had no access to extension service. This implies that, there was high extension service delivery in the study area. Also, most (62.31%) of the respondents had annual income of less than N500,000 with a mean annual income of N890,140.60.

#### Types of farm record keeping

Results in Table 2 revealed that most (62.55%) of the respondents kept production record, while 55.01% and 52.52% of them kept financial and labour records, respectively. Furthermore, 47.53% of the respondents kept farm inventory and management practices, respectively, while 32.5% of the respondents kept supplementary records. This implies that high proportion of the poultry farmers in the study area attached more importance to production and financial records. This could be due to the fact that such records can be used to get financial assistance (credit) from the government. This agrees with the finding of Tham-Agyekum *et al.* (2010) that most poultry farmers keep both production and financial records for credit purposes.

#### Frequency of farm record keeping

Results in Table 3 revealed that half (50.01%) of the respondents kept record on daily basis, while 25.06% kept record on weekly, 14.00% kept record forth-nightly and 10.03% of the respondents kept records on monthly basis respectively. This implies that most of the poultry farmers kept records on daily basis to track production in terms of egg, feed consumption and health. This findings agrees with that of Adedapo and Adekunmi (2019) who reported that most of the poultry farmers do keep farm records on daily basis perhaps due to the fact that farmers need track of activities on the farm on daily routine.

**Table 2: Distribution of respondents based on types of farm record kept**

Types of record	Frequency	Percentage (%)	Rank
Management practice record	38	47.53	4 <sup>th</sup>
Supplementary records	26	32.51	6 <sup>th</sup>
Inventory records	38	47.54	4 <sup>th</sup>
Labour records	42	52.52	3 <sup>rd</sup>
Production records	50	62.55	1 <sup>st</sup>
Financial records	44	55.01	2 <sup>nd</sup>

Source: Field Survey, 2019

**Table 3: Distribution of respondents based on frequency of record keeping**

Period	Frequency	Percentage
Daily	40	50.12
Weekly	20	25.67
Fortnightly	12	14.20
Monthly	8	10.01

Source: Field survey, 2019

#### Perceived benefits of farm record keeping

The result in Table 4 revealed that poultry farmers in the study area perceived that farm record keeping can assist farmers to know if a profit is made or not ( $\bar{x}$  = 3.92), help to recall when farm

operation was started ( $\bar{x}$  = 3.76), help to compare results with previous year ( $\bar{x}$  = 3.67), identify improvement or decline in farm enterprise ( $\bar{x}$  = 3.47), use for accessing credit ( $\bar{x}$  = 3.39) and provide basis for future farm planning ( $\bar{x}$  = 3.25).

**Table 4: Perceived benefits of farm record keeping by the respondents**

Perceived benefits	SA	A	UD	D	SD	WS	WM ( $\bar{x}$ )	Remark
Assist farmers to know if a profit is made or not	53	6	2	0	19	314	3.92	Agreed
Help to recall when farm operation started	45	13	1	0	21	301	3.76	Agreed
Help compare results with previous year	35	24	1	0	20	294	3.67	Agreed
Identify improvement/decline in farm enterprise	32	19	6	1	22	278	3.47	Agreed
Use for accessing credit	21	33	3	2	21	271	3.39	Agreed
Provide basis for future farm planning	23	27	3	1	26	260	3.25	Agreed
Help for selection of poultry birds	13	15	11	11	30	210	2.63	Disagreed

Source: Field Survey, 2019

Note: WS=Weighted Sum, WM=Weighted Mean, SA=Strongly Agreed, A=Agreed, UD=Undecided, D=Disagreed, SD=Strongly Disagreed

#### Factors influencing farm record keeping

Results of *Poisson* regression analysis presented in Table 5 revealed that age and sex were negative and significantly influenced farm record keeping ( $p \leq 0.10$ ). The implication is that as farmers grow older, their zeal to keep record decreases. Also, as more number of male famers keep record, the less record will be kept by the female counterpart. More so, household size was positive and significantly influenced record keeping ( $p \leq 0.01$ ). This implies that as farmer's household size increases the more he/she is prepared to keep farm record and vice versa.

