

## **Agricultural Production, Government Effectiveness and the Nigerian Economy (1990-2020)**

<sup>1</sup>Michael Baghebo & <sup>2</sup>Nathan Emmanuel

<sup>1&2</sup>Department of Economics Faculty of Social Sciences  
Niger Delta University, Wilberforce Island  
P. O. Box 1147, Yenagoa, Bayelsa State

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### **Abstract**

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The purpose of this study was to provide empirical analysis on the link between agricultural production, government efficiency, and the Nigerian economy. The research was carried out from 1990 to 2020. Among the variables at play here are things like the rate of economic growth (as measured by real GDP), agricultural outputs, agricultural subsidies from the government, and agricultural financing from commercial banks and other financial intermediaries. This study made use of time series data, and the data were analysed by employing the Error Correction Mechanism (ECM). The findings of the study indicated that agricultural production had a significant impact on the upward trajectory of Nigeria's economic growth, with statistical significance at the 5% level. This was found to be the case. As a result, we suggested that all levels of government as well as the private sector should be fully involved in pursuing the path of agricultural development for the expansion of the Nigerian economy, which would ultimately lead to an increase in the number of jobs created and a reduction in the amount of people living in poverty. In addition to this, retail banks and other types of financial intermediaries should provide financial services to the agricultural sector in order to improve efficiency and productivity.

**Keywords:** *Agricultural productivity, Government effectiveness, Nigerian economy*

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Corresponding Author: **Michael Baghebo**

### **Background to the Study**

Agriculture is vital to Nigeria's economy and government efficiency. Jerzy (2013) defines agriculture as any activity including labour, land, animals, plants, sun energy, etc. Agriculture is vital for broad-based economic growth and development. Agriculture is crucial for human existence and economic prosperity, especially in providing food and industrial raw materials.

Agricultural output aids the Nigerian economy by feeding a growing population, giving raw materials (and labour) to an expanding industrial sector, earning foreign exchange, and creating a market for agrarian sector products (Okumadewa, 2017). Agriculture affects the economy. This need a robust agriculture strategy to support Nigeria's economy.

Government efficacy has supplied agricultural research extension, commodity marketing, input supply, and land use control to promote the agrarian sector's growth and development. Agriculture has several uses. This requires private sector involvement in university agricultural research, farmer capacity building, and funding for farm firms. International governmental and non-governmental organisations, such the World Bank Fund and Agricultural Organization of the United Nations, provide financing, inputs, and technical help.

Before oil, agriculture was Nigeria's mainstay. Nigeria's population is 80% agricultural. The agricultural industry in Nigeria is an important source of revenue for the government and Nigerians, especially farmers. In the 1960s and 1980s, agricultural revenues in Nigeria's Eastern, Western, and Northern regions were considered successful (Anyanwu,1997).

Nigeria's oil boom has forgotten agriculture. Despite the petroleum sector's importance as the top foreign exchange earner, agriculture is Nigeria's backbone, says Soludo (2004). Agriculture is the largest non-oil exporter, the largest employment, and a major contributor to wealth development and poverty reduction. Agriculture and allied activities offer income to a considerable portion of the population. Agricultural output has slowed and failed to keep up with a growing population, resulting in increased food and industrial import costs.

Despite several studies linking agricultural and economic growth, opinions vary (Awokuse, 2009). The causal dynamics of agricultural and economic growth merit additional study. Timmer (2005), noted that structural change is a general equilibrium process that cannot be explained by agriculture alone. How agriculture may generate rural prosperity has received little attention or inconsistent messages, especially from international financing agencies (Anriquez et al., 2007). Despite the vast literature on agricultural and economic growth around the world and in sub-Saharan Africa, there is a shortage of empirical research on agriculture and economic growth in Nigeria with a focus on rural poverty.

This research aimed to address a research vacuum by examining agricultural production, government efficacy, and the Nigerian economy. This field has generated a lot of research. Current thinking, especially in Nigeria, seems to focus on improving agriculture as oil controls Nigeria's economy. Agriculture accounted for 65-70% of exports in the 1960s, 40% in the 1970s, and 2% in the late 1990s. Early 1970s crude oil profits contributed to agriculture's decline. Half of Nigeria's land is farmed. Most of this land is farmed by smallholders and traditional farmers using crude production methods with low yields. Small-scale farmers face obstacles such as limited access to modern inputs and financing, poor infrastructure, insufficient market access, and insufficient research and extension services. Around 70% of the population, farmers and agribusiness operators, lack access to financial services (Lawal, 2011).

