Agricultural Financing and Agricultural Output in Nigeria: 1986 - 2020

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Abstract

This study examined the impact of agricultural financing on agricultural output. Data were collected from the Central Bank of Nigeria Statistical Bulletin. The period of study covered 1986 to 2020. Agricultural financing was proxied by commercial bank loan to agriculture and the disbursement of the Agricultural Credit Guarantee Scheme Fund. Agricultural output was proxied by the contribution of agriculture to overall GDP. Trend analysis and the Ordinary Least Square (OLS) Method were used in the data analysis. Evidence from the regression results shows that commercial bank loan to agriculture and the disbursement of the Agricultural Credit Guarantee Scheme Fund had positive and significant impact on agricultural output. Therefore, the study concluded that increase in agricultural financing increases agricultural output and vice versa. The study thus recommended that the government should make policies that will enhance agricultural production through increase in agricultural credit guarantee scheme fund, commercial bank loan to agriculture and ensure an all inclusive agricultural financing policy to the benefit of the poor rural farmers.

Keywords: *Agricultural Financing: Agricultural Output: Nigeria*

1.0 INTRODUCTION

Globally, agriculture has been identified as a major component in the achievement of the sustainable millennium development goals which aims at eradicating extreme poverty and hunger (Kersten, Harms, Liket, & Maas, 2017; United Nations, 2015). As such, the world's government has placed so much focus on the development of agriculture across the world (Fadeyi, 2018). Nigeria increased emphasis on financing the agricultural sector, since agriculture has the potential to stimulate economic growth through provision of food for the increasing population; supply of adequate raw materials to a growing industrial sector; a major source of employment; generation of foreign exchange earnings; and, provision of a market for the products of the industrial sector (Eze, Lemchi, Ugochukwu, Eze, Awulonu & Okon, 2010). IFC

(2011) defined agricultural financing as the financial services provided for agricultural production, processing, and marketing.

Agricultural financing is one of the most important instruments of economic policy for Nigeria, in her effort to stimulate development in all directions (Obansa & Maduekwe, 2013). The role of finance in agriculture, just like in the industrial and service sectors, cannot be over-emphasized, given that it is the oil that lubricates production (Eze, Lemchi, Ugochukwu, Eze, Awulonu & Okon, 2010). Finance is required by agricultural sector to purchase land, construct buildings, acquire machinery and equipment, hire labour, irrigation etc. In certain cases such finances may also be needed to purchase new and appropriate technologies. Agricultural financing is mainly a long-term financing aimed at inducing agricultural-led growth and development in an economy (Obansa and Maduekwe, 2013).

Unfortunately, poor access to institutional finance by farmers has been identified as one of the critical factors militating against the performance of agriculture in Nigeria (Olubiyo & Hill, 2003; FAO, 2020). Similarly, volatility of commodity prices, unexpected disease outbreak and climate change: flood and drought; continue to make agricultural activity highly risky and less attractive to banks for credit facility (Adeniyi, 2021). More so, most smallholder farmers and rural dwellers who dominate the Nigeria's agricultural space do not have sufficient collateral facilities to obtain fund in formal financial institutions, thus, constraining potential agricultural performance.

To address the challenges of agricultural financing deficit and achieve food security, the Federal Government of Nigeria has introduced various financing scheme to enhance availability and accessibility of fund for agriculture. Some of these schemes are the Agricultural Credit Guarantee Scheme Fund (ACGSF), Agricultural Credit Support Scheme (ACSS), Commercial Agriculture Credit Scheme (CACS) and the Anchor Borrowers Programme.

Consequently, this study sought to assess the contribution of agricultural financing to the Nigerian economy through its impact on agricultural output.

