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SOCIO-ECONOMICS FACTORS INFLUENCING POULTRY FARMERS' ACCESSIBILITY TO CREDIT IN MAIDUGURI METROPOLIS, BORNO STATE, NIGERIA

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ABSTRACT

The study analyzed factors on access to credit by poultry farmers in Maiduguri Metropolis, Nigeria. One hundred poultry farmers were randomly selected through multi stage random sampling technique. Structured questionnaires were administered to generate data for the study. Descriptive statistics and multiple regression model were used in achieving the specific objectives. Results indicated that majority (73.0%) of the respondents were males with a mean age of 40 years. Majority (77.0%) were married, tertiary education (70.0%), who had access to market information (70.0%) with an access to extension (64.0%). The multiple regression analysis revealed that the explanatory variables in the model account for 70.8% % of the variations in the factors influencing poultry farmers' accessibility to credit. The coefficients; age, education, flock size, collateral, and guarantor and credit sources were positive and significant at either 1% or 5% level. The study recommended that Poultry farmers should be encouraged to join membership of poultry associations. This could enable them to have access to market information, extension services and credit with a view to increasing their productivity.

Key Words: Poultry farmers, Accessibility, Credit, Quantum and Maiduguri Metropolitan

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INTRODUCTION

Background of the Study

Credit is defined as the trust which allows one party to provide resources to another party where that second party does not reimburse the first party immediately, thereby generating a debt, but instead arranges either to repay or return those resources (or other materials of equal value) at a later date (William, Ajaro and Ogumniyi, 2007). The argument

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is that the agricultural sector depends more on credit than any other sector of the economy because of the seasonal variations in the farmers' returns and credit requirement in the transformation of subsistence to commercial farming. Credit provides the opportunity for them to earn more money and improve on their standard of living (Mahmood, Khalid and Kouser 2009). Thus there is a concern for lack of credit for the agricultural sector most especially for the poultry farmers. Thus, credit can be in the form of cash or kind, obtained either from formal or informal sources. Adebayo and Adeola (2005) defined agricultural credit as repayable loan given to farmers with or without interest to enable them to carry out farm operations more efficiently. Agricultural credit is seen as an undertaking by individual farmers or farm operators to borrow capital from intermediaries for farm operations (Odoh, Nwibo, and Odom, 2009).

Credit supply to farmers is widely perceived as an effective strategy for enhancing the increase in agricultural productivity (Phillip, Nkonya, Pender and Oni 2008). Farm credit is among the essential factors needed for agricultural production, and with it, farmers can secure farm inputs such as farm equipment and hired labour (Odoh, Nwibo, and Odom, 2009). Credit is widely recognized as one of the intermediating factors between adoptions of farm technologies and increased farm income among rural farmers in Nigeria (Omonona, Akinterinwa and Awoyinka, 2008; Akpan, Inimfon, Samuel, Edem, and Uwemedimo, 2013). It is one of the fundamental ingredients of sustainable agricultural production; as such its accessibility is among the prerequisites for attaining the national goal of reducing poverty and ensuring self-sufficiency in meat and food production in the country (Nwaru, Essien, Onuoha, 2011; Akpan *et al.*, 2013).

Access to agricultural credit among farmers is very important for sustainable agricultural development to be achieved in any country of the world (Olagunju and Ajiboye, 2010). It is quite obvious that poultry production is one of the major sources of income and livelihood of many people, which invariably contributes to poverty alleviation among them. Access to credit facilities by poultry farmers will bring about improvement in poultry production, and this implies creating an opportunity for development (Adesiji, Tyabo, Bolarin, Ibrahim, and Baba, 2013). This study attempts to find out the extent to which such factors (socio-economic and institutional) influenced access to credit by poultry farmers in Maiduguri Metropolis, Nigeria.

