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UTILIZATION OF AGRICULTURAL LOAN AMONG COOPERATIVE POULTRY FARMERS IN IJEBU NORTH LOCAL GOVERNMENT AREA OF OGUN STATE

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ABSTRACT

Utilization of agricultural loan is a key component of farm success. It enhances good productivity. The study assessed the utilization of loan among cooperative poultry farmers in Ijebu North Local Government Area of Ogun State. Multiple sampling technique was used in selecting the sample population. Four wards were selected from the Local Government Area from which 120 respondents were selected from 22 communities in the wards. Descriptive statistics such as frequency distribution, percentage and means, and Ordinary Least Square (OLS) regression were used to analyse data collected. Results indicated that most respondents were between the age bracket of 41 and 50 years. Majority of the respondents were married, with household size between 4 and 6 persons. Most respondents had poultry farming as their major occupation. OLS regression analysis was used to determine the factors affecting loan accessibility among farmers in the study area. The coefficient of determination (R^2) of the factors affecting loan accessibility was found to be 0.511 (51.1%). Monthly income, interest paid, number of birds, and mode of loan repayment were positively significant among the eleven (11) variables modelled. This implies that increase in these factors will lead to an increase in the farmers' loan accessibility. Farmers are encouraged to channel resources to more productive purposes. OLS regression analysis was used to examine the default rate among sample farmers in the study area. The R^2 of loan default was found to be 0.517 (51.7%); this is an indication that 51.7% of the variation in the factors affecting loan default rate among sampled poultry farmers was explained by the explanatory variables (socio-economic characteristics). Out of the 9 variables modelled, the age of respondents, sex, amount-borrowed, educational level of respondents and duration of loan repayment were positively significant. This implies that increase in these factors will lead to an increase in the farmers' ability to repay loan on time. It was recommended that extension services should be brought to the farmers as most of them are learned.

Key words: Poultry, loan, cooperative, livelihood, OLS

DOI:

INTRODUCTION

Livelihood improvement through poultry farming

Poultry production constitutes a critical and

basic part of the agricultural economy of Nigeria; a contribution that goes beyond direct food production. However, it incorporates the generation of employment, source of income to farmers, development of a

country's economy, source of vocation to farmers and other multipurpose uses (Kabir, *et al*, 2015). Poultry is a noteworthy subsector in the industry, which contains chickens, turkeys, ducks, quails, peafowl, guinea fowls etc. (Kabir *et al*, 2015). Around 89% of rural households in many countries especially in Nigeria rear poultry through traditional production systems like "low input-low output". Their poultry production system is mainly associated with local chicken. Most birds are kept in small flocks under a scavenging system with feed generally available from household waste, homestead pickings, and crop residues, due to lack of finance (Kabir, *et al*, 2015). This is due to the fact that most of the new practices have to be purchased but few farmers have the financial resources to finance it (Kabir *et al*, 2015). Poultry production is very profitable and it is unique in that it offers the highest turnover rate and the quickest returns to investment outlay in the poultry enterprises (Olorunwa, 2018; Nwosu *et al*, 2010). From various studies on the Agricultural Loan Guarantee Scheme Fund in Nigeria, it is evident that the scheme has increased the flow of funds to agriculture (Olorunwa, 2018; Nwosu, *et al*, 2010). However, stakeholders in the scheme viz: the farmers, lending institutions and government must show greater commitment and dedication for the scheme to achieve its laudable objectives. Farmers should be encouraged to be applying for loans from cooperative to enhance their agricultural activities and productivity; also to repay the loans as at when due (Adebisi, *et al*, 2019). Poultry production is one of the major subsectors of Nigerian agricultural industry and is mainly for meat and eggs production (Adebisi, *et al*, 2019; Nwalieji, *et al*, 2019). Despite its importance and contributions, poultry production is yet to experi-

ence a sufficient growth due to some limiting factors such finance etc. (Effiong, *et al*, 2014). Training farmers on improved poultry breeds for gradual upgrading of local breeds and also on improved modern rearing and production methods of poultry, increases the production of poultry products and farmers income (Aladejebiet, *et al*, 2014). Historically, the growth of poultry industry began as a result of its high level of energy and protein, rapid turnover rate and short incubation period (i.e. 21 days) which are advantages of poultry over other poultry, thus, access to loan remains an important tool in the development of poultry industry in Nigeria (Adeyonu, *et al*, 2017). Despite an increase in intensive chicken keeping in early 1980's, the withdrawal of subsidy by the government on the prices of day-old chicks and feed ingredients led to a general decline in the number of poultry birds particularly under commercial production in the country

