ANALYSIS OF SMALL SCALE POULTRY FARMERS' PERCEPTION OF FARM RECORD KEEPING IN ILORIN WEST LOCAL GOVERNMENT AREA OF KWARA STATE, NIGERIA.

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ABSTRACT

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This study analyses small scale poultry farmers' perception of farm record keeping in Ilorin West Local Government area of Kwara State, Nigeria. Statistical tools such as descriptive statistics, chi-square test and probit model were employed for data analysis. A sample of 120 farmers selected using simple random sampling techniques were used to generate primary data. The results revealed that majority of the sampled farmers were between 21-50 years. The average number of poultry birds kept was 300birds. The chi-square test of independence showed that, there is significant relationship between (age, educational level, marital status of respondents and experience) and their level of income in the study area. The result of the probit model revealed that age was negative and significant at 10% while educational level, number of birds, extension contact, access to credit and cooperative membership were significant at 1% and experience was not significant. Lack of awareness, lack of knowledge about record keeping, farm size, time consuming and no benefit were the major problems militating against farm record keeping. Based on these findings, it can be concluded that, record keeping has great potentials to increase farmer's income because production and financial records kept by some farmers were used in getting credits from financial institutions. However, effort should be made by government and non-government agencies to mobilize and encourage poultry farmers to keep records by given awards to the best record keeper.

Keywords: Farm Records, Perception, Small-Scale, Poultry, Farmers, Kwara State

INTRODUCTION

Agriculture is the world's oldest and largest primary industry. It plays a vital role in the economic life of all nations, regardless of their development level. Sustaining high level of agriculture production and income are not possible without effective record keeping. (Muhammad, 2004). It may not always be possible precisely to quantify the contribution of farm record keeping to agricultural development but there is a little or no doubt that effective record keeping contribute significantly to agricultural production (Wikipedia, 2010).

In the face of the recent global economic crunch and the rapid pace of the farming industry, it is impossible for farmers to manage a farm enterprise the way their parents did 30 years ago(Arzeno,2004). Several research has point to the fact that one possible approach to improving small-scale farming is through proper farm record keeping. However, it will not be out of place to say that without farm records, a farmer will not make it far in today's business environment, the reason been that a farmer who maintains proper farm record can usually handle problems more than those that do not keep record (Poggio,2006). Farm records are the daily activities occurring in a farm business that are stored in documents. Farming is businesses just like any other and thus there are several activities which take place and have to be remembered by the manager of the business hence the need to keep these records in a book arise. Farm records may be required by certain Government Agencies for the establishment of development schemes and setting up of production control. Development schemes like the Agricultural Development Project (ADPs) and the River Basin Development Authorities in Nigeria could not have been planned without adequate farm record.

FASDEP,(2002) and Gueye, (2000) observed that poultry production is very essential source of 'velihood in most rural settings, because it provides ready cash for emergency needs, it also Supplied

fast-growing human population in the cities with high quality protein, contributes significantly to food (2001) and Gueye, (2000) stressed that the continuing increase in the cost of production of cattle, sheep looking at the advantages it has in term of economic and health poultry meant has over red meat. According to Likita (2000) poultry production refers to the raising of birds that are domesticated for poultry keeping in Nigeria has been one of the most popular enterprises adopted by small and medium poultry keeping is the most common of all livestock in many rural areas, practically every family settle or nomadic owns some poultry.

Despite the importance of farm records to the growth of farm business, farmers often consider it has a guesses based on their past experience in farming (Johl and Kapur,2001). This state of affair warrants a situation where policy formulation, planning, Agricultural programmes, monitoring and evaluation these may result to attitude that can lead to low efficiency in keeping records. Some other problems poultry farmers which causes their inability to keep farm records are high level of illiteracy among could help farmers maintain records of their business, lack of sensitization on the importance of farm record keeping on the performance of the business by extension agent. The study therefore seeks to Government Area of Kwara State, Nigeria.

Objectives of the Study are to:

- 1. describe the socio-economic characteristics of the poultry farmers in the study area.
- 2. examine the various types of farm records kept by the poultry farmers in the study area.
- 3. determine farmer's perception towards farm record keeping in the study area.
- 4. determine the factors affecting farm record keeping by the poultry farmers; and
- 5. identify the constraint/limitation of farmers in the area of farm record keeping.

