International Journal of Trend in Scientific Research and Development (IJTSRD)
Volume 6 Issue 5, July-August 2022 Available Online: www.ijtsrd.com e-ISSN: 2456 – 6470

Determinants of Co-Operative Loan Access among Women Farmers in Oyo State, Nigeria

Olagunju, Oluwaseun Emmanuel[1]; Umebali, Emmanuel. E.[2], Ph.D

[1]Department of Cooperative Economics and Management, The Polytechnic Ibadan, Ibadan, Nigeria
[2]Department of Cooperative Economics and Management, Nnamdi Azikiwe University, Awka, Nigeria

ABSTRACT

The study focused on the determinants of cooperative loan access among women farmers in Ona Ara and Egbeda Local Government areas of Oyo State, Nigeria. The broad objective of this study is to investigate the activities of women cooperative farmers in food crop production through the use of cooperative loans. Both primary and secondary sources of data were used to gather information and a two-stage sampling technique was adopted to investigate 120 women farmers. Descriptive and quantitative statistics, double hurdle model and Pearson Product Moment correlation co-efficient (r) estimate were employed in analysing the data. The result of the analysis indicated that the majority (80.2%) of the women farmers were between 31 – 40 years and the mean age was 25 years. This implied that most of the co-operative women farmers were young and agile. This may help in farm production activities and therefore, their ability to access and utilise loans appropriately. Again, about 5 percent of the cooperative women farmers had no formal education, 7.5 percent had primary education, while 86.9 percent had secondary education. The average farming experience of the farmers was 5.6 years while the average household size was 4.5 years. In addition, the women farmers were largely (72.6 percent) Christians and most of them use the accessed loan facilities for other secondary purposes such as payment of children's tuition fees, household consumption and liquidating previous debts. This development often led to cases of loan default and poor repayment regime among the women farmers. The age, farming experience and the number of hired labour were some of the significant parameters that determined the level of access to co-operative loan facilities. The result of the Pearson Product Moment Correlation Co-efficient estimation indicated that about 27 percent of the quantity of food crop output of the women farmers was explained by their level of access to co-operative loan facilities. In conclusion therefore, it is important to increase the level of access of women farmers to cooperative credit facilities, so that, they can judiciously use such facilities on food crop production. Cases of loan diversion, among cooperative women farmers should also be discouraged. With this, the level food crop production of the women farmers will be enhanced and ultimately their household income will improve.

KEYWORDS: *Cooperative Loans; Women Farmers; Food Crop Production; Loan Access; Rural Farming Households*

How to cite this paper: Olagunju, Oluwaseun Emmanuel | Umebali, Emmanuel. E. "Determinants of Co-Operative Loan Access among Women Farmers in Oyo State, Nigeria" Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-6 | Issue-5, August 2022, pp.192-202, URL: www.ijtsrd.com/papers/ijtsrd50448.pdf

IJTSRD50448

Copyright © 2022 by author(s) and International Journal of Trend in Scientific Research and Development Journal. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) (http://creativecommons.org/licenses/by/4.0)

1. INTRODUCTION

Loan is one of the components of financial services considered fundamental in all production units (Dicken, & Fadayomi 2000). There has been a general awareness of the significance of credit as a tool for agricultural development (Omonona & Oni, 2008). There is a growing interest recently in

understanding the impact of financial structure on production (Barry & Robinson, 2001). Credit for rural small –holders, especially in agriculture, is assuming increasing importance in parts of the world in response to the needs of the less- privileged entrepreneurs with limited base in the sector. According to Serageidir *et al* (1996), traditional composition of capital (i.e., -rural, physical and human capital) needs to be expanded to include social capital for sustainable development. There is also growing evidence that social capital is an element of sustainable development. Hence, increased attention is being given to the role of social capital in affecting the well-being of households and the level of development of communities and nations. Lawal and Muyiwa (2009) noted that a direct relationship exists between social capital and credit access and that membership and cash contribution in the associations by the farming households drive access to credit positively for productivity and welfare. According to development professionals, lack of access to credit facilities by poor rural households has negative consequences for agricultural productivity, income generation and household welfare (Von Pischike & Adams, 1980).