2.0 REVIEW OF RELATED LITERATURE

CONCEPTUAL REVIEW

Agricultural Financing

Agricultural financing has been defined by various authors in different ways. Ibrahim & Muktar, (2015) defined it as all about the acquisition and utilization of financial capital, the factor of production that facilitates the acquisition, procurement and management of the other factors of production namely, land, labour, capital – physical, and entrepreneur, in agriculture and which, is not only a lubricant but the lifeblood of the economy. Obansa & Madukwe defined agricultural financing as the mobilization of resources at all levels in order to increase production and productivity in agriculture and to enhance the productive capacity. To Coker & Audu (2015), agricultural financing is investments made by developing countries in agriculture - but also in rural infrastructure, health, and education - are both pro-growth and pro-poor. To Kersten, Harms, Liket & Maas (2017) agricultural financing is the provision of various types of financial products, including subsidized loans, credit lines, fiscal credit, guarantees, matching grants, priority-lending regulation, and overdraft facilities for agricultural purposes. Mattia, Riccardo, Alessandro & Angela (2016) defined agricultural financing as the provision of credit which is crucial to the development of the farming sector.

Agricultural Financing Schemes in Nigeria

Over the years, the Nigerian Government has come up with various agricultural financing scheme to among other things: enhance national food security; reduce the cost of credit in agricultural production; increase national output; generate employment; and raise the level of foreign exchange earnings of the country. Some of those schemes include:

- **Agricultural Credit Guarantee Scheme Fund (ACGSF)**: As specifically expressed by the Central Bank of Nigeria (CBN), the ACGSF was established by Decree No. 20 of 1977, and started operations in April, 1978. Its original share capital and paid-up capital were ₦100 million and ₦85.6 million, respectively. The Federal Government holds 60% and the Central Bank of Nigeria, 40% of the shares. The capital base of the Scheme was increased to ₦3 billion in March, 2001. The Fund guarantees credit facilities extended to farmers by banks up to 75% of the amount in default net of any security realized. The Fund is managed by the Central Bank of Nigeria, which handles the day-to-day operations of the Scheme. The Guidelines stipulate the eligible enterprises for which guarantees could be issued under the Scheme (CBN, undated).
- **Agricultural Credit Support Scheme (ACSS):** The Central Bank of Nigeria expressly stated that the ACSS was an initiative of the Federal Government and the Central Bank of Nigeria with the active support and participation of the Bankers Committee. The Scheme prescribed fund of N50.0billion. ACSS was introduced to enable farmers exploit the untapped potentials of Nigeria's agricultural sector, reduce inflation, lower the cost of agricultural production (i. e. food items), generate surplus for export, increase Nigeria's foreign earnings as well as diversify its revenue base. At national level, the scheme operates through a Central Implementation Committee (CIC) while at the Federal Capital Territory (FCT) and State levels, the Scheme operates through State Implementation Committees (SICs) instituted to ensure that the objectives of the scheme is realized without hindrance.

  To access loans under ACSS, applicants (practicing farmers and agro-allied entrepreneurs with means) are encouraged to approach their banks for loan through the respective state chapters of farmers associations and State Implementation Committees. However, large scale farmers are allowed under the scheme to apply directly to the banks in accordance with the guidelines.

  ACSS funds are disbursed to farmers and agro-allied entrepreneurs at a single-digit interest rate of 8.0 percent. At the commencement of the project support, banks will grant loans to qualified applicants at 14.0 per cent interest rate. Applicants who pay back their facilities on schedule are to enjoy a rebate of 6.0 per cent, thus reducing the effective rate of interest to be paid by farmers to 8.0 per cent (CBN, undated).

- **Commercial Agriculture Credit Scheme (CACS):** As part of its developmental role, the Central Bank of Nigeria (CBN) in collaboration with the Federal Ministry of Agriculture and Water Resources (FMA&WR) established the Commercial Agriculture Credit Scheme (CACS) in 2009 to provide finance for the country's agricultural value chain (production, processing, storage and marketing). It was expected that increased production arising from the intervention would moderate inflationary pressures and assist the Bank to achieve its goal of price stability in the country. The primary objectives of the Scheme were to:

    1. 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;
    2. Enhance national food security by increasing food supply and effecting lower agricultural produce and products prices, thereby promoting low food inflation;
    3. Reduce the cost of credit in agricultural production to enable farmers exploit the untapped potentials of the sector; and
    4. 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.

    The Scheme which is a sub-component of the Federal Government of Nigeria's Commercial Agriculture Development Programme (CADP) is financed through a N200billion Bond raised by the Debt Management Office (DMO). Loans to eligible entities under the Scheme are disbursed at a maximum interest of 9 percent. The subsidy arising from this stipulated rate and the market rate on all loans granted, and the administrative expenses of the Scheme are borne by the Central Bank of Nigeria (CBN).

