EFFECT OF COMMERCIAL AGRICULTURE CREDIT SCHEME ON BENEFICIARY FARMERS' INCOME IN KWARA STATE, NIGERIA

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ABSTRACT

This study examined the impact of Commercial Agriculture Credit Scheme (CACS) on farm households' income in Kwara State, Nigeria. The study stemmed from the need to boost agricultural production in Nigeria through adequate finance. Primary data obtained from 119 beneficiaries of the scheme were used for the study. Descriptive statistics and regression analysis were used for the analysis. The results showed that most of the beneficiaries were middle-aged (26 – 55years, mean = 41years), male (75.6%), married (97.5%), had formal education (91.6%) and mostly engaged in arable crop production and mixed farming. The study also showed that the educational level of the beneficiaries, amount of loan obtained and cooperative membership were positively related to the total revenue of the beneficiaries while age of the household head was inversely related to it. The major problems encountered in the scheme were untimely disbursement of loan and short repayment period. However, the study revealed that the scheme had a positive and significant effect on income of the beneficiaries. It is therefore recommended that timely disbursement of loan, giving the beneficiaries sufficient time before repayment, encouragement of young and educated prospective beneficiaries as well as involvement of the beneficiaries in cooperative societies would better enhance the impact of the scheme on the beneficiary farmers.

Keywords: Credit scheme, beneficiaries, farm household's income, factors

INTRODUCTION

The potential role of agriculture in the Nigerian economy cannot be understated. Agriculture currently contributes about 40% of the Nigerian gross domestic product (GDP) and employs about 70% of the active population (NBS, 2012, Olajide *et al.*, 2012). Agriculture serves as the source of raw material and market for other sectors of the economy (Okunmadewa, 2009). It also provides food for man, income for farmers and market for industrial goods. Nigeria has a great potential in agricultural production to expand out, increase productivity, become a net exporter and enhance food security. However, the promising agricultural potential of Nigeria has not been fully realized. This is due to many factors among which are low utilization of modern inputs by farmers, unavailability and inaccessibility of farmland as well as non-mechanized nature of the prevailing agricultural production system (Akpokodje and Olomola, 2000, Takeshima *et al.* 2013). The need to support farmers with financial resources by which they can obtain resources, therefore, becomes imperative.

Agricultural credit is a repayable loan either in cash or in kind given out by banks, individuals or other organizations in order to finance agricultural production. It has the ability to energize or motivate other factors of production; for instance it can make the latent potential or under-used agricultural capacities functional. Credit supply to farmers is an effective strategy for enhancing an increase in agricultural productivity. Credit can enable farmers to acquire more farmland, purchase improved and high yielding varieties of crops, hire more labour, among others (Phillip *et al.*, 2008; Mahmood *et al.*, 2009).

In order to boost agricultural production in Nigeria, successive governments at various periods put in place credit policies and established credit institutions and schemes that could facilitate the flow of agricultural credit to rural farmers. One of such programmes is the Commercial Agricultural Credit Scheme (CACS) established by the Federal Government of Nigeria (FGN) in collaboration with the Central Bank of Nigeria (CBN) in 2009 to provide finance for the country's agricultural value chain (production, processing, storage and marketing). According to CBN (2009), the primary objectives of the Scheme are to

- fast-track the development of the agricultural sector of the Nigerian economy by providing credit facilities to large-scale commercial farmers at a single digit interest rate;
- enhance national food security by increasing food supply and effecting lower agricultural

produce and products prices, thereby promoting low food inflation;

- reduce the cost of credit in agricultural production to enable farmers exploit the untapped potentials of the sector; and
- increase output, generate employment, diversify Nigeria's revenue base, raise the level of foreign exchange earnings and provide input for manufacturing and processing on a sustainable basis.

Since inception, however, there is a dearth of empirical studies on the impact of the scheme on the beneficiaries. It is necessary to reveal how agricultural production has fared through the programme and to suggest ways to improve on the scheme and similar ones. Similarly, it will be useful as a basis for recommending the most efficient and effective ways to provide financial support to farmers with a view to improving agricultural production and productivity of the farmers, considering the increasing demand for food, raw materials, shelter and employment by the ever-increasing population of Nigeria. Thus, the major objective of this study is to appraise the FGN/CBN Commercial Agriculture Credit Scheme in Kwara State, Nigeria. The specific objectives are to

(i) identify the socio-economic characteristics of the beneficiaries of the scheme;
(ii) identify the constraints to credit acquisition from the scheme; and
(iii) assess the impact of the scheme on the revenue of the beneficiaries.