Without credit accessibility, it will be impossible to purchase the inputs needed for production let alone maximizing output from given resources or maximizing their sources required for producing a given level of output. Credit market literature distinguishes between access to credit and participation in credit markets (Diagne & Zeller, 2001). A farm household has access to credit and a particular source if it is able, and entitled to borrow from that source; whereas it participates in the credit market if it actually borrows from that source of credit (Boucher *et al* 2006). Different farming households will have different needs for credit but a good sign that indicates some levels of credit constraint is the gap between demand and supply of credit. The wider the gap, the greater the credit constraint level (Nagarajan & Agrawal, 1998). Credit constraint can be defined as a wide gap between demand for credit and supply of credit. Hussein and Olhmer (2008) defined credit constraints as a situation where the household cannot avail itself of the credit it desires at the prevailing market condition. Growing empirical literature suggests that in rural areas of developing countries, credit constraints have significant adverse effects on farm output; farm profit and farm investment (Carter & Olinto, 2003, Patrick 2004). In Nigeria, the prevalence of credit constraints, and their impact on production efficiency, has led to low productions on the farms. Economics of agricultural production at the micro-level is to attain the objective of profit maximization through an efficient allocation of farm resources over a period of time or by either maximizing output from given resources or minimizing the resources required for producing a given level of output (Agrawal 1994).

Problem Statement

Credit constraint has both direct and indirect effects on farm production. Directly, it affects the purchasing power of the producers to procure farm implements, and makes impossible farm-related investments, which they can fall back on, to help them overcome credit constraints. Indirectly, it affects the risk behaviour of the producers (Eswaran & Kotwal, 1990). Thus, a credit constrained farmer will invest in less risky and less productive technologies rather than in the more risky and but productive ones (Deree & Leon, 1997). This risk behaviour has negative effects on the technical efficiency of the farmers in that it limits the effort of the farmer in attaining the maximum possible output thence, efficiency is compromised (Braeselie *et al* 2001).Studies have shown that a large percentage of the farmers that are faced with credit constraints have low production efficiencies (Hussein and Olhmer. 2008; Dorman and Koop, 2005). Credit has direct effects on agricultural production and the problem of credit constraint has been shown to be the major cause of low agricultural output (Igbal, 1996). It is interesting to know that many farmers do not even have access to any means of credit, let alone sufficient output. Formal sources of credit have some ambiguities and time-consuming procedures which most of the times, do not favour small scale farmers. Informal sources of credit also have peculiar problems such as small size of credit and high interest rates (Carter & Olinto, 2003; Dicken and Fadayomi 2000).

The inability of most peasant farmers to have access to adequate capital has heightened the problem of low efficiency in production .Inadequate credit supply is a central problem upon which other production factors exert negative influence on farmers' output and efficiency (Deree & Leon, 1997). For farmers that are fortunate enough to have access to credit, the problem of low efficiency in production still comes up in situations where there is a wide gap between the amount of credit requested and the amount supplied. For some farmers, an addition of the payment made for the use of capital, cost of inputs and other costs far exceeds revenue from sales of farm produce. Akinade (2002) noted that there are very few branches of commercial banks in the rural areas of Nigeria and this has added to the constraints of provision of credit facilities to the farmers.

Objectives of the study

The broad objective of this study is to investigate the activities of women co-operative farmers in food crop production in Oyo State, Nigeria.

The specific objectives are to:

1. Describe the socio-economic characteristics of small-scale cooperative women farmers in the study area;
2. Examine the various uses of co-operative loans by women farmers;
3. Examine the determinants of cooperative women farmers' access to cooperative loans in the study area;
4. Examine the effect of cooperative loans on women farmers' output;

Research Questions

1. What are the characteristics of co-operative women farmers in the farming communities?
2. What are the various uses of co-operative loans among women farmers?
3. What are the factors that determine the level of access of cooperative women farmers to loan facilities?
4. Is there any relationship between the quantities of output of women farmers and their level of access to co-operative loans?

2. METHODOLOGY

The Study Area

The study area was Oyo State and Egbeda and Ona-Ara Local Government areas were chosen as the study areas for data collection and gathering of facts and figures .The State is in the tropical zone of West Africa. It is located within longitude 6^0 47^1 Eastern and 7^0 55^1 North of Equator. Oyo State covers an area of 26,800 Km^2 with population of 12,788,000 based on the National population Commission (NPC) estimates of year 2006. It contains thirty-three local governments. Farming and trading are the major occupations of the people. Oyo-State has a vast arable land area, which is predominantly known for agricultural activities as main sources of income for the people (Adeyeye, 2003).The inhabitants of Oyo-State grow a wide variety of tree crops, which produce fruits, timbers and other useful products. Apart from farming, major occupations of the people are trading, transportation, weaving, welding, dyeing and carpentry while others are artisans and civil servants. Social amenities that can be found in the study area include electric power supply, police station, maternity centres, higher institutions, private hospitals and customary courts.