Hypothesis of the study include:

H_o: there is no significant relationship between socio economic characteristics of the poultry farmers and their level of income.

Literature Review

The term record keeping deals essentially with collecting or gathering an account of farmer's daily activities in their farms. Other school of taught sees farm record keeping as keeping of detailed record by the farmer of his or her farm daily operation. It is also viewed as data collection activity of a research organization that involves the keeping of records of individual or group of farmers with some guidance and assistance from the researcher.

Types of Poultry Farm Records

Omoruyi, (1999) and Poggio (2006) classified farm recordsinto four basic types. This includes the resource inventories, production records, financial records and supplementary records. However, resource inventories have to do with the assets and liabilities of the farm whiles production records include mortality, breeding, bird performance, feed information, laying and labour. Financial records include income from sale of eggs and birds and expenditure from feed, vaccines, labour and

maintenance of farm equipments. Supplementary records include survey map, the farm layout (map) and the legal documents of the farm. Several studies like Devonish et al., (2000), Okantah et al., (2003), okantah et al., (2003), reveals that majority of the farmers concentrated in implication is that high percentages of most farmers are more concerned about the productivity of their farm business and financial needs of their farms.

Chapman (2003) and Iton (1999) stated that a farmer who has a well-kept farm record is in a more favourable position to borrow needed funds than one who has no farm records. This is confirmed by Devonish et al., (2000) that more than half farmers interviewed were obtaining credit as a result of keeping farm records and that farm records helped them in obtaining the farm loans. According to Johl and Kapur (2001), when farmers keep records, they continuously give the needed information for state and national farm policies such as land and price policies. This further helps in research works which will require precise and correct data which is possible only if proper records are maintained on the farms

Factors Affecting Keeping of Farm Records

Keeping of farm records is affected by certain factors. According to Mariene (1995) and Devonish *et al.*, (2000), farm record keeping is independent of age, gender, farm size, level of formal education and years of farming experience. The findings further showed that there was a significant relationship between farm record keeping and farmer status, the receipt of credit and net income and that farmers who owned the larger farms tended to keep records than those with relatively smaller farms. Singh (2001) commented that the small farmers know that because of the small size of their farm holdings they will not be able to attain economies of scale hence do not show interest in farm recordkeeping. Minae (2001) noted that lack of sensitization on the importance of farm record keeping on the performance of farm businesses by extension agents or enumerators is a constraint. Johl and Kapur (2001) further stated that sufficient numbers of trained specialists in farm management are not available who could help farmers maintain records of their business. They affirmed that farmers are always afraid of new taxes and so they fear if they maintain records and their incomes show up high in their record books, some sort of high tax may be levied on them

Constraints of Farmers in Keeping Farm Records

Muhammad et al. (2004) reported that the reasons given by poultry farmers in the study area why they do not keep comprehensive farm records range from the fact that records were not beneficial, complained of time constraints, no reason and difficulty in entering data into record books due to stress, forgetfulness due to deferred entries, hired personnel who keep farm records cheat on their managers and some workers find it difficult to enter data because of their low educational attainment. Mariene (1995) noted that the main dimensions used by smallholders in deciding whether or not to adopt formal record keeping are its perceived importance and the ease of its practical application in diversified farms. This could account for the reason why most of the respondents did not keep comprehensive farm records claiming that those records were not beneficial to them. Devonish et al., (2000) noted the main reasons for not keeping records were lack of time.

METHODOLOGY

The study was conducted during 2018 production season in Ilorin west Local Government Area of Kwara State. The State is located in the Guinea Savannah vegetation zone in the north central part of Nigeria between latitudes 6°18'N and longitude 2° 45'E. The area receives an annual rainfall of 1,800mm, which is steady and evenly distributed, usually falling between mid-April and November with an average monthly temperature range of 21°C to 35°C (KSADP, 2012). Kwara State covers a land area of 32,500 square kilometers, which is about 3.5% of the total land area of Nigeria. About 73% of this land area is arable. Kwara State has a population of two million two hundred thousand (2,200,000) (NPC, 2006). The State is among the State with low population density in the federation (KSADP,

2012). Farming is the primary occupation of 65 percent of the State's population. However, agriculture in Kwara State is predominantly in the hands of rural people who farm small holdings. It has been estimated that there are over 86,000 farm families in the state. The major crops grown in the region are rice, sugar cane, maize, melon, yam, groundnut, cassava and cowpea (KSADP, 2012).