    The Central Bank of Nigeria and the Federal Ministry of Agriculture and Waters Resources jointly ensure that the scheme is implemented successfully. This is achieved through the Project Steering Committee (PSC) comprising the Honourable Minister of Agriculture and Water Resources (Chairman), the Governor of the Central Bank of Nigeria, Representatives of the Federal Ministry of Finance and Commercial Farmers, respectively and the Programme Coordinator of the Commercial Agriculture Development Programme. The day-to-day implementation of the Scheme is undertaken by a Technical Implementation Committee (TIC) made up of the Director of Development Finance Department, CBN as the Chairman, Head of Agricultural Credit Support Division, CBN and a Consulting Group as members, and the Programme Coordinator of the Commercial Agriculture Development Programme of the Federal Government as the Secretary.

CACS is operated in two tranches of N100billion each. The 1st Phase of the tranche ran from May to December, 2009, while the 2nd tranche commenced in February, 2010.

Detailed information on the operational modalities for the CACS are shown on the Guidelines for Commercial Agricultural Credit Scheme while the performance of the Scheme are indicated in the Monthly Report (CBN, undated)

- **Anchor Borrowers' Programme (ABP):** The Central Bank of Nigeria (CBN), in line with its developmental functions as enshrined in Section 31 of the CBN Act 2007, established the Anchor Borrowers' Programme (ABP) to create economic linkages between smallholder farmers (SHFs) and reputable companies (anchors) involved in the production and processing of key agricultural commodities. The core of the Programme is to provide loans (in kind and cash) to smallholder farmers to boost agricultural production, create jobs, reduce food import bill towards conservation of foreign reserve (CBN, 2021).

  The Programme evolved from consultations with stakeholders comprising Federal Ministry of Agriculture & Rural Development, state governments, agro-processors, commodity associations, financial institutions and smallholder farmers to ramp up agricultural production, boost non-oil exports and diversify the revenue base of Nigeria.

  The targeted beneficiaries are smallholder farmers and medium to large scale farmers engaged in the production of agricultural commodities across the country. The agricultural commodities covered under the Programme are: Cereals (Rice, Maize, wheat etc.), Cotton, Roots and Tubers (Cassava, Potatoes, Yam, Ginger etc.), Sugarcane, Tree crops (Oil palm, Cocoa, Rubber etc.), Legumes (Soybean, Sesame seed, Cowpea etc.), Tomato, Livestock (Fish, Poultry, Ruminants etc.) and any other commodity that may be decided upon by the Bank from time to time (CBN, 2021).

Empirical Review

A number of authors have investigated agricultural financing as it relates to agricultural output and how it translates to enhance economic growth. Eze, Lemchi, Ugochukwu, Eze, Awulonu & Okon (2010) examined the agricultural financing policies of the government of Nigeria and effects on rural development .The study found that though the government has made serious efforts at making good agricultural policies through schemes, programmes and institutions, it has not been able to back them up with adequate budgetary allocation and financing coupled with corruption in the execution of the policies. The study recommended that for the government agricultural financing policies to achieve its target of rural development, Nigeria will need an adequate level of strategically targeted investment in agriculture, upgrade rural infrastructure, boost productivity, and increase competitiveness of the farm output, in addition to fighting corruption

Famogbiele (2013) analyzed the performances and achievements of the ACGSF; Bank of Agriculture (BOA) Ltd and the most recent CACS since their respective establishments about 40years ago. These are some of the Federal Government initiated policies, schemes and institutions established to ensure adequate funding of agricultural sub-sector of the economy with a view to sustaining agricultural and economic revival and growth. Its revival and development was affirmed as one of the factors that could enhance the economic growth and resuscitation of the nation's wellbeing which is still far from being achieved despite her oil wealth. The study concluded that though important as a factor of production, finance per se, cannot work in isolation of other factors to successfully achieve the much expected result in agricultural sector. These identified factors include among others, policy inconsistency and somersaults, absence of commodities marketing and pricing institutions, lack of effective and adequate storage, inadequate insurance coverage and more importantly, corruption.