Sources of Data and Methods of Data Collection

The study made use of both secondary and primary data. The primary data was obtained by administering validated and well-structured questionnaire supplemented with oral discussions during the field survey. Data on socio-economic characteristics such as age, farms size, farm experience, amount of loan obtained and repaid, income earned, among others were obtained from the respondents. Secondary data was obtained from journals, textbooks, statistical publications and past projects.

Sampling Techniques

Egbeda and Ona-Ara Local Government areas were purposively selected for this study due to their popularity in co-operative and women farming activities in the Oyo state. A two- stage sampling technique was used for the selection of 120 co-operative women farmers in the study area. Food crops investigated were cassava and maize cultivated by sole and mixed crop farmers. In Ona-Ara local government area, ten (10) co-operative women farmers were randomly sampled from each of 6 rural communities, thus giving 60 respondents for the local government area. Similarly, in Egbeda local government area, ten (10) women farmers who were members of cooperative societies were randomly sampled from each of 6 rural communities which were identified for the study. Thus, on the whole, there were 120 respondents for the study.

(Details in Table 1 below).

Table 1: Sampling procedure for the Cooperative Women Farming Households.

LGA	Town	Co-operative Societies	Crop type	Number of Sampled Farmers
ONA-ARA	1. Badeku	Iwajowa Coopeative society	Maize	10
	2. Akanran	Asiwaju Cooperative society		10
	3. Adigun	Ogo-Oluwa Cooperative society		10
	4. Amuloko	Ire-Akari Cooperative society		10
	5. Agbirigidi	Anfaani Cooperative society		10
	6. Gbedeogun	Oriire Cooperative society		10
Sub-total				60

EGBEDA	1. Gbaremu 2. Gbada-Efon 3. Oloju-oro 4. Lalude 5. Ajia 6. Inukan	Jaleoyemi Cooperative society Amuludun Cooperative society Igbeyinadun Cooperative society Oke-Agunla Cooperative society Akinde Cooperative society Paara Cooperative society	Cassava	10 10 10 10 10 10
Sub-total				60
Grand total				120

Descriptive Analysis

Both descriptive and quantitative analyses were used for the study. Descriptive analytical tools such as mean, median, mode, frequency tables and percentages were used to describe the socio-economic characteristics of the women farmers (objective i),as well as sources of agricultural loans available to women farmers in the study area (objective ii).

Determinants of loans access among Cooperative women farmers.

A double hurdle model was used to examine the determinants of loan access among women farmers in the study area (objective iii).This model comprises the logit model to determine the decision of the women farmers to obtain loan facilities. In logit econometric models, the probability of a co-operative women farmers having access to loan facilities is a function of a set of independent variables. The logit model is estimated by the method of the consistency of asymptotic normal distribution characteristics of large samples. A logit model is based on the independent variable vector ($X_{ij}S$), which is related to the following parameters; the probability that the women farmers is having access to loan facilities (Pi); farmer (i); variable (j); and an unknown (β). This probability is given by:

$Pi = f(Z) = f(a+\beta Xij) = 1/[1+\exp(-Z_t)]$ ---------- Equation (1)

Where, $f(Zi)$ is the cumulative logistic function value of each probable value index Z_i; Given her demographic, economic and social characters, a co-operative women farmers' behaviours towards having access to credit facilities;

exp = Natural logarithm function,

$Z_i = \beta X_{ij}$ and,

a= fixed value.

The index number is a linear combination of independent variables βX_{ij} and is depicted in equation (2).

$Z_i = \text{Log}\,(P_i/(J-P_i)] = \beta_0 + \beta_1 Z_{1.1} + \beta_2 Z_{1.2} + \ldots\ldots + \beta_{13} Z_{13} + e_i$-------- Equation (2)

Where, i = 1, 2, ---------Persons (Women farmers); J = 1, 2, ----------, n independent variables;

Zi= for the observation number i, log odd value and unobserved index level of the selection;

X_{ij} = J explanatory variable for the person i,

β = Parameters to be estimated and,

e =Error term.

