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GOVERNMENT INTERVENTION AND GROWTH OF AGRICULTURAL SECTOR IN NIGERIA

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ABSTRACT: This study examined government intervention and growth of the agricultural sector in Nigeria from 1986 – 2020. The government intervention policies were represented by government budgetary allocations to the various agricultural development programmes for the period studied, which were constrained by corruption, tribalism, lack of funds, mismanagement of funds, political instability among others. In addition, specialized banks loans to the agricultural sector and interest rate on agricultural loans were the other explanatory variables. The dependent variable was agricultural sector's output. The data were sourced from CBN Statistical Bulletin and Bank of Agriculture Publications for various years which were analyzed using the Autoregressive Distributed Lag (ARDL) model. The findings derived from the tested hypothesis of this research revealed that government intervention decreased agricultural output but not significantly in the long run, while specialized banks' loans increased agricultural output significantly in the long run. Also, interest rate on agricultural loans increased agricultural output but not significantly. The short run speed of adjustment of the model was estimated at 11.3%. The study concluded that government intervention has come in the form of various agricultural development programmes but it appears that the funding of these programmes has not increased output of the agricultural sector due to insufficiency of the funding or the funds not reaching the intended farmers. Specialized banks have shown more effective energy in growing the agricultural sector with a positive and significant coefficient. The study recommended that accountability, transparency and judicious disbursement of agricultural intervention funds need to be enshrined in addition to increased funding of the agricultural sector by specialized banks.

Keywords: ARDL Model, Agricultural Sector Growth, Government Interventions, Specialized Banks

INTRODUCTION

Government over the years has embarked on various policies and programmes aimed at strengthening the Agricultural sector in Nigeria. Agricultural intervention policies enable the government to continue performing its roles as well as combat poverty and enhance the rural capacity. Before the Structural Adjustment Programme was introduced in 1986 (pre-SAP) and even beyond the programme (post-SAP), there were some notable agricultural intervention policies which include, Operation Feed the Nation (OFN), Green Revolution Programme (GR), Land Use Decree, Rural Banking Programme (RBP), National FADAMA Development Programme, Economic Advancement Programme (FEAP), National Poverty

Eradication Programme (NAPEP), National Fertilizer Company of Nigeria (NAFCON), Agriculture Development Project (ADP), among others.

As a result of these intervention policies, the average total annual expenditure on agriculture has been increasing over the years. Total annual expenditure on agriculture increased on the average from N0.02 billion in the 1981-1986 period through an average of N0.2 billion per annum in 1987-1992 to N1.84 billion in 1993-1998 periods. Total annual expenditure on agriculture increased significantly on the average between 1999 and 2006 to N16.97 billion and further to N37.13 billion between 2007 and 2008, but fell to N36.19 billion between 2011 and 2019 (CBN, 2019). … (2019) observed that despite these huge sums of money allocated to the sector over the years, the state of agriculture in Nigeria appears to still remain poor and largely underdeveloped. Agricultural sector output has fluctuated widely and productivity has also declined from 28% recorded in 1985 to 27% in 2000 dropping further to 0.37% in 2009 and is currently 0.20% at the end of 2019 (CBN, 2019). This ugly scenario is traceable to incessant mismanagement of funds cum high level of corruption in Nigeria. More so rampant and unduly changes in political and leadership system contributed to this development.

In terms of contribution to GDP available statistics from the CBN shows that the agricultural sector's share of GDP increased from 17.8% in 1985 to 23% in 1988, dropped to 21.1% in 1989, rose again slightly to 21.3% in 1990 but fell significantly to 20% in 1992. It increased to 25% in 1994 and reached 27% in by the end of the year 1999. In the early 2000s agricultural sectors contribution to GDP rose significantly to 37.5% which represented the highest recorded since the post-SAP era in Nigeria. Unfortunately, the percentage contribution of the agricultural sector to GDP has averaged 22% since 2010 till date (CBN, 2020).

