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Impact of cooperative loan on food crop production in Yewa division of Ogun state, Nigeria

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Abstract
The study examines the impact of cooperative loan on food crop production in Yewa Division of Ogun State, Nigeria. This stage involves the random selection of twenty farmers in each of the six communities making a total of 120 respondents. Both primary and secondary data were used for the study. Descriptive and inferential statistics were also used to analyze the data collected. The result of the descriptive analysis reported that majority of the farmers were married having age group between 40-49 years About 41.7% had secondary education with household size below 5 members. The major constraint confronting the farmers is lack of access to credit which responsible for their inability to provide needed capital for production. The Ordinary Least Square (OLS) result revealed that age, farming experience and credit size were variables affecting productivity of the farmers having adjusted variability R-square of 69%. Credits enhance farmer's production, which was reflected in their high farm output. It is, therefore, recommended that farmers needs to be encouraged to join saving and credit self-help groups facilitate easy access to credit and also educate the farmers on loan utilization in order to improve their accessibility and profitable of credit use.

Keywords: cooperative, loan, production, profitability, capital

Introduction

There have always been instances in the history of human society where individuals have come together to achieve certain aims in cooperation with others. In most liberal societies, this has been a common feature. However, these common efforts were usually directed at fulfilling a certain temporary need organized cooperative business ventures of a more permanent character were comparatively rare, though some examples can be found throughout history in middle ages as well as in classical time, Emereole (1995) [7]. In the report of Mr. C. F. Strickland on introduction of modern cooperative into Nigeria during the colonial period, he said Nigeria is good ground for the introduction of cooperatives. As a result of this report, many types of cooperative societies started emerging in the country. This was followed by the spread of cooperative ideas as practiced in India. Strickland (1920). Osuntogun and Oludimu (1982) [12] also described cooperative as a group of people who voluntarily agreed to form cooperative. That is to put their resources together and to work together towards the achievement of a common economic and social goal in a joint financially and variable enterprises.

Cooperative credit enhances productivity and promotes standard of living by breaking the vicious cycle of poverty of small-scale farmers, Adegeye and Ditto (1985) [1]. The first cooperatives in Nigeria were organized for cocoa farmers in western Nigeria in the 1920's by the Department of Agriculture. There were primarily thrift and loan institutions designed to protect the farmers from exploitation by money lenders during the difficult days of the world slump in agricultural export crops markets. Developments in the east were also associated with cocoa and palm produce marketing. In Nigeria where the local government had taken the initiative in proving credit for farmers, the administrative saw no pressing need for cooperative.

The government realizing the importance of agriculture took certain measure to improve the sector different schemes and programmed according to the Central Bank of Nigeria annual report of several years (1986 - 1998), the Cooperative Agricultural Credit Guarantee Scheme (ACGS) described as scheme set by the government to increase allocation to credit to agricultural sector of economic and the commercial bank were the institution chosen for this operations.

It is being noted however, that institutions have reluctant to disburse loan to agricultural sector despite the attempt made by the government to hasten the pace of agricultural development through the provision of credit in the view of Akerele (2003) [3]. The reason why credit institutions have little or no relief to the farmers might not be unconnected with the problems of seasonality of agricultural products, its nature of perishability and bulkiness, reliance on weather.

According to previous studies review of policies position on credit institutions in different countries, the potential conflict between protecting the equality of the owner of loan able fund and the goal of the small-scale farmers program was highlighted as one of the factors resulting in one area without sacrificing one goal for another.

In discussion on role of commercial banks in agricultural

funding, it has been suggested that more agricultural credit officers should be recruited to monitor the effective use of loan by beneficiaries. In order to boost food production and increase level of income, agricultural loan should be given preference under the banks allocation of credits to different sectors. It was also viewed for example that agricultural credit has not been able to boost food production and improve standard of living of the farmers in the past years due to improper evaluation of project by banks, thereby creating a situation in which agricultural funds became inadequate for project.