In Equation (2), the dependent variable is the logarithm of the odd ratios for the time when the women farmers made a decision, whether to have access to loan facilities. Estimated parameters do not represent the changes in independent variables directly. Changes in these probabilities depend on the original probabilities; thus, all independent variables and the first initial values of their co-efficient. In the logit model, a probability change for $Y_i = 1$ (Pi) which is caused by a change in the independent variables (X_{ij}) is computed as:

$\partial P,/ \partial X_{ij}) = [\beta X_{ij})]/[1+\exp(-\beta X_{ij})]$----------Equation (3)

At the same time, when independent variables are qualitative, $(\partial P;1 /\partial X_{ij}) X_{ij}$ does not exist, since it is discontinuous and there is no continuous change. In this case, the probability changes are determined by the evaluation of P_i for alternative values of X_{ij} and computed as:

$(\partial P;/ \partial Xij) = [P(Yi\ X_{ij}=1) - P(Yi\ X_{ij} = 0]/(1-0)$.---------- Equation (4)

The specific model used in the studies is explicitly expressed as follows:

$Z_i = \text{Log}\,(P_i/(J-P_i)] = \beta_0 + \beta_1 Z_{1.1} + \beta_2 Z_{1.2} + \ldots\ldots + \beta_{13} Z_{13} + e_i$-------- Equation (5)

Where;

P = Women's Loan Access (0,1).

Z_1=Age (years)

Z_2=Level of Education (years)

Z_3=Farm size (hectare)

Z_4=Household size (Number)

Z_5=Farming Experience (Years)

Z_6=Hired labour (man day)

Z_7=Marital Status (Married = 1, otherwise = 0)

Z_8=Number of loan applications (number)

Z_9=Monthly subscription level (₦)

Z_{10}=Farm Income (₦)

Z_{11}=Crop Type (Maize =1; Otherwise=0)

Z_{12}=Off-farm income (₦)

Z_{13}=Amount of loan outstanding (₦)

β=Parameter Estimated

e_i=Error term

The analysis was done for cassava and maize cooperative women farmers separately.

Effect of accessed cooperative loans on women farmers' food crop output level

The effect of credit facilities accessed by women farmers on food crop output level was determined by using Pearson Product Moment co-efficient correlation(r) , which according to Lucey (1988), is expressed below: r

$$= \frac{n\sum xy - \sum x \sum y}{\sqrt{n\sum x^2 - (x)^2}\sqrt{n\sum y^2 - (\sum y)^2}}$$

Here, 'r' provides a measure of the strength of association between variables Yi and Xi where Yi represents the food crop output level, and Xi represents the volume of accessed co-operative loan facilities.

3. RESULTS AND DISCUSSION

This chapter presents the analysis, interpretation and discussion of the findings in line with the stated objectives of the study. The first section presents the socio- economic characteristics of the women's farmers such as, age distribution, levels of formal educational attainment, and so on, all according to loan received. This is followed by the description of the ways the women co-operators use their accessed loan facilities. Then the determinants of co-operative women farmers' access to loan facilities and the relationship that existed between the cooperative loan facilities and the women farmers' food crop output levels.

Age Distribution of Cooperative Women Farmers

The age of co-operative women farmers is an important socio- economic variable that determined the performance of the respondents in their farming activity. Table 2 presents the distribution of the respondents by age.

Table 2: Age Distribution of Co-operative Women farmers in both Ona-Ara and Egbeda Local Government Areas, Oyo-State, Nigeria

AGE OF RESPONDENTS	FREQUENCY	PERCENTAGES	MEAN
Below 30	10	9.4	
31-40	95	80.2	25.0
41-50	9	4.7	
51-60	2	1.9	
Above 60	4	3.8	
Total	120	100%	

Source: Field survey, 2021

Table 2 shows that (9.4 percent) of the respondents are less than 30 years of age, (80.2 percent) falls within 31-40 years of age, (4.7 percent) falls within 41-50 years of age; (1.9 percent) falls within 51-60 years of age, while

(3.8 percent) were 60 years and above. The women farmers that are very active, agile and productive are within 31-40 years of age with the mean value of 25.0.It it thus expected that younger farmers could have more access to co-operative loans as their societies may consider them more credit worthy and dependable than the older members.

Marital Status of the Cooperative Women Farmers

Some of the cooperative women farmers were married while others were single. Table 4.1.2 presents distribution of the women farmers by their marital status.

Table 3: Distribution of cooperative women farmers by their marital status

Marital status	Frequency	Percentages
Single	17	12.3
Married	103	87.7
Total	120	100 %

Source: Field survey, 2021

About 12.3 per cent of the cooperative women farmers were single while majority (87.7 percent) of them were married. Married farmers were more likely able to bring forth increased family labour which could help higher farm output levels. This might be a good condition for increased access to loan facilities by women farmers.

