



## Factors Influencing Poultry Farmers' Participation in Agricultural Insurance in Calabar Municipal Area of Cross River State, Nigeria

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**ABSTRACT:** This study analyzed factors influencing poultry farmers' participation in agricultural insurance in Calabar Municipal Area of Cross River State, Nigeria using 136 poultry farmers in a multistage sampling strategy to choose respondents. Questionnaire administration and interview schedule were used to gather primary data. The study's findings indicate that 67% of the poultry farmers were men, with an average age of 43 years. Ninety (93) percent were married, with an average household size of five people. The survey also revealed that the mean stock size of the farmers was 1795 birds, 9 years of mean farming experience, and 50% of the farmers had postsecondary education. The results also indicate that 71% of respondents did not contact extension services, and 73% did not hold membership in any farmer's associations. The results also indicate that 79% of respondents had no access to loans for their farming business. Regarding knowledge of and participation in agricultural insurance programmes, 70% of respondents were aware that such programmes existed. However, only 31% of farmers took advantage by participating in the insurance scheme. According to the results of the logit regression, farmers' participation in agricultural insurance was found to be significantly influenced by age (-.0538), sex (-.7837), availability to credit (1.2366), and association membership (-1.2068). Among the difficulties poultry farmers encounter while attempting to enroll in agricultural insurance include; rigorous procedure in indemnity payment (79%), high cost of premium (74%), delay in assessment of losses (70.5), inadequate knowledge of insurance (40%), disbelief in insurance companies (29%) and low compensation (26%). The study suggested that insurance schemes should ensure payment of indemnity (compensation) in a timely and efficient manner. In doing so, it will increase the trust and confidence of farmers who are unsure about the insurance plan.

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Poultry refers to domestic animals kept for their meat or eggs, such as chickens, turkeys, geese, and ducks. The term is also used to refer to the fresh meat that these birds produce for human consumption (Udo *et al.*, 2017). According to Adeyonu *et al.* (2016),

poultry are birds that are important to human economy because they provide meat and eggs. Nigeria's economy is developing in large part due to the poultry industry. It provides funds in an emergency, serving as a "safety net". It plays a huge part in rural livelihoods

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and food security (Adeyonu *et al.*, 2016). The industry gives the general public work opportunities, which gives them a source of income. Additionally, it offers a high-nutrient source of animal protein in the form of meat and eggs (Nasiru *et al.*, 2012). In Nigeria, poultry meat (chicken) and eggs are delectable and widely accepted, with little or no cultural or religious restrictions. As components of a nutritious, well-balanced diet, eggs and chicken are crucial for kids, expectant and nursing mothers and sick individuals in particular. The success of farming enterprises in Nigeria is seriously threatened by the increasing number of risk factors that Nigerian farmers must deal with, including droughts, floods, diseases, pests, hurricanes, accidents, fires, thefts, losses, and other unforeseen events that are difficult to predict (Eleri *et al.*, 2012). Like any other agricultural subsector, the poultry business is vulnerable to risks and uncertainties brought on by natural disasters like drought, flood, fire, hurricane, lightning, pests, and disease. Nigeria's poultry business has seen significant losses that have an impact on both chicken producers and consumers. In general, birds are more prone to illness. An entire farm or thousands of birds can be destroyed in a single attack. One instance was the 2006 avian flu outbreak that devastated Nigeria's poultry sector. In Kaduna State, the attack took the lives of 44,000 laying hens, 32,000 broilers, 25 geese, and 5 turkeys, almost bringing the Nigerian poultry industry to a complete halt. While 41,000 laying hens and broilers, 28,000 turkeys, 12 geese, and 1 ostrich were destroyed in Katsina State, 43,000 laying hens, 15 broilers, 43 ducks, 28 geese, 20 turkeys, and 2 ostriches were eliminated in Kano State. In order to address the underlying problems of risk and uncertainty, specialized agricultural development programmes such as the National Insurance Scheme (NAIS) on the 15th December 1987 and Nigeria Incentive-Based Risk Sharing System for Agricultural Lending (NIRSAL) on June, 2011 as part of governments' efforts to enhance food production in Nigeria (Farayola *et al.*, 2013). Agricultural insurance considers the ways in which farmers can profit both now and down the road from the efficient management of risks and uncertainties. Though an insurance policy is not a method of risk transfer, it is only a document confirming the existing of the insurance cover. The insurance is a method, an economic device through which risk is transferred to the insurance company and then distributed onto the group of insured people or entities. This can help in stabilizing agriculture and in turn the economy at large. Hence, agricultural insurance is a crucial component of the institutional framework required for the growth of agriculture, which is primarily a high-risk industry. Furthermore, it was determined that the majority of efforts to