In order to obtain a representative sample, a total of 120 poultry farmers were selected from Ilorin West Local Government area of Kwara State. Due to presence of numerous poultry farms in the municipal. The population for the study was made up of some sampled small-scale poultry farmers in the municipality. The Kwara State Agricultural Development Programme was contacted to obtain the background information about the poultry farmers in the municipal. Questionnaire was developed and pre-test survey was carried out with 10 of the 120 small-scale poultry farmers that were sampled in the municipal. After which the questionnaires were revised and appropriate corrections were effected to avoid biased and maintain confidentiality of respondents. Due to constraint in time and resources only 120 small-scale poultry farmers were selected and interviewed using the simple random sampling techniques.

Data were collected on levels of input and output, prices and socio-economic profiles of the farmers. Data were analyzed using descriptive statistics, chi square test andprobit analysis.

Analytical Techniques

Linkert Scale Linkert Scale was used to achieving objective three (3) Where: 1=Disagree ,2=Agree ,3=Strongly Agree

Probit Function

Probit model was used to determine the factors affecting farm record kept by the poultry farmers in the study area.

The model is expressed in its implicit form as

Where

 P_i = Probit Regression Model

 β_{o} = Constant term

= Coefficient to be estimated

= for k=1----4, which are independent variables.

= i th observation

Let $z_i = \beta_0 + \sum \beta_k X_{ik}$

Then

$$P_i = \frac{1}{1 + e^{-z}}$$

As z_i ranges from - α to α, p_i ranges from 0 to 01 and pi is non-linearly related to Z_i. The probit of the unknown binominal probabilities i.e

The prob
$$(p_i) = In\left(\frac{P_i}{1-P_i}\right) = \beta_0 + \beta_i X_{i1} \pm \beta_k X_{ik} + U_i$$

Logarithms of the odds, are modeled as a linear function of the X_i in estimable form, the model is expressed as,

The unknown parameters β_i are usually estimated by maximum likelihood. Thus, the model is explicitly expressed as

$$Z_i = \beta_0 + \beta_i X_i + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5$$

Where:

 Z_i = number of records kept by farmers (Numbers)

= Constant

 X_1 = Age of respondent (years), X_2 = level of education (no of years spent in school),

 $X_3 = \text{ no of birds, } X_4 = \text{ Extension contact (Number), } X_5 = \text{ level of experience, } X_6 = \text{ Access to credit}$ (Dummy), X₇= Cooperative membership (Dummy),

U = independent error term.

Result and Discussion

Socio-economic characteristics of Poultry Farmers

Socio-economic characteristics of respondents which directly or indirectly affects poultry production respondents were with the age group of 21-50 years with a mean of 30 years. This implies that most because poultry is surrounded by risks and uncertainties, such as outbreak of diseases, theft among expectation of profit. This is in line with findings of Fasasi (2007) who noted that younger farmers are more efficient in production.

The analysis in Table 1 further show that majority (75.0%) of the poultry farmers had one form of formal education or the other ranging from primary to tertiary education. While only 25% of the respondent had Qur'anic education. This means that majority of the respondents in the study area can read and write, introducing new technologies or innovation in poultry farming and its adoption may not be a challenge. This is likely to reflect on their ability to keep farm record because they might have acquired knowledge and skills in poultry production from their various schools. The result further revealed that most (70%) of poultry farmers were male. This implies that women were fairly represented in poultry farming in the study area. This is in agreement with the findings of Enoch et al., (2010) who observed that women may go into farming to meet demands at the home and that gender is an essential variable for analyzing roles, responsibilities, opportunities, constraints, incentives, costs and benefits in agriculture. The result of the Table 1 further shows that majority (97% and 96%) of the respondents kept production and financial record respectively and 84% of the farmers (poultry) kept health records while less than 40% kept labour records, inventory records, records, management practices records, supplementary records and other records like vaccination, purchase and feed were kept in the study area. The implication of these is that poultry farmers use production and financial records of their farms in accessing loans from formal banks. This findings corroborates those of Devonish et al., (2000), Enoch et al., (2010) and Okantah et al., (2003) who in separate studies found that most poultry farmers keep production and financial records, the likely reason may be that such records are important when applying for credit from financial institutions to finance their poultry farm. This means that farmers are more concerned about the productivity of their poultry business.