Ibrahim & Mukhtar (2015) studied the factors bedeviling financing the agricultural sector. The study employed a content analysis method of research and used a literature based method for analysis. It was found among others that; low level of monitoring and evaluation of financial policies, inadequate qualified personnel to manage financial resources devoted for agricultural investment, policy inconsistency and corruption are the main obstacles to the success of financial commitments to the agricultural sector. The paper recommended that government should ensure effective monitoring and evaluation of agricultural policies instead of formulating new ones and corruption should be fettered.

Sulaimon (2021) evaluated the thresholds of ACGSF on agricultural performance in Nigeria between 1981 and 2019. The performance of agriculture was captured using real agricultural Gross Domestic Product (GDP). Annual time series data were obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin and the World Development Indicators (WDI) and analyzed using threshold regression. Although insignificant, the results showed U-shaped relationship between real agricultural GDP and ACGSF. In addition, ACGSF had significant positive effect on real agricultural GDP at 1060389 (₦' thousand) and 5951809 (₦' thousand) thresholds. The study concluded that to sustain increase in the value of agricultural loans guaranteed and the inclusiveness of more smallholder farmers who dominate the Nigerian agricultural space will translate into robust contribution of the scheme to agricultural performance in Nigeria.

Obudah & Tombofa (2016) examined the effect of agricultural financing on agricultural output and macroeconomic output in the Nigerian economy. The error correction results from the analysis of time series data provided empirical evidence that there is a positive relationship between agricultural credit and agricultural output. Agricultural credit also had a positive effect on real GDP growth over the period of the study. However, credit default by borrowers is a serious menace which reduces the confidence of lenders. The Nigerian legal system should ensure a better credit enforcement mechanism and effective management of interest rates by monetary authorities. In addition, credit facilities and subsidies that would trickle down to individual farmers and farmers' cooperative groups will provide the needed funds to enhance agricultural output as well as economic output in Nigeria.

Anthony, Gabriel & Arikpo (2000) investigated the role of deposit money banks credit on the growth of the agricultural sector in Nigeria between the periods 1988 to 2011. An ex post facto research design was used for the study. Three research objectives were formulated. Data were sourced principally from the secondary sources and was collected from the CBN Statistical Bulletin. The Data were analyzed using the ordinary least square multiple Regression Statistical Technique. Result from the analysis revealed that both deposit money banks loans and the agricultural credit guarantee scheme fund had a positive relationship with the output of the agricultural sector. It was however discovered that agricultural credit guarantee scheme fund's relationship was insignificant. It was finally revealed that deposit money bank lending rate had a negative and insignificant relationship with the output of the agricultural sector in Nigeria. Based on these findings, it was recommended that the loans and finances to the agricultural sector should be increased while the lending rate should be reduced. Also, the conditions to be fulfilled by farmers before accessing the agricultural credit guarantee scheme fund should be reviewed.

3.0 METHODOLOGY

This study adopted the *expost-facto* research design to examine the cause-effect relationship between agricultural financing and agricultural output. The data used were secondary time series data collected from the 2020 Central Bank of Nigeria Statistical Bulletin, covering a period from 1986 to 2020. Trend analysis and regression was employed in the analysis and interpretation of the collected data. The regression result was analyzed using the E-View statistical package while the trend was presented in a graph. Hypothesis was tested at 5% level of significance. The model equation for the study was:

$$AGDP_t = f(ACGSF, CBLA) \quad - \quad - \quad - \quad - \quad - \quad - \quad - \quad 1$$

The econometric form of equation (1) can be expressed as:

$$AGDP_t = a_0 + a_1 ACGSF_t + a_2 CBLA_t + \mu_t \quad - \quad - \quad - \quad - \quad - \quad 2$$

Where: AGDP represents Agricultural Gross Domestic Product, a proxy for Agricultural Output, ACGSF represents Agricultural Credit Guarantee Scheme Fund, CBLA represents Commercial Banks Loan to Agriculture and GDP represents Gross Domestic Product.

4.0 ANALYSIS AND INTERPRETATION OF DATA

This section analyzed and discussed the generated statistical data in respect of the dependent and independent variables. It started with the statement of hypothesis in both null and alternate form as follows:

H_0: Agricultural financing has no positive and significant impact on agricultural output.

