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IMPACT OF SELECTED AGRICULTURAL EXPORT COMMODITIES (SESAME SEED, COCOA BEAN AND CASHEW NUT) ON THE NIGERIAN ECONOMY: (1981-2021)

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ABSTRACT

The study assesses the impact of selected agricultural export commodities (sesame seed, cocoa bean and cashew nut) on the Nigerian economy from 1981-2021. Specifically, the study objectives were to; analyze the trend of agriculture commodity export from 1981 – 2021 and assess the impact of sesame seed, cocoa bean and cashew nut exports on economic growth 1981 – 2021. Method of data collection was through Secondary sources. These data collected were subjected into preliminary investigation such as unit root test (ADF) to determine the stationarity and non-stationarity of the variables under study, which shows that variables were integrated of mixed order which make Auto Regressive Lag model (ARDL) a suitable model for the analysis, The Bound test of cointegration show a Long-run relationship between variables under study (F-statistics 4.3207>1(0) and 1(1) bounds values of 3.12 and 4.25 respectively at 5% level of significance. Thus, indicating the presence of Long-run relationship among variables. Diagnostic test shows the goodness of fit of the model. The result of trend analysis shows that the value of sesame from 1981-2020 was highest in the year 2003 and contributed 13.5% to GDP and declined thereafter, cashew nuts contributed 13.8% to GDP in 2003 while, cocoa beans was at it peak in 1996-2020 therefore Contributing 13.2% to GDP. The result for the long-run relationship Of Sesame, Cocoa and Cashew Nut on GDP shows that, the coefficient of cocoa, cashew and sesame as; (Cocoa: 0.38333; P=0.049<0.05@5%), (Sesame: 5.209;p=0.049<0.05) and (Cashew: 1.4860, p=0.0049<0.05) were all Statistically Significant at 5% Probability level implying that percentage increase in Cocoa, Sesame and Cashew export will contributes to GDP by 3,8%, 5.20% and 1.48% respectively. Based on the findings from the research, the study therefore recommends the following; The government in power should attempt to diversify and promote exports in order to fully exploit the benefits of the agricultural sector and promote economic growth and the government should expand beyond oil by prioritizing high-performing agricultural commodities like sesame seed, cashew nut, and cocoa bean for export.

Keywords: Economy, Export, Impact, Commodities and Stationarity

1. INTRODUCTION

1.1. Background to the Study

Agriculture has been the most practiced occupation in Nigeria for many years. It is mostly being practiced in the rural areas of the country. Before the discovery of oil, agriculture used to be the main occupation engaging about 65% of the total active population in the country. It has been in

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operation and has engaged about two-third of the entire population. Agriculture according to the CBN (2019) accounted for between 30 and 40% proportion of the Gross Domestic Product (GDP). Nigeria has been able to provide crops and livestock owing to favorable climate condition and vegetation. The climatic condition which has its uniqueness in the different parts of the country has made production of certain cash crops peculiar to particular regions comparatively. The importance of agricultural resources in bringing about economic growth and sustainable development of a nation like Nigeria cannot be underestimated. In the opinion of Oji-Okoro (2011), agriculture resource has been an important sector in the Nigerian economy in the past decades, and is still a major sector despite the oil boom; basically, it provides employment opportunities for the teeming population, eradicates poverty and contributes to the growth of the economy, Nigeria. Mag (2025) opined that a strong and efficient agricultural sector enables a country to feed its growing population, generate employment, earn foreign exchange, and provide raw materials for industries. In the same view, the World Bank (2023) stated that agriculture is the mainstay of many economies and is fundamental to socioeconomic development because it is a major element and factor in national development.