Roles of Cooperative Loan for the Improving Poultry Sector

Impact of cooperative thrift and credit societies on small business performance is of great essence. Cooperative society is a voluntary business organization in which groups of individual with common interests pool their resources together to promote the economic welfare of their members in production, distribution and consumption of goods and services (Ogunmiya, *et al*, 2021). Cooperative societies in other regions or zones have always played a key role in the promotion and development of SMEs (Fasesin *et al*, 2021). Indeed, promotion and support of business enterprise of members and jointly owned business are at the core of cooperative functional activities (Nwankwo, *et al*, 2012). Cooperatives are mostly preferred by entrepreneur due to easy accessibility of loans, smallness of scale, and informal na-

ture of transactions. Government effort in the provision of subsidy granting loans to small scale business farmers is still very low and full of serious bureaucracy and by the time the loan could come through time would have gone, hence the usefulness of cooperative societies. Cooperative societies achieved immense success in poultry upliftment and improved their business and living standard and their livelihood and enable them pay loan collected.

Governments have to recognize this necessity and are developing poultry farming in order to boost economic prospects of the rural population (Tran, 2011). Poultry sector occupies a very important place in socio-economic development of the country. It has been recognized as a powerful income and employment generator as it stimulates growth of a number of subsidiary industries and is a source of cheap and nutritious food besides being a foreign exchange earner (Nazir, et al., 2018). Poultry is also being practiced with a growth rate that has increased over the years. Sources of funding for the operators of these sectors of the economy who are mostly poor peasants will ensure sustainable production and income generation if properly funded (Ataguba & Olowosegun, 2013). The level of poultry farmers' use of loan facilities is very low, and there is probably the need to educate farmers on loan use and for the government agricultural lending agency and other commercial agricultural lenders to invest in this enterprise (Kwamena, et al, 2009).

Problem Statement

In Nigeria, there is a wide gap between owned and required capital for financing most agricultural activities of farmers due to an increase in the cost of borrowing. Lack of access to capital due to a high level

of interest rate is one of the major factors which hinder the development of agriculture. One of the major problems responsible for inadequate loan facilities required by farmers for their agricultural activities is a constant and persistent increase in the cost of borrowing, even though these farmers produce the bulk of the food consumed in the country. It is of great important to educate most poultry farmers on the adequate utilization of loans. This study therefore, tends to deal with the following research questions:

1. what are the socio-economic characteristics of poultry farmers in the in the study area?
2. what are the factors affecting loan accessibility among sampled farmers?
3. what are the factors that determine the default rate among poultry farmers in the in the study area?

Objectives of the Study

The broad objective of the study was to determine how farmers acquire, utilize, and repay Agricultural investment loans among poultry farmers in Ogun State. The specific objectives include to;

1. describe the socio-economic characteristics of poultry (poultry) farmers in the study area;
2. determine the factors affecting loan accessibility among poultry farmers in the study area; and
3. determine the default rate among poultry farmers in the in the study area.

Justification of the Study

To design appropriate policies that will bring efficient and effective accessibility of agricultural investment loan facilities for optimum agricultural productivity among poultry farmers, there is a need to carry out a study

on the acquisition, utilization, and repayment of such loans in Ogun State, particularly as it affects Ijebu North Local Government Area. This will greatly enable policymakers to identify constraints and potential areas for its improvement considering the need to enhance food and poultry security. The findings of this study will enable farmers to be aware of how to acquire agricultural investment loans, how to do it effectively, and make the repayment in due and stated time.. This will be used as checks and balances by policymakers and academics in designing subsequent ways to make effective and efficient utilization of agricultural investment loans.