METHODOLOGY

This study was carried out in Kwara State, Nigeria. The state lies between latitude $7^0 15'$E and $6^0 18'$ N of the equator and covers a land area of about 32,500km^2 (Kwara State Ministry of Information, 2002). The state shares local boundaries with Oyo, Osun, Ondo, Kogi, Ekiti, and Niger states and an international boundary with the Republic of Benin. The state is characterized by a humid tropical climate and it has two distinct seasons - the rainy and the dry seasons. The rainy season lasts between April and October and the dry season between November and March. The rainfall ranges between 50.8mm during the driest months to 2413.3mm in the wettest period. The mean annual rainfall is about 1500mm. The minimum average temperature throughout the state ranges between 21.1^0C and 25.0^0C while, maximum average temperature ranges from 30^0C to 35^0C. Agriculture is the mainstay of the state and the state is characterized by a great expanse of arable land and rich fertile soils. However, agricultural production in the state is largely peasant and small-scale, relying heavily on the use of manual labour equipped with crude implements, while fertilizers, mechanical implement, improved seeds and agrochemicals are also used to some extent (KWADP, 2006). The main food crops produced include maize, yam, cassava, groundnut and cowpea while the cash crops produced in the state include cocoa, oil palm, kola nut, coffee, cashew and rubber. Livestock is a minor component of agricultural system in the area. Animals found in the study area include cows, sheep, goats and chickens. They are held as a source of income and are also used to fulfill social and religious obligations.

The target population for this study consisted of the beneficiaries of FGN/CBN Commercial Agricultural Scheme in the study area. A two-stage sampling technique was used in selecting the respondents. The first stage involved making use of the list (record) obtained from the Scheme Secretariat to randomly select eight areas where the beneficiaries reside and proportionate-to-size technique was then used to select a total of 119 respondents across the areas. Structured interview schedule was used to obtain information on socio-economic characteristics of the respondents, amount of loan obtained and total revenue accrued from using the loan. Also, secondary data were sourced from the scheme on loan disbursement and repayment schedule.

Descriptive statistics and multiple regression analysis were the analytical tools used for the study. Descriptive analysis was used to describe the socio-economic characteristics of the respondents and analyse constraints to credit acquisition and repayment by the respondents. Regression analysis was used to assess the effects of FGN/CBN agricultural credit on the income of the beneficiaries. The multiple regression models is specified implicitly as:

$Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, £)$

Y =Total revenue (Naira)
X_1= Age (years)
X_2= Farming experience (years)
X_3= Household Size
X_4 =Education Level (years of formal education)
X_5=Amount of Loan (₦)
X_6=Membership of cooperative (dummy)
X_7= Type of Enterprise (Arable=1, Livestock=2, Mixed farming=3, Fishery=4)
X_8= Purpose of Loan (Production Purpose=1, Domestic Purpose=2, others=3)
£= error term.

Since economic theory does not indicate the precise mathematical form of the relationship among the variables, different functional forms of the above models including the linear, semi-logarithm, logarithm and exponential functions were fitted. However, the lead equation was chosen on the bases of economic, statistical as well as econometric

criteria (Gujarati and Sangeethe, 2007; Koutsoyiannis, 2003; Olayemi, 1998).

RESULTS AND DISCUSSION

Table 1 shows the relevant farm household characteristics of the respondents. The majority (75.6%) of the beneficiaries were male. This agrees with the finding of Olaleye (2000) that commercial farming is mostly carried out by males, while females involve in light farm operations such as processing, harvesting and marketing showing the dominance of the male gender in agricultural production.

The majority (97.5%) of the respondents were married, having family responsibilities which could make them opt for credit facilities in order to improve their standard of living through large-scale agricultural production. As indicated in Table 1, the majority of the respondents had a household size of 1 – 5 persons. Further analysis of the results revealed an average household size of 6.

Eighty-two percent of the respondents were within the age range of 26 – 55 years. A mean age of 41 years was obtained in the study. Thus, the bulk of the beneficiaries were still energetic and should be enterprising, which according to Iheke (2006) has a lot of positive implications for agricultural production. *Ceteris paribus*, these farmers accept farm innovations, such as acquisition of credits for commercial production, more easily and vigorously than their aged counterparts. Besides, as noted by Nwaru *et al*. (2010), the risk-bearing abilities and innovativeness of a farmer, his mental capacity to cope with the daily challenges and demands of farm production activities and his ability to do manual labour decreases with advancing age.