Low agricultural production hurts Nigeria's economy. Several factors contribute to agricultural growth. Education, infrastructure, funding for agricultural enterprises, and government involvement are variables. Despite the government and private sector's efforts to strengthen Nigeria's economy through lending to the agricultural sector, the agricultural industry's contribution to economic growth is minimal. Agriculture, government efficacy, and the Nigerian economy have been investigated.

This study examines agricultural production, government efficacy, and the Nigerian economy. This study aims to:

- i. Examine the impact of agricultural output on Nigeria's economic growth.
- ii. Evaluate government spending on agriculture and Nigeria's economic growth.
- iii. Determine the influence of agricultural credit on Nigeria's economic growth.

## **Literature Review**

This section contains: conceptual clarification, theoretical framework and empirical literature.

## **Conceptual Framework**

### **Agricultural Production**

Agriculture involves employing land to cultivate plants and animals, according to Akinboyo (2008). It's rerouting energy for human planting and animal eating, and nature's food webs. Nigeria's economy was largely agricultural until oil was discovered in the 1980s. Nigeria's diversified environment lets it grow many food and income crops.

According to Oji-Okoro (2011), the Nigerian agriculture sector accounts for approximately 70% of the active labour force and 88% of non-oil foreign exchange receipts. Its GDP share rose from 38% in 1992 to 1996 to 40% from 1977 to 2001, while crude oil's dropped from 13% in 1992 to 1996 to 12% from 1997 to 2001. The sector includes:

Crop production includes food and cash crops. Yam, cassava, rice, beans, maize, tomato, cocoyam, millets corn, and others are eaten. Cash crops are only for local or worldwide sale to produce currency. Cocoa, rubber, cotton, palm oil, palm kernel, and groundnut.

Livestock refers to animals raised for human consumption. This includes goats and ram sheep. Forestry preserves economically significant trees and plants. It includes forest resource extraction. We benefited from preserving plants like plywood, home furnishings, boat manufacture, paper, and electric poles. Other supplies include wildlife, roots, and plants. Fishing is the household and commercial breeding and capture of river fish. Some countries use this subsector to raise money.

Peasant farming: small-scale agricultural (acres of land). Subsistence agriculture is used to meet domestic needs and to make a living from farm produce. The quantity of land peasant farmers use depends on family size, field size, and agricultural interest. Hoes, cutlasses, and axes are fundamental agricultural implements.

Plantation farming involves permanently growing commercial crops on a large estate. Plantations grow cocoa, tea, cotton, sugar, tobacco, rubber, sugarcane, palm tree, and coffee. Government, private sector, persons, or corporations hold plantation land. Plantations use sophisticated machinery and inputs.

### **Economic Growth**

Economic growth is the process of increasing production capacity to raise national revenue. Jhingan defines economic growth as a steady increase in a country's per capita income, labour force, consumption, capital, and commerce (2007). Akpakpan (1987) defines economic growth as an annual increase in total and per capita output. It means the country's commodities and services are developing steadily.

According to Kindlerberger (2005), economic growth means higher output and economic development means institutional and technical advances. Growth may mean higher production due to improved efficiency, or more output per unit of input. Development changes output composition and sector input distribution. Friedman defines growth as an increase in one or more elements without structural change, while development modifies the social environment.

Kimberly (2019) defines economic growth as an increase in goods and services output. Inflation-free measurements are most accurate. Growing economies benefit businesses. Stocks climb. This frees up funds for investment and hiring. Jobs boost incomes. Consumers have more money to spend. Purchases fuel economic growth. All nations seek economic prosperity. Use GDP to measure economic growth (GDP). It measures the country's economic output. It includes all goods and services sold by domestic businesses.

### **Theoretical Framework**

Cobb Douglas Production Function is explored in this study.

This study uses the Cobb Douglass production function to analyse productivity drivers. Algebraically or diagrammatically. It's a relationship between inputs and outputs (output). Inputs of labour, capital, and technology boost output. It begins with the concept of production functions, which states that output quality (Q) is a function of

input quantities. In economics, Cobb-Douglas production function is used to express an output and two inputs. Cobb-Douglas proposed a basic view of the economy in which output is determined by labour and capital. While numerous factors affect economic success, their model was astonishingly accurate (Anigbogu, Abosi, and Okoli, 2004, 2015).

