

Assessment of the Record Keeping Behavior of Poultry Farmers in Akwa Ibom State, Nigeria

kesit K. Nkeme^{*}, Nsikan E. Bassey and Ekemini A. Okon

*Department of Agricultural Economics & Extension Akwa Ibom State University P. M. B
1167, Akwa Ibom State, Nigeria*

**Corresponding Author Email: kknkeme@yahoo.com*

Abstract

Record keeping is said to be a panacea to effective and efficient business profitability and poultry farming is not an exception. The study examined the behavior of poultry farmers towards farm record keeping in Akwa Ibom State, Nigeria. Data were collected using questionnaires from 150 poultry farmers' selected using random sampling procedure. Data were analyzed using descriptive statistics, Likert Scale Rating Technique and Multiple Regression Analysis. Findings showed that the majority (57%) were into part time poultry production. Poultry records kept were production records (88%) financial records (80%) feed records (77.3%) staff personal or labor records (60%), health/vaccination (35.3%) and farm inventory records (46.7%). Majority (62.8%) kept daily records. Also, the majority (72.6%) kept records manually. Survey result further revealed that records were mostly kept for the following: analyzing the overall performance of the farm (86%), assistance in poultry management decision (82%) to help in ascertaining the financial performance of the farm (78%), farm planning and budgeting (76%), financial planning (74%), provision of information for credit condition and access (72%), assistance in proper staff management and personnel control (70%), provision of basis for comparing farms (66%), checkmating thieves and mortality (63%), revealing areas of farm's weakness and strength (60%), a source of information for research and government administrative tools (50%), aid in projecting productivity (24%), usefulness in deterring tax and insurance (22%) and assistance in price determination (18%). Record keeping was influenced by educational attainment ($P>0.05$), flock size ($P>0.05$), years of farming experience ($P>0.01$), farming status ($P>0.05$), and access to credit ($P>0.05$). Additionally, record keeping was constrained by the subsistence nature of farming (mean = 3.32), lack of adequate sensitization and training on record keeping (mean = 3.2), time consuming and stressful (mean = 2.89), epileptic electric power supply (mean = 2.88), high level of computer illiteracy (mean = 2.84), high cost of keeping records, (mean = 2.82), lack of adequate record keeping skills (mean = 2.59) and fear of tax payment (mean = 2.52). It is therefore recommended that poultry farmers in the study area should be regularly sensitized on the need for record keeping as well as its importance.

Key words: Farm record; Behavior of poultry farmers

1.0 Introduction

The Nigerian agricultural sector is the sole provider of food and livestock with poultry production accounting for a substantial part of the total livestock production in the country. Poultry refers to a wide range of birds of various species. It involves chickens, turkeys, ducks, geese, guinea fowl, pigeons, peacocks, peafowl, ostriches, quails, and even other game birds. Most of them may be classified based on utility, economic value or purpose and this may include meat type, egg type, dual purpose, game and ornamental etc.

Changing food habits, globalization, industrialization, rising income and urbanization have created a favorable atmosphere for the development of the poultry sector (Antia-Obong *et al.*, 2021). Poultry is one of the fastest-growing segments of the livestock/agriculture sector and contributes a major share in terms of protein supplementation from eggs and meat. Poultry farming is an important subsidiary occupation that contributes greatly to the livelihoods of rural households in most tropical developing countries, and it has become a popular industry for most subsistence small and medium-scale farmers in Nigeria due to its contributions to the economy, employment opportunities, animal and crop production, prolific instincts, short term rate of return in forms of cash and kind benefits, source of animal protein, low take up capital requirement, and short production cycle (Mbuza *et al.*, 2017). It is estimated that above 70% percent of the Nigerian population is engaged in the poultry business (Obinaju and Ekpo, 2017). This is because it provides ready cash for emergency needs (James and Peter, 2015), supplies the fast-growing human population with high-quality protein, contributes significantly to food security, poverty alleviation and ecologically sound management of natural resources.