METHODOLOGY

The Study Area

The study was carried out in Ijebu North Local Government Area of Ogun State, Nigeria. Ogun State is in the south-west rainforest zone of Nigeria. The Local Government Area was created 1979 and has its headquarters at Ijebu-Igbo. It lies within latitude 6°57' N 4°00' E. It is bounded in the West by Ijebu East Local Government, in the East by Ikenne Local Government, in the North by Oluyole Local Government of Oyo State and in the South by Ijebu North East, Odogbolu and Ijebu Ode Local Government. It has human population of 284,336. Ijebu North Local Government Area covers about 967 square kilometers.

Sampling Technique

Ijebu North Local Government Area of Ogun State was selected for this study. Multi stage random sampling technique was used to select 120 poultry farmers in the study area. The first stage involved selection of four (04) wards among eleven (11) wards in the Local Government Area. The wards selected were Ago-Iwoye 1, Ago-Iwoye 2,

Oru-Awa-Ilaporu and Ako-Onigbagbo/Gelete these were chosen due to their leading and notable production levels of poultry farming. The second stage involved random selection of three (03) purposive towns with high level of poultry production from each of the selected wards in the Local Government Area in stage one. In the third stage, poultry farmers were randomly selected on proportion based on the sampling frame from each of the towns. A total of one hundred and twenty (120) respondents were randomly selected and used for the study.

Method of Data Analysis

A mixture of analytical tools were employed for the purpose of achieving the objectives of the study. These include Descriptive statistics and OLS regression were used for data analysis. The socio-economic characteristics of poultry producers (poultry) in the study area was analysed by descriptive statistics. This include computation of descriptive statistics (means, standard error of means, percentile, etc.) which summarised in a simple table to form the pool data analysis. Frequency distributions was used in addition to the description of demographic and socio-economic characteristics of the poultry farmers .

Ordinary least square

Since the objective of this study was to establish a causal relationship between the dependent and the independent variables in the model, the linear form of the regression was run. The ordinary least square technique was used to estimate the parameters of the model.

Model Specification

The Linear Function of multiple regressions was used to determine the factors affecting

loan accessibility among poultry farmers. Model specification is as expressed below:

$$Y = \alpha_0 + \alpha_1 X_1 + \dots + \alpha_k X_k + \varepsilon_i \quad \text{equ 3}$$

Where:

Y = Amount of loan applied for (₦)

X's = independent variables defined as follows:

X₁ = Membership fee (₦)

X₂ = Educational level of poultry farmers (Years spent in school)

X₃ = Monthly income (₦).

X₄ = Household size (number)

X₅ = Interest on loan (₦).

X₆ = Business experience (Years)

X₇ = Age of poultry farmers (Years).

X₈ = Marital status (Marital status = 1; 0 otherwise)

X₉ = Farm size (Present Farm worth (₦))

X₁₀ = Availability of Credit Agent for inspection (No of Visits)

X₁₁ = Repayment period (in months)

α_1 = Vector Parameter

ε

₁ = Error term

Loan Default Model

The Linear Function of multiple regressions was used to estimate the loan default rate of the poultry farmers in the study area.

$$Y = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + U \quad \dots \text{equ 4}$$

Y = Loan overdue (₦)

bo = Age in years

a₁ – a₈ = Coefficients of explanatory variables (i.e. X₁ – X₈)

X₁ = Age of respondents (years)

X₂ = Gender of respondents (Male = 1, Female = 0)

X₃ = Amount of Loan granted in naira

X₄ = Poultry Farm size (number)

X₅ = Educational Level in years

X₆ = Household Size (persons)

X₇ = Marital Status

X₈ = Loan duration (Months)