The production model function was;

Total production (the monetary value of all goods produced in a year),

L=work input (the total number of person-hours worked in a year),

K=investment (the monetary worth of all machinery, equipment, and buildings),

A = total factor productivity (efficiency coefficient) (efficiency coefficient) Labour and capital have different output elasticity. Technology determines these constants.

In this production function, exponent sums scale. Output elasticity evaluates how output responds to changes in labour or capital, *Ceteris Paribus*. The production function's principal goal is to address allocative efficiency in the utilization of factors inputs in production and the subsequent distribution of income to those factors, while abstracting away for the technological issues of obtaining technical efficiency. In agriculture, efficient input allocation helps farmers achieve their goals. It improves farmers' production and income. At the microeconomic level, efficient allocation of agricultural resources (land, credit, fertilisers, seedlings, labour) helps farmers contribute to food production, employment generation, industrial raw material, and export product revenues.

### **Empirical Literature**

Distinguished academics have, throughout the course of the past few years, provided explanations for the connection that exists between agricultural production and economic expansion in both developed economies and emerging economies. These empirical works include, but are not limited to:

Odhiambo, Nyangito, and Nzuma (2004), used OLS to explore the drivers and determinants of agricultural development and productivity in Kenya between the years 1965 and 2001. They focused on the agricultural sector. According to the findings, agricultural production can be affected by a variety of factors, including labour, land, trade policy, climate, and the amount of money that the government spends on agriculture. In other words, agricultural production is affected by a variety of factors, including labour, land, trade policy, climate, and the amount of money spent by the government on agriculture.

Oyekale (2007), investigated the influence of agricultural production on economic growth in Nigeria using Error Correction Modelling. The study focused on Nigeria. The ADF test found that all of the variables were stationary, and the Johansen co-integration test found seven cointegration vectors. Both of these results are consistent with the hypothesis that cointegration exists. Agriculture land expansion is impacted by dynamic factors that are unregulated over the short term, such as the rate of growth of permanent

croplands, the agricultural output index, the population of animals and humans, the growth rate of cereal croplands, and the growth rate of other land.

Through the application of ARDL, Ahmad and Heng (2012), were able to study the factors that led to the growth of agricultural output in Pakistan from 1965 until 2009. It was discovered that fertiliser was the most important predictor, with long run elasticities of 0.16 and short run elasticities of 0.2, respectively. This demonstrates that the impact of fertiliser on total factor productivity has a diminishing return as more fertiliser is applied. The human capital variable, with its long run and short run elasticities of 0.14 and 0.09, respectively, comes in at the number two spot as the most important factor. It would appear from this that more farmers are going back to school, and the knowledge they are gaining is contributing to an increase in agricultural output. Long run and short run elasticities for agricultural loans are respectively 0.1 and -0.03, while short run elasticities are 0.1. The area under crop cultivation is extremely insignificant given that the long run and short run elasticities, respectively, are -0.42 and 0.27. The speed of adjustment for the model is at 65 percent, which indicates that it is holding constant.

Oluwatoyese and Applanaidu (2014), investigated the impact of agriculture sector determinants on the growth of the Nigerian economy using the OLS. Their study included the years 1981 through 2011. According to the findings, activities such as fishing, producing food, forestry, and raising livestock all have a positive correlation with the expansion of the economy. Forestry and livestock production have much less of an effect on the overall rate of economic growth in comparison to fisheries and food production.

Adeyemo (2015), investigated the variables of palm oil production in Nigeria from 1971 to 2010 using co-integration and ECM. His research covered the period from 1971 to 2010. The amount of palm oil produced served as the research's dependent variable, while the price of palm oil, the real exchange rate, the cost of crude oil, and the structural adjustment programme were the study's independent variables. The findings demonstrated that the variable in question was both stable and co-integrated at the first order. In addition, the findings of the ECM demonstrated that the rate of error correction is 99.8%. There is a negative correlation between palm oil price and SAP and palm oil output. On the other hand, there is a positive correlation between palm oil output and the exchange rate and the price of crude oil.