However, if the current tempo of poultry production is to be sustained and the stipulated daily total protein consumption of 65 - 75g for an adult is to be met, the need for effective record keeping becomes indispensable to check profitability which is a guarantee for business sustainability. Record keeping is a systematic documentation of transactions in an orderly manner (Abayomi and Adegoke, 2016). It entails keeping a detailed account of all farm activities in a systematic and well-ordered manner. Farm record is a key component in managing efficient poultry farm size. A proper record keeping equips the farmer with the ability to uncover strength and weakness of the farm, revealing farm progress and asset position. Omotesho *et al.* (2022) had reported that without adequate records, productivity cannot be enhanced. According to the study, farm record keeping assists the farmer to plan and project his enterprise profitability. Other usefulness of farm records include: facilitating the adoption of production innovations (Turner *et al.*, 2018), assisting in financial planning decisions, providing data for government administrative and extension purposes and assisting in livestock management decisions (Yadeta *et al.*, 2020).

Farm records can be kept manually, electronically or a combination of both (Tham, Agyekum, *et al.*, 2010; Mateaw *et al.*, 2021). However, the choice of which type of record to keep will depend on the type of farm enterprise undertaken, the proposed use of the record, farm size, and the objective of the farm as well as the cost of keeping the record.

Omotesho *et al.* (2022) listed the different kinds of farm records that both crop and livestock farmers should keep to include inventory or store record, production records, financial records and other miscellaneous records e.g rainfall data, flood and drought occurrence records. Other types of record were further listed by McDougal *et al.* (2017) as agricultural

input record, records of animal feeds, daily farm records, workers records, vehicle records and health records.

Despite the importance of farm records, Adisa *et al.* (2017) reported that many farmers do not appreciate nor keep records. Omotesho *et al.* (2022) corroborated that farmers see record keeping as a waste of time while the small proportion who attempt to keep records usually forget to do so on a daily basis due to lack of interest. Benjamin *et al.* (2020) further argued that most farmers still see record keeping as a necessary evil. Others do not keep comprehensive records of their farming operations partly due to the subsistence nature of production and the educational background of the farmer, which invariably affects their behavior towards record keeping (Adisa *et al.*, 2017) while few who keep farm records do so mentally leading to loss of relevant details.

Adedapo and Adekunmi, (2019) reported that farmers perceive record keeping as a mundane task and hence their lack of participation. Cui, *et al.* (2017) reported that the level of poultry farmers' exposure academically, goes a long way in shaping the way they behave and handle things about the enterprise. Accordingly, Akinola (2014) agrees with Cui *et al.* (2017) who reiterated that the literacy level of poultry farmers allows them to behave positively towards development programmes and their adoption. Most rural farmers especially those in the developing countries have a poor disposition towards record keeping. Adisa *et al.* (2017) opined that farmers see record keeping as time-wasting, cost-effective in terms of tax computation and as such making them lose interest. On the other hand, Owiny (2019) opined that farmers have a positive behavior towards farm record keeping and this agrees with part of the findings of Tham - Agyekum *et al.* (2010) who reported that both commercial and subsistence farmers understand the role of record keeping in the farm business, but commercial farmers tend to keep records more than subsistence farmers.

Behavior is the readiness to react to certain objects in the environment as an appreciation of the object (Utami, 2017). It is argued to be associated with words such as acts, conducts, mannerism, deportment and comportment (Omotesho *et al.*, 2022). Therefore, in examining poultry farmer's record keeping behavior, it is pertinent to assess their perception towards record keeping as well as factors that affect their record keeping behavior. In this regard, this study sought to investigate farm record keeping behavior of poultry farmers in Akwa Ibom State, Nigeria, the various types of records kept, the methods of keeping records as well as the determinants and the constraints to effective record keeping.

1.1 Theory of Planned Behavior

The theory of planned behavior is a theory used to understand and predict behavior, which proposes that behaviors are immediately determined by behavioral intentions under certain influenced circumstances and perceived behavioral control. The theory of planned behavior (TPB) started as the theory of reasoned action. It was used to demonstrate the effectiveness in predicting variability in people's behavior across many populations (Hagger, 2019). The main concept of this theory are behavioral intentions as shown in Figure 1.1. These behavioral intentions are determined by a combination of three factors: attitudes toward the behavior, subjective norms, and perceived behavioral control.