Aihonsu (1998) [2] found out that factors that affect repayment of bank loan by beneficiaries include volume of loan obtained, moratorium and repayment periods granted. Others include the use of loan and the loan (cash or kind) in which it was granted, personal characteristics of the borrowers, percept of the loan as well as recoverable drive by the bank official distributed substantially by the state of loan repayment or default. It was discovered that large loan given in form of cash for projects that require long repayment periods are more prone to default.

In Nigeria agrarian-base community is made up of some poor ruralite and general poverty ridden farming production (Olawoye 2002) [11] Thus the higher a famer's social status, the better his adoption behavior tends to be when compared with other farmers. It has been observed that rural famers do not have enough to eat and poverty is prominent with them. consequently, savings have become an unaffordable luxury and over 60% of Nigeria farmers live below poverty line [Okunmadewa 2003] [10] Government initiated different policy measures for extending financial assistance to small-scale famer though a farm credit Scheme at low interest rates. Some of the credit institutions established are the Agricultural Credit Guarantee Scheme, Nigeria Agricultural Insurance Scheme, Rural Banking Scheme, Agricultural Credit Corporation and Cooperative Thrift Credit Society Cooperative credit have positive impact on food production improvement in facilitating economic transaction managing day –to-day resources, accessing service that improve quality of life.

A basic feature of crop production, as practised in Nigeria, is the predominance of smallholder farmers. A typical farmer usually cultivates an area of land that varies consistently from 1.5 to 2.0 hectares in fragmented and scattered smallholdings (Nwaru, 1993) [8]. These smallholder farmers, although individually look insignificant, collectively form an important foundation upon which the Nigerian agricultural economy rests. This category of farmers is desirable not only because they provide employment, but also because they provide a more equitable distribution of income as well as an effective demand structure for other sectors of the economy (Dorner, 1975; Bravo-Uretta and Evenson, 1994) [6, 4]. There is considerable agreement with the notion that an effective economic development strategy depends critically on promoting productivity and output growth in the agricultural sector, particularly amongst small-scale farmers (Bravo-Uretta and Pinheiro, 1997)

Access to credit is a crucial factor in the agricultural sector. Agricultural producers rely on credit facilities to raise the capital required to initiate and sustain production activities. Here farmers tend to concentrate on the production of food crop for home consumption and to market any surpluses. the principal food crop is maize but other crop such as groundnuts, dry beans sorghum, pumpkins, jugo beans, soya beans and sweet potatoes are being produced. Smallholder farmers tend to use labour-intensive production technologies, thus employing relatively less capital and have relatively low level of output per unit area.

Objectives of the Study

The broad objectives of the study are to examine impact of cooperatives loans on food crops production in Yewa Division, Ogun State, Nigeria. The specific objectives are to identify the sources of farm credit for food crop production and examine the effect of credit on farmers production.

Methodology

Study Area and Data Collection Methods

The study area for this research work is Yewa Division of Ogun State. Ogun State, Nigeria consists of four divisions. These include, Yewa, Ijebu, Remo and Egba Divisions. Yewa North Local Government Area formerly known as Egbado North Local Government Area. It came into existence through a Local Government edict No. 9 of 13th December, 1976. It covers a land mass area of 2043. 60sq. kilometre with a population of 228, 970 has on the 1991 population census figure, the estimated population of the local government area in 2009 is 277,474 using 2.7590 growth rate (NPC, 2006)

To achieve the objectives of this study, primary and secondary data were used for this study, Primary data were obtained through a formal survey that involved the use of structured questionnaire which was administered on the farmers in six communities, that is, Sawonjo, Igbogila, Saala Orile, Imasayi, Iboro and Igan Okoto. Data were collected on socio economic characteristics of the respondents, household income and expenditure. While secondary data were obtained from various publications relevant to the study such as journals, statistical reports and bulletins.