Government realized the declining nature of Agriculture over the years and decided to put in place certain policies, measures and/or programmes with a view to increasing the Agricultural output and export. Perhaps, a peep into the Federal Government capital expenditure on agriculture; as a ratio of the total Federal Government capital expenditure shows a gloomy future for Agricultural sector development in the country ranging from 1977 to 2002. The federal government capital expenditure on agriculture was low except in the following years; 1984, 1987, 1988, 1993. 1994, 2019 and 2002, because those were the years that coincided with different government agricultural development policies and programmes such as Food for all Programme in 1987, Better Life for Rural Women Programme also in 1987, Family Support Programme in 1993 and the Economic Empowerment Development Strategy. Overtime, these expenditures have been on agriculture without expressly translating to a corresponding increased agricultural output. Fast forward to the year 2020, agricultural expenditure has been given lesser attention with only less than 1% of government budget allocated to the agricultural sector (CBN, 2020).

The agricultural sector used to be the primary foreign exchange earner of Nigeria before the Nigerian civil war. Nigeria was self-sustaining in food production and statistical evidence proved that government policies were geared towards enhancing the sector. However, agriculture has now failed to keep up with Nigeria's fast growing population, and Nigeria now depends on food imports to sustain herself (NBS, 2020). Between 2010 and 2020, Nigeria has imported agricultural products worth a total of $231 million dollars (Central Bank of Nigeria Statistical Bulletin, 2020).

The interest of this research work is to investigate government intervention policies and how they have affected the growth of agricultural sector in Nigeria. Government intervention policies in the Agricultural sector are funded through budgetary allocations to the sector and its agencies and it is from these allocations that various programme objectives are achieved. Therefore, this study has three main specific objectives which are to:

1. Investigate the extent to which government expenditure on intervention programmes have affected growth of the agricultural sector over the years;
2. Analyze the effect of specialized bank loans to the agricultural sector on agricultural output in Nigeria; and
3. Ascertain the intervening effect of interest rate on loans to the agricultural sector on the growth of the sector's output in Nigeria.

The scope of this study is primarily on government intervention programmes, which comes in the form of annual budgetary allocations to the agricultural sector, and how it has affected agricultural yield in Nigeria. The time scope is the post-SAP period of 1986 through 2020. The variable scope include government expenditure on agricultural sector, specialized bank loans to the agricultural sector, interest rate on bank loans to the sector and agricultural output. This study is very significant because it will serve as an appraisal tool for government intervention programmes in the agricultural sector thereby helping to shape future policies in the sector.

LITERATURE REVIEW

Government Intervention in the Agricultural Sector in Nigeria

The Nigerian government allocates some amount of money yearly to the agricultural sector for its development (Lawal, 2011), although these allocations have not been in linear progression method due to political instability. The discovery of oil led to the neglect of the sector in the 1970s and a shortfall towards GDP. The government reacted by establishing the Nigeria Agricultural and Cooperative Bank (NACB) in 1973. The bank's main function was to provide loans to farmers in other to increase production in areas like fisheries, cattle rearing, poultry, piggery, land cultivation and planning, timber production. It also includes storage and processing, distribution and marketing (Lawal, 2011).

Daniel and Ihechituru (2012) and Olugboyega and Kolawole (2012), posited that governments all over the world recognized the importance of agriculture because it creates employments, foreign exchange and helps to feed the growing population and Nigeria is not an exception. Hence the establishment of agricultural development projects with the view to provide assistance to farmers in their different locations. In line with this intention the Directorate for Foods Roads and Rural Infrastructure (DFRRI) scheme was launched in 1986. Operation Feed the Nation (OFN) was introduced to heal and improve agriculture especially in small scale levels (Iwuchukwu & Igbokwe 2012).

Nseabasi (2012), opined that the aim of these intervention programmes was to ease the storage, distribution and marketing of farm products through the creation of good roads for rural dwellers who are mostly farmers. The government also went further to establish federal universities of agriculture in some parts of the country aimed towards encouraging students

and youths to develop interest in agriculture. An example is the Micheal Okpara University of Agriculture, Umudike Umuahia in the present day Abia State.