Distribution of the Cooperative Women Farmers by their Educational Attainment

Some of the cooperative women farmers in both Ona-Ara and Egbeda Local Governments Areas are educated while some were not. The higher the level of education among the women farmers, the better their access to co-operative loan facilities. Educated farmers are more likely able to utilize accessed loans more judiciously than their illiterate counterparts.

Table 4: Distribution of the women farmers by their educational status

Educational attainment	Frequency	Percentages
No formal education	7	4.7
Primary education	8	7.5
Secondary education	94	86.9
Tertiary education	11	0.9
Total	120	100%

Source: Field survey, 2021.

Here, 4.7 per cent of the cooperative women farmers had no formal education, 7.5 per cent had primary education, 86.9 per cent had secondary education. It is therefore evident that the majority of the cooperative women farmers had secondary education and this in turn can improve their performance in the production of food crop output.

Farming Experience of the Co-operative Women Farmers

Farming experience often determines the ways and manners farmers are able to deploy farm resources in their production processes. Details of the farmers' years of farming experience are given in Table 5 below.

Table 5: Distribution of co-operative women farmers by their years of farming experience

Farm Experience	Frequency	Percentages	Mean
5-10 years	96	90.6	5.6
11-15 years	15	4.7	
16-20 years	6	3.8	
Above 20 years	3	0.9	
Total	120	100%	

Source: Field survey, 2021

The majority (90.6 percent) of the co-operative women farmers had 5-10 years active working experience with the average years of farming experience is 5.6 years while some (4.7 per cent) had 11-15 years. Generally, co-operative societies had more confidence in experienced members of their societies who they believe will be able to judiciously use the loan facilities that are advanced to them.

Distribution of Co-operative Women Farmers by Household Size

Household sizes often determine the level of access to family labour for farming operations especially in traditional and subsistence agriculture. Large farming households normally incur less labour costs as they often

make use of cheap family labour in their operations as against relatively more expensive and often scarce hired labour.

Table 6: Distribution of Co-operative Women Farmers by Household Size

Variables	Frequency	Percentages	Mean
1-5	27	23.6	4.5
6-10	85	70.9	
11-above	11	8.5	
Total	120	100%	

Source: Field survey, 2021

This study indicated that 23.6 per cent of the co-operative women farmers had 1-5 members while 70.9 per cent had 6-10 members and the average farming household in the study area had about 5 members. However, as household size gets larger, the probability of obtaining loan increases as output requirement tends to increase with the number of individuals in the household. In other words, large size households are more likely to have good output than small- sized households.

Distribution of the Cooperative Women Farmers by their Religions

Respondents in the study areas had different religions and it is important to know if these affected the performance of the cooperative women farmers. Quite often, the religion of the farmers often determined the time of request for loan facilities from the co-operative societies and use of such loans when finally granted to them. Detail of the distribution of the farmers according to their types of religion is given in Table 7 below.

Table 7: Distribution of the Cooperative Women Farmers by their Religions

RELIGION	FREQUENCY	PERCENTAGE
Christianity	87	72.6
Islam	24	20.8
Traditional	9	6.6
Total	120	100%

Source: Field survey, 2021

About 73 per cent of the co-operative women farmers were Christians, (20.8 percent) were Muslims, while 6.6 per cent were traditionalists. This shows that the majority of the cooperative women farmers were Christians at the period of carrying out the research. Access to loan facilities is often determined by the religions of the co-operative society members as food crop production/harvesting is often targeted at festive times when bigger profits are likely going to be realized by the farmers.

Loan Uses By Co-operative Women Farmers

The purpose for which loan is obtained however affects its utilization. Inadequate market infrastructures such as market stands, storage facilities and production equipment and materials are some of the numerous challenges facing the development of food production in rural areas. Therefore, the use of accessed loan facilities is often determined by these and other challenges facing women co-operators. In this study therefore, the various ways by which the farmers used the accessed loan facilities were discussed (Table 8).