Farming experience is relevant for skill acquisition in agricultural production. Investigations during the survey revealed that the range of farming experience of the respondents was 3 – 50 years. A mean (average) of 23 years was obtained in the study. This implies that agriculture is an age-long occupation of the beneficiaries.

Table 1: Distribution of Respondents According to Socioeconomic Characteristics

Characteristics	Frequency	Percentage
Gender		
Male	90	75.6
Female	29	24.4
Marital Status		
Single	3	2.5
Married	116	97.5
Household Size		
1-5	93	78.2
6-10	21	17.6
11-15	5	4.2
Age (Years)		
26-35	4	3.4
36-45	42	35.3
46-55	52	43.7
56-65	19	16.0
≥65	2	1.7
Farming Experience (Years)		
≤ 10	63	52.9
11-20	36	30.3
21-30	9	7.6
31-40	9	7.6
≥41	2	1.7
Educational Level		
No formal education	10	8.4
Primary education	12	10.0
Secondary education	36	30.3
Tertiary education	61	51.3
Membership of Cooperative		
Yes	89	74.8
No	30	32.4
Amount obtained from FGN/CBN (₦)		
50000	53	44.5
100000	65	54.6
250000	1	0.8

Interest Paid on Loan (%)		
6.50	53	44.5
10.00	65	54.6
13.00	1	0.8
Opinion about Interest Rate		
Low	4	3.4
Moderate	90	75.6
High	25	21.0
Agricultural Enterprise		
Arable Crop	59	49.6
Livestock	5	4.2
Mixed Farming	48	40.3
Fishery	7	5.9

Source: Field survey data, 2012

About 92% of the respondents had formal education. This is in consonance with Olagunju and Adeyemo (2008) who opined that farmers who have formal education readily respond to improved technologies and innovations that would enhance better returns from farm investment. Oladeebo and Oladeebo (2008) also shared this view, that literate farmers repay more of the loans obtained than illiterate farmers having understood the benefits of credit to farm production hence have more propensity to access agricultural credit.

The majority (74.8%) of the respondents were members of cooperative societies. Investigations revealed that all the beneficiaries were members of All Farmers' Association of Nigeria (AFAN). Ninety-nine percent of the respondents obtained ₦50,000 – ₦100,000. This study also revealed the interest rate paid on the loan obtained by the respondents depended on the amount of loan collected. Those that obtained ₦50,000, ₦100,000 and ₦250,000 paid an interest of 6.5%, 10% and 13% respectively. Investigations further revealed that the loan was disbursed once on no-collateral basis, as AFAN was the guarantor through which the beneficiaries obtained the loan. Also, most of the respondents opined that the interest charged by the scheme was moderate. About 50% and 40% of the beneficiaries used the loan for arable cropping and mixed farming respectively. Other beneficiaries spent the loan on livestock farming and fishery.

Results of the regression analyses used to determine the factors affecting the total revenue generated from the use of the loan by the beneficiaries are presented in Table 2. The Table shows that the double-log functional form gave the best fit for the regression result. The functional form was chosen based on the values of R^2 (coefficient of multiple determination), F-statistics, the signs of the coefficients of the regressors which are in conformity with *a priori* expectations and observed level(s) of significance of the variables.

Table 2: Factors affecting Respondents' Revenue from the Use of FGN/CBN Commercial Agricultural Credit

Variable	Linear	Exponential	Semi-log	+Double-log
Constant	-4400.136	3.757	-167491.4	1.687
	(-0.16)	(21.26)	(-2.17)	(1.44)
Age	-6776.601**	-0.097***	-34451.25*	-0.397***
	(-1.99)	(-4.35)	(-1.74)	(-3.23)
Farming Experience	-5453.404	0.009	-21558.44	0.027
	(-1.08)	(0.27)	(-0.95)	(0.19)
Household Size	-4762.459	-0.005	-23333.08	-0.262
	(-0.50)	(-0.07)	(-0.67)	(-1.21)
Education	16479.56**	0.249***	76011.84**	0.695***
	(2.35)	(5.41)	(2.52)	(3.27)
Amount of Loan	0.118***	6.02**	38534.78***	0.681***
	(2.88)	(2.24)	(2.63)	(7.53)
Cooperative Membership	-3013.71	0.293***	-1706.051	0.366**
	(-0.28)	(4.21)	(-0.16)	(5.46)
Type of Enterprise	6685.726**	0.032	14145.55	0.083
	(1.95)	(1.40)	(0.84)	(0.79)
Purpose of Loan	21122.89	0.043	14148.17	0.039
	(1.38)	(0.43)	(0.91)	(0.41)
R^2	0.32	0.71	0.28	0.73
R^{-2}	0.27	0.69	0.23	0.71
F-Ratio	6.43***	34.14***	5.37***	37.26***

Note: Figures in parenthesis are T-values

***, **, * - Significance at 1%, 5% and 10% respectively; + Lead equation

Source: Field survey data, 2012

The coefficient of multiple determination (R^2) was 0.73 indicating that the explanatory variables in the model explain 73% of the total variations in the total revenue of the beneficiaries. Also, the F-ratio is significant at 1%, which implies that the data attest to the overall significance of the regression equation. The results indicate that age, educational status, the amount of loan obtained and membership of cooperative are the significant factors affecting the total revenue of the beneficiaries.