promote food production had not produced significant results because of incidents of incremental weather conditions and the effects of natural hazards like flood, drought, fire, pests, and diseases. As a result, it was necessary to control lending environment for banks in which the agricultural value chain is well structured (Farayola *et al.*, 2013). Agriculture insurance presents favourable opportunities for the agriculture industry's modernization. Farmers are placed on an equal basis financially to work following losses by being compensated for the risks associated with the system. In addition to the program's many advantages, farmers who produce livestock in high-risk and unpredictable environments should gain from it. By enabling farmers to share or transfer the risks and uncertainties related to their operations, agricultural insurance fosters confidence in implementing new and improved agricultural techniques and encourages farmers to invest more in agricultural production. Ultimately, it gives farmers financial help in the form of compensation that ensures the continuation of their agricultural company. It also makes loans more accessible to financial institutions as an additional guarantee and insurance cover. However, even though insurance services are available from the Nigerian Agricultural Insurance Corporation and other private companies in Nigeria, farmers' participation in insurance activities is low as it covers less than 1% of the total population of farmers (Eleri *et al.*, 2012). Ewubere and Ozar (2018) claim that farmers in Nigeria are reluctant to sign up for insurance programmes. This may be partially due to the unsatisfactory perception that some insurance plans have of their absence from coverage or their excessive delays in paying out. Potential farmers have mixed feelings about agricultural insurance as a result of this issue, and as a result, farmers are becoming less likely to obtain insurance coverage. In general, farmers are hesitant to enter the insurance market due to a number of factors, including extremely low income, small farms that are only used for subsistence, widespread ignorance and poverty, and unfavourable opinions about the actions of insurance companies in other areas. Farmers also receive small premiums in exchange for taking on agricultural hazards (Ewubere and Ozar, 2018). Although researchers such as Farayola *et al.* (2013), Babalola (2014), Akindunde (2015), Okeke-Agulu, and Salihu (2019) and Vihi *et al.* (2021) have worked on the factors affecting poultry farmers willingness to participate in agricultural insurance plans elsewhere, there is still a dearth of empirical studies on the factors influencing poultry farmers' participation in agricultural insurance especially in the study area. This has created a knowledge gap in the literature on poultry farming particularly in the study area. Consequently, the main

objective of this study is to analyze factors influencing poultry farmers' participation in agricultural insurance in Calabar Municipal Area of Cross River State, Nigeria.

## MATERIALS AND METHODS

*Study Area:* The study was conducted in Calabar Municipal Government Area which lies between latitude 04° 15' and 5° N and longitude 8° 25' E. in the North. The Municipality is bounded by Odukpani Local Government Area in the North-East by the great Kwa River. Its Southern shores are bounded by the Calabar River and Calabar South Local Government Area. It has an area of 331.551 square kilometers. The Municipal Government Area of Calabar serves two purposes. In addition to serving as the capital of Cross River State, it serves as the seat of the Southern Senatorial District. There are ten wards in the local government, viz:- Ward 1, Ward 2, Ward 3, Ward 4, Ward 5, Ward 6, Ward 7, Ward 8, Ward 9, Ward 10. The indigenous population is divided into two ethnic groupings. The Quas and the Efiks are these people. Nonetheless, the city is home to a diverse population from throughout the state and Nigeria due to its cosmopolitan position. The Efiks adopted Western culture because of their seaside location. They carried on successful trade with early Europeans. Another occupation that is associated with them is fishing. In contrast, the Quas make up the majority of Calabar's hinterland, which is home to blacksmiths, farmers, hunters, and traders. It was the capital of the southern protectorate of Nigeria and lost that position to Lagos in 1904. According to the Local Government Ordinance of 1950, Calabar was one of the first locations for Local Government administration in the then-Eastern Region after the regions were established, and this continued until 1952.