Table 1: Socio-economic characteristic of sampled Poultry farmers in the Study A

Variables	Frequency	oultry farmers in the Study Area
Age in year	requeitey	Percentage
21 - 30	25	
31 - 40	45	20.80
41 - 50	33	37.50
Over 50	17	27.50
Mean	30	14.20
Level of education	30	
Our'anic	30	
Primary	20	25.00
Secondary	46	16.67
Tertiary		38.33
Gender	24	20.00
Male	9.4	
Female	84	70.00
Type of Records	36	30.00
Production Records		30.00
Financial Records	116	97
Inventory Records	115	96
Health Records	40	33.3
Labour Records	101	84
Mgt Pract Records	70	37.5
	49	40.8
Supplementary Records Cooperative Status	20	16.67
Yes		
No No	84	70.00
	36	30.00
Poultry Status Full-Time		
	80	66.67
Part-Time	40	33.33
Level of Record Keeping		
No record	10	08.33
Low (1-3)	26	21.60
Moderate (4 – 5)	54	45.00
High (>5)	30	33.33
Frequency of Record Keeping		
Daily	31	26.70
Weekly	16	13.30
Monthly	72	60.00
Farm Credit		
Receive Credit	95	79.17
Do not receive Credit	25	20.83

Source: Field survey, 2018.

The analysis also shows that most (68.3%) of the respondents were member of various farmer cooperatives while about 30% did not belong to any cooperative. Membership of cooperatives affords the farmers the opportunity of sharing information on modern poultry practices by interacting with other farmers. This is in agreement with the findings of Amos *et al.*, (2014) that membership of association is of immense benefits to members, it gives opportunity for bulk purchased of inputs at discounted rates and help member secure credit facilities as at when due. Though Okantah *et al.*, (2003) observed that poultry farmers with low patronage for farmer's cooperatives are often limited in their access to information access to credits and goods and services.

Poultry farmers were graded based on the number of farm record they were keeping. Poultry farmers who were keeping 3 types of records or less, 4 - 5 types of records, and above 5 were classified as low, moderate, high record keepers respectively. Analysis from the Table further reveals that majority of the poultry farmers (78%) kept a moderate to high number of between 4-5 and greater than 5 respectively about 22% kept low records. While over 8% kept no record at all. The level of record keeping differs among poultry farmers. This means that record keeping among poultry farmers in the study area is encouraging as over 85% of the respondents were beyond low level of record keeping. This is finding is contrary to that of Minae. et al., (2003) who in their studies found that poultry farmers rarely keep record of their farm business. Results of Table 1 also shows that 26.7% of the poultry farmers preferred to keep records daily, while 13.3% preferred keeping on a weekly basis and 60.0% of the respondents keep their records on monthly basis. The main reason behind the highest percentage for the monthly basis was due to the fact that they see record keeping as a difficult job and also waste of time. Table 1 further shows that more half (57%) of the poultry farmers were into full time farming while 43.3% were into part - time farming in the study area. This could be that poultry business is a lucrative one and the risks involved are very high. Adekoya (2005) and Enoch et al., (2010) observed that poultry business is profitable but is surrounded by risk and uncertainties; therefore, it needs maximum concentration in terms of its management and production. Result from Table 1 show that majority of the respondents (79.17%) obtained farm credit from financial institutions. The remaining got their loans from other informal sources. Since large numbers of poultry farmers in the study area kept at least two types of farm records: namely production and financial records, they all stood a good chance to receive farm credit. Receipt of farm credit is dependent on the ability of the poultry farmer to provide properly kept farm records. This is confirmed by Iton (1999) and Chapman (2003) that farmers have to provide written records of their farm operations to provide an indication of the viability of their business, else getting a loan may be difficult.

Summary Statistics of Selected Variables

The results of Table 2 shows that the mean farming experience is 8 years with about 47 percent of the poultry farmers having more than 2 years' experience in poultry production. This implied that poultry farmers have a relatively low experience in poultry farming which might affect their level of awareness and consequently their level of adoption of improved technologies. But because there has being an increased concern shown by present administration on the nation's agriculture poultry farming inclusive, thus making poultry production economically viable. This situation attracted many people into poultry business but had little experience. The findings are also corroborated with those of Tanko et al., (2011) and Enoch et al., (2010) reported farmers with relatively low years of experience in farming are likely not to keep farm records and that lack of experience would likely result in low production and income for farmers however, it is easy for experienced farmers to keep records of their farm activities. it enables the farmer set realistic time and cost targets by identifying production risks and constraints with greater ease. Table 2 also shows that over 20,000 birds were kept by all the respondent, individual farm size ranges from 90-3850 birds with a mean of 300 birds. This indicates that the majority of the poultry farmers are keeping small number of birds. This can reflect on the level of investment the respondent could put into the poultry business.