The increase in agricultural export has been a major success story and has achieved many benefits and foreign earnings for Nigeria. Thus, the contribution of export to a nation's economic growth and development cannot be ignored or taken lightly, since it is an instrument that facilitates the general development of an economy (National Bureau of Statistics, 2025; International Trade Administration, 2025; Lagos Chamber of Commerce & Industry, 2025). It is also a major source of foreign exchange and employment opportunity being created to reduce the social costs of unemployment. According to Bariki *et al.*, (2025), a rewarding international trade can transform an underdeveloped economy into a productive activity through its multiplier effects on national income, since revenue earned via exporting assists in expanding the level of demand within the economy. In the same vein, UNCTAD (2025) emphasized that balanced trade policies are crucial to sustaining growth, while the IMF (2025) noted that international trade continues to drive productivity and demand expansion globally.

Exports play a critical role in any economy's development as foreign trade is hugely advantageous for a country. Trade is also one of the many other catalysts of productivity and performance, and therefore its participation is largely dependent on its volume in aggregate demand. Information regarding this has managed to help numerous countries attain economic efficiency and sustainability (Okeke & Eze, 2019). As a result of this, the Nigerian economy has always emphasized policies on trade liberalization to the growth-led export strategy. According to UNCTAD (2022), export promotion approaches are initiatives that strengthen export diversification through the free flow of resources, integration with multinational companies, and transparent trade policies. In the same vein, the Nigerian Export Promotion Council (2025) highlighted those incentives such as the Export Development Fund and Export Expansion Grant promote exports by supporting competitiveness and market penetration, while Bariki, Philip & Ismail (2025) confirmed that such initiatives have significant multiplier effects on Nigeria's GDP. An export-led growth strategy is aimed at providing manufacturers with benefits to export their goods via various economic and government policies. Such policies seek to raise the national production level to improve the nation's export value. According to the National Bureau of Statistics (2025), government promotion and support for raising domestic production performance ensures that local demand is met, while the excess output generates foreign exchange influx from the global market. In the same vein, the Central Bank of Nigeria (2024)

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and International Trade Administration (2025) emphasized that agriculture remains a strategic sector whose surplus production contributes significantly to Nigeria's GDP and foreign exchange earnings. As of 1960, a notable characteristic of Nigeria's foreign demand has essentially remained the same. The export sector is dominated by specific commodities being dominant in export. Agricultural commodity exports dominated the Nigerian economy during the decades of the 1960s and 1970s. These commodities included cocoa, groundnut, cotton, and oil palm. In the mid-1970s and onward crude oil has featured as the Nigerian economy's main export commodity (Adebayo and Alheety, 2019).

Light and soft, Nigerian crude oil is widely sought after on the foreign oil market. Crude oil exports now account for around 96 per cent of total exports. Throughout the past two decades, the contribution of non-oil exports has been minimal. Thus, over the years the policy interests have turned towards expanding non-oil exports to diversify the export base of the nation. Diversifying the Nigerian economy is essential for many reasons. The volatility of the international oil market and the accompanying instability of tax revenue lend credibility to the argument for export diversification. As the World Bank (2023) and Central Bank of Nigeria (2024) observed, reliance on oil exposes the economy to shocks, while the National Bureau of Statistics (2025) confirmed that non-oil sectors such as agriculture are increasingly vital for sustainable growth and revenue stability. Secondly, the value of export for the economic growth and prosperity of a country cannot be overemphasized. Agricultural exports also played a pivotal role in economic growth in Nigeria, generating the income required for certain capital development ventures. Export is a necessary catalyst for the aggregate growth of an economy. In every economy, the main aim of policies targeted at export is the increment of the amount of economic activity.