Table 8: Distribution of the Cooperative Women Farmers by Loan Uses

Loan Uses	Frequency	Percentages
Food crop production only	97	18.03
Food crop production, paying children school fees	104	19.6
Food crop production, liquidating previous debts	106	20.0
Food crop production, house hold consumption	116	21.8
Food crop production, social ceremonies (e.g. chieftaincy and naming ceremonies)	108	20.3
Total		100%

Source: Field survey, 2021

The majority (18.3 percent) of the loan were used for food crop production only, while 19.6 per cent was used for food crop production and payment of children school fees. Again, 20.0 per cent was used for food crop production and liquidating previous debts while 21.8 per cent was used for food crop production and household consumption. This shows that the women farmers used their accessed loan facilities in different ways depending on individual needs and challenges. Again, it is clear that major of these farmers used the loan facilities to settle

many other obligations and commitments other than the primary purpose for which the loans were requested, which is food crop production. These instances, if not properly monitored and checked could lead to loan diversion and its attendant problems such as loan defaults and low repayment cases.

Women Farmers and Access to Co-operative Loans

The cooperative women farmers use credit facilities for various agricultural operations. It is therefore, necessary to know the factors that determine the level of access of cooperative women farmers to loan facilities. The level of access to loans varies from one individual farmer to another. It also varied according to the intended food crop to be produced (maize or cassava) and the associated expenses.

Table 9: Logit Model Explaining the Determinants of Access to Cooperative Loans

Variable	Parameter	Co-efficient	Standard Error	T-value
Constant	β_0	0.7372	0.7263	1.0150
Age (Year)	Z_1	-0.6039***	0.1190	5.0748
Level of Education (Years)	Z_2	0.1249	0.9957	0.1254
Farm Size (hectare)	Z_3	-0.5048	0.3150	1.6025
Household Size (No)	Z_4	0.1093	0.5456	0.2003
Farming Experience (Yrs)	Z_5	0.6309***	0.1841	3.4269
Hired Labour (man day)	Z_6	0.7711***	0.1488	5.1821
Marital Status (1,0)	Z_7	-0.1895*	0.1124	1.6859
No of loan applications (No)	Z_8	0.1027	0.5473	0.1876
Monthly subscription level (₦)	Z_9	0.4260*	0.2385	1.7860
Farm income (₦)	Z_{10}	0.7082***	0.1229	5.7624
Crop Type (1,0)	Z_{11}	0.5176	0.5916	0.8749
Off- Farm Income (₦)	Z_{12}	0.2931	0.3566	0.8219
Amount of loan outstanding (₦)	Z_{13}	-0.7291**	0.3373	2.1616
Model Fit Test Chi-square value (X^2) = 336.07, P<0.01 (Significant at 1%), Log likelihood value = 20.025, F-Statistic = 0.0001*,** and *** signifies that the co-efficient is significant at 10%, 5% and 1% respectively.				

Source: Field survey, 2021

The logit regression model was used to examine the factors that determine women's access to Cooperative loan. It measured the parameters of the conditional probability of having access to the required level of funds and marginal changes in explanatory variable on the output. The regression parameters and diagnostic statistics were estimated using Maximum Likelihood Estimate (MLE) technique (Table 9).

Findings showed that the coefficients of age (Z_1), farming experience (Z_5),hired labour (Z6) and farm income (Z_{10}) were negatively significant at 1%; while only the amount of loan outstanding (Z_{13}) was significant at 5%. Marital status (Z_7) and monthly subscription (Z_9) were significant at 10 per cent level. This implies that the above variables were having a positive (or negative) impact on the level of access to cooperative loans by women farmers at different levels of significance and that the signs preceding the co-efficients of all the significant variables agreed with the *a priori* expectations. It should be noted that a positive sign on a parameter indicated that higher values of the variable tend to increase the likelihood of loan accessibility and impact on agricultural output of the women farmers. Similarly, a negative value of a co – efficient implied that higher values of variables would reduce the level of loan accessibility and effect of the agricultural output. Specifically,the level of accessibility to loan and agricultural output was highest for hired labour (in man day) of the cooperative members and least for number of applications received from members. This implies that increasing the number of hired labour by cooperative members will lead to increased farm output and income invariably increase loan accessibility. Thus, the number of hired labour on the farm is the strongest determinant of women farmers' access to loan facilities in the study area. This has a direct bearing on policy formulaton that hired labour by cooperative members is considered an important condition to access cooperative loans.This further stresses the need for farm labour which is fast becoming a scarce and expensive resource in modern day subsistence farming especially among women farmers. This position corroborates the earlier position of Adegeye and Dittoh,(1985) and Olayide and Heady (1982) who observed that hired labour is fasting disappearing in subsistence farming activities as the rural farming population is now being replaced with aged farmers while the youths are leaving the rural areas for the urban centres in search of better life opportunities.