Okogun and Abang (2012), stated that the Nigeria Insurance scheme established by the federal government in 1987 was to protect farmers and also reduce their loss arising from natural disasters. The government continued its effort by establishing the Nigeria Agricultural Land Development Authority (NALDA) whose policy was imbibed at State and Local government levels. The objective was to make farmers have access to large farm which was replicated at the states and local government areas in Nigeria. Successive governments in Nigeria have initiated numerous programmes and policies to generate employment, reduce poverty and improve the growth of the economy through agriculture by supplying farmers with fertilizers and distributing it at subsidized rates; low interest on loans to famers with 100% tax relief on farm products.

The Nigerian Agricultural Cooperative and Rural Development Bank (NACRDB) has been restructured and is being recapitalized for greater efficiency and to provide credits to individual farmers, cooperative societies/bodies for all classes of agricultural projects. The bank is also concentrating on the promotion of its popular "group lending scheme" whereby a much higher proportion of the active farming population is being reached out to by its retail outlets across its six zonal offices. The Bank Management is supporting the new policy orientation of the present administration regarding poverty alleviation by emphasizing micro credit. The bank is now strongly committed to the promotion of grassroots base, small and medium farming activities in the country.

The injection of N50 billion equity shares into NACRBD by the Federal Government was to empower the bank to meet the challenges of poverty alleviation and food production through timely disbursement of credits. The Bank was also supporting the promotion of Animal Traction and Hand Tool Technology. The NACRBD has instituted several credits and savings schemes for farmers and rural dwellers that constituted about 70% of the nation's population (Emeka, 2017).

According to Akande (2009), national budgets play a prominent role in modern economic management. They are used for allocating resources and planning as well as forecasting revenue inflow and expenditure. Increasingly, national budgets are becoming a pivot instrument of economic management. The importance of national budgets is not only in its presentation to the populace but rather in the structure, patterns, inter-sectoral links as well as the allocation to sectors in accordance to national priority of the government. Basically, agricultural allocation has a way of bringing desired effect in other sectors such as industry through inter-sectoral linkage. The underdeveloped state of many markets in developing countries like Nigeria makes government involvement in agricultural investment necessary.

Spending on agriculture in Nigeria is exceedingly low. Less than 4% of total federal expenditure was allotted to agriculture in 1980 till 2011, far lower than spending in other key sectors such as education, health, and water. According to Mogues *et al* (2008) in 2000, Nigeria's agricultural public spending expressed as a share of total public spending was lower than that of all other African countries for which data were available, and it was also substantially lower than the regional averages for Asia and Latin America. In prior decades, Nigeria's ranking was only somewhat better. This spending contrasts dramatically with the sector's importance in the Nigerian economy and the policy emphasis on diversifying away

from oil, and falls well below the 10% goal set by African leaders in the 2003 Maputo agreement. Nigeria also falls far behind in agricultural expenditure by international standards. (FAO Percent Recommendation is 25%) even when accounting for the relationship between agricultural expenditures and national income which depicts that the expenditure on agriculture was highest in 1983 (12.6%) and lowest in 1992 (1%) (CBN, 2019)..

Government Allocation, Specialized Banks and Agricultural Contribution to Nigeria's GDP

The contributions of the agricultural sector to Nigeria's GDP continued to increase. Agricultural sector became the leading sector in the economy of Nigeria in 1950s and 1960s. For these periods, agricultural output accounted for 63 and 54 percents of GDP (Aigbokhan, 2001). However, with the advent of oil in the 1970s, this dropped to 33.2 percent which marked an epoch in Nigeria's economic history. Thus this scenario went down further to 30.2 percent for the period 1975-79. On annual average, its contribution to GDP from 1997-2019 is 4.1 percent (CBN, 2019). Over the years, government has almost been the sole provider of financial and other capital resources to support agriculture. Government has attempted to increase her expenditure on agriculture through budgetary allocations and through the provision of cheap and readily available credit facilities (Nwosu, 2014).

According to Nwosu (2014), over the years, the government budgeting allocation has become an important determinant of agricultural output in Nigeria. FAO (2008) reported that in terms of capital allocation to agriculture in Nigeria, it was an average of 4.74 percent, from 1970-1980. But, from 1980-2000, it rose to 7.00 percent and 10 percent from 2001-2007, though revealing an increase, but still falls short of Food and Agricultural Organization (FAO) recommendation that 25 percent of government capital budget be assigned to the agricultural development capital budget.