Therefore, it follows that export policies are best aimed at the sector where the effect of an improvement in export demand would be both beneficial and important. The activity that followed the oil boom era which resulted in the oil glut on the international oil market after 1981 contributed only to abandoning the competitive base for non-oil exports. That also contributed to the emergency initiatives from the Economic Stability Act of 1982 by subsequent governments (Ikpe, Ojike & Ahamba, 2020). The Babangida Administration's anti-trade stance by the Buhari / Idiagbon system and the implementation of the Structural Improvement Plan (SIP) thus the need to expand the economy's export market base. Before the oil sector emerged, agriculture was the leading profession in Nigeria and served as the mainstay of the Nigerian economy, bringing in 80 per cent of export earnings and 75 per cent of the GDP (MakuaChukwu & Ojide, 2013). Consequently, this position has consistently fallen to date, the accompanying fluctuation in the promotion of non-oil exports, the world prices of agriculture and manufacturing products, and the emergence of oil have contributed in no small measure to the divergence of the role of agriculture in the development of the nation. The almost complete depletion of the agriculture sector exacerbates this problem. The Nigerian economy has not managed to recover from the resulting imbalances in both external and domestic sectors, so Nigeria's need for adaptation to broaden and reshape the economy's productive base to decrease its reliance on oil exports has resulted in the present economic imbalance (Okeke & Eze, 2019). Also, an advanced agricultural sector can provide individuals with an associated reduction in the social cost of unemployment with an employment opportunity. Export earnings reduce and even improve the strains on the balance of payment position. Under a developed economy, a gratifying export desire can thus far

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turn into a thriving economy. Export helps to increase the level of aggregate economic activity by having multiplier effects on natural income levels.

1.2. Objective of the Study

The broad objective of this study is to determine the impact of selected agricultural export commodities (sesame seed, cocoa bean and cashew nut) on Nigerian economy. While, The specific objectives is to;

i. analyze the trend of agriculture commodity export from 1981 – 2021;
ii. assess the impact of sesame seed, cocoa bean and cashew nut exports on economic growth 1981 – 2021.

1.3. Statement of the Problem

Nigeria's economy has historically depended on crude oil exports as its primary source of foreign exchange earnings. This over-reliance has exposed the nation to global oil price volatility, resulting in unstable revenue streams and recurrent economic crises. Despite possessing vast agricultural potential, Nigeria has not fully harnessed the opportunities presented by non-oil exports, particularly high-value commodities such as sesame seed, cocoa bean, and cashew nut. These crops have consistently demonstrated strong demand in international markets and the capacity to generate substantial foreign exchange, create employment, and stimulate rural development.

Existing studies affirm this potential. For instance, Onunwo & Amadi-Robert (2022) found that crop, livestock, fishery, and forestry outputs significantly stimulate GDP growth, reinforcing agriculture's role in sustainable development. Similarly**,** Ejenma *et al.,* (2023) highlighted agriculture's contribution to poverty reduction and alignment with the Sustainable Development Goals, while Nabena *et al.,* (2024) reported that agriculture contributed ₦19.3 trillion to Nigeria's economy in 2023, accounting for 25% of real GDP. In the context of exports, Adeyemi, Ayoola & Efobiri (2025) demonstrated that cocoa, sesame, and cashew exports significantly drive inclusive growth, and Udoh & Adelaja (2021) confirmed that agricultural export values have a statistically significant impact on GDP.

However, despite these findings, the contribution of sesame seed, cocoa bean, and cashew nut exports to Nigeria's economic growth between 1981 - 2024 remains under-explored and inadequately documented. Structural challenges such as poor infrastructure, limited access to credit, weak value-chain integration, and inconsistent government policies have hindered the sector's competitiveness in global markets. Consequently, Nigeria continues to spend billions annually on food imports, reflecting a paradox of abundant agricultural resources coexisting with economic vulnerability.

This situation raises critical questions about the extent to which sesame seed, cocoa bean, and cashew nut exports have impacted Nigeria's economy over the past four decades. Without empirical evidence on their role in foreign exchange generation, GDP growth, and employment creation, policymakers may struggle to design effective strategies for diversifying the economy away from oil dependence. Addressing this gap is essential for understanding the potential of

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agricultural exports as instruments of sustainable economic development and for repositioning Nigeria within the global trade system.