*Sampling Procedure and sample size:* The population for this study consists of the registered commercial poultry farmers in all the ten wards of the Calabar Municipal Government Area. A list of every registered commercial poultry farmers was obtained from Poultry Association of Nigeria. However the number of registered poultry farmers in the study area was limited as many of the poultry farmers in the study area did not register with the Poultry Association of Nigeria. Consequently 136 poultry farmers were randomly drawn from all the wards of the LGA to give a sample size for the study. Data were collected through the administration of questionnaires and oral interview. The questionnaire was designed in line with the objectives of the study.

*Analytical Technique:* Both descriptive and inferential statistics were used to analyze the data. Descriptive statistics such as frequency counts, mean, percentages and Logit regression were used to analyze the data collected.

*Model Specification:* The logit regression model is a unit or multivariate technique which allows for estimating the probability that an event occurs or not by predicting a binary dependent outcome from a set of independent variables. The logit model is based on cumulative logistic probability function and it is computationally tractable. According to Gujarati and Porter (2009), it is expressed as:

$$P_i = E(Y = 1|X_i) = B_1 + B_2X_2 \dots B_3X_3 \dots B_nX_n \dots (1)$$

For ease of estimation, equation (1) is further expressed as:

$$P_i = \frac{1}{1 + e^{-z_i}} = \frac{e^{-z}}{1 + e^{-z_i}} \quad (2)$$

Where:  $P_i$  = probability of an event occurring;  $P_i = B_1 + B_2 X_i$

The empirical model of the logistic regression for study assumed that the probability of the farmers' participation in Agricultural insurance scheme is expressed as:

$$P_i = \frac{e^{b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_8}}{1 + e^{b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_8}} \quad (3)$$

$P_i$  ranges between zero and one and it is non-linearly related to  $Z_i$ .  $Z_i$  is the stimulus index which ranges from minus infinity to plus infinity and it is expressed as:

$$Z_i = \ln \left[ \frac{p_i}{1 - p_i} \right] = b_a + b_1X_1 + b_2X_2 \dots + b_8X_8 + u \quad (4)$$

To obtain the value of  $Z_i$ , the likelihood of observing the sample was formed by introducing a dichotomous response variable. The explicit logit model was expressed as:

$$Y = b_0 + b_1X_1 + b_2X_2 \dots \dots + b_8X_8 + u \dots (5)$$

Where:  $Y$  = dichotomous response variable (1 for farmers who participated in Agricultural insurance scheme; 0 otherwise);  $X_1$  = Age of farmers (Years);  $X_2$  = Educational level of farmers (Years of formal education);  $X_3$  = Sex (1 if male, 2 female);  $X_4$  = Poultry farming experience (Years);  $X_5$  = Household size (number of persons);  $X_6$  = Awareness of

agricultural insurance (Yes= 1, No= 0);  $X_7$  = Farm size (Numbers of birds);  $X_8$  = Access to credit (1 if yes, 0 if otherwise);  $b_1 - b_8$  = Coefficients to be estimated;  $b_0$  = Constant term;  $u$  = error term

## RESULTS AND DISCUSSION

*Socio-economic characteristics of the sampled poultry farmers:* The results of socio-economic characteristics of the respondents are presented in Table 1. The age distribution of the respondents shows that 45% of the farmers were between the ages of 41 and 50 years. About 27% were within 31-40 years, 20% were above 50 while 8.0% were within 21-30 years. The mean age of poultry farmers in the study area was 43 years. This portrays that most of the poultry farmers are in their active and productive age when they can put in their best for optimum productivity. This age would motivate them to participate in agricultural insurance schemes as young people are prepared to take risks. Result in Table 1 further shows that majority (67%) of the poultry farmers in the study area were males while 33% are females. The predominance of male farmers could be attributed to the fact that poultry enterprise is a highly risky venture, labour intensive and characterized by uncertainties which in most cases can only be handled by men. The findings are consistent with those of Babatunde *et al.* (2012) and Bablola (2014), who reported that the majority of Nigerian poultry farmers are male. The marital status of the respondents shows that 93% Of the respondents were married while 7% were single. This simply implies that most of these farmers were responsible and had a family to maintain.