Nwosu, (2014) stressed that government allocation to agricultures relatively low and that actual expenditure falls short of budgeting expenditure and the rate of under spending is usually higher for agriculture than for other economic sectors. Okoruwa (2013), reported that a large proportion of the funds allocated to agriculture do not go directly to farmers. Department for International Development (DFID 2005) reported that the largest category of private investors in Nigerian agriculture consists of the multitude of small holder farmers, scattered across the country. Thus, agricultural production in Nigeria is dominated by small-scale farms characterized by small, uneconomic and often fragmented holdings, the use of simple implements (hoes and knives) and unimproved planting and storage materials. The results have been a visible web of low productivity, low income and low capital investment.

Apart from the statutory government allocations, specialized banks were also established to take care of the agricultural sector. These banks include the Nigeria Agricultural Cooperative and Rural Development Bank (NACRDB), Microfinance Banks (MFB), Bank of Agriculture (BoA), Nigeria Bank for Commerce and Industry (NBCI) and the Africa Development Bank (ADB). Collectively, these specialized banks have expended more than 2 billion Dollars in loans and grants to the agricultural sector in Nigeria (AFDB, 2020). The attraction to Nigeria was borne out of the fact that majority of the rural population survive solely on farming which provides food, shelter and employment to more than half of the rural population (Okene, 2019).

Theoretical Framework:

Musgrave Theory of Public Expenditure Growth (1997)

Musgrave (1997), argued that what matters most for government spending is how effective it is. If the so called "productive" category of government spending is not effective, it can have a negative impact on growth. This theory was propounded by Musgrave as he found changes in the income elasticity of demand for public services in three ranges of per capita income. He posits that at low levels of per capita income, demand for public services tends to be very low, this is so because according to him, such income is devoted to satisfying primary needs and that when per capita income starts to rise above these levels of low income, the demand for services supplied by the public sector such as health, education, transport and agriculture starts to rise, thereby forcing government to increase expenditure on them. He observes that at the high levels of per capita income, typical of developed economies, the rate of public sector growth tends to fall as the more basic wants are being satisfied.

Therefore, this theory serves as the foundation of this study because government intervention in the agricultural sector is borne out of the need to satisfy primary needs as income per capita falls in Nigeria. Thus, government intervening in this all important sector creates huge avenue for increased productivity thereby increasing the demand for public services provided by the agricultural sector.

Empirical Review

Udoh (2011), examined the relationship between public expenditure, private investment and agricultural output growth in Nigeria over the period, 1970-2008. The bounds test and Autoregressive distributed lag (ARDL) modelling approach was used to analyze both short-run and long-run impacts of public expenditure, private investment (both domestic investment and foreign direct investment) on agricultural output growth in Nigeria. Results of the error correction model showed that public expenditure has a positive influence on the growth of agricultural output.

Francis (2013) examined the impact of Federal Government's expenditure on agricultural sector. He used a Simple regression with the view of analyzing the data which indicated the impact of agricultural expenditure on its output from 1991 to 2010. The R^2 was 1% indicating a weak relationship between the variables as a result of inadequate funding. He recommended that government should reinforce its budgetary allocations to the agricultural sector, ensure proper release of funds, monitor agricultural inputs distribution to farmers and create commodity markets.

Ewubare and Eyitope (2015) examined the effect of government spending on the agricultural sector in Nigeria. Error correction model was used for the analysis. The results showed that the coefficient of determination was 0.9468 and the coefficient of the ECM appeared with negative sign and was statistically significant. The lag two and three forms of the explanatory variable, government expenditure were positive and statistically significant. Based on the above findings, the study concluded that government spending has indeed aided the growth of the agricultural sector and they recommended increased funding of the agricultural sector in Nigeria.