3.METHODOLOGY

3.1. The Study Area

Nigeria is located in West Africa within the Gulf of Guinea and located between latitudes 4^0 to 14^0 North and between longitudes $2^02'$ and $14^030'$ East. To the North, the country is bounded by Niger Republic (1497 km) and Chad (853 km) to the West by Benin Republic (773 km) to the East by the Cameroon Republic (1,690 km) and to the South by the Atlantic Ocean. Nigeria has a land area of about 923, 769 square kilometer (km2) (NBS, 2016); a north-south length of about 1,450 km and a west-east breadth of about 800 km. Its total land boundary is 4,047 km while the coastline is 853 km (NBS, 2016). According to Federal Ministry of Environment of Nigeria's (FMOE 2018), Nigerian's climate is arid in the north, tropical in the center, and equatorial in the south. Mean temperatures are 30^0C-32^0C in the south and 33^0C-35^0C in the north. Generally, temperatures are high throughout the year because Nigeria lies within the tropics and the mean monthly figure could go above 27^0C, while daily maximum temperatures can go between beyond 35^0C – 38^0C depending on the location (Iloeje, 2001).

Nigeria has a tropical climate characterized by high temperatures year-round and distinct wet and dry seasons. The environment transitions across four distinct zones from south to north, heavily influencing vegetation, agriculture, and weather patterns across the country.

1. Climatic Zones & Vegetation

i. Tropical Monsoon (South): located along the coast, this region experiences heavy, near-year-round rainfall (often exceeding 4,000mm annually in places like the southeast). The environment is defined by dense mangrove swamps and tropical rain forests.

ii. Tropical Savannah (Central/Middle Belt): moving inland, this zone features a clear division between a wet season (typically April to October) and a dry season. The environment is characterized by open woodlands and lush guinea Savannah.

iii. Sahel/Semi-Arid (Far North): the northernmost areas, including states like Borno and Yobe, experience a harsh, hot, and dry environment. The rainy season is very brief (June to September), leading to a landscape of sparse shrubs, grasses, and drought-resistant trees.

iv. Alpine/Highland (Plateau): elevated regions like the Jos Plateau experience significantly cooler, temperate-like micro-climates due to their high altitude.

2. Seasonal Winds & Drivers

The climate is dictated by the collision and seasonal shifting of two major air masses:

i. Tropical Maritime (mT) Air Mass: originating from the Atlantic Ocean, this moisture-laden wind brings heavy rains and high humidity up from the south.

ii. Tropical Continental (cT) Air Mass: originating from the Sahara Desert in the north, this hot, dry, and dust-filled wind brings the dry season and the dusty Harmattan winds, which significantly lower nighttime temperatures.

The geology of Nigeria is dominated by igneous structures that form most of the highlands and hills. The rocks of the Basement Complex, mainly of igneous origin, are encountered in over 60% of the surface area other (FMOE, 2001). These factors have been modified by human activities and man's pattern of land use (Iloeje, 2001 & Okumadewa, 1997). FMOE (2018)

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further revealed that 12.2% of the total land mass representing about 11,089,000 hectares of Nigeria is forested. Of this, 2.9% roughly 326,000 hectares is classified as primary forest, the most bio-diverse form of forest. Between 1990 and 2000, Nigeria lost an average of 409,700 hectares of forest per year. This amounts to an average annual deforestation rate of 2.38%. Between 2000 and 2005, the rate of forest change increased by 31.2% to 3.12% per annum. In total, between 1990 and 2005, Nigeria lost 35.7% of its forest cover, or around 6,145,000 hectares.