The major objective of the study was to analyze socio-economics factors influencing access to credit by poultry farmers in Maiduguri Metropolis, Nigeria. The specific objectives were to:

The specific objectives were to:

- i. describe socio economic characteristics of poultry farmers in the study area;
- ii. identify institutional characteristics of poultry farmers;
- iii. examine the relationship between socio-economic factors and quantum of credit accessed by poultry farmers;

METHODOLOGY

The Study Area

The study was conducted in Maiduguri Metropolis, Borno State Nigeria. It is located in the Sahel Savannah region of north-eastern Nigeria between Latitudes 11 05' North and Longitudes 13 05' East with an elevation of 350m above sea level. It occupies an area of 50,778 square kilometers. Maiduguri shares boarder with Jere Local Government Area (LGA) to the North, Mafa L.G.A to the North east, Konduga L.G.A to the South and Magumeri to the North

West. The climate of Maiduguri is favourable, with a mean annual rainfall and temperature of about 650 mm and 32°C respectively. The month of March and April are the hottest periods of the year with temperature ranging between 30°C and 40°C. It is usually cold and dry during the harmattan, November to January records the lowest temperature of about 21°C to 25°C being the coldest months (Dawurung, Gwa, Ballah, Jauro, Kida and Bukbuk 2014)

Maiduguri Metropolitan has a population of 540,016 (NPC, 2006) projected to 786,000 by (2020). Major ethnic groups are Kanuri, Shuwa-Arab, Bura, Marghi, Gwoza, Mandara. Others include Hausa, Fulani and kibaku. Most of the people in the area are involved in crop and livestock production including poultry as their source of income and livelihood (National Population Commission Census report, 2006)

Sampling Procedure

Multi stage sampling procedure was employed in the selection of the respondents. The study area comprises Maiduguri Metropolitan area and some parts of Jere, Konduga and Mafa LGAs. At the first stage twelve (12) wards was purposively selected (Jiddari Polo, Damboa Road, Wulari, Bolori Federal Lowcost, Bulumkutu, Ngomari, Shagari Lowcost, New GRA, Old GRA, 202/303 Housing estate Custom area and Farm center) in the study area based on predominance of poultry production. At the second stage a list of all the registered poultry farmers in an association (total of 943 poultry farmers) was obtained and used as sampling frame for this study. Third stage, sample random sampling was employed in selecting 10% respondents from each ward to give the sample size of 108 respondents (Table 1)

Table 1 Sampling Procedure and Sample Size Distribution Table

Ward	Poultry Farmer in Regi	istered Sampled 10%	
	Association		
Jiddari Polo	101	10	
Damboa Road,	104	10	
Wulari,	84	8	
Bolori, Federal Lowcost	81	8	
Bulumkutu	80	8	
Ngomari	82	8	
Shagari Lowcost A and B	163	16	
New GRA,	84	8	
Old GRA	81	8	
202/303 Housing estate	83	8	
Custom area	80	8	
Farm center	83	8	
Total	943	108	

Source: Field Survey, 2020

Sources of Data

Primary data was mainly be used for the study. The primary data was collected through the use of questionnaires and personal interview schedules. This study sought information on socio – economic characteristics (age, sex, educational level, and farming experience) and institutional characteristics (extension contact, sources of credit and quantum of credit) accessed by poultry farmers. Secondary information was sourced through the use of related materials which include Journals, Text books, Articles, Bulletins and research reports.

Analytical Techniques

Descriptive statistics (frequencies, percentages and means) was used to analyze specific objectives (i) and (ii). Inferential statistics (multiple regression) was employed to analyze objective (iii) of the study.

The multiple regression model was employed to establish the relationship between socio-economic factors and quantum of credit accessed by the poultry farmers (objective iii). The explicit form of the multiple regression model is expressed as;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 \beta_7 X_7 + \beta_8 X_8 + U$$

Where Y = Quantum of credit accessed (N)

 β_{0-} β_{8} = Beta coefficients and

 $X_1 = Age (years)$

 $X_2 = Sex (male=1; 0, otherwise)$

 X_3 = Formal education (years)

 X_4 = Availability of collateral (available = 1; 0, otherwise)

 X_5 = Availability of Guarantor (available = 1; 0, otherwise)

 $X_6 = Farm Size (number of birds kept)$

 X_7 = Interest rate (%)

 X_8 = Sources of credit (financial institution = 1; 0, otherwise)

U = Error term

RESULTS AND DISCUSSION

Socio-economic Characteristics of respondents

Table 2 showed that majority (73.0%) of the respondents were male while only 27.0% were female. This indicates that poultry production is basically male dominated. This is expected given the nature of investment required capital intensive to establish poultry farm enterprise.