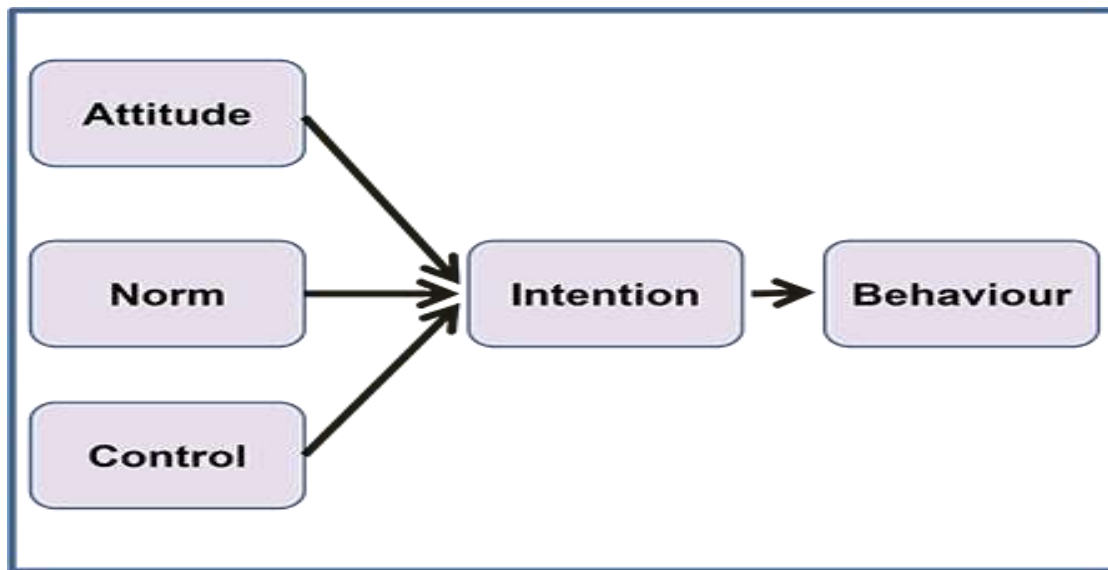


Figure 1.1: Components of the theory of planned behavior

Source: Lamorte (2019)

From Figure 1.1 above, there is a network linking attitude, norm and control to the intention which eventually results in behavior. This explains that an attitude (be it positive or negative) affects our intentions; the norms that we are familiar with or not familiar with (what is acceptable in our society and how people of relevance will rate the action) will affect our intentions and also what we can or cannot have control over also have a fair share in our intentions and with these put together it controls our behavioral pattern. These factors are motivation and the stronger the intentions, the more likely that the behavior will be performed (Lamorte, 2019). Although the time frame between "intent" and "behavioral action" is not addressed by the theory it is still helpful in navigating through the behavioral intentions of an individual over a specific matter.

2.0 Materials and Methods

2.1 Description of the Study Area

This study was carried out in Akwa Ibom State which is one of the six states in the South-South region of Nigeria. It is situated between longitudes 7°30' and 8°20'E and latitude 4°30' 5°30'N with a total area of 7,245,933km², a shoreline of 12km and an estimated population of 5,482,200 (NPC, 2006). The State is bounded to the West by Rivers and Abia State, Cross River State to the East and the Atlantic River on the South-southern Nigerian coastal plain, the map of Akwa Ibom State roughly represents a triangle. The major activities of the people include farming, craftsmanship, and trading. The majority of the rural population engages in farming. Other traditional occupations of the people include fishing, trading, hunting, woodcarving, raffia works, tailoring, and craft creation. The State has 31 Local Government Areas, classified into six (6) zones by the state Agricultural Development Project (AKADEP) namely: Uyo, Ikot Ekpene, Oron, Abak, Eket and Etinan. The Ikot Ekpene Agricultural zone was selected. The zone has a humid tropical climate, characterized by distinct wet and dry seasons. Annual rainfall varies from 20 to 374 mm with an annual average of 354 mm. The average annual temperature ranges from 25.10 °C to 27.9 °C. The relative humidity remains at an average of 70 – 80% throughout the year. Subsistence agriculture and crafts are the main occupations of the people.

2.2 Sampling Technique and Size

This research made use of a total number of one hundred and fifty (150) poultry farmers. A three-stage sampling technique was adopted in selecting respondents for this study. In the first stage, five (5) Agricultural blocks were purposely selected from the existing eight that make up the Ikot- Ekpene agricultural zone. This was because farmers in poultry production were prevalent in the selected extension blocks. In the second stage 3 extension cells were randomly sampled from each of the selected extension blocks making a total of fifteen (15) cells. In the third stage, 10 poultry farmers were randomly chosen from each of the selected cells; a total of one hundred and fifty (150) poultry farmers were sampled and a structured questionnaire was used to elicit information from the respondents.