Poultry rearing experience was positive and a significant factor influencing record keeping ( $p \leq 0.05$ ). The more experienced a farmer is in poultry rearing the more he will keep farm record. This is because he become familiar with the importance of such records. Table 5 further revealed that birds in stock was positive and a significant factor influencing record keeping ( $p \leq 0.05$ ). This implies that as the farmer's stock size increases the more he is likely to keep record, because such records can be used to access assistance from the government and other donor agencies. Extension contact was positive and significantly influenced

record keeping ( $p \leq 0.10$ ). This implies that the more exposure farmer has with extension, the more

likely he will keep farm record and this could be attributed to sensitization farmer had received.

**Table 5: Poisson regression estimates of factors influencing farm record keeping**

Variable	Coefficient	Standard error	Z – Value
Age	- 0.014*	.008	-1.76
Sex	-0.247*	.133	-1.86
Marital Status	-0.088	.110	-0.80
Household Size	0.067***	.016	4.19
Poultry Keeping Experience	0.034**	0.15	2.32
Educational Level	0.038	.036	1.04
Cooperative Membership	0.107	.108	-0.35
Credit Access	-0.037	.062	4.51
Birds in Stock	0.281**	.062	4.51
Annual income	-4.95e -08	5.43E – 08	-0.91
Extension contact	0.234*	.131	1.86
Labour	-0.132	.116	-1.14
Constant	2.117***	2.117	6.02
Pseudo R <sup>2</sup>	0.178		
Chi – squared	96.30***		
Log likelihood	-221.880		

**Source: Field Survey, 2019**

Note: \*\*\*, \*\*, \* = significant at 1%, 5% and 10% levels of probability

#### CONCLUSION AND RECOMMENDATIONS

The study concluded that most of the poultry farmers in the area have poor knowledge of record keeping and considered record keeping as time consuming. It can therefore be recommended that agricultural agencies like extension agencies should organize training for the farmers on how to keep comprehensive farm record. The extension agents and other stakeholders in agricultural sector should sensitize the farmers on the benefits of farm record keeping and need to devote time for it.

#### REFERENCES

- Aboki, E., Jongor, A. A. U. & Onu, J. I. (2013). Productivity and technical efficiency of family poultry production in Kurmi Local Government Area of Taraba State, Nigeria. *Journal of Agriculture and Sustainability*, 4 (1), 52 – 66.
- Adedapo, A. O. & Adekunmi, A. O. (2019). Factors influencing the choice of record keeping among poultry farmers in Ekiti State, Nigeria. *Ife Journal of Agricultural* 31(1): 1 – 15
- Billy, G. H. (2012). Establishing and using a farm financial record keeping system <http://www.extension.org/files/w/5/56/farm-Records>. Accessed 8/21/2013
- Enoch, K. T., Patrick, A. & Fired, N. (2010). Assessing farm record keeping behaviours among small- scale poultry farmers in the East Municipality, Accra, Ghana. *Journal of Agricultural Science*, 2 (4), 52 – 62.
- Heise, H., Crisan, A. & Theuvse, L. (2015). The poultry market in Nigeria: Market structure and potential for investment in the market. *International food and Agricultural Management Review*, 18 (1), 1 – 6.
- Piggio, M. (2006). Farm records. Available on [www.side.gov.au](http://www.side.gov.au), accessed 4<sup>th</sup> November, 2018.
- Minna – Eyovwunu, D., Akarue, B. O. & Emorere, S. J. (2019). Effective record keeping and poultry management in Udu and Okpe Local Gormnement Areas of Delta State, Nigeria. *International Journal of innovative Agriculture and Biology Research*, 7 (1), 31 – 38.
- National Population Commission (2005). Provisional Census figure, NPC Abuja, Nigeria.



Undutimi, J. D. (2013). Record keeping among  
small farmers in Nigeria; Problems and  
Prospects. *International Journal of*

*Scientific Research in Education*, 6 (2),  
214 – 220