Results of the study in Table 2 showed that 57.0% of the respondent were within the age category of 31-40, 30% were within 20-30 years, 5% fall within age category of 41-50 and only 3% were of age 51 and above (Table2). This showed that a large number of the respondents were young and in their economically productive years. This finding agrees with the report of Nurudeen (2012), that majority of poultry farmers are relatively young and in their economically active age

Table 2: Distribution of Respondents by Socio-economic characteristics (n = 108)

Table 2: Distribution of Respondents by Socio-economic variables		Percentage	
Sex			
Male	73	73.0	
Female	27	27.0	
Age	21	27.0	
Less than 20	5	5.0	
20-30	30	30.0	
31-40	57	57.0	40
41-50	5	5.0	.0
51 and above	3	3.0	
Household size		2.0	
1-4	27	27.0	
5-8	61	61.0	7
9 and above	12	12.0	,
Marital status	12	12.0	
Single	19	19.0	
Married	77	77.0	
Widow/ widower	4	4.0	
educational qualification	•	1.0	
primary school leaving certificate	11	11.0	
SSCE/NECO	19	19.0	
OND/NCE	41	41.0	
HND/Degree	29	29.0	
Type of labour of poultry production	2)	27.0	
Family labour	75	75.0	
Hired labour	17	17.0	
Both	8	8.0	
Method of land/space acquisition	O	0.0	
Inherited	48	48.0	
Purchased	22	22.0	
Rented	26	26.0	
Communal	4	4.0	
Poultry production experience (years)	•		
Less than 5	26	26.0	
5-10	60	60.0	10
11-15	8	8.0	
Above 15	6	6.0	
Primary occupation	-		
Farming	28	28.0	
Trading/commerce	18	18.0	
Artisan/Carpentry	6	6.0	
Public Service	48	48.0	

Source: Field survey, 2020

Table 2 revealed that majority (61.0%) of the respondents were having household size of 5-8 persons, 27.0% were having 1-4 persons and 12.0% were having more than 9 persons. This result was in conformity with that of Nwagu (2003) who reported that, large households'

size ensures readily available household labour will reduce labour cost required for poultry production.

The study showed that majority (77.0%) of the respondents were married, 19.0% were single and only 4.0% were widower (Table 2). This could be attributed to the fact that most married people to have more responsibilities and hence take whatever they do with higher levels of seriousness. That means, they will be willing to seek information about obtaining loan/credit from financial institutions, coupled with the availability of more hands from their children which increases the labour needed in the enterprise, thereby aiding increased productivity.

Table 2 indicated that majority (70.0%) of the respondents were educated up to tertiary education, 19.0% and 11.0% had secondary and primary education. Generally, the number of poultry farmers had formal education, this finding supports that of Nurudeen (2012) that majority of the poultry farmers had formal education. There is tendency that the high level of education among the respondents could increase their productivity.

Table 2 showed that 48.0% of the respondents acquired their land through inheritance, 26.0% acquired through renting, and 22.0% of the respondents acquired their land through purchased and only 4.0% through communal. Similar findings in literature include Croppenstedt, Behrman and Peterman (2015) that stressed inheritance as the main method of land acquisition for both men and women.

About 60.0% of the respondents had 5 to 10 years of experience, 26.0% had less than 5 years of experience, 8.0% had 11-15 years of experience and 6% accounted for those that have been into poultry Production for over 20 years (Table 2). This could be attributed to increased number of new entrance into the enterprise which in turn made them to embark on small-scale production since they had little experience to handle large scale production

The study revealed that 48.0% of the respondents were in public service, 28.0% were mainly farmers, 18.0% were into trading/commerce and 6.0% were into artisan/carpentry work (Table 2). This could be attributed to expansion of land available for farming in the area, while that of civil servants can be related to the educational level among the respondents, where the greater percentage have formal education.