Agbarakwe and Anowor (2018) assessed the effect of government intervention on economic development adopting Songhai Development Initiative Farm in Rivers State of Nigeria as a case study. They adopted the survey design with the instruments of personal observations, interviews and questionnaires to collect the required data. The Chi-square was also used to test the hypothesis. They found a significant relationship between Songhai Development Initiative Farm and Nigeria's economic development. They recommended that such and similar government direct involvements in the agricultural and other sectors should be encouraged for optimum benefits in output, job creation, income, social welfare and technological advancement.

Sebastian, Florence and Charity (2018) examined the effect of government agricultural expenditure on agricultural output in Nigeria using time series data from 1981 to 2014. Their findings revealed a positive and significant relationship between government agricultural expenditure (financing) and its output, although a weak one, as rightly shown in the regression analysis. They suggested that as a sector that provides basic foundation to the Nigerian economy, increased improvement in agricultural production would not only enable Nigeria to feed its teeming population but it would also assure a return to its former position (glory) as an exporter of agricultural products to global markets in the years ahead.

Abubakar (2019), using regression analysis, tried to find connection between lending interest rate and agricultural sector activity in Nigeria for real and nominal values from the beginning of the fourth republic (1999) to 2016. Tests showed that interest rate had a strong significant negative relationship with agricultural sector activity. Because interest rate and monetary policy were currently not the main tool used by the federal government to improve this sector. The study recommended more favourable lending interest rates for farmers and industries to be used in sync with government spending in the agricultural sector as an effective way of improving its performance. Conclusively, the study held that the negative relationship shown between interest rate and agricultural activity confirmed that lower interest rates encouraged movement in this sector and higher interest rates correlated with stunted growth in the sector. This relationship was also found to be significant.

Ademola (2019), empirically assessed the impact of agricultural financing on the growth of Nigerian economy. The study revealed that the size and amount of credit available to agriculture of the total amount of credit granted by the government has not been able to impact on the level of economic growth in Nigeria. This was proven in the negative influence on the level of output in Nigeria. They attributed this to the fact that the country has recorded so much in terms of misappropriation of funds meant to be issued to the agricultural system as credits for the improvement of the system. This also goes with the level of agricultural output which maintained a negative but insignificant influence on the output level of Nigeria. Meanwhile, the real interest rates and the total commercial bank loans to agriculture showed positive impact on the output level in Nigeria.

Asukwo, Owui, Olugbemi and Ita (2020), examined the effect of Commercial Banks Lending on the Growth of the Agricultural Sector in Nigeria. Their findings revealed a significant relationship between loans and advances, interest rate, liquidity, bank asset on agricultural output. They concluded that a significant relationship existed between loans and advances and agricultural output. Also, liquidity and asset had significant relationship on agricultural output. Commercial bank finances agricultural projects in Nigeria and federal government directs commercial banks to allocate a part of their lending to agriculture at reduced rates.

They recommended that banks should make efforts to grant agricultural loans at the appropriate time. Also, recommended that the rate of lending should not be more than single digit and adequate funds should be available to commercial banks.

Oyatayo (2021) employed regression to examine the impact of agricultural financing on economic growth in Nigeria, from 1981 to 2019. The study made use of four explanatory variables and one control variable which included Agricultural Output (AO), Agricultural Loans (AL), Agricultural Expenditure on Trainings (AET), Interest rate (INTR) and Inflation rate (INFR) as control variable. The results revealed that agricultural output, agricultural loans and interest rate have positive and significant impact on the economic growth, while agriculture expenditure on training have positive but insignificant impact on RGDP. The study concluded that agricultural financing significantly affected Nigeria's economic growth except for agriculture training.

METHODOLOGY

The methodology employed in this study is the Autoregressive Distributed Lag (ARDL) technique. The research design is the *ex-post-facto* design which makes use of secondary data. The secondary data are subjected to econometric tests of unit root, cointegration and these two pre-estimation tests confirmed the adoption of the ARDL model in analyzing the data. The mode specified is a Cobb-Douglas production function which sees agricultural sector's output as a function of government intervention in the sector. The model is explicitly shown below.