Cooperative Loans and Food Crop Output

Loan facilities are essential ingredients especially in subsistence food crop production activities in rural Nigeria. Women farmers rarely are able to provide the required collateral securities often demanded by the formal sources of loans such as commercial banks,finance houses and government agencies. Hence they often result to informal credit sources such as co-operative societies as alternatives because of the fairly subtle conditions and rather friendly repayment patterns (Akanni,1997;Akinwumi,1988).It has again been noted that there is a strong relationship between the volume of accessed co-operative loans and the level of food crop output. Generally, the quantity of food crop output of the women farmers is expected to increase with the level of access of these farmers to cooperative loan facilities (Hussein and Olhmer 2008; Eswaran and Kotwal 1990). In this study therefore, the researcher investigated the relationship that existed between the level of women farmers' access to cooperative loan facilities and their level of food crop output using Pearson Product Moment Correlation Co-efficient (PPMCC) model. The result of the analysis indicated a correlation co-efficient of 0.268. This implies that there was a positive correlation between the level of cooperative loan access by the women farmers and their levels of food crop output in the study area. In other words, about 27% of food crop output of the women farmers was explained by the level of access of the women farmers to cooperative loan facilities, and that the balance of about 73% may have been caused by factors/variables that were not captured in the model. To increase the quantity of food crop output of the women farmers therefore, there is the need to increase the level of access of these farmers to loan facilities. Again, the conditions surrounding granting of such loans should be affordable by the farmers and the loans should be made available in appropriate time and volume.

4. CONCLUSION AND RECOMMENDATIONS

This study has thoroughly investigated the participation of women co-operative members in food crop production in Ona-Ara and Egbeda local government areas of Oyo state, Nigeria. Particular emphasis was placed on maize and cassava farmers and their level of access to loan facilities. The various uses of the accessed loans and the relationship that existed between food crop output and accessed loans was also investigated. Several methods of analysis were used for the data and summary, conclusion and recommendations based on the findings of the study are presented in the following sub-sections. From the result of the analysis of the respondents' personal characteristics indicated that the majority (80.2%) of the womens' farmers were between the age brackets of 31 – 40 years and that the mean age was 25 years. This implied that most of the co-operative women farmers in the study area were young and agile. This may help in farm production output and therefore their ability to access and utilize loans appropriately.

Again, about 5 per cent of the cooperative women farmers had no formal education, 7.5 per cent had primary education, while 86.9 per cent had secondary education. The average farming experience of the farmers was 5.6 years while the average household size was 4.5 years. In addition, the women farmers were largely (72.6 per cent) Christians and most of these farmers use the accessed loan facilities for other secondary purposes such as payment of children's tuition fees, household consumption and liquidating previous debts. This development often leads to cases of loan default and poor repayment regime among the women farmers. The age, farming experience and the number of hired labour were some of the significant parameters that determined the level of access to co-operative loan facilities by women farmers. The result of the Pearson Product Moment Correlation estimation indicated that about 27 per cent of the quantity of food crop output of the women farmers was explained by their level of access to co-operative loan facilities.

Women have been confirmed as major stakeholders in food crop production in Ona-Ara and Egbeda local government areas of Oyo State, Nigeria. But several studies (Adegeye and Dittoh, 1985;Olayide and Heady,1982) confirmed the Nigerian women had limited access to land resource because they often do not have collateral security that could be acceptable in their names. Hence, many of these farmers resulted to accessing and mobilizing co-operative loan facilities for farming operations because of the relatively subtle conditions that are often attached .Women farmers' access to co-operative loans need to improve if the contribution of women co-operative farmers must be enhanced in the study area.

The co-efficient of the age of the farmers was found to be negative and significant in relation to the level of accessed loan facilities. It could therefore be recommended that younger farmers need to be more favoured in loan application processes as these young individuals are expected to be stronger and more hardworking and committed to the ideals of co-operatives and the use of accessed loans.

It was observed in the study that apart from food crop production, the women farmers again used co-operative loan facilities that were advanced to them for some other secondary things such as payment of

children's school fees, social ceremonies, liquidating previous debts and household consumption. This development could lead to poor loan repayment and even outright default cases. It is therefore recommended that proper monitoring and evaluation programmes be put in place by the co-operative societies to ensure proper supervision of the loans granted their members. This effort will limit the incidence of loan diversion and misappropriation among co-operative women farmers.