Institutional Characteristics of Poultry Farmers

Table 3 showed that majority (78.0%) of the respondents were members of association and 22.0% were not member of any association. It is observed that the people who had access to credit were members of various farmer based associations. Membership of association is believed to enhance the sharing of information on improved access to credit through interactions as well as easing inputs acquisition and utilization constraints faced by decision makers (Effiong, 2007; Kebede, 2001). The study showed association members stand some benefit from collective actions of associations. This implies that, loan acquisition is highly serviceable by people who belonged to groups.

Table 3 revealed that majority (70.0%) of respondents had access to market information while only 30.0% had no access to market information. The findings also showed that extension agents (28.0%), friends and relatives (27.0%) were the main sources of information and newspapers 2.0% were the less utilized as source of information. The existence of a local market offering good sales opportunities is obvious prerequisites for poultry production. Although the electronic media for example the radio has higher penetrating force than the

extension visits, however, it lacks adequate demonstrative power to introduce new methodology to farmers.

Table 3: Distribution of respondents by Institutional characteristics (n = 108)

Institutional characteristics of poultry farmers	Frequency	Percent
Membership of association		
Member	78	78.0
Non-member	32	32.0
Access to market information		
Have access	70	70.0
No access	30	30.0
Source of market information		
Extension agents	28	28.0
Friends and relatives	27	27.0
The radio	17	17.0
The television	6	6.0
The newspapers	2	2.0
Extension contact		
Once yearly	18	18.0
Two times yearly	42	42.0
Three times yearly	4	4.0
Sources of credit		
Commercial Bank	18	18.0
Nigeria Agricultural cooperative and rural development	10	10.0
Cooperative societies	8	8.0
Friends and Family	20	20.0
Money Lenders	3	3.0
Personal saving	14	14.0
Access to credit		
Have access	67	67.0
No access	33	33.0

Source: Field survey, 2020

Therefore, there is need to complement the media sources with face to face method. To improve the ability of the traditional face to face/extension visits, poultry farmers can better be reached and methodologies demonstrated to them through their social organizations such as the local poultry farmers' pen.

Table 3 showed that majority (64.0%) of the respondents had access to extension contact while only 36.0% had no access to extension contact. This implies that poultry farmers had adequate access to extension contact in the study area. However, the frequency of access to extension services varies among poultry farmers. A larger proportion (42.0%) of the respondents were visited by extension agents two times a year which is the training and visit system of extension, 18.0% of the farmers had access to extension agents once in a year and

4.0% three times a year. This implies that respondents' access to extension agents was relatively not adequate. Therefore, more still needs to be done to improve frequency of access to extension visits since the substantial portion (60.0 %) of the respondents had varied frequency of access from one to two times in a year.

The results in Table 3 showed that 67.0% of the respondents had access to credit while 33.0% had no access to credit facilities. The farmers who obtained loans from farmer associations, friends and family were basically small-scale operators; this may be because credit provided by farmers associations was safe as it does not hamper the borrower's stability and productive capacity (Fitchett, 1999). It could also be due to the flexible repayment conditions such as agreed upon period of payments.

Socio-economic Factors influencing quantum of Credit accessed by respondents

The signs of the coefficients of the regressors largely determine their influence on quantum of credit accessed. The result showed that the coefficient of multiple determination (R²) was 0.871 which indicated that about 87.1% of the variation in the quantum of credit accessed by poultry farmers was accounted for by the independent variables included in the regression model. Among the socio-economic factors that significantly influenced quantum of credit were age, education, collateral, guarantor, flock size, interest rate, and source of credit. It should be noted that a positive sign on a variable indicated that higher values of the variables tend to increase the quantum of credit accessed by respondents. Similarly, a negative value of a coefficient implied that higher values of the variables would reduce the quantum of credit accessed by respondents. However all the coefficients of the variables were positive except for interest rate.

The coefficient (0.01236) of age the poultry farmers was positive and significant at 1% level. Age is an important variable which can influence the decision of an older poultry farmers to increase their unit of quantum of credit than the younger counterpart.