Model Specification

The empirical review provides ample evidence linking agricultural expenditure to growth. However, the work of Sebastian, Florence and Charity (2018) comes close to our study since we argue here that government intervention in the agricultural sector comes in the form of government financing and expenditure in the sector over the years. Therefore, the model is a modification of the formulated specification as specified by Sebastian, Florence and Charity (2018). We aggregate government intervention expenditure on various agricultural programmes from 1986 till date and then we also introduce specialized banks loans to the agriculture sector as well as interest rate on agriculture loans. The functional model is of the form:

$$Y = f(X) \qquad \ldots i$$

Where Y is dependent variable (output) and X is the independent variable (government intervention) and f is the functional connotation. We now introduce our variables thus:

$$AOP = f(GINT, SBLON, INTAG) \qquad \ldots ii$$

Where:

AOP = Agricultural sector's output

GINT = Government interventions on various agricultural programmes

SBLON = Specialized banks' loans to the agricultural sector

INTAG = Interest rate charged on agricultural loans

The general model follows the linear equation form thus;

In order to specifically determine the linear functional relationship between government interventions and agricultural output, we expand the model into a general econometric linear modelas follows:

$$AOP_t = \beta_0 + \beta_1 GINT_t + \beta_2 SBLON_t + \beta_3 INTAG_t + \varepsilon_{it} \quad \ldots iii$$

Where $\beta_0$is the constant or intercept of the model, $\beta_1, \beta_2, \beta_3$,are the unknown coefficients ofthe variables GINT, SBLON and INTAG to be estimated above and $\varepsilon_{it}$is the error term. The a-priori expectation of the model is such that the government intervention variables as well as interest rate on agricultural loans are expected to have positive effect on agricultural sector's output i.e. $\beta_1>0$, $\beta_2>0$ and$\beta_3>0$

Data Analysis and Discussion of Results

The data are time series data sourced from the Central Bank of Nigeria Statistical Bulletin (2020) edition and Bank of Agriculture Publications for various years. The time series data are subjected to stationarity test using the Augmented Dickey Fuller Unit root test as shown below:

Table 1: ADF Unit Root Test Result

Variable	ADF stat at Level	ADF stat at 1st difference	5% Crit. Value	Order of Integration
AOP	-1.8679	-3.3256*	-2.9719	I (1)
GINT	-0.1087	-6.7843*	-2.9571	I (1)
SBLON	-5.2072*	-2.0432	-2.9570	I (0)
INTAG	-1.6946	-6.5004*	-2.9571	I (1)

Source: Author's computation with E-views 10

The Table 1 above shows that Agricultural output (AOP), government intervention expenditure (GINT) and interest rate on agricultural loans were integrated at first difference (I ~ (1)). Therefore, we conclude that these variables are stationary at first difference. On the other hand, specialized banks loans to the agricultural sector (SBLON) became stationary at level which implies that it was integrated of order zero (I ~ (0)). The decision is based on the ADF test statistics that is greater than the ADF critical values at 5%. Since the variables are integrated of mixed order, we test for the existence of long run relationship using the Bounds test as summarized below.

Table 2: ARDL Bounds Test for Co-integration (#5% critical value)

F-Statistics	K	Significance level	Critical Bound Value	
			I0 (Lower Bound)	I1 (Upper Bound)
30.1460	4	5%	2.79	3.67

Source: Author's Computation with E-views 10

From the Table 2 above, the F-statistics is 30.1460 and is greater than the upper I(1) bound of 3.67 at 5% level of significance. Thus, we conclude that there was co-integration in the model. This implies that there is a long run relationship between government intervention expenditure and agricultural sector's output in Nigeria.

Since we have established the presence of long run relationship amongst the variables, we now ascertain the short run convergence of the model and then estimate the long run coefficients. The short run convergence is represented by the error correction coefficient which is shown below:

Table 3: Summary of parsimonious short run relationship between government intervention and agricultural output in Nigeria

ECM Regression Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CointEq(-1)*	-0.113347	0.008636	-13.124942	0.0000

Source: Author's Computation with E-views 10

The coefficient of the error correction term is statistically significant since it rightly signed with the expected negative sign at 5% level of significance. This result indicates that there is a short run convergence of government intervention and agricultural output in Nigeria. In other words, the speed of adjustment of the model to long run equilibrium is estimated at 11.3% annually.