2.3 Analytical Techniques

In addition to descriptive statistics that were used, data were also analyzed using the following tools:

2.3.1 Likert Scale

To examine the behavior of poultry farmers towards farm record keeping, 5-point Likert Scale was used. The 5-point Likert scale had the following options: strongly agree (SA), agree (A), undecided (U), disagree (D) and strongly disagree (SD). The weight given to these options are SA = 5, A = 4, D = 3, SD = 2, and U = 1. The Likert scale model used is shown in equation 2.1

$$\text{Likert Scale} = \frac{\sum W}{N} \dots \dots \dots (2.1)$$

Where:

$\sum W$ = Sum of Weights (W1+W2+----Wn)

W = Weights assigned to each statement by the respondents and it ranges from 1 to 5.

Where '1' is less important and 5 is extremely important and

N = number of scale.

In determining the threshold point, this paper used the mean score of 3.0, obtained by adding all the respondent weights and dividing the outcome by five (5). Hence, behaviors with a mean score of 3.0 and above were accepted while those with a mean score of 2.9 and below were rejected (Preedy & Watson, 2010). A 4 point Likert Scale was also used to examine the constraint to effective record keeping by poultry farmers. The scale was assigned a weight of 4 for Very Serious, 3 for Serious, 2 for Moderately serious and 1 for Not Serious. The weighted mean was computed as $4 + 3 + 2 + 1/4 = 2.5$. Hence, any constraint with a mean score of 2.5 and above were adjudged to be serious constraint while those with mean scores of less than 2.5 were adjudged to be minor constraints.

2.3.2 Multiple Regression Analysis

A multiple regression analysis was used to estimate the determinants of record keeping by poultry farmers in the study area. The model is stated as follows:

$$\text{REKs} = \lambda_0 + \lambda_1 \text{EDU} + \lambda_2 \text{HHS} + \lambda_3 \text{FAS} + \lambda_4 \text{AGE} + \lambda_5 \text{FEX} + \lambda_6 \text{GEN} + \lambda_8 \text{FAST} + \lambda_9 \text{ATC} + \lambda_{10} \text{MAS} + \lambda_{11} \text{ECON} + e_i \dots \dots \dots (2.2)$$

Where:

REK = Record keeping measured as the ratio of number of records kept by a farmer to the total number of records kept by poultry farmers in the study area

EDU = Educational attainment of farmers (years)

HHS = Number of persons (Male =1, others 0)

FAS = Flock size (number of birds kept by a farmer)

AGE = Age of farmers (years)

FEX = Farming experience of farmers (years)

GEN = Gender of farmers (Male = 1, otherwise 0)

FAST = Farming status (Fulltime=1, Part time=0)

ATC = Access to credit (Yes = 1, No = 0)

MAS = Marital status (Married = 1, Others = 0)

ECON = Extension contact (number of sources that poultry farmer gets his poultry production information)

3.0 Results and Discussion

3.1 Socioeconomic Characteristics of the Respondents

Table 3.1 presents the distribution of poultry farmers on the basis of their socioeconomic characteristics. As observed in the table, the age of farmers ranged from 24-71 years with a mean age of 41 years. The dominant age bracket was 41 – 50 years (46.7%), followed by above 50 years (33.3%), 31 – 40 years (17.3%) and less than 30 years (2.7%). This indicated that poultry farmers were still within the economically active ages. Bassey *et al.*, (2022) had reported a mean of 38 years among livestock farmers in the study area. Majority (56.6%) were male while 43.3% were female. This is an indication that poultry production in the study area was dominated by men. Okorie *et al.*, (2022) reported that 53.5% of poultry farmers were men.

The survey result further revealed that most (53.3%) of the poultry farmers were married, 40% were single while 6.7% were either divorced or widow. The high percent (68.5%) of married farmers was previously reported among poultry farmers in the study area by (Okorie *et al.*, 2022; Ibok *et al.*, 2024; Udoka *et al.*, 2019; Bassey *et al.*, 2018) had also reported that generally majority of livestock farmers in the study area were married.

The household size ranged from 1 to 10 persons with a mean of 5 persons. Majority (66%) had household size of 5 – 10 while 33.3% and 0.7% had household size of less than 5 and above 10. The high household size might imply that there will be available family labor for poultry production in the study area. Okorie *et al.*, (2022) had also previously reported a mean household size of 5 persons among poultry farmers in the study area.