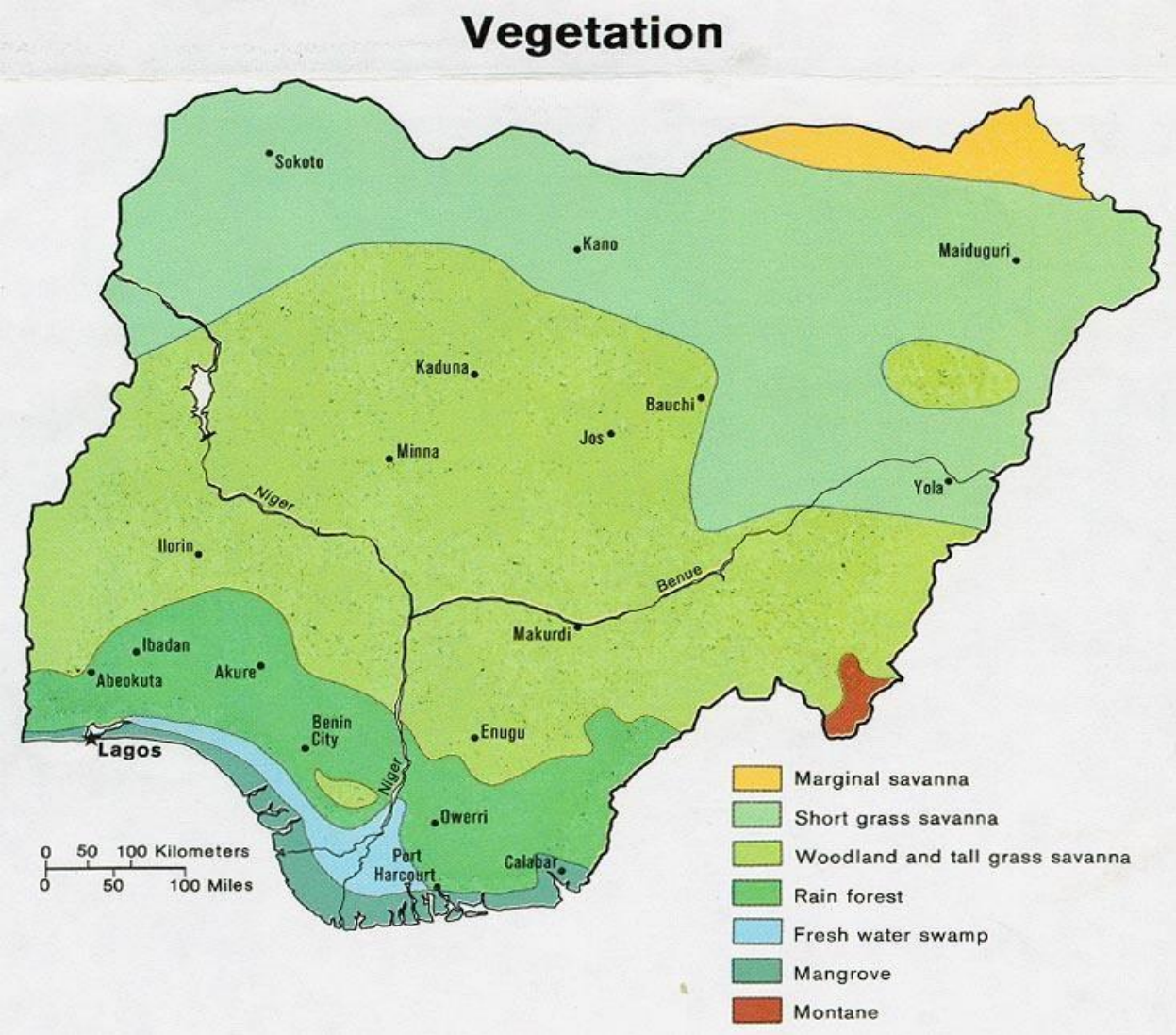

Figure 1: Map of Nigeria showing the 36 States and Vegetation

3.2. Data collection Techniques

The study utilized secondary source of data on agricultural exports and economic growth. Data on Gross Domestic Product (GDP), exchange rate, interest rate, government expenditure, agricultural contribution to GDP, inflation rate, and import and export

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revenue were obtained from CBN Statistics Data Base (Finance and real sector). Data on debt was obtained from National Bureau of Statistics (NBS). Data on GDP at 2000 constant and current prices were obtained from IMF Government Finance Statistics (GFS) sesame seed, cocoa bean and cashew nuts export were obtained from Food and Agriculture Organization Statistical data (FAOSTATS). Data on taxes, general tariff, Government expenditures, and education expenditures were obtained from World Bank.