H_a: Agricultural financing has positive and significant impact on agricultural output.

Table 4.1: Regression Result of the Impact of Agricultural Financing on Agricultural Output

Dependent Variable: AGDP
Method: Least Squares
Date: 01/24/22 Time: 22:08
Sample: 1986 2020
Included observations: 35

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ACGSF	0.000487	9.37E-05	5.194976	0.0000
CBLA	34.70750	1.458427	23.79790	0.0000
C	657.7320	435.9027	1.508896	0.1411

R-squared	0.968937	Mean dependent var	8792.303
Adjusted R-squared	0.966995	S.D. dependent var	10255.93
S.E. of regression	1863.220	Akaike info criterion	17.97982
Sum squared resid	1.11E+08	Schwarz criterion	18.11313
Log likelihood	-311.6468	Hannan-Quinn criter.	18.02584
F-statistic	499.0755	Durbin-Watson stat	2.143021
Prob(F-statistic)	0.000000		

Source: Researchers' E-View Computation, 2022

Model Equation: AGDP = 657.732 + 0.000487ACGSF + 34.7075CBLA + µ

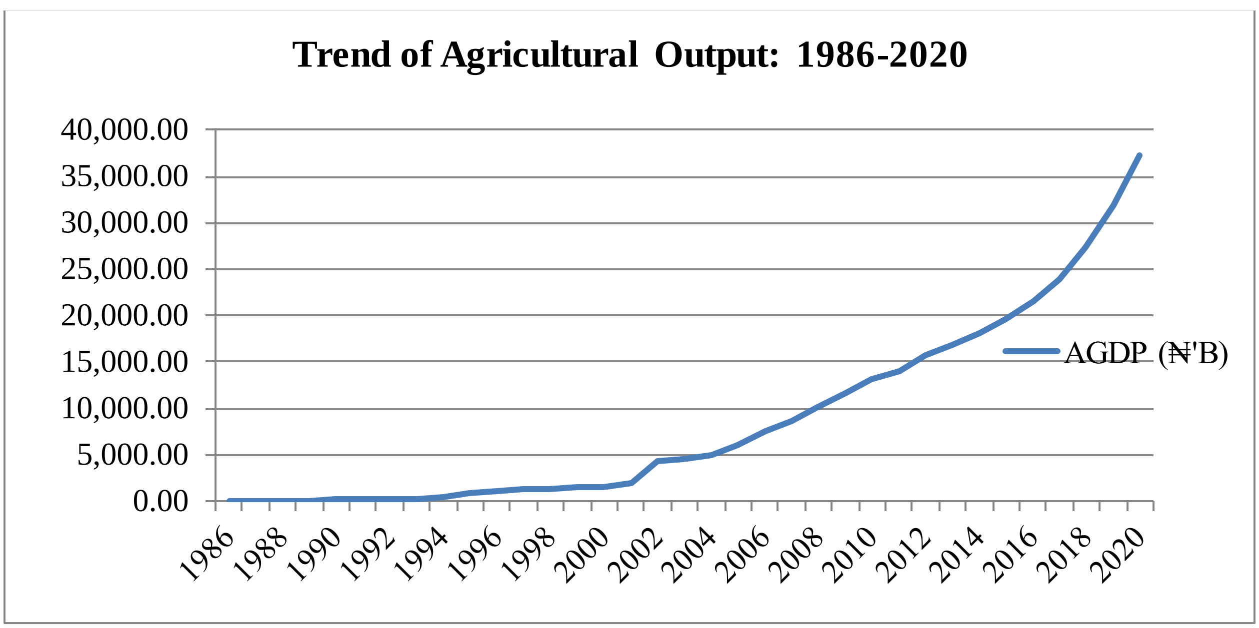
As revealed from Table 1 above, Agricultural Credit Guarantee Scheme Fund has positive and significant impact on Agricultural Output in Nigeria (coefficient of ACGSF = 0.000487, t-value

= 5.194976). The probability value of 0.0000 < 0.05 further indicates that, this is significant. Similarly, Commercial Bank Loan to Agriculture has positive and significant impact on Agricultural Output in Nigeria (coefficient of CBLA = 34.7075, t-value = 23.7979). the probability value of 0.0000 < 0.05 further indicates that, this is significant.