The result in Table 1 also shows that 68% of the poultry farmers in the study area had a household size of 4-7 persons, 24% had 1-3 persons while 8% of the farmers had more than 7 persons. The mean household size of respondents in the study area is 5 persons. The high literacy level of the farmers and the current economic crunch in the country may be responsible for the modest family size. The modest household size could invariably be an advantage to participation in agricultural insurance if the income is adequate because the cost of maintaining the family may not be very high. Smaller household size means extra funds at the disposal of the household head which could enable him/her deploy such funds into the acquisition of an insurance policy to hedge against any eventual loss. This study is in consonant with Otunaiya *et al.* (2015) who revealed that the average family size of poultry farmers in Ibadan, Oyo state was five persons. The result also revealed that 60% of the poultry farmers had tertiary education, 27% had secondary education, 9% had primary education while the remaining 4% had no formal education. This implies

that there is high literacy level among poultry farmers in the study area. This is expected to have positive influence on their decision to participate in insurance policy. The findings concur with that of Babalola (2014) who reported a high literacy rate among poultry farmers in Nigeria. The distribution of the poultry farmers by years of farming experience shows that 55% of the farmers had between 6-10 years farming experience, 26% had between 11 and 15 years farming experience. Also, 13% had less than 5 years of poultry farming experience while 6% had more than 15 years of poultry farming experience. The mean years of farming experience among the poultry farmers was 9 years. The result implies that the farmers had reasonable years of working experience to have gained practical experience about some of the risks and uncertainties associated with poultry production. Given the high risks and uncertainties that poultry farming is associated with, high literacy level coupled with farmers experience in poultry farming is expected to have positive impact on their decision to participate in insurance schemes.

The result further showed that 40% of the farmers had stock size of 1001- 2000 birds, 30% had stock size of between 2001 and 3000 birds, 19% had stock size of less than-1000 birds while 4% had stock size of 4000 birds and above. The mean stock size of poultry farmers in the study area is 1876 birds which may be considered as small. Farmers are more willing to purchase insurance if they have larger than average farm sizes. In general, larger farm sizes reflect greater managerial capacities and perhaps economies of scale and scope in the utilization of various risk management practices. Insurance users are expected to operate larger farms and to have intentions for expansions. Babalola (2014) noted that insurance is positively linked to the size of the farm, whether agricultural (cultivated area) or financial (total assets). The stock size (number of birds) is a strong determinant of poultry farmers' participation in insurance. This variable is positively correlated with farmers' participation in the scheme, thus implying that farmers who invested more in their businesses have a higher probability of insuring their farms than their colleagues with lower levels of investments.

The result from Table 1 also indicate that 57% of the respondents were members of associations such as Poultry Association of Nigeria and other cooperative societies while the remaining 43% did not belong to any association. Membership of farmers' association may have a positive effect on participation in agricultural insurance because these associations serve as veritable platforms and useful channels of informing and educating their members about

government policies. The result further indicates that majority (65%) of the farmers had no access to credit for poultry farming while the remaining 35% had access to credit for poultry business. The implication is that farmers that have access to credit are more likely to participate in insurance schemes than their members who do not have access to credit. The result also revealed that majority (70%) of the farmers in the study area had no contact with extension agent since the last one year while only 30% had contact with extension agents. This may be responsible for the low participation of poultry farmers. Farayola *et al.*, (2013) and Babalola (2014) also reported low participation of poultry farmers in agricultural insurance scheme.

**Table 1:** Distribution of Respondents Based on their Socio-economic Characteristics (n=136)

Variable	Frequency	Percentage	Mean
<b>Age (years)</b>			
21- 30	11	8.0	
31- 40	37	27.0	
41 – 50	61	45.0	
50 above	27	20.0	43.0
<b>Sex</b>			
Male	91	67.0	
Female	45	33.0	
<b>Marital status</b>			
Married	127	93.0	
Single	9	7.0	
<b>Educational level</b>			
Primary	12	9.0	
Secondary	37	27.0	
Tertiary	82	60.0	
Non formal education	5	4.0	
<b>Household size</b>			
1-3	33	24.0	
4-7	92	68.0	
>7	11	8.0	
<b>Stock size</b>			
< 1000	26	19.0	
1001-2000	54	40.0	
2001-3000	41	30.0	
3001-4000	9	7.0	
>4000	6	4.0	1876
<b>Farming experience</b>			
< 5	18	13.0	
6-10	75	55.0	
11-15	35	26.0	
>15	8	6.0	9
<b>Extension contact</b>			
Yes	41	30.0	
No	95	70.0	
<b>Access to credit</b>			
Yes	48	35.0	
No	88	65.0	
<b>Membership of association</b>			
Yes	77	57.0	
No	59	43.0	

The major pre-occupation of the extension worker is the education of farmers about government policies and their effects on their farming business. The high

farmer- extension worker ratio in the country may partly be responsible for the poor coverage of farmers by extension agents. Muhammad *et al.* (2014) opined that access to extension services by farmers in Nigeria is poor.