Udah, Nwachukwu, Nwosu, Mbanasor, and Akpan (2015) used an Ordinary Least Square regression analysis to analyse the drivers of agricultural export development in Nigeria from 1960 to 2010. Their research included the period from 1960 to 2010. According to the projected results, an increase in agricultural export growth is positively correlated with developments in the following areas: growth in agricultural export market price; growth in trading partner; growth in exchange rate; growth in agricultural export intensity; and growth in government investment in agriculture. Both interest rates and the increase of infrastructure development had a negative association with the expansion of agricultural exports; however, both of these factors had a positive relationship with the expansion of agricultural exports.

Udah and Nwachukwu conducted research on the factors that contribute to Nigeria's growing agricultural GDP (2015). The OLS method was utilised to analyse the time series data that was used in the research. According to the data, there is a positive relationship between agricultural GDP and agricultural labour, the development of agricultural infrastructure, and total factor productivity. On the other hand, the rate of inflation in agricultural land was found to have a negative relationship with agricultural GDP.

Lawal (2011), utilised time series data to validate the level of funding that the federal government allocated to agriculture throughout the course of the previous three decades, 1979–2007. The analysis yielded significant statistical evidence that showed that government expenditure does not adhere to a pattern that is predictable, and that the contribution of the farm sector to GDP is exactly proportional to the support provided by the government. Oji-Okoro (2011) conducted an investigation on the role that Nigeria's agriculture industry played in the country's overall economic development using multiple regression analysis. They found that there was a positive relationship between Gross Domestic Product (GDP) and domestic saving, government expenditure on agriculture, and foreign direct investment between the years 1986 and 2007. According to the findings of the study, the variance in GDP may be attributed to changes in three primary factors: domestic savings, government spending, and foreign direct investment.

Researchers Okezie, Ihugba, Nwosu, and Njoku (2013), looked at Nigeria's agricultural resources and how they relate to the country's expanding economy. The relationship between agricultural resources and the expansion of the Nigerian economy is the subject of this study. The data were evaluated by employing the regression technique known as ordinary least square. According to the data, there is a direct correlation between the country of Nigeria's gross domestic product (GDP) and the amount of agricultural products that are exported. It is estimated that the agriculture sector was responsible for 34.4% of the fluctuation in Nigeria's gross domestic product between the years 1970 and 2010. (GDP). In the 1970s, during the height of the boom brought on by the oil industry, the agricultural sector was ignored. If the government wants to see an improvement in agriculture, it needs to make certain that farmers have access to specialised incentives, sufficient money, and basic infrastructure facilities such as well-maintained roads, piped water, and electrical outlets.

Agricultural production, the efficiency of the administration, and the state of the Nigerian economy have all been the subject of multiple empirical investigations. The majority of the study conducted in this field came to an end in 2016 and 2017 respectively. In contrast, the purpose of this effort is to expand the scope of the study from 1981 to 2020. The majority of these studies make use of variables of agricultural production as well as real gross domestic product. However, the purpose of this study is to expand the number of variables by considering the influence of government spending on agriculture. The error correction model is ultimately chosen to be used in the investigation (ECM).

### Methodology

This part covers the design, data collecting technique, model formulation, a priori expectation, and data collection sources. It also takes into account data analysis methods. The descriptive and inferential statistics were used by the researcher, with the inferential statistic handling the examination of the hypotheses.

### Model Specification

For the relevance of this study, we modified the Cobb Douglas production function model with the necessary variables. These include labour and capital. We modified the above statement to examine the extent to which agriculture, government effectiveness affects economic growth in Nigeria over the period 1990 to 2020. To achieve this, a multiple linear regression equation is specified below:

$$RGDP = f(AGRO, GFA, AGC) \dots\dots\dots (1)$$

Formulating the econometric model from the functional relationship in equation (3.1) by introducing constant and error term we have

$$RGDP_t = \beta_0 + \beta_1 AGRO_t + \beta_2 GFA_t + \beta_3 AGC_t + \mu_t \dots\dots\dots (2)$$

Log-linearizing equation (2) with the constant and error term in order to linearized the model, we have

$$\log(RGDP_t) = \beta_0 + \beta_1 \log(AGRO_t) + \beta_2 \log(GFA_t) + \beta_3 \log(AGC_t) + \mu_t \dots\dots\dots (3)$$