On the whole the coefficient of determination which measures goodness of fit as revealed by R-square (R^2) indicates that 96.89% of the variations observed in the dependent variable were explained by variations in the independent variable. The test of goodness of fit of the model as indicated by R^2 was properly adjusted by the Adjusted R-Square of 96.7%. The Durbin - Watson statistics of 2.257110 shows that there is no autocorrelation and the overall probability (F-statistics) is 0.0000 which is less than 0.05 also indicates that the impact is significant. Hence, increase in agricultural financing (Agricultural Credit Guarantee Scheme fund and Commercial Bank Loan to Agriculture) leads to increase in Agricultural Output.

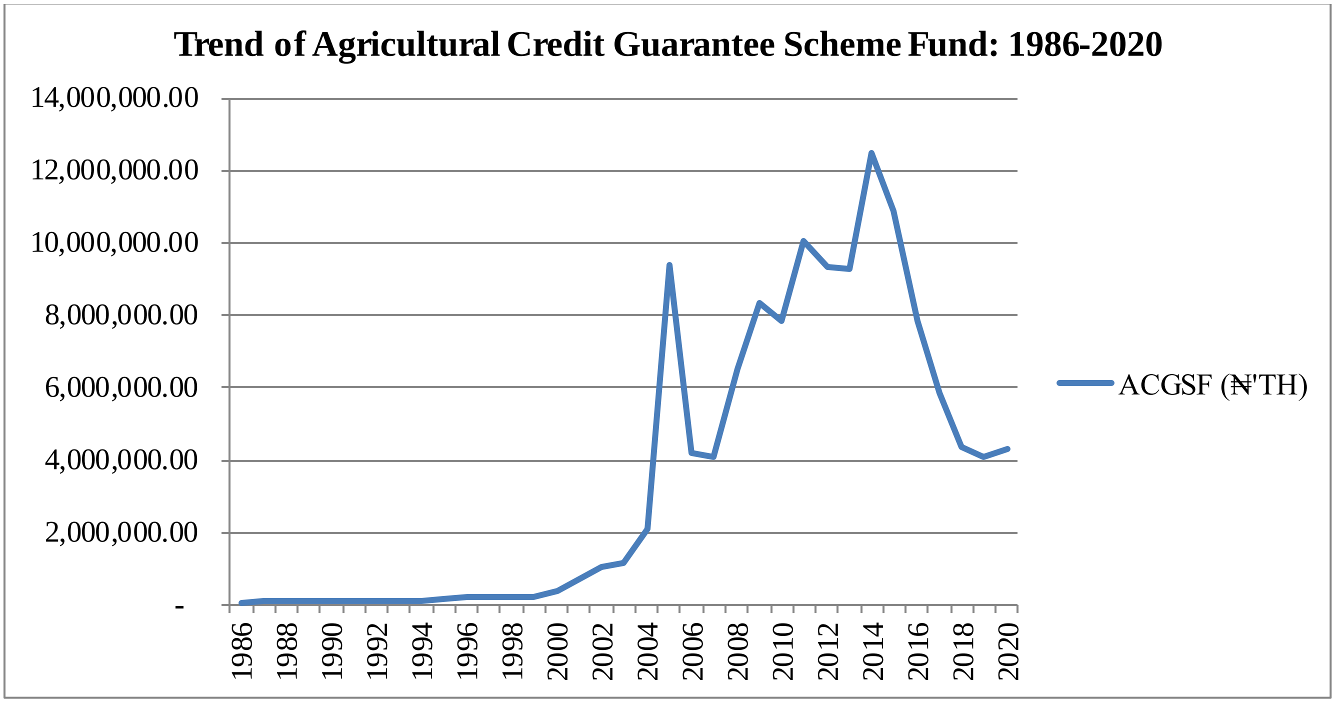
This position is further buttressed in the figure 1, figure 2 and figure 3. Although figure 2 shows fluctuations and reasonable decline of fund from Agricultural Guarantee Credit Scheme Fund, the shortfall seems to have been taken care of by the steady increase in commercial Bank Loan to Agriculture.