Sampling Techniques

Multistage random sampling technique was used in selecting the respondents for this study. The first stage involved the random selection of six communities. The second stage involved the random selection of twenty farmers in each of the six communities making a total of 120 respondents because of large volume of cooperative farmers that had access to credit facilities and obtained loan during last production season.

Methods of Data Analysis

Descriptive statistical analysis was used to analyze the operational activities of the cooperative society which involve the construction of frequency and percentage tables. Also the utilization of loans given to members and the evaluation of the performance of the cooperative societies was analyzed using descriptive statistical analysis. While, inferential statistics such as multiple regressions was used to examine the effect of cooperative loan on farmers' production.

Model Specifications

The following is the implicit form of multiple regressions used for the study.

$Y = \beta_o + \beta_i X_i + U$
$Y = F (X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, U)$
Where: Y = Value of output (naira)
β_o= Constant (intercept)
β_i = Coefficient of X_i
X_i = Independent variables
U = Error term
Y= Amount of loan repaid (₦) or (%)
X_1= Borrower age (years)
X_2= Size of credit (₦)
X_3= Educational level (years)
X_4= Farm size (hectare)
X_5= Household size (number of persons)
X_6= Hired labour (manday)
X_7= Annual Income (naira)
U= Error term

Four function forms of multiple regressions are specified in the following model and are tried to know the effect of cooperative credit on farmers' production. The explicit forms are stated as:

Linear form, the lead equation becomes:
$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 +----------+ b_7X_7 + U$

Semi-logarithmic form
$Y = Inb_o + b_1InX_1 + b_2InX_2 + b_3InX_3 + ----------+ b_7InX_7 + U$

Exponential form
$InY = b_0 + b_1X_1 + b_2X_2 + b_3X_3 +----------+ b_7X_7 + U$

Double logarithmic form
$InY = Inb_0 + b_1InX_1 + b_2InX_2 + b_3InX_3 + ----------+ b_7InX_7 + U$
Where: In= natural logarithms, while b_0, b1----------b_7 are coefficients to be estimated.

Results and Discussion

Table 1: Socio-Economic Characteristics of the Respondents

Variables	Frequency	Percentage
Age (years)		
Below 30	4	3.3
30 - 39	15	12.5
40 - 49	35	29.2
50 - 59	31	25.8
60 years and above	35	29.2
Household Size		
Below 5 members	67	55.8
5 - 10 members	48	40.0
Above 10 members	5	4.2
Occupation		
Farming	64	53.3
Trading	50	41.7
Artisan	4	3.3
Civil servant	2	1.7
Religion		
Christian	58	48.3
Muslim	62	51.7
Marital Status		
Single	5	4.2
Married	113	94.2
Divorce	1	0.8
Widowed	1	0.8
Educational Level		
Primary Education	38	31.7
Secondary education	50	41.7
Tertiary education	13	10.8
No formal education	19	15.8
Farming Experience		
Below 5 years	32	26.7
5-10 years	37	30.8
Above 10 years	51	42.5
Mode of Land Acquisition		
Inherited	44	36.7
Gift	25	20.8
Family land	36	30.0
Rent	9	7.5
Purchase	6	5.0

Sources of Loan		
Cooperative	23	19.2
Personal saving	92	76.7
Grants	2	1.7
Friends or relatives	2	1.7
Bank	1	0.8
Uses of Loan		
Farming purpose	109	90.8
Purchase of vehicle	4	3.3
Paying of children school fees	6	5.0
Liquidating previous debts	1	0.8
Mode of Payment		
Installment	115	95.8
Full payment	5	4.2
Loan Duration		
Below 6 months	116	96.7
6-12 months	4	3.3
Reasons for Loan Collection		
Ease of availability of land	15	12.5
Need to increase income	18	15.0
Ease to obtain loan	4	3.3
Increase in family living expenses	83	69.2
Farming Practices		
Improved seeds	18	15.0
Application of fertilizers	18	15.0
Use of tractor for land preparation	6	5.0
Farmer recommended spacing	78	65.0
Food Crop grown		
Cassava	9	7.5
Yam	18	15.0
Plantain	18	15.0
Vegetable	9	7.5
Maize and cassava	66	55.0
Problems Encountered		
High interest rate	15	12.5
Inability to provide for capital	69	57.5
Difficulties and protocols involved in obtaining loan	7	5.8
Untimely disbursement of loan	18	15.0
Lenders harsh measure of loan recovery	11	9.2
Total	120	100