The survey result also showed that poultry farmers were quite experienced with a mean of 9 years' experience. A breakdown of this showed that majority (38.7%) had 5 – 10 years, 26% had 11 – 15 years of experience while 21.3% and 14% had less than 5 years and 16 – 20 years' experience, respectively. Bassey *et al.*, (2022) had previously reported a mean of 11 years' experience among livestock farmers in the study area. Additionally, about 89.3% of farmers were educated with a mean of 11 years of educational attainment. A breakdown of this shows that 49.3% attended secondary school, 38% attended primary school, 2% attended tertiary institution while 10.7% had no knowledge of formal education. The high educational attainment by livestock farmers was previously reported by Bassey *et al.*, (2022) and Bassey *et al.*, (2018) in the study area. Regarding production status, majority of poultry farmers were engaged in poultry production on a part-time basis while 43.3% were on full time basis. This

is capable of constraining poultry productivity since birds are highly sensitive livestock that require strict attention time and care which only full time farmers can most times provide. The survey result further earned a mean annual income of ₦974, 150.00. This shows that production in the study area was done a small scale basis.

3.2 Examining the Behavior of Poultry Farmers towards Farm Records

The theory of planned behavior: Here, questions were coined out using its component which are attitude, norms and perceived control and the result is presented in Table 3.2. Findings revealed that out of the five (5) questions asked, only four (4) were accepted. The farmers believed that not practicing the attitude of keeping farm records is detrimental to the farm. This variable had a weighted mean score of 3.84. It was ranked first. Secondly, keeping an up-to-date record was ranked second in the distribution with a weighted mean score of 3.79. Thirdly, most of the poultry farmers in the study area believed that keeping farm records positively influences their business profitability. This option had a weighted mean score of 3.77 and it was ranked third in the table. Lastly, the perception that types of farm enterprises kept by poultry farmers was ranked fourth in the distribution with a weighted mean score of 3.09.

3.3 Types of Records Kept by Poultry Farmers

The behavior of poultry farmers was also examined in terms of the type of records kept as presented in Table 3.3. As observed, majority (88%) kept production record, 80.0% kept financial record, 77.3% kept feed/record, while 35.3% and 46.7% kept health/vaccination and farm inventory records respectively.

The high production and financial record kept by farmer might be likened to the fact that both are prerequisite for accessing formal credit. Adelapo and Adewunmi (2019) had previously reported that poultry farmers in Ekiti State keep more production and financial records. Also, in Yadeta *et al*, (2021) had also reported that dairy farmers in some countries kept more of production and financial records.

3.4 Frequency of Keeping Farm Records

Frequency of record keeping was also used as one of the criteria to measure the behavior of poultry farmers towards record keeping in the study area. Table 3.4 presents the distribution of poultry farmers on their status of farm record keeping. Result showed that majority (62.8%) kept daily records, 34.9% kept weekly records while 2.3% kept their records monthly. The essence of the highly weekly records kept by farmers is to ensure that the keep track of daily activities in their farms. This will enable them capture every transaction in their form and prevent loss of valuable information. It will also ensure prompt and periodic monitoring of farm activities and progress. Studies by Adelapo and Adewunmi (2019) had reported that majority (68.25%) of poultry farmers in Ekiti State keep daily records.

Table 3.1: Socioeconomic characteristics of poultry farmers in the study area

Category	Frequency	Percentage
Gender		
Male	85	56.7
Female	65	46.3
Total	150	100
Age		
Less than 30	4	2.7
31 – 40	26	17.3
41 – 50	70	46.7
Above 50 years	50	33.3
Total	150	100
Mean	41 years	
Marital status		
Married	80	53.3
Single	60	40
Divorced/Separated/Widow	10	6.7
Total	150	100
Household Size		
Less than 5	50	33.3
5 – 10	99	66.0
Above 10	21	0.7
Total	150	100
Mean	5 persons	
Farming Experience (years)		
Less than 5 years	32	21.3
5 – 10	58	38.7
11 – 15	39	26
16 – 20	21	14
Total	150	100
Mean	9 years	
Educational level		
No formal Education	16	10.7
Primary School	57	38
Secondary School	74	49.3
Tertiary Institution	3	2
Total	150	100
Mean	11 years	
Annual farm income		
Less than 1,000,000	6	4
1,001,000 – 2,000,000	60	40
2,001,000 – 3,000,000	39	26
3,001,000 – 4,000,000	29	19.3
Above 4,000,000	16	10.7
Total	150	100
Mean	N974,150.00	
Production Status		
Full time	65	43.3
Part time	85	56.7
Total	100	100