The coefficient (0.47381) of educational level was positive and significant at 1% level. This result implies that quantum of agricultural credit accessed increases with education level. Expectedly, educated farmer borrowers have better tendency for loan management and adoption of new productivity enhancing technologies. This positive attribute increases loan repayment potential, which is attractive to all lenders.

The coefficient (0.5613) of flock size was statistically significant at 1% and had a positive influence on the poultry farmers' quantum of access. It implies that if the flock size of the poultry increases, quantum of credit access will also increase all other factors held constant. The implication of this is that the chances of poultry farmers accessing credit increases with the size of the flock. The larger the flock size, the larger amount of inputs needed to operate the farm and therefore, a farmer of a large farm may use credit in order to purchase an adequate quantity of inputs. The poultry farmers with larger flock size will be able to produce at the highest level if given credit.

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Variable	coefficient	STD. Error	T. Value	P. Value	
Age	0.01236	0.00145	8.52***	0.0000	
Education	0.47381	0.1298	3.65***	0.0000	
Flock size	0.5613	0.192	2.92***	0.0000	
Collateral	0.1271	0.0239	5.32***	0.0000	
Guarantor	0.3021	0.1273	2.37**	0.0324	
Sex	0.1378	0.1145	1.20NS	0.8760	
Interest rate	-0.5271	0.2015	-2.62***	0.0123	
Credit Source	0.1012	0.0241	4.20***	0.0000	
Cons	1.2567	0.1781	7.06***	0.0000	
R2	0.871				
F. Value	31.7				

Table 4: Result for multiple regression for Relationship between socio-economic factors and quantum of credit accessed

Note: **, *** and NS are significant at 5%, 1% and Not significant respectively.

The coefficients collateral (0.1271) involved in accessing credits was positive and significant at 1% level; this showed that there was an increased quantum of credit for poultry farmers' that had access to credits with the burden of lending institutions demanding collateral from them to secure their loan. This was because most of those involved in the poultry farming do had assets (properties) or other capital security to give, that can guarantee them obtained credit facilities.

The coefficient of guarantor (0.3021) was found to be positive and significant at 5% level. This finding indicated that poultry farmers are favourably disposed towards taken credit. Farmers' access to credit is positively affected by availability of guarantor. This implies that as the level of guarantorship increases, the quantum of credit accessed also increases among the respondents.

The probability level associated with the relationship between sex of poultry farmer and quantum of credit accessed implied that *ceteris paribus*, the probability that the quantum of credit accessed a particular farmer will be above any given level, higher for a male poultry farmers than for a female poultry farmers even though the coefficient is insignificant but positive. This can be explained by the fact that culturally in northern Nigeria; men own and have more access to resources than women.

The coefficient (-0.5271) of interest rate on credit obtained for poultry farming was negative and significant at 1%; this implied that there was a decrease of a unit of quantum of credit accessed as the interest rate increases. This negative coefficient indicates that increase in interest rate on credit reduces quantum of credit accessed by unit. This was likely because the lending institutions were more secured to give credits when their interest rates were relatively high to keep their business going; also, it will weaken the borrower's interest of accessing the credits at such rate compared to institutions that gave lower interest.

Another significant variable in determining the quantum credit access is a credit source which was found to be positive and significant at 1% level. This implies that as the number of sources of credit increases, the quantum of credit accessed by respondents' increases. This could augur well for the industry if properly managed.

Conclusion

The study established that poultry production in the study area was carried out mostly by married males who were educated and in their economically productive ages. The findings revealed that majority (78.0%) were members of association. The result of the multiple regression analysis revealed that age, education, collateral, guarantor, flock size, interest rate, and source of credit were significant predictors at varied signs and levels of quantum of credit accessed by poultry farmers.

Recommendations

On the basis of the findings of the study, it is recommended that:

- i. Poultry farmers should be encouraged to join membership of poultry associations. This could enable them to have access to market information, extension services and credit with a view to increasing their productivity.
- ii. Since coefficient of interest rate negatively in fluency the quantum of credit, it has been recommended that lending institutions should subsidizing interest rate to poultry farmers to increased quantum of credit received which will enhance their productivity.

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