X₉ = Year of Poultry Experience

U = Error term

RESULTS AND DISCUSSIONS

The description of the utilization of cooperative loan among cooperative farmers was analysed using descriptive analysis tools. These include statistical table, frequencies, percentiles, means etcetera. Socio-economics characteristics of the respondents, Majority (57.5%) of the respondents were male (Table 1), this shows that male counterpart dominated poultry business in the study area. This is in tandem with Susanya et al, (2018), that members of various forms of activities were organized and that men had more capacity and energy than female. The highest household size ranged between 2 and 4 household (50.0%) with the mean of 3 households; it equally showed that they would make good use of loan to generate good income. The highest age range was between 41 and 50 years (52.5%) showed that the respondents were in their prime and active age and could utilize loan well. The years spent in poultry business determine how well the respondents would utilize loan as years count as it shows expertise. Based on the results, it was revealed that majority (51.6%) had 6 and 10 years' experience which is adequate in business. The income earned by them revealed that they would need loan to improve their businesses based on the results that majority (54.9%) earned ₦150,000 per month which is too small considering the economy at present and the ravaging of Covid 19, thus, would need loan to augment their poultry business and improve livelihood. Majority (49.2%) had secondary education, it implies that they would manage loan collected adequately well due to good ability to read and write. The farming scale practiced by most (45.8%) of the respondents was medium, therefore, would need loan to expand their poultry business. Majority (72.5%) of the respondents were married, showing that

they were responsible and likewise would utilize loan judiciously to advance their livelihood (Table 1)

Determinants of factors affecting loan accessibility among sampled poultry farmers

Ordinary Least Square (OLS) regression analysis was used to determine the factors affecting loan accessibility among poultry farmers in the study area. The coefficient of determination (R^2) of the factors affecting loan accessibility was found to be 0.511 (51.1%). This is an indication that 51.1% of the variation in the factors affecting loan accessibility among farmers was explained by the explanatory variables (socio-economic characteristics). Hence, the findings presented the marginal effects of the estimated econometric model. The F-Ratio (10.260), which determines the overall significance of the econometric model, was significant at 1% level of probability, hence concluded that farmers socio-economic characteristics are significant determinants of loan accessibility.

About 44.1% of the variation in output was accounted for by the variable, as reflected in the adjusted R^2 (Table 2). The variables included in the model adequately explained the output in the survey area, as reflected in the positive F value ($p < 0.01$).

Out of the 11 variables modelled, the coefficients of monthly income (0.363), interest paid, number of birds, and mode of loan repayment were positively significant. This implies that increase in these factors will lead to an increase in the farmers' loan accessibility. Others were negatively significant, which implies that they must be kept constant, else they will have an adverse effect on loan accessibility.

Table 1: Socio-economic characteristics of poultry farmers in Ogun State

Variable	Frequency	Percentage (%)	Cumulative (%)
Gender			
Male	69	57.5	57.5
Female	51	42.5	100.0
Household Size			
< 1	8	6.7	6.7
2 – 4	60	50.0	56.7
5 – 7	35	29.5	85.8
≥ 8	17	14.2	100.0
5 household members	0.18	3.06	
Age (years)			
21 – 30	13	10.8	10.8
31 – 40	24	20.0	30.8
41 – 50	63	52.5	83.3
51 – 60	17	14.2	97.5
61 ≥	3	2.5	100
Mean			
41 years			
Years in Poultry Experience			
≤ 5	27	22.5	22.5
6 – 10	62	51.6	74.1
11 – 15	31	25.9	100.0
Mean			
7 years			
Farm Size (Birds)			
≤ 500	47	39.2	39.2
501 – 1000	52	43.3	82.5
1000 ≥	21	17.5	100.0
Monthly Income			
≤ ₦50000	20	16.6	16.6
₦50001 – ₦150000	66	54.9	71.5
₦150001 – ₦400000	30	24.9	96.4
> ₦400001	4	3.6	100.0
Mean			
₦70,789.86k			
Education			
No formal education	3	2.5	2.5
Primary	19	15.8	18.3
Secondary	59	49.2	67.5
Tertiary	32	26.7	94.2
Adult education	7	5.8	100.0
Farming scale			
Small	40	33.3	33.3
Medium	55	45.8	79.2
Large	25	20.8	100
Marital Status			
Single	15	12.5	12.5
Married	87	72.5	85.0
Divorce	8	6.7	91.7
Widow	1	0.8	92.5
Separated	9	7.5	100.0

Source: Computed from Field Survey Data, 2021

Table 2: Determinants of factors affecting loan accessibility among sampled Farmers