However, the small numbers of birds kept by the poultry farmers is likely to also reflect on their farm record keeping attitude and behavior. This finding is in line with Singh (2001) who reported that small-scale farmers are likely not to show interest in keeping farm records because they will not be able to take advantage of economies of scale due to the small size of their farm holdings. From Table 2 most of the poultry farmer earned 15,000 and above per year, with a mean farm income 50,000 however, the price per of poultry birds is between 1,200 to 5,000. The results the table reveal that the poultry business is profitable in the study area.

Table 2 Summary Statistics of Selected Variables

Variables	Maximum	Minimum	Mean	Mode	Standard Deviation
Experience (Yrs)	27	1	8	10.43	6.23

Number of Birds	3850	90	200			
Farm Income	300,000	10,000	300	1243	1087	
Source: Field survey	, 2018.	10,000	50,000	2456	1875	

Poultry farmer's perceived attitude towards farm record keeping.

Table 3 presents perception attitude of record keeping among poultry farmers. The result shows that all of the perception statements have their weighted mean rating of equal to or greater than 2 which is the mean cut. The analysis of the Table shows that increase in poultry product (2.50) lead to details of farm information (2.56), showing the assets and liability (2.37), vaccination record reveals health status of poultry (2.39), record shows mortality rate of the birds (2.53), record help to secure loan from bank (2.63) and record shows financial statement of poultry farms (2.30) are perceived as important variable (attitude)towards poultry farm record keeping. This implies that record keeping is an important aspect of agricultural production (poultry inclusive) because all the statement had favourable attitude towards farm record keeping.

Table 3: Farmers' Perspective towards farm records keeping

Variables	Strongly agree (3)	Agree (2)	Disagree (1)	Weighted sum	Weighted mean	Attitude
Record increases in poultry product	76(63.3)	28(23.3)	16(13.3)	300	2.50	Positive
Result in reveal details farm information (daily routine)	75(62.5)	37(30.8)	8(6.7)	307	2.56	Positive
showing the Assets and liability	71(59.2)	22(15.3)	27(22.5)	284	2.37	Positive
Vaccination record reveals health status of poultry birds	75(62.5)	17 (14.2)	28(23.4)	287	2.39	Positive
Record shows mortality rate of the bird	79(65.8)	25(20.8)	16(13.4)	303	2.53	Positive
Record help to secure loan from bank	88(73.3)	20(16.7)	12(10.0)	316	2.63	Positive
Record shows financial statement of poultry farms	72(60)	12(10)	36(30.0)	276	2.30	Positive

Source: Field Survey 2018.

Total respondents = 120, Percentage = 100.0, NB: Values in parenthesis are in percentages

Factors affecting Farm Record Keeping

The estimated results of probit regression model reveals that the coefficients of education, bird number, Extension contact, Access to credit and Cooperative Membership were positive statistically significant at 1% level of probability indicating that an increase in these variables, will lead to an increase in the farmers' attitude towards record keeping. While the coefficient of age is negative and statistically significant at 10% probability level indicating that an increase in this variables. Education had positive coefficient and significantly influenced farmers' attitude towards record keeping. This means that education will lead to an increase in the farmers' attitude towards record keeping. That is high literacy



rate of farmers in the study area will propel them to keep proper farm records and also enable them cope with the complexities of adopting improved technology. This is supported by the findings of fatuase and Ajibefun, (2013) who observed that education is expected to increase the ability of the farmer to make the best choice since they have relevant information to make an innovative decision. Extension contact is also the significant explanatory variable. This variable positively