3.3. Method of Data Analysis

The analysis of data in this study combined both descriptive and inferential/econometric techniques to provide a comprehensive understanding of the relationship between agricultural exports and economic growth in Nigeria. Descriptive statistics such as graphs and tables were used to analyse trend and Auto-regressive distribution lag (ARDL) was used to analyse the long run impact of selected agricultural export commodities (sesame seed, cocoa beans and cashew nuts on Nigeria economy from 1981-2021.

3.4. Model Specification

i. Trend Analysis of Agricultural Growth and sustainability Indicator Over the Period (Growth trend Model)

$Yt = Y0 (1 + r)$

t…….……...……. (1)

Where;

Y_t= rate of agricultural growth Y_0 = rate of GDP growth in a base year r = compound rate of growth of Y t = time in chronological years in natural log form we have,

$InYt = lnY0 + tln(1 + r)$

…… (2)

Substituting InY_0 with β_1 and Ln (1 + r) with β_2, we re-write equation as

$InYt = \beta 1 + \beta 2t$

…….....(3)

Adding the disturbance term to equation we obtain

$InYt = \beta 1 + \beta 2t + \mu t$

……..……..... (4)

Equation (4) is a growth rate model developed for this study. A semi-log growth model was developed for this study instead of a linear trend model because the point of interest in this study is both absolute and relative change in the parameters of interest. The most important parameter in equation (15) is the *coefficient* $\beta 2$. This is the coefficient of the slope which measures the constant proportional or relative change in Y for a given absolute change in the value of the Regressor, t. Multiplying $\beta 2$ by 100 gives the instantaneous growth rate at a point in time.

$IGR = \beta 2 x 100$……

(5)

Where: IGR= Instantaneous growth rate

According to Gujarati (2009) β_2 is the least-square estimate of the coefficient of the slope $\beta 2$, then taking the anti-log of β_2 and subtracting 1 from it and then multiplying the difference by 100 give the compound growth rate (CGR) over a period of time:

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CGR=[antilogβ21]x100……. (6) If the coefficient β_2 is positive and statistically significant or negative and statistically significant there is acceleration or deceleration in growth process respectively. If β_2 is not statistically significant there is stagnation in the growth process.

ii. Autoregressive Distributed Lag (ARDL)

The ARDL model is employed to assess the long run relationship between agricultural export commodities (sesame seed, cocoa bean and cashew nuts on Nigeria economy. unlike the traditional Cointegration model, the ARDL approach is flexible as it can be used regardless of whether the underlying variables are 1(0) or 1(1), or a combination of both. this makes it particularly suitable for the study's mixed order integration data.

the ARDL model can be specified as follows;

$Y_t=\gamma 0+\sum i=1p\gamma iYt-i+\sum j=0q\delta jXt-j+ut$ ……..…… (7)

Where;

Yt denotes the dependent variable,

Xt−j represents the explanatory variable(s) lagged up to order q, γi and δj are the respective coefficients,

and ut is the error term.

The lag orders p and q are selected based on information criteria such as the Akaike Information Criterion (AIC) or Schwarz Bayesian Criterion (SBC).

4.RESULT AND DISCUSSION

4.1 Preliminary Investigation

4.1.1. Unit Root Test (Augmented Dick-Fuller, ADF)

The result of result of Augment Dickey-fuller (ADF) test employed to test for stationarity And Non-Stationarity of time series data is summarized in Table 1 Below; the result of the ADF shown below Indicate that variables were integrated of mixed order, meaning some variables were stationary at 1(0) and others stationary at first order 1(1): Foreign Exchange (Lnforex), Interest Rate (i_rate), i_ratesq, Exposrt of Cocoa, (excocoa) and Export of Cashew (excashew) were stationary at order I(0) While, inflation (N_nfla), agricultural expenditure (lnexpn_agric), export of sesame (exsesame), Tariff (*im_tarr*), export tariff (*exp_tarr*) were stationary at 1(1). A variable is said to be stationary when it has no unit root which is denoted in literature as 1(0). While, a non-stationary variable is said to have unit root and it is denoted by I(d), d is the number of unit root that the variable possesses.