Source: Field Survey, 2023

Table 3.2: Examining the behavior of poultry farmers towards farm records

Statements	SA	A	D	SD	U	Mean score	Ranking	Remarks
Do you perceive that keeping farm records is irrelevant to you?	6	3	22	32	87	1.73	5 th	Rejected
Do you think farm records will positively influence your profitability?	66	17	43	14	10	3.77	3 rd	Accepted
Do you perceive that type of farm enterprises kept could affect your record-keeping behavior?	11	34	65	38	2	3.09	4 th	Accepted
Do you think you can keep an up-to-date farm record?	12	96	41	1	-	3.79	2 nd	Accepted
Not practicing the attitude of keeping farm records is detrimental to your farm. Do you believe?	57	37	41	5	10	3.84	1 st	Accepted

Source: Field Survey (2023)

A= Agree, SA= Strongly Agree, D= Disagree, SD= Strongly disagree and U=Undecided

Table 3.3: Distribution of poultry farmers based on types of records kept

Type of record	Frequency	Percentage	Rank
Production	132	88	1 st
Health and Vaccination	53	35.3	6 th
Staff/Personnel/labor record	90	60	4 th
Feed records	116	77.3	3 rd
Farm inventory	70	46.7	5 th
Financial record	120	80.0	2 nd

Source: Field survey 2023**Table 3.4: Distribution of poultry farmers based on frequency of keeping records**

Status	Frequency	Percentage
Daily	110	62.8
Weekly	6	34.9
Monthly	4	2.3
Total	150	100

Source: Field survey 2023

3.5 Methods of Record Keeping

The method of record keeping was also adopted as an approach to examine poultry farmers behavior towards record keeping. The distribution of poultry farmers on their method of record keeping is presented in Table 3.5. It is obtained that a greater part (72.6%) of farmers kept their records manually, 5.9% kept theirs electronically while 21.5% use both manual and computerized method, respectively. This point to the fact that majority of farmers still depend on the manual way of storing information. The reason might be because it is the oldest and cheapest way of keeping records that farmers are familiar with. Besides, the epileptic nature of electricity supply and the high computer illiteracy among farmers can also hinder

electronic storage of information by poultry farmers. The high use of manual method (63.3%) of record keeping by farmers was previously reported among pineapple farmers by Mateaw *et al*, (2021). Tham-Agyekum, *et al*, (2010) also reported that 82% of farmers kept their record manually.

Table 3.5 Distribution of poultry farmers based on method of record keeping

Method	Frequency	Percentage
Manual	135	72.9
Computerized	11	5.9
Both	40	21.5
Total	185*	100

*Signify multiple responses

Source: Field survey, 2023

3.6 Perception of Poultry Farmers on the Importance of Keeping Farm Records

Table 3.6 presents the perception of poultry farmers on the importance of keeping records. As observed in the table, 86% reported that records are useful in analyzing the overall performance of their farms, 82% reported that it assist them in making poultry management decision, 78% reported that it helped to ascertain the financial performance of the farm while 76% reported that keeping records is useful in farm planning. Additionally, assisting in financial planning ranking 5th (74%), providing information for credit condition and access 6th (72%), assisting in proper staff management and personnel control 7th (70%), providing basis for comparing farm with similar farms 8th (66%) checkmating thieves and mortality 9th (63%), revealing areas of the farm's weakness and strength 10th (60%) being a vital source of information for research and government administrative tool 11th (50%) while aiding in projecting productivity, useful in determining tax and insurance and aiding in projecting productivity ranked 12th (34%), 13th (22%) and 14th (18%), respectively. In Ekiti State, Nigeria, Adelapo and Adekunmi (2019) had previously reported that most poultry farmers kept farm records for proper staff management, as source of information for farm planning and budgeting, to measure performance, for proper decision making, for checkmating thieves and mortality, as a source of information to research and as a guide for tax and insurance charge determination. Mateaw *et al*, (2021) had also reported that record keeping make productive projection possible, reveal the strength and weaknesses for the farm and is useful for analyzing farm performance. Yadeta *et al*, (2020) had also reported that record keeping assist in farm planning decision, provide data for government administrative and extension purposes and assist in making livestock management decision. James and Peter (2015), had also reported that small scale farmers in Nasarawa State of Nigeria kept record because it assisted them in measuring and analyzing farm performance, provided information for credit decision, provided basis for farm comparison, revealed the weakness and strength of the farm, assisted in price determination, was a vital source of data for research and extension and was useful in farm planning and budgeting as well as aiding in projecting productivity.