***Source*:** Field Survey, 2014

From the findings revealed that the age of the respondents is an important factor that affects their level of participation and overall coping ability in local institution. Age is also believed to influence the level of physical work and the willingness to take risk. Table 1 showed the age distribution of respondents according to the effect of credit in the study area. Majority of the respondents (55.0%) were between the age group of 30 – 60 years; this implies that majority of the respondents are still in their active age. This age group is likely to take more risk in obtaining loan to enhance their farm output. The total household size consists of husband, wife/wives, children and dependents. It consists of the people who feed from the same pot. Majority of the respondents (55.8%) have their household size falling below 5 members; this implies that the farmers utilize their household members as family labour so as to reduce labour cost for their production. The smaller farming household will utilize the loan facilities much more effectively for production activity than large farming households.

The respondents engaged in various forms of economic activities to earn and sustain their living. The main occupation of the respondents is Agriculture while some combine both farming and trading together. This might be because of the low level of education of the respondents and the profit derived from it. Majority of the respondents (53.3%) are engaged in farming, this implies that the respondents still tend to engage themselves in other forms of occupation since farming would give more time and room to carry out other intended activities at hand. The marital status of respondents helps to reduce labor cost especially when the respondents are married in which they can supply labour from their household. This in turn increases their income considerably. Majority of the respondents (94.2%) were married; this implies that majority of the respondents were married and have family responsibility which will make them to opt for financial assistance to enhance the level of their production.

Education is an important factor in the recognition and utilization of investment opportunities. The study revealed that most of the respondents are found to have some form of formal education. Only 15.8% had no formal education; this implies that, education is a one of the criteria use by the

respondents before embarking on production and this tends to help the farmers as regarding new innovation. The farming experience of a farmer can be useful guide in the use of inputs and taking farm management decision. About 42.5% of the respondents had experience in farming above 10 years; this implies that the more the respondent continues with farming, the better the experience gathered.

The finding also revealed that 36.7% acquired their farmland; this implies that anyone who wants to go into farming are encouraged with land to use and this also reduces the cost to be incurred on land by the farmers. Majority of the respondents (76.7%) have source of finance as personal savings and others from money lenders, cooperatives and banks. This implies that the needed capital and other money could be source internally, that is savings or borrowings with little charges as interest. The table showed that (90.8%) of the respondents used their loan for farming purpose. Hence, most farmers use their loans in improving their standard of living while a few divert their loans in the area, which affected their repayment level and delay to meet up with the stipulated date and invariably hindered others from borrowing.

Majority of the farmers (55%) planted both maize and cassava, while others planted vegetables, yams and plantain; this implies that mixed cropping has a great effect on productivity and as well as on their income. The major constraints facing the farmers as regards their production is inability or access production and other various constraints encountered are high interest rate, untimely disbursement of loan and lenders harsh measure of loan recovery. This implies that capital is very important to farmers to attain maximum production level and increase farm output and income.

Distribution of respondents based on usage of credit obtained

Data in Table 2 revealed that N5,138.33 of the credit obtained was used for buying fertilizers, N2,864.17 was used for buying seeds, N4,789.17 was used for acquiring tools and equipments, N4,376.67 was used for hiring tractors and N17,922.50 was used for hiring labour, this implies that hired labours takes much from credit obtained. Farmers must make effort to reduce the labour cost by using more self-labour and family labour.