Variables	Coefficient	Std. Error	Beta	t-value	Significant
Interest paid	64177.939	7777.298	0.643	8.252***	0.000
Membership fee	-10.995	2.500	-0.386	-4.398***	0.000
Educational level	-9732.148	8137.720	-0.089	-1.196	0.234
Monthly income	0.363	0.145	0.373	2.496**	0.014
Household size	-4489.683	3247.867	-0.110	-1.382	0.170
Year of experience	-7742.569	3958.579	-0.215	-1.956*	0.053
Number of birds	12.306	55.502	0.040	0.222	0.825
Marital status	-3199.557	7575.041	-0.31	-0.422	0.674
Farm value	-0.014	0.026	-0.123	-0.538	-0.592
Credit agent visit	-664.110	8593.842	-0.008	-0.77	0.939
Mode of payment	19593.726	30414.443	0.75	0.644	0.521

Model Fit Test

Constant	R	R ²	Adjusted R ²	R ² Change	F change	Df1	Df2	Sig. F change
43170.035	0.715 ^a	0.511	0.461	0.511	10.260	11	108	0.000

Source: Field survey, 2021;***,**,* significant at 1%,5%,10% level of significance respectively

Examining the default rate among poultry farmers in the state

The coefficient of determination (R²) of the loan default among poultry farmers in the state was found to be 0.517 (51.7%). This is an indication that 51.7% of the variation in the factors affecting default rate among sample farmers was explained by the explanatory variables (socio-economic characteristics). Hence, the findings present the marginal effects of the estimated econometric model. The F-Ratio (13.062), which determines the overall significance of the

econometric model, was significant at 1% level of probability, hence concludes that farmers socio-economic characteristics were significant determinants of loan default. It had an adjusted R² value of 0.477. This implies that about 47.7% of the variation in output (Y) is accounted for by the variables (X₁ – X₉) included in the model (Table 3). The F-Value is positive and statistically significant at 1%, indicating that the variables included in the model adequately explained the output in the survey area.

Out of the 9 variables modelled, the coefficient of age of respondents, sex, amount borrowed, educational level of respondent and duration of loan repayment were positively significant. This implies that increase in these factors will lead to an increase in the farmers' ability to repay on time. Others are negatively significant, which implies that they must be kept constant else they will have an adverse effect on loan accessibility.

Table 3: Examining the default rate among poultry farmers in the Area

Variables	Coefficient	Std. Error	Beta	t-value	Significant
Age of respondent	0.016	0.005	0.321	3.284***	0.001
Sex	0.082	0.063	0.092	1.304	0.195
Amount borrowed	4.246E-007	0.000	0.273	2.287**	0.024
Number of birds	0.000	0.000	-0.094	-0.771	0.443
Household size	-0.010	0.018	-0.054	-0.568	0.571
Marital status	-0.020	0.037	-0.042	-0.537	0.592
Duration of payment	0.244	0.032	0.578	7.689***	0.000
Years of experience	-0.044	0.016	-0.266	-2.731***	0.007

Model Fit Test

Constant	R	R ²	Adjusted R ²	R ² Change	F change	Df1	Df2	Sig. F change
-0.345	0.719 ^a	0.517	0.477	0.517	13.062	9	110	0.000

Source: Field survey, 2021;***,**, significant at 1%,5%, level of significance respectively

CONCLUSTION AND RECOMMENDATIONS

The evaluation of the utilization of agricultural loan among cooperative farmers in Ijebu North Local Government Area of Ogun State showed how effective and helpful cooperative loans has been to poultry farmers in the study area. The study concluded that cooperative loan can be dependable source of finance for poultry farmers in Ijebu North Local Government Area. Also, as farmers spend more years in the business they tend to gain more knowledge to use obtained loan more effectively.

RECOMMENDATIONS

- Credit agent should dedicate more time to visit farmers' farm.
- Poultry farmers should be encouraged to source for cooperative loan to improve their livelihood.
- Poultry farmers should utilize cooperative loans adequately well and not divert the loan to other things.
- Poultry farmers should be encouraged

not to allow loan default in order to encourage the cooperative societies to increase amount of loan disbursed among poultry farmers in the study areas.

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