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Table 1: Unit Root Test (Augmented Dick-Fuller, ADF)

Variable	ADF Statistics Z(t)	Mackinnon critical value@5%	Differenced level	P-value Z(t)	Remarks
Lnforex	-2.072	-1.688	1(0)	0.023**	Stationary
i_rate	-6.088	-1.688	1(0)	0.000***	Stationary
i_ratesq	-5.257	-1.688	1(0)	0.000***	Stationary
N_nfla	-1.342	-1.688	1(1)	0.094*	Stationary
Excocoa	-2.503	-1.688	1(0)	0.008***	Stationary
lnexpn_agric	-3.668	-1.688	1(1)	0.001***	Stationary
Exseseme	-1.580	-1.688	1(1)	0.061*	Stationary
Inexdebt_gdp	-3.668	-1.688	1(1)	0.005***	Stationary
Excashew	-3.668	-1.688	1(0)	0.040**	Stationary
Imp_tarr	-1.342	-1.688	1(1)	0.094*	Stationary
Exp_tarr	*-4.410*	*-1.688*	*1(1)*	*0.000****	*Stationary*

Source: Computed from Secondary Data, 2023.

Note: * significant at 1%, ** significant at 5% and * significant at 10%.**

Foreign Exchange (Lnforex), Interest Rate (i_rate), i_ratesq, Exposrt of Cocoa, (excocoa) and Export of Cashew (excashew), inflation (N_nfla), agricultural expenditure (lnexpn_agric), export of sesame (exsesame), Tariff (*im_tarr*), export tariff (*exp_tarr*)

4.1.2. Bounds Test of Cointegration for Determination of Long Run Relationship between Sesame Seed, Cocoa Bean and Cashew Nut

The Augmented Autoregressive Distributed Lag Bounds Test was employed to test for long run relationship between the variables (Table 2). The result showed that the F-statistic (4.320708) was greater than the I(0) and I(1) bound values of 3.12 and 4.25 respectively at 5% level of significance, thus indicating the presence of a long run relationship among the variables. Therefore, the null hypothesis which stated that there is no long-run relationship between the variables was rejected. Hence prompting the conduct of ARDL test for long run relationship.

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Table 2. Augmented Autoregressive Distributed Lag Bounds Test for Cointegration

Test Statistic	*Value*	*K*
F-statistic	4.320708	5
Critical Value Bounds		
Significance	I(0) Bound	I(1) Bound
10%	2.75	3.79
5%	3.12	4.25
2.5%	3.49	4.67
1%	3.93	5.23

Source: Data Analysis, 2023.

4.1.3. Diagnostic Test

Different diagnostic test values demonstrated at Table 3. it shows that ARDL model is a fully fitted model for long run as well short-run result for testing the variables. Serial correlation under correlogram with insignificant value squared correlogram negligible value, and Breusch Godfrey LM test illustrates F-statistics (3.150962) at probability values (0.702) which denoted that residual serially uncorrelated and normally distributed. Likewise, findings of heteroscedasticity test declared that data series are homoscedastic, because the Breusch-Pagan-Godfrey F-statistics (3.329534) and probability value (0.346), cannot discard null hypothesis of homoscedasticity of variables.

Table 3: Diagnostic Tests Results

Statistics	**F-statistics**	**P-value**
Serial Correlation	3.150962	0.702
Heteroskedasticity	3.329534	0.346

Source: Data Analysis, 2023.