Where:

- RGDP = Real Gross Domestic Product
- AGRO = Agricultural Output
- GFA = Government Funding on Agricultural Outputs
- AGC = Agricultural Credit
- $\beta_0$  = Autonomous components of economic growth
- $\beta_1$ -  $\beta_3$  = Coefficient of the respective explanatory variables
- $\mu$  = Error term

A priori expectations:

It is expected that  $\beta_1 > 0$ ,  $\beta_2 > 0$  and  $\beta_3 > 0$

Equation (3) was use estimate Abstract

### Results and Discussion

The descriptive statistics attempt to clearly describe the model's data. This allows the researcher to quickly review the mean, standard deviation, minimum and maximum variables across the study period are the most important descriptive metrics. The table below represents the descriptive statistics. Std. Dev represents standard deviation while Min and Max represent the Minimum and Maximum values of both the independent and dependent variables respectively.



**Table 1:** Descriptive Statistics

	RGDP	AGRO	GFA	AGC
Mean	42853.90	9807.989	24.78484	207.2219
Median	38777.01	9516.990	17.92000	62.10000
Maximum	72094.09	18348.18	70.27000	1049.680
Minimum	21680.20	3464.720	0.210000	4.220000
Std. Dev.	19385.76	5300.031	23.07683	264.8723
Jarque-Bera	3.507369	2.975682	2.878916	16.47258
Probability	0.173135	0.225860	0.237056	0.000265
Observations	31	31	31	31

**Source:** Authors own computation using E view 10

According to the table above, the lowest number for real gross domestic product was 21680.20 billion in 1990, while the highest value was 72094.09 billion in 2020. The standard deviation for real gross domestic product is 19385.76, while the mean value is 42853.90. In addition, the table above shows the explanatory variables' lowest and maximum values. The mean and standard deviation are also contained in the table above. Because the Jarque-Bera values of the variables are greater than their probability value, the descriptive statistic indicated that all of the variables are regularly distributed.

The Augmented Dickey-Fuller test is used in testing the null hypothesis that there is a unit root in a particular time series of interest. This is not the only tests available, but it represents widely used approach. The unit root tests are presented in Table 2. The lag length used in the ADF test based on minimizing the Akaike Information Criterion (AIC), starting with an automatic selection.

**Table 2:** Unit Root Test using Augmented Dickey-Fuller (ADF) Test

Variables	<i>Augmented Dickey-Fuller Test</i>				Order of int.	Remark
	@ level	@ 1 <sup>st</sup> Diff	5% C. V	Lag		
Log(RGDP)	-1.461514	-4.323731	-3.574244	AS	I (1)	Stationary
Log(AGRO)	-1.351763	-4.899040	-3.574244	AS	I (1)	Stationary
Log(GFA)	-3.412188	-6.249300	-3.574244	AS	I (1)	Stationary
Log(AGC)	-3.183261	-6.178772	-3.574244	AS	I (1)	Stationary

**Source:** Author's own computation using E view 10

Table 2 indicates that real gross domestic product (RGDP), agricultural production (AGRO), government support for agriculture (GFA), and agricultural credit from commercial banks (AGC) were non-stationary series at levels but became stationary at the first difference using ADF unit root tests. Following the determination of the variables' stationarity, we use the Johansen cointegration test to see if there is a linear combination of the variables with unit roots that is stationary.

**Table 3:** Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.516173	51.09579	47.85613	0.0240
At most 1 *	0.454490	30.04101	29.79707	0.0469
At most 2	0.347831	12.46599	15.49471	0.1359
At most 3	0.002407	0.069882	3.841466	0.7915

**Source:** Author's own computation using E view 10

The Johansen tests revealed that the trace statistics shows the existence of two cointegrating equations between the explanatory variables and real gross domestic product at 5% level of significance. The conclusion drawn from this result is that there exists a unique long run relationship between agricultural production and the Nigerian economy during the period under study. In order to avoid spurious regression result, the error correction mechanism is estimated below.