Table 3.6: Perception of respondents on importance of record keeping

Reason	Number	Percentage	Rank
To ascertain the financial performance of the farm	117	78	3 rd
Aid in projecting productivity	36	34	12 th
Useful in farm planning and budgeting	114	76	4 th
Vital source of data for research and extension	75	50	11 th
Provide information for credit decision and access	108	72	6 th
Basis for comparing farm with similar farms	99	66	8 th
Reveals areas of strength and weakness of the farm	90	60	10 th
Useful in analyzing farm overall performance	129	86	1 st
Assist in price determination	27	18	14 th
Assist in poultry management decision	123	82	2 nd
Assist in financial planning decision	111	74	5 th
Checkmate thieves and mortality	95	63	9 th
Proper staff management and resource control	105	70	7 th
Aid in tax and Insurance determination	33	22	13 th

Source: Filed survey 2023

3.7 Multiple Regression Estimates for the Determinants of Farm Record Keeping

Table 3.7 presents the result of the multiple regression estimates for factors affecting the level of records kept by poultry farms. The linear model was chosen out of the three functional forms that were estimated (linear, quadratic and double log) based on its high R^2 value and the number of significant estimates.

In our lead equation, the estimated R^2 was 0.719 indicating that about 71.9% of variability in level of record kept was explained by explanatory variables included in the model. The constant term was significant showing the goodness of fit of estimated model.

The coefficient of education was positive and significant at 5% indicating that increasing educational attainment of poultry farmers will increase their level of record kept. This is the case, science education is a social capital tool that guarantees access to the acquisition of knowledge, information and skill enhancement. Hence, educated farmers are expected to have more access to record keeping information than their illiterate counterparts. This finding is in line with Adelapo and Adewunmi (2019).

The flock size coefficient which was proxied for farm size was also positive and significant at 5% level. From its coefficient, a unit increase in flock size will increase farmers level of record kept by 1.423 units. The justification is that large flock size will amount to the huge capital involvement part which is presumably acquired through borrowing. Hence, any farmer with such huge capital investment will likely keep more records so as to adequately monitor his farm performances than those with few birds. Similar result was obtained by (Adelapo and Adewunmi, 2019; Yadeta *et al*, 2020)

The estimated coefficient for years of experience was positive and significantly increased record keeping at 10% level. Highly experienced farmers are expected to be more exposed to record keeping information than their inexperienced counterparts. Hence, they are expected to keep more records than their inexperienced counterparts. Adelapo and Adewunmi (2019) had reported that years of experience increased record keeping among farmers in Ekiti State, Nigeria.

Farming status also positively and significantly increased record keeping at 5% level. This is justified because farmers who are into full time farming see it as their only source of

livelihood and as such are expected to be more detailed and concerned on what occurs in their farm than their counterparts. Consequently, there is a higher tendering for them to keep more farm records. Yadeta *et al*, (2020) had also reported that full time farmers kept more records than positive farmers.

Access to credit was negative and significant at 1% level. This implies that farm record keeping will reduce with increasing access to credit. This is at variance with empirical literature because credit access was expected to boost farmer's financial status and enhance their chances of adapting to a costly record keeping technique such as computer and other forms of electronic storage. This may also be a reflection of the low access to credit by poultry farmers in the study area. This finding contradicts those of Adelapo and Adewunmi (2019) and Yadeta *et al*, (2020) who reported that access to credit increase record keeping by farmers.