*Awareness of Agricultural Insurance Scheme:* Results in Table 2 revealed that 72% of the respondents were aware of agricultural insurance scheme and what it entails while 28% of the farmers were not aware of the insurance scheme. Expectedly, famers' awareness of agricultural insurance schemes would positively influence their decision to participate in it. The finding agrees with Farayola, *et al.* (2013) who reported that the majority of poultry farmers in Kwara State were aware of agricultural insurance scheme. However, this finding contradicts the assertions of Oyinbo *et al.* (2013) that most farmers were not aware of agricultural insurance scheme.

**Table 2:** Distribution of Respondents according to Awareness of Insurance

Variable	Frequency	Percentage
Aware	98	72.0
Not aware	38	28.0
<b>Total</b>	<b>136</b>	<b>100</b>

*Participation in Agricultural Insurance:* Table 3 reveals that 66% of the respondents did not insure their poultry farms, while 34% insured their poultry farms. This result indicates low participation of respondents in agricultural insurance. This implies that extension agents still need to improve on enlightening poultry farmers on the benefits of participating in the insurance schemes since only about 34% of them participated in the scheme. The above finding agrees with that of Tologbonse *et al.* (1995) who found that out of 51.7% of farmers that were aware of agricultural insurance, none of them took agricultural insurance policy. They concluded that farmers' awareness of agricultural insurance was not a major determining factor for participation.

**Table 3:** Distribution of Respondents according to Participation in Insurance

Participate	Frequency	Percentage
Yes	46	34.0
No	90	66.0
<b>Total</b>	<b>136</b>	<b>100</b>

*Factors influencing poultry farmers' participation in agricultural insurance scheme:* The result of Logit regression showing the factors influencing poultry farmers' participation in agricultural insurance scheme is presented in Table 4. The statistical test showed that the estimated model had a good fit with chi-square statistics significant at 1% level of significance. This implies that the variables specified in the model are

relevant in explaining the participation decision of the respondents. Also, the Log-likelihood statistic ratio (LR) of 71.82 was significant, meaning that the independent variables included in the model jointly explained the probability of the poultry farmers' decision to participate in agricultural insurance. At different probability levels, four of the eight predictors namely; age, sex, credit availability, and association membership were statistically significant. The co-efficient of age of the farmers was found to be negative and significant at 5% level of probability. This implies that as the farmers grow older, the tendency of participation in agricultural insurance scheme reduces. The reason is that older farmers seem to be more risk averse and somewhat less inclined to adopt innovative farm management practices such as insurance than younger ones. Young farmers are typically more enterprising and flexible in decision making and are more willing to adopt new ideas. Thus, older farmers are likely to participate less in agricultural insurance than the younger ones. Vihi *et al.* (2021) also reported a negatively significant relationship between age and participation of poultry farmers in Nigerian Agricultural Insurance Scheme in Jos South Local Government Area of Plateau State.

The poultry farmers' gender was found to be negative and significant at 1%. This implies that female poultry farmers are more likely to insure their poultry farms than the female poultry farmers. The expected sign of the coefficient of gender is positive. The reason is that women are generally discriminated against in terms of

access to farm inputs and information. For example, women's exclusion from local groups such as farmers' groups may prevent them from receiving credit, extension and insurance advice. Also, women tend to be involved in the production of relatively low-return enterprises that are not included in formal sector lending or insurance programmes. This result contradicts the finding of Okeke-Agulu and Salihu (2019) who reported a positive significant relationship between gender and participation in agricultural insurance.

The co-efficient of access to credit by the farmers was also found to be positive and significant at 5%. This conforms to the *a priori* expectation that, the higher the access to credit by the farmers, the higher their participation in Agricultural Insurance.

Also, membership of association is negatively related to the probability that a poultry farmer will participate in agricultural insurance at a critical level of 1%. This implies that poultry farmers who are members of one association or the other are more likely not to participate in agricultural insurance schemes compared with their counterparts who do not belong to any association. This is against *a priori* expectation as the expected sign of the coefficient for membership of cooperative is positive. The reason is that membership of associations enhances access to information on insurance and credit facilities to farmers.