Having ascertained the speed of adjustment of the model, we estimate the long run coefficients in order to know the relationship between the government intervention variables and agricultural output for the period under study. The result is shown below:

Table 4: Summary of long run coefficient of government intervention and agricultural output

Levels Equation Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
GINT	-1.128755	4.305817	-0.262147	0.7951
SBLON	3.234011	0.857391	3.771921	0.0008
INTAG	2.922184	2.666943	1.095705	0.2825
C	-2.796412	2.197568	-1.272503	0.2119

Source: Author's Computation with E-views 10

The long run coefficients shown in the Table 4 above reveals that the joint impact of all exogenous variables (GINT, SBLON, and INTAG) on the endogenous variable (AOP) will amount to -2.7964 units; this is on the basis that they are all held at constant. In other words, if the government intervention variables are held constant at zero, agricultural output will decrease by 2.7964 units.

Furthermore, government intervention expenditure decreased agricultural output by 1.129 units. The probability value of 0.7951 (>0.05) shows that the negative effect of government intervention expenditure was not significant. This implies that government intervention expenditure has not adequately catered for the sector which has resulted in declining output in the agricultural sector.

However, specialized bank loans and interest rate on agricultural loans showed positive coefficients increasing agricultural output by 3.234 and 2.922 respectively. Only specialized bank loans significantly affected agricultural output with probability value of 0.0008 (<0.05) while interest rate was not significant since the probability value is 0.2825 (>0.05 critical value). This is a positive scenario and agrees with our a-priori expectation of a positive outcome. In other words, specialized banks have shown great commitment to the agricultural sector through increased funding of the sector which has translated to increased agricultural yield over the years. Interest rate on agricultural loans has also been favorable as it has increased the sector's output.

Table 5: Diagnostic Tests

Diagnostic Test	**Result**	**Decision**
Adj. Coefficient of determination (R^2)	0.9979= 99.79%	Very strong fitness
Breusch-Godfrey test	0.8651	No serial autocorrelation
F-statistics	=37.554 (*p=0.0000*)	Variables are jointly significant

Source: Author's computation on E-views 10

The diagnostic tests are other tests that confirms the robustness and suitability of the data used in the model. The coefficient of determination as shown in the Table 5 above is 0.9979. This shows that the explanatory variables could explain up to 99.79% of the total variations in the model. In other words, government intervention variables account for up to 99.79% of the total changes in agricultural output in Nigeria. There is no autocorrelation in the model and the joint significance of the variables were confirmed by the F-test.

Conclusion and Recommendations

The findings showed that government intervention expenditure had negative, not significant effect on agricultural output in Nigeria. Specialized banks loans increased agricultural output significantly while interest rate on agricultural loans increased agricultural output in Nigeria but not significantly. The conclusion that can be drawn from the above findings is that government intervention has come in the form of various agricultural development programmes but it appears that the funding of these programmes has not really increased output of the agricultural sector. The negative coefficient may be a pointer to the fact that government intervention expenditure has been either insufficient or has not reached the intended farmers due to misappropriation of the funds.

Evidence from our findings further showed that specialized banks have been more effective in growing the agricultural sector more than the government allocations. Thus, the increased devotion of government expenditure towards resuscitating the Nigerian agricultural sector needs to be pursued with great vigour and with the right attitude and commitment so as to restore the agricultural sector as the pride of the nation. In line with the conclusion, we recommend as follows:

1. There is every need to ensure and enforce accountability, transparency and judicious disbursement of the allocations meant for these agricultural programmes so as to enable the intended farmers to enhance their productivity.
2. It is commendable if more funds should be channelled into the existing credit schemes to increase overall agricultural output.
3. Government can employ a direct farmers' approach whereby farmers' corporatives are used in the funds disbursements for agricultural production.
4. Specialized banks such as Bank of Agriculture, African Development Bank etc. should be further encouraged to invest more in the agricultural sector through effective government legislations.
5. The local government areas should be funded, empowered and licensed by the constitution of the federal republic of Nigeria to organize, sponsor, monitor and evaluate agriculture practices in their respective areas.

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