Table 3.7: Multiple regression estimates for the determinants of record keeping

Variable	Linear (L)	Quadratic	Double log
Constant	3.976** (5.14)***	0.864 (1.97)*	-0.342 (0.74)
Education	1.043 (2.360)**	0.643 (11.971)*	0.008 (0.74)
Household Size	-0.474 (0.923)	0.102 (0.818)	-0.0214 (2.006)**
Flock Size	1.423 (2.286)**	0.118 (0.993)	-0.243 (1.985)*
Age of farmer	-1.228 (0.266)	-8.108 (1.112)	-0.073 (0.422)
Year of experience	0.5892 (1.946)*	-0.946 (0.254)	1.004 (0.824)
Gender	-0.344 (0.992)	0.092 (1.064)	1.004 (0.082)
Farming Status	1.292 (2.464)***	0.248 (3.792)***	-0.628 (0.992)
Access to Credit	0.543 (3.824)***	-0.136 (0.424)	1.102 (1.006)
Marital Status	1.006 -0.521	0.643 (1.946)*	0.102 (4.46)***
Extension contact	0.433 (0.328)	-1.142 (0.898)	0.078 (0.272)
R ²	0.719	0.613	0.376
Fcal	13.722	6.46	2.372

Note: ***, ** and * indicate significant at 1, 5 and 10% levels respectively

L Signify the lead equation

Source: Output of STATA software

3.8 Constraint to Record Keeping

The distribution of poultry farmers based on constraints faced in record keeping is presented in Table 3.8. Of the eleven constraints identified in the study area, 8 had a mean score of 2.5 and above and were rated serious constraints while the remaining 3 were minor constraints. In the serious constraints category, the subsistence nature of farming which does not give

incentive to record keeping ranked 1st (mean = 3.32), lack of adequate sensitization and training on record keeping and its importance ranked 2nd (mean = 3.2), it is time consuming and stressful ranked 3rd (mean = 2.89), epileptic electricity supply that hinders electronic storage of information ranked 4th (mean = 2.88), high level of computer illiteracy among farmers ranked 5th by James and Peter (2015).

Mateaw *et al.*, (2022) had also reported that lack of adequate sensitization in record keeping, fear of tax payment, being time consuming and stressful as a constraints to record keeping among small-scale pineapple farmers in Ghana. In Ekiti State, Nigeria Adelapo and Adewunmi (2019) also listed lack of sensitization on record keeping, high illiteracy, fear of tax payment, time consuming and stressful, the small size nature of farming, poor electricity supply and lack of awareness on record keeping as constraints to effective record keeping among poultry farmers.

Table 3.8: Constraints to Record Keeping

Constraints	VS	S	MS	NS	TP	MEAN	Reveal
The subsistence ratio of Agriculture does not give incentive to record keeping	80	40	28	2	498	3.32 1 st	Very serious
Lack of adequate sensitization x training on record keeping x its importance	65	30	55	-	480	3.2 2 nd	Very serious
Its time consuming and stressful	50	43	47	10	433	2.89 3 rd	Very serious
Epileptic electric supply that hinders electronic storage of data	60	26	50	14	432	2.88 4 th	Very serious
High level of corporate illiteracy among farmers	42	70	10	28	426	2.84 5 th	Very serious
High cost of keeping record	45	53	30	22	421	2.81 6 th	Very serious
Lack of adequate record keeping scales	63	40	33	14	389	2.59 7 th	Very serious
Fear of tax payment	39	60	1	55	378	2.52 8 th	Very serious
Lack of awareness on record keeping	10	7	60	73	254	1.69 9 th	Not serious
It is workers inefficiency	5	5	65	75	240	1.60 10 th	Not serious
High illiteracy among poultry farmers	8	3	57	82	237	1.58 11 th	Not serious

Source: Field survey, 2023.

4.0 Conclusion

The study examined the behavior of poultry farmers towards farm record keeping. Findings have shown that majority of poultry farmers were men who were working on part-time basis. The most widely kept records were production and financial records, with majority storing

their information manually. Various reasons were as advanced in support of record keeping. Additionally, record keeping was influenced by educational attainment of farmers, flock size, years of farming experience, farming status, and access to credit. Record keeping was constrained by the subsistence nature of agriculture, lack of adequate sensitization, epileptic electric power supply, high computer illiteracy, high cost of keeping records, lack of adequate record keeping skills and fear of tax payment. Accordingly, the study concluded that poultry farmers had fair record keeping behaviors though influenced by a set of their socioeconomic factors.

The following recommendations are proffered;

- (i) Government, Non-governmental organizations and other stakeholders should sensitize poultry farmers through awareness campaigns on the need and importance of record keeping.
- (ii) Record keeping should be incorporated into existing extension programs in the State.
- (iii) There is need for proper training of poultry farming on the modern methods of record keeping. The toll of extension agent broke indispensable here.

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