Age of the respondents was observed to be negative and significant. This implies that as the age of the benefiaciaries increases the tendency to generate much revenue from the use of the credit decreases. This is logical, as young farmers have more risk-bearing abilities, innovativeness, strong physical and mental capacity which are needed to cope with the daily challenges and demands of agricultural production activities than their older counterparts (Muhammad-Lawal *et al.*, 2009; Nwaru *et al.* 2010).

Educational status, the amount of loan obtained and cooperative membership had positive coefficients and were statistically significant, implying that any increase in the variables increases the total revenue of the respondents. This is in consonance with *a priori* expectation, as well-educated farmers readily adopt innovations and technologies that can better their returns from use of credit (Agwu, 2004 and Adeyemo, 2008). Moreso, availability of credit facilities provide farmers with adequate capital to take care of expenses involved in market-oriented agriculture. Membership of cooperative societies gives farmers the opportunity to enjoy economics of scale in input acquisition and sales of output, hence can improve the revenue generated from use of credit by farmers (Adesiji *et al.*, 2011).

Table 3 shows the problems faced by the beneficiaries in obtaining and repaying the loan from the scheme. The majority (77.3%) of the respondents complained of untimely disbursement of the loan. They regretted that the loan was not given at planting season and as such could not meet their needs at the appropriate time. This is of policy concern as agriculture is weather-dependent and lack of agricultural resources, such as capital, at a suitable time can increase the risks and uncertainties posed by the vagaries of climate change on agriculture (Scoones, 1998; Stein *et al.*, 2007; Robert and Chinedu, 2010). Twenty-one percent of the respondents affirmed that the interest rate charged by the scheme was high while about 2% complained that the loan given to them was insufficient.

Table 3: Constraints to Loan Acquisition and Repayment by the Respondents

Constraints	Frequency	Percentage
Problems Encountered in Securing FGN/CBN		
High Interest Rate	25	21.0
Untimely Disbursement	92	77.3
Inadequate Loan	2	1.7
Problems Encountered in Loan Repayment		
Market Imperfection	14	11.8
Domestic and Family Problems	1	0.8
Short Repayment Period	66	55.5
Low Return from Loan	22	18.5
Others	16	13.4

Source: Field survey data, 2012

As regards repayment of the loan obtained, about 56% of the respondents complained of short repayment period. They reported that their produce had not generated enough income before they were asked to repay the loan obtained. Other major problems faced by the respondents in this respect include low return from the loan obtained and market imperfection. The implication of these problems is that they the beneficiaries may not have the capability to derive optimal benefits from using the loan obtained.

CONCLUSION AND RECOMENDATIONS

It can be inferred that the FGN/CBN Commercial Agricultural Credit Scheme has a positive and significant effect on agricultural revenue of the beneficiaries. Age of the beneficiaries, level of education, amount of loan obtained and membership of cooperative societies are the significant factors influencing the revenue generated from the use of the credit obtained from the scheme. The study also shows that there are problems militating against the operation of the scheme, which if properly addressed by the stakeholders concerned will ensure the realization of the objectives of the scheme.

Based on the findings of this study, therefore, it is recommended that government and other agricultural credit agencies should ensure that loan is disbursed timely. This is to minimize or evade the risks and uncertainties associated with untimely use of loan for

agricultural production. In this regard, government should encourage commercial banks to lessen the protocol and formalities involved in obtaining loan so as to enhance timely disbursement which will meet farmers' needs most especially during the planting season. Besides, commercial banks participating in the scheme, and other agricultural credit schemes should increase their logistic support in terms of giving more time that farmers can cope with before repayment. Also, more young educated farmers should be encouraged to benefit from the Scheme. This will encourage the use of skills and innovations in credit management by the beneficiaries. In addition, beneficiaries should be encouraged to form cooperative societies. This will make them enjoy economics of scale through bulk purchase of inputs and sales of output. It will also improve their receipts from the use of credit facilities.

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