FIGURE 1: AGRICULTURAL OUTPUT SHOWING AN INCREASING TREND



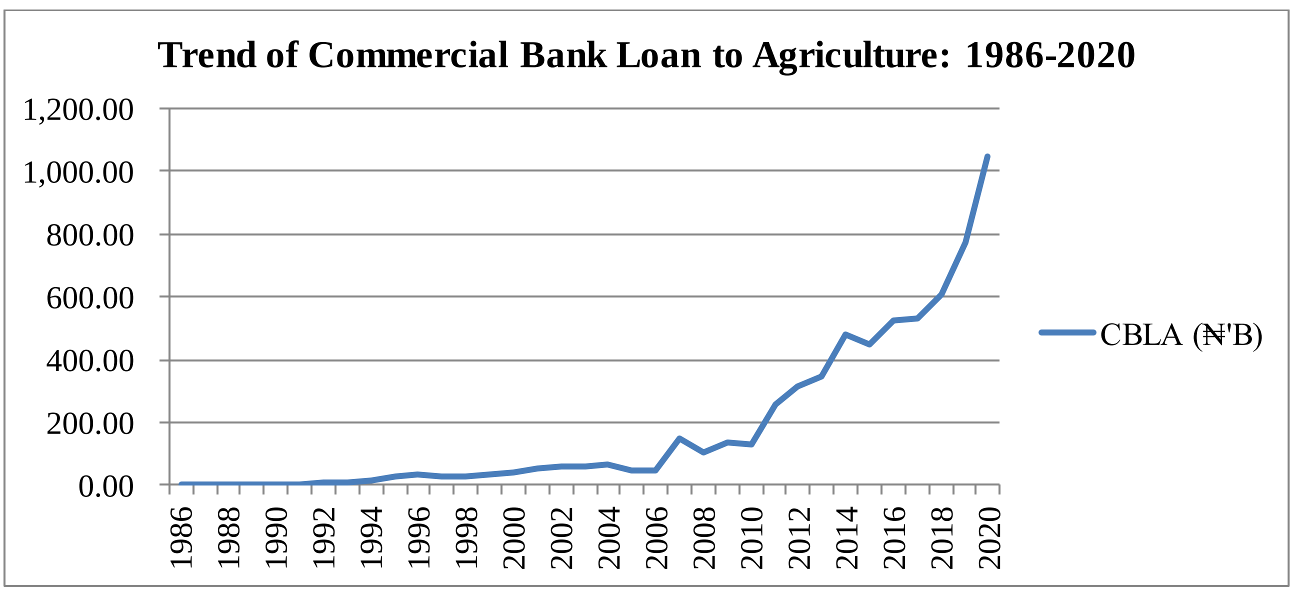
Source: Central Bank of Nigeria Statistical Bulletin - 2020, Volume 31

FIGURE 2: AGRICULTURAL CREDIT GUARANTEE SCHEME FUND



Source: Central Bank of Nigeria Statistical Bulletin - 2020, Volume 31

FIGURE 3: COMMERCIAL BANK LOAN TO AGRICULTURE



Source: Central Bank of Nigeria Statistical Bulletin - 2020, Volume 31

5.0 CONCLUSION

Poor access to institutional finance by farmers has been identified as one of the critical factors militating against the performance of agriculture in Nigeria (Olubiyo & Hill, 2003; FAO, 2020). More so, most smallholder farmers and rural dwellers who dominate the Nigeria's agricultural space do not have sufficient collateral facilities to obtain fund in formal financial institutions, thus, constraining potential agricultural performance.

To address the challenges of agricultural financing deficit and achieve food security, the Federal Government of Nigeria introduced various financing scheme to enhance availability and accessibility of fund for agricultural purposes. This study sought to assess the contribution of agricultural financing to the Nigerian economy through its impact on agricultural output. The study concluded that increase in agricultural financing increases agricultural output and vice versa. The study thus recommended that the government should make policies that will enhance agricultural production through increase in agricultural credit guarantee scheme fund, commercial bank loan to agriculture and ensure an all inclusive agricultural financing policy to the benefit of the poor rural farmers.

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