**Table 4:** Logit regression estimates of factors influencing poultry farmers' participation in Agricultural Insurance Scheme

Variable	Coeff.	Std. Err.	z	P> z
Constant	.5083	1.8512	0.27	0.784
Age	-1.2068	.4904	-2.46**	0.014
Sex	-.7837	.4761	-1.65***	0.100
Household size	-.0002	.0002	-1.04	0.299
Farm size	.5437	.5288	1.03	0.304
Access to credit	1.2366	.4940	2.50**	0.012
Membership of association	-.0538	.02831	-1.90*	0.057
Low compensation	.4295	.4724	0.91	0.363
High cost of premium	.5689	.5076	1.12	0.262
Log likelihood	-71.8265			
Pseudo R <sup>2</sup>	0.1456			
LR chi2(8)	24.49			
Prob > chi2	0.0019			
No. of Observations	136			

\*, \*\*and\*\*\*=Significant at 10%, 5% and 1% probability levels respectively

*Constraints to Participation in Agricultural Insurance:* Results in Table 5 show that rigorous procedure in indemnity payment ranked first with 79% followed by high cost of premium (74%), delay in assessment of losses (70.5), inadequate knowledge of insurance (40%), disbelieve in insurance companies (29%) and low compensation (26%) were constraints

to poultry farmers' participation in agricultural insurance. Administrative bureaucracy and rigorous procedures in claim settlement is a major challenge faced by the farmers in participating in Agricultural Insurance Scheme. This has the tendency of making the farmer withdraw from Insurance Scheme because of the excessive bureaucratic process in the operation

of insurance particularly in Nigeria. This finding is in agreement with Farayola *et al.* (2013) who in their study found administrative bureaucracy ranked as the second major constraint faced by poultry farmers in participating in agricultural insurance. The respondents also indicated that high costs of insurance premiums affect their uptake. The choice to purchase insurance depends on the premium level, expected indemnity, risk level and availability of alternative risk management tools. A Study by Okeke-Agulu and Salihu (2019) also shows that the cost of the insurance is the most influential factor determining the farmers decision to have insurance or not and what type of insurance product that is chosen. Inadequate knowledge of insurance and its operations is also a problem faced by farmers as indicated by the farmers. Without proper publicity and awareness campaign programmes on the insurance scheme, farmers will not know the benefits of participating in the scheme.

**Table 5.** Constraints to Participation in Agricultural Insurance

Constraint	*Frequency	Percentage	Rank
High cost of premium	101	74.0	2 <sup>nd</sup>
Low compensation	35	26.0	6 <sup>th</sup>
Rigorous procedure in indemnity payment	108	79.0	1 <sup>st</sup>
Delay in assessment of losses	96	70.5	3 <sup>rd</sup>
Inadequate knowledge of insurance	54	40.0	4 <sup>th</sup>
Disbelieve in insurance companies	39	29.0	5 <sup>th</sup>

Multiple Responses\*

**Conclusion:** The study concluded that; majority of the farmers' were aware of agricultural insurance scheme, however participation in the insurance scheme was very low. Participation of farmers' in agricultural insurance is influenced by socio-economic and institutional factors like age, sex, access to credit and membership of association. Major constraints to participation in agricultural insurance include; rigorous procedure in indemnity payment, high cost of premium, delay in assessment of losses, inadequate knowledge of insurance, disbelieve in insurance companies and low compensation. The study recommended that insurance schemes should ensure prompt and timely payment of compensation (indemnity). In this way, it will boost the confidence of the unsuspecting farmers in the Nigerian insurance sector. The insurance companies should review downward the amount of premium paid by the farmers to be more affordable and attractive. This will

encourage the continued participation of new and existing farmers in the insurance system.