#### Over Parameterized ECM

The over parameterized error correction model is a result that revealed the log of the lag value of the dependent and explanatory variables with the inclusion of the error correction term. The result is presented below in table 4

**Table 4:** Over Parameterized ECM for the model  
Dependent Variable: DLOG (RGDP)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.001955	0.016794	-0.116421	0.3096
DLOG(RGDP(-1))	0.842508	0.238879	3.526916	0.0055
DLOG(RGDP(-2))	-0.285713	0.275533	-1.036949	0.3242
DLOG(RGDP(-3))	0.350954	0.203888	1.721308	0.1159
DLOG(AGRO)	0.236965	0.096167	2.464097	0.0334
DLOG(AGRO(-1))	-0.163326	0.141813	-1.151699	0.2762
DLOG(AGRO(-2))	0.063534	0.108850	0.583685	0.5724
DLOG(AGRO(-3))	-0.155672	0.095733	-1.626102	0.1350
DLOG(GFA)	-0.012408	0.007431	-1.669793	0.1259
DLOG(GFA(-1))	0.010703	0.008410	1.272670	0.2319
DLOG(GFA(-2))	0.008188	0.008199	0.998656	0.3415
DLOG(GFA(-3))	0.012423	0.011006	1.128701	0.2854
DLOG(AGC)	0.005838	0.017478	0.333988	0.7453
DLOG(AGC(-1))	0.000770	0.015136	0.050851	0.9604
DLOG(AGC(-2))	-0.004483	0.016170	-0.277250	0.7872
DLOG(AGC(-3))	0.020094	0.015760	1.275009	0.2311
ECM(-1)	-0.176646	0.154681	-1.142000	0.0801

R<sup>2</sup> = 0.883938, F-statistic = 4.760040, Prob(F-statistic) = 0.008242, D.W. = 2.202010

**Source:** Author's own computation using E view 10

From the above over parameterized ECM model it revealed that some of the variables as well as the error correction term is not significant at 5%. Such variables with high probability value are being dropped in the process until the error correction term become significant at 5%. The Parsimonious error correction model is stated below in table 5

**Table 5:** Parsimonious Error Correction Model  
Dependent Variable: DLOG(RGDP)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.001645	0.014924	-0.110253	0.1942
DLOG(RGDP(-1))	0.841705	0.227295	3.703148	0.0035
DLOG(RGDP(-3))	0.351777	0.193811	1.815053	0.0968
DLOG(AGRO)	0.237411	0.091322	2.599705	0.0247
DLOG(AGRO(-1))	-0.163512	0.135185	-1.209542	0.2518
DLOG(AGRO(-3))	-0.156417	0.090213	-1.733875	0.1108
DLOG(GFA)	-0.212433	0.087070	-2.439705	0.0364
DLOG(GFA(-1))	0.010698	0.008019	1.334038	0.2092
DLOG(GFA(-3))	0.012439	0.010491	1.185678	0.2607
DLOG(AGC)	-0.106106	0.025891	-4.098180	0.0081
DLOG(AGC(-3))	0.019970	0.014848	1.344960	0.2057
ECM(-1)	-0.176941	0.047398	-3.733090	0.0052

R<sup>2</sup> = 0.863908, F-statistic = 5.583480, Prob(F-statistic) = 0.003280, D.W. = 2.102538

**Source:** Author's own computation using E view 10

An analysis of the econometric models presented in Table 5 reveals that the factor that determines real gross domestic product in Nigeria (agricultural outputs, government funding on agriculture, and agricultural credit from deposit money banks) accounts for approximately 86% of the total variations in the expansion of the country's economy. The values of the coefficient of determination, R<sup>2</sup>, provide evidence for this assertion (0.863908). Given that the coefficient of determination is higher than fifty percent, this indicates that the result has a satisfactory fit and is statistically significant. In further investigation, the F-values of 5.583480 reveal that the entire regression is statistically significant at 5%. This is due to the fact that the probability value of the f-statistic is 0.003280, which is lower than 5%. Despite the fact that the Durbin-Watson statistics value of 2.102538, which showed that there was no evidence of serial autocorrelation.

At the 5% level of statistical significance, the predicted negative sign is present on the coefficient of the error correction component, which carries statistical significance and bears the expected negative sign. However, the rate of adjustment is slow, and approximately 18% of the adjustment to equilibrium of economic growth is forecasted to take place in the long run. This is despite the fact that the rate of adjustment is predicted to be positive. This result suggests that omitting error correction in non-stationary time series analysis at level would lead to the model being misspecified. This conclusion is drawn from the fact that the result was obtained.