affect the record keeping hence it has a positive coefficient. As compared to the farmers who have no access to extension services, the probability of keeping poultry record increases for those who have access to this service keeping other things at their respective mean. Different farmers have different skills, working habits, and experience. Therefore, sharing of experience among farmers is very important to build up the knowledge of the farmers and will help them to keep proper record on their poultry farms. Access to credit had positive coefficient and significantly influenced farmers' attitude towards record keeping. As compared to the farmer who has no access to credit, the likelihood for keeping record increases for the farmer who has credit access holding other things at their respective mean. This implies that access to credit by a farmer increases their chances of keeping poultry record reason been that higher proportion of farmers who kept records had obtained credit because their farm records were used to provide an indication of the viability of the farm business in order to receive credit from financial institutions. This is substantiated by the findings of Devonish et al., (2000) affirming that availability of credit serves as an incentive for farmers to increase their record keeping behavior and that a higher proportion of farmers who kept records had obtained credit. Cooperative Membership had positive and significant relationship with farmers' attitude towards record keeping at 1% level of probability. This implies that membership of social organization was an important factor in inducing farmers to keep farm record. While the coefficient of age is negative and statistically significant at 10% probability level. This means that as the age of farmer increase (grow old), their physical energy reduces which minimize their ability and capacity of adopting innovation available at their dispose or their record keeping attitude is likely to reduce. This is in line with the findings of Bandara and Thiruchelvam (2008) who observed that a farmer tends to reject innovations different from their traditional method as he/she increases in age.

Table 4: Estimated Parameters of Probit regression coefficient of the respondents

Variables	Coefficient	Standard error	Z statistics
Intercept	0.073*	0.027	2.321
Age	-0.002*	0.001	-2.128
Education	0.061***	0.004	6.912
Bird Number	0.020***	0.000	3.322
Extension contact	0.000***	0.000	5.884
Experience	0.032	0.010	1.24 ^{N/S}
Access to Credit	0.6877**	0.0132	2.365
Cooperative Membership	0.0714***	0.0342	4.598

Number of obs = 120 Prob > chi2 = 0.0000, Log likelihood = 5746.458**, Pseudo $R^2 = 0.6780$

Source: field survey 2018

*** = significant at 1%, 5% and 10% level of probability, N/S= Not Significant

Constraints of Farmers in Keeping Farm Record

Table 5 reveals that majority (92.5%, 89.2%, 98.3% and 88.3%) of the respondents has no reason, record keeping not beneficial, lack of knowledge about record keeping, lack of awareness and farm size respectively. This is in line with Devonish *et al.* (2000) who reported similar reason highlighted in this research.

Table 5: Constraint for not Keeping Farm Record

Constraints	Frequency	Percentage
No reason	111	92.5
Time consuming	107	89.2
Record keeping are is beneficial	118	98.3
Lack of knowledge about record keeping	106	88.3

Source: Field Survey, 2018

Test of Hypotheses

Relationship between income level of poultry farmers. and socio-economic characteristics of poultry farmers. Chi-square (χ^2) was used for this analysis and the results revealed that there is no significant relationship between the socio economic characteristics of poultry farmers and their level of income. This implies that the socio economic characteristics of poultry farmers do not affect their level of income.

Table 6: Relationship between socio economic characteristics of farmers and their level of income.

Variables	χ² cal	Degree of freedom (DF)	P value	Decision
Age	5.574	6	p≤0.05	N/S
Educational level	3.354	9	p≤0.05	N/S
Marital status	2.368	9	p≤0.05	N/S
Experience	0.872	6	p≤0.05	N/S

Source: field survey 2018

 χ^2 cal = chi square calculated, P valu= probability value and N/S= Not Significant

CONCLUSION

The study revealed that there is high prospect of record keeping in the study area since over 92% of the poultry farmers had secondary education and above. The respondents in the study area are generally small-scale farmers with an average farm size of 300 birds which shows low level of investment in the study area. The result shows active participation of youth in poultry farming who are male, only few females participated in the poultry production. Majority of the respondent kept financial and production records few kept health, supplementary records because farmers with farm records had the opportunity of enjoying benefit like access to farm credit and the likes.

Policy Recommendations

- Women must be encouraged to enter into the poultry business. This can be dome sgiving an award to the best female poultry keeper/operators. They can be offered scholarships to study animal science in universities in Nigeria.
- Since most of the respondents are keeping smaller number of birds, government should give them financial support to enable them expand their scale of production. ii.
- The Agricultural Development Programme or Ministry of Agriculture should still intensify their work on farmers by designing simple data notebooks and data sheets for poultry iii. farmers only to enable them keep comprehensive farm records. this can be done by organizing frequent training programmes and follow-up to enable poultry farmers keep systematic records.

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