Table 2: Usage of Credit

Variables	Minimum	Mean	Maximum
Buying fertilizers	0	5,138.33	100,000
Buying seeds	0	2,864.17	50,000
Acquisition of tools and equipment	0	4,789.17	200,000
Hiring tractors	0	4,376.67	50,000
Hiring labour	0	17,922.50	100,000

***Source*:** Field Survey, 2014

Effects of Credit on Farmers Production

Based on statistical and economic consideration, the linear functional form was chosen as the lead function. The adjusted R^2 is 0.690 (69%) which explains the variability level of the regression result, this implies that the explanatory variables explained 69% of the variation that occurred in the dependent variable (value of production). The F-value of the regression result is 1.928 and it is significant at 10% level of significance. This implies that the variables selected have a good fit for the model and are significantly influenced the farm output.

The finding revealed that the coefficient of age, size of credit, educational level, farm size and annual income are positive and statistically significant at 1% and 5%. A unit increase in these variables will income farm output in the same proportion. While household size and hired labour coefficient is negative and statistically significant at 1% indicating that there is over utilization on farm labour and farmers must ensure they reduce excess use of labour on farm but consider maximum use of other factors of production.

Table 3: Multiple Regression Analysis showing Effects of Credit on Farmers' Output

Variables	Parameter	Linear	Semi-log	Exponential	Double-log
Constant	β_o	210.026* (4.239)	-201.136** (-0.419)	5.460* (9.355)	-2.370 (-0.209)
Borrowers' Age	X_1	0.375* (1.110)	63.406 (0.780)	-0.0011 (-0.265)	1.167 (0.607)
Size of Credit	X_2	6.024 (0.812)	-24.309 (-0.387)	-0.0071 (-0.082)	0.047 (0.032)
Educational Level	X_3	0.0010** (1.102)	5.229 (0.207)	-0.0001 (-1.083)	0.064 (0.107)
Farm Size	X_4	0.0002* (3.353)	-2.940 (-0.131)	0.0001* (2.128)	0.078 (0.147)
Household Size	X_5	-5.036** (-2.187)	15.302 (0.502)	-0.0332 (-1.223)	0.291 (0.404)
Hired Labour Annual Income	$X_6 X_7$	-83.306** (-2.654) 0.267 (0.034)	46.856 (0.331) -21.310 (-0.547)	-1.155** (-3.123) 0.0746 (0.805)	-0.190 (0.086) 0.079 (0.086)
R^2 Adjusted R^2 F-statistic		0.144 0.690 1.928	0.304 0.1318 0.188	0.108 0.310 1.394	0.260 0.1467 0.151

***Source*:** Field Survey, 2014

*Note: Figures in parenthesis are T-ratios, * significant at 1%, ** significant at 5% and *** significant at 10%.*

Conclusion

Credits enhance farmer's production, which was reflected in their high farm output. In spite of several constraints to credit use experienced by some farmers, the loan provided appear to be sufficient to meet their farming operations which is evident in their increased farm output but in sufficient for consumption and other pressing needs. Successful management of agricultural credit programme for small-holder farmers depends, to a large extent, on sound knowledge of socio-economic characteristics of the farmers and their Production situation or background. These factors pose three major tasks for the credit administrators namely, how to:

1. ensure continuous patronage from farmers;
2. guide against mis-use of credit;
3. Ensure prompt and full repayment of credit.

Patronage can be enlisted through loan education to focus on credit acquisition, utilization and repayment and removal of

unnecessary and harassment associated with credit disbursement and recovery

Recommendations

Based on the findings of this study, it is recommended that;

a. More researches should be conducted in the area of micro-credit schemes as a way to generate poverty alleviation measures to farmer.
b. Prompt and timely disbursement of agricultural credit by loan agencies will enhance profitable use of loans.
c. Farmers needs to be encouraged to join saving and credit self-help groups facilitate easier access to credit.
d. Farmers should be educated no loan utilization in order to improve accessibility and profitability of credit use.
e. Credit disbursement to farmers should be in three phases namely: during land preparation and harvesting periods to prevent diversion to other uses.

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