## REFERENCES

- Adeyonu, AG1; Oyawoye, EO; Otunaiya, AO; Akinlade, RJ (2016). Determinants of Poultry Farmers' Willingness to Participate in National Agricultural Insurance Scheme in Oyo State, Nigeria. *Applied Trop Agric.* 21 (3): 55-62.
- Akintunde, OK (2015). Determinants of Poultry Farmers' Participation in Livestock Insurance in Southwest Nigeria. *Asian J. Poultry Sci.* 9: 233-241
- Babalola, DA (2014). Determinants of Farmers' Adoption of Agricultural Insurance: The Case of Poultry Farmers in Abeokuta Metropolis of Ogun State, Nigeria. *British J. Poultry Sci.* 3: 36-41
- Babatunde, RO; Adekunle, A; Olagunju, FI (2012) Effect of poultry production on poverty status of small scale farmers in Oyo State Nigeria. *Asian J. Agric. and Rural Develp.* 2: 565-578
- Eleri, OE; Uduka, IK; Akuto, N; Onuvae, P; Anwara, O (2012). Towards a Climate-based Agricultural Insurance Reform in Nigeria. Presented at the Workshop on Legal and Regulatory Frameworks for Agricultural Insurance Reform in Nigeria-Protecting Nigeria's Farmers from Climate Change Kano Hall, Transcorp Hilton Hotel, February 27, 2012. pp. 1-53.
- Epetimehin, F (2011). Agricultural Insurance in Nigeria and its Economic Impact: A Review. *Int. J. Curr. Res.* 3: 233-238
- Ewubare, DB; Ozar, V (2018). Effect of Poultry Production on Agricultural Production in Nigeria. *Economy.* 5(1):5-16.
- Farayola CO, Adedeji, IA, Popoola, PO. Amao, SA. (2013). Determinants of Participation of Small Scale Commercial Poultry Farmers in Agricultural Insurance Scheme in Kwara State, Nigeria. *World J. Agric. Res.* 1(5): 96-100.
- Farayola, CO; Adedeji, IA; Popoola, PO; Amao, SA (2013). Determinants of Participation of Small Scale Commercial Poultry Farmers in Agricultural Insurance Scheme in Kwara State, Nigeria. *World J. Agric. Res.* 1 (5): 96-100

- Muhammad, A; Cui, X; Jia, Li; Ghazanfar, Y; Mehmood, M; Nadeem, I; Shah, S. (2014). Effectiveness comparison between the Farmers Field School and the Training and Visit Approaches of agricultural extension in two districts of Pakistan. *American-Eurasian J. Agric. Environ. Sci.* 14: 33-39
- Nasiru, M; Haruna, U; Garba, A; Tafawa, A (2012). Economics of Livestock Marketing in Gamawa Local Government Area, Bauchi State, Nigeria. In: 2012 Eighth African Farm Management Association (AFMA) Congress, November 25-29, 2012, Nairobi, Kenya (No.159412). 15pgs
- Okeke-Agulu, KI; Salihu, BI (2019). Poultry Farmers' Participation in Agricultural Insurance in JOS Metropolis of Plateau State, Nigeria. *IOSR J. Agric. Vet. Sci.* 12(9). 21-25
- Otunaiya, AO; Adeyonu, AG; Bamiro, OM (2015). Technical Efficiency of Poultry Egg Production in Ibadan Metropolis, Oyo State, Nigeria. *Econ.* 4: 50-56
- Quisumbing, AR; Brown, LR; Haddad, L; Meinzen-Dick, R (1999). The importance of gender issues for environmentally and socially sustainable development. In *Agric and the Environment: Perspectives on Sustainable Rural Development*, E. Lutz (ed.). The World Bank, Washington D.C.
- Tolobonse, JO; Arokoyo, AA; Obiniyi, AA; Ojo J.A.S (1995). The response of farmers to agricultural insurance in Kogi State, Nigeria. *Proceedings of the 2nd Annual National Conference of the Agricultural Extension Society of Nigeria AESON*. University of Ibadan, September 26 to 28, 1995, pp. 27-32.
- Udo UJ; Nkeme K; Okon, EE (2017). Risk Management Strategies and Determinants of Poultry Farmers Adoption of Agricultural Insurance in Abak Local Government Area of Akwa Ibom State Nigeria. *Int. J. Agric. Rural Dev.* 20(2): 3290-3297.
- Vihi, SK; Tor, LG; Jesse, B; Dalla, AA; Owa, G.T; Shekarau, T; Sadiku, Y (2021). Analysis of Poultry Farmers' Participation in Nigerian Agricultural Insurance Scheme in Jos South Local Government Area of Plateau State, Nigeria. *J. Agric. Econ. Ext. Sci.* 7(3), 223-239