According to the findings of the empirical study, there is a positive relationship between the present value of agricultural products and the expansion of the economy in Nigeria. According to the findings of the regression shown above, this impact has a substantial significance level of 5%. This suggested that a rise in the output of agriculture will lead to a growth of 23.7% in the Nigerian economy, all other things being equal. The outcome is consistent with what we anticipated on a theoretical level.

The findings also indicate that the current value of government agricultural support has a negative impact on the expansion of the economy of Nigeria, an effect that is statistically significant at 5% and shows a negative relationship between the two variables. The conclusion that can be drawn from the findings is that the government has not invested nearly enough money in the agriculture sector. If everything else remains the same, an increase of one unit in government spending on agriculture will result in a drop of 0.212433 units in real GDP domestic product. Our prior expectations were not met by the outcome, which is disappointing.

In conclusion, the current value of agricultural credit from commercial and development banks has a negative influence on the expansion of the economy, and this negative impact is substantial at the 5% level of significance. In light of the findings, it appears that agricultural credits have not been utilised to their full potential for the simple reason that this sector does not contribute positively to the expansion of the economy. This could be the result of the agricultural credit fund being diverted for use in other areas. We argue that the finding demonstrates that there is a causal relationship between agricultural production and the economy of Nigeria, just as the model predicted it would be.

### Granger Causality Test

The essence of the Granger Causality test is to know the direction of relationship between the dependent and the explanatory variables. The result is stated below.

**Table 6:** Granger Causality Test

Null Hypothesis	Obs	F-Statistic	Prob	Decision
RGDP does not Granger Cause GFA	29	4.74666	0.0183	Reject
AGC does not Granger Cause RGDP	29	3.46670	0.0476	Reject
AGRO does not Granger Cause GFA	29	6.07165	0.0073	Reject
AGC does not Granger Cause GFA	29	4.37064	0.0241	Reject

**Source:** Author's own computation using E view 10

From the above result, Granger Causality is running from AGC to RGDP and GFA. RGDP Granger Cause GFA. Finally, AGRO Granger cause GFA. In all we reject the null hypothesis and statistically significant at 5%. The relationship is uni-directional relationship.

## **Conclusion and Recommendations**

The purpose of this research was to gain a more in-depth understanding of the connection that exists between agricultural output, the efficiency of the government, and the growth of the Nigerian economy so that suggestions might be developed to facilitate the acceleration of that growth. The time series data on the agricultural production index, real gross domestic product, government assistance for agriculture, and agricultural loans were the sources of our information. The unit root and the Johansen co-integration test were utilised in the research so that the stationarity of the relationship as well as the long-term connection between the dependent and explanatory variables could be determined. The researchers then used the Error Correction Model (ECM) to examine the data, which ultimately resulted in the most important finding of the study. Agriculture production was found to have a positive association with the expansion of the economy in Nigeria, and this association was found to be strong both in the short term and in the long term. However, the trend in agricultural production and economic growth in Nigeria have not yielded a tangible improvement in the well-being of a larger proportion of the population, particularly the rural populace whose primary occupation is agriculture. Because of this, an economic growth that translates into poverty reduction, enhanced food security, improved health status, increased educational capacity, and empowerment of youths and women in rural Nigeria should be embraced.

The following recommendations were developed based on the findings of the empirical research.

1. It is recommended that appropriate agricultural policies should be designed for the purpose of alleviating rural poverty, and this should be centred on diversifying the Nigerian economy with agriculture as the driver of the economy so that the benefits of economic growth will trickle down to the agro-based rural population, which constitutes a larger proportion of the population of Nigeria.
2. It is recommended that proper agricultural policies should be designed for the purpose of alleviating rural poverty, and these should be centred on diversifying the Nigerian economy with agriculture as the driver
3. There should be a concerted effort on the part of all levels of government to promote agricultural development as a means of fostering economic expansion in Nigeria, which would, in turn, lead to an increase in the number of jobs available and a decrease in poverty. This is due to the fact that the empirical findings indicate that the government has not made any meaningful contribution to the expansion of the economy through the funding of agricultural activities.
4. Deposit money banks and other financial intermediaries should ensure that agricultural credit should be fully implemented and should not be diverted for other uses. This is because from the empirical result agricultural credit is not fully used and it has a negative impact on the growth of the economy.

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