There is a positive relationship between loan access and food crop output of the women farmers. To increase the level of participation and the fortunes of the women farmers in food crop production it is recommended that a conducive and enabling environment in terms of government support programmes through the provision of loan facilities and evaluation and monitoring duties at affordable costs.

REFERENCES

[1] Adegeye, A. J. & Dittoh, J. S. (1985). Essentials of Agricultural Economics, Impact Publishers Economics Nigeria, Limited, Ibadan pp. 164 - 166

[2] Adeyeye, A. (2003). Impact of cooperative based NGOs on rural poverty: A Case study of farmers development union (FADU) in Osun state, Nigeria. FGN/ECC – Middle Belt Programme. Osun.

[3] Agrawal, B. (1994). A Field of One's Own: Gender and Land Rights in SouthAsia. Cambridge University Press.

[4] Akanni, K. A (1997). The impact of cooperate credit on capital formation and utilization in oyo-state, unpublished M. sc. Dissertation Department of Agric Economics University of Ibadan, Nigeria.

[5] Akinade, A. O. (2002). Poverty, malnutrition and public health dilemma, Graduate School interdisciplinary research discourse 2002 Ibadan. University of Ibadan.

[6] Akinwumi, J. A (1988). Business management for cooperative students and practising managers, department of Agric Economics, University of Ibadan, Nigeria.

[7] Barry, M. & Robbinson, H., (2001). Micro insurance that works for women: Making gender sensitive microinsurance programs. Cambridge University Press.

[8] Boucher, S. C, Buirkinger, B, & C Triveli, (2006). Direct Elicitation of Credit constraints: Conceptual and practical Issues with and empirical application to Peruvian agriculture. Working paper 07-004, Department of Agricultural and resources Economics, university of California, Davis.

[9] Braeselie, A. F, Gaspart, & J. P Platteau. (2001). Land Tenure/Security and Investment Incentives: Further Puzzling Evidence from Burkina Faso. *Journal of Development Economics* 67: 373-418.

[10] Carter, M. & Olinto, P. (2003). Getting institutions Right for Whom? Credit. New York; Random Publishing House.

[11] Deree, C. & Leon, M. (1997). Women and Land Rights in the Latin American. Cambride, Mass. M. I. T Press.

[12] Diagne, A & Zeller, M. (2001). Access to Credit and its impact in Welfare inMalawi. Research Report 116, IFPRI, Washington DC.

[13] Dicken, T. & Fadayomi, O. (2000): Rural development and migration in Nigeria: Impact of eastern zone of bauchi state agricultural development project, Nigeria institute of social and economic research Ibadan, Nigeria (2007)

[14] Dorman K. & Koop, M. (2005). Formulation and estimation of stochastic frontier Production function models: Douglas Production, functions with composed Error. International Economics Review 18 (2) 44.

[15] Eswaran, A. O & Kotwal, M. J. (1990). Access to Agricultural Credit Facilities: "Reference Group Effects and Women's Demand for Entrepreneurial Capital. Journal of Socio-economics 37(2): 672-(693).

[16] Hussein, M. & Olhmer, K. (2008). Farm size and the determinants of productive efficiency in the Brazilian centre west. Prentice-Hall, Englewood Cliffs.

[17] Igbal, K. (1996). Importance of credit facilities "A Micro Econometric Analysis of Credit Rationing in the Polish Farm Sector' European Review of Agricultural Economics 31: 23-47.

[18] Lawal, J. & Muyiwa, A. (2009). Food security and socioeconomic characteristics of cocoa farming households in Nigeria: support through agriculture biotechnology. Proceedings of the 2nd internatkional e-conference on agricultural biosciences.

[19] Olayide S. O and Heady E. O. (1982). Introduction to Agricultural production

Economics, Ibadan University Press, University of Ibadan, Nigeria.

[20] Omonona, B. T & Oni, O. A (2008). Qualitative exploration of intra-household variations in treatment of child illness in polygamous Yoruba families: the use of local expression.

[21] Patrick, M. (2004). A Micro econometric Analysis of Credit Rationing in the Polish Farm Sector. European Review of Agricultural Economics, 33: 23-47.

[22] Serageidir K., Saito H., Mekonnen, D. & Purling, S. (1996). Raising the productivity of women farmers in sub-saharan Africa. World bank discussion paper no 230. Washington, D. C.: World Bank.

[23] Von pischike, A. & Adams, S. (1980). Can credit improve the livehoods of resources-poor rural households in Ethiopia? Department of food business and development, Galway, Ireland, National University of Ireland.