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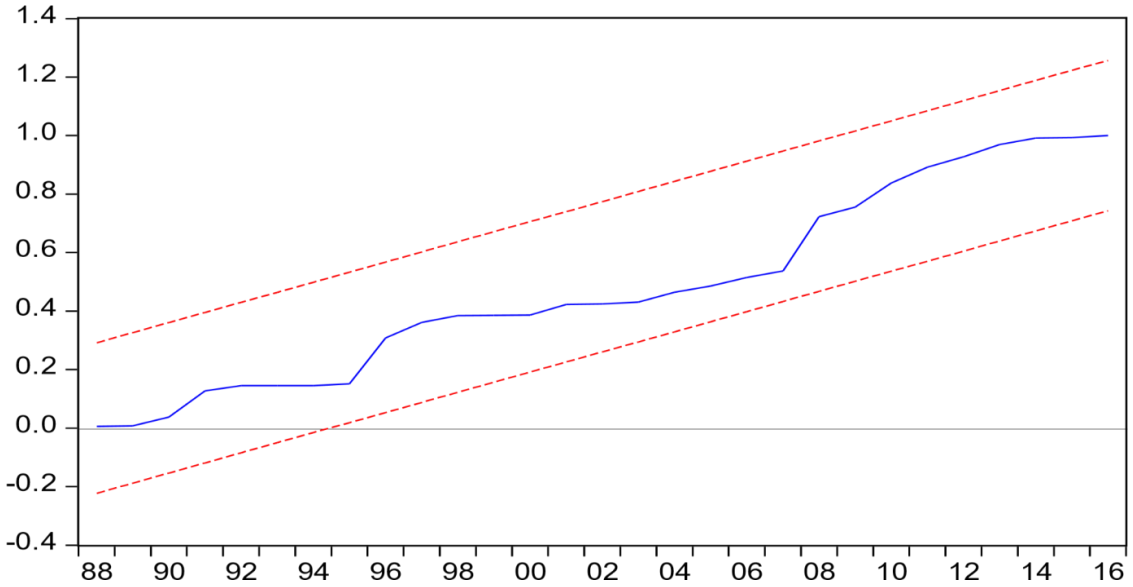

Figure 2. CUSUM of Squares Test

4.1.4. Stability Test

Finally, the CUSUM square (CUSUMSQ) test, proposed by Brown, Durbin, and Evans (1975), is employed to investigate the stability of the model. As seen in Figure 2, the plot of the CUSUMSQ line does not break the limits (-0.2 and 0.2) of the period under study (1980 - 2021) which imply that the coefficients are stable and did not exhibit random walk over the given years.

4.2. Long Run Relationship Between Sesame Seed, Cocoa Bean and Cashew Nut Exports and Economic Growth

Auto-regressive Distributed Lag (ARDL) was estimated as result of the existence of one cointegrating equation among the variables, implying that long run relationship exists among the variables. This model was used because the variables were integrated of order zero I(0) and order one I(1). Furthermore, the variables were subjected to a bounds test which revealed that the F-statistic (4.320708) was greater that the I(0) and I(1) bounds at 5% (acceptable MacKinnon value), thus necessitating the use of the ARDL Model.

The result of long run relationship between sesame seed, cocoa bean and cashew nut exports on economic growth is presented on Table 4. The Auto-regressive Distributed Lag (ARDL) model shows the long-run effect of sesame seed, cocoa bean and cashew nut exports on economic growth in Nigeria. The result of ARDL as shown in Table 4 indicated that Error Correction Term [ECT (-1)] is statistically significant and negative (-0.171646) indicating a moderate speed of adjustment (that is, the speed at which the deviation from long run equilibrium is adjusted quickly where 0.171 of the disequilibrium is removed immediately in each period). The result implies that 17.1% deviation from equilibrium position is corrected within the year.

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Specifically, the coefficients of exchange rate (-0.103255) and agricultural tariff (-1.110961) were negative and statistically significant at 1% probability level, implying that in the long run increase in exchange rate and agricultural tariff will lead to decrease in economic growth. This result is consistent with the result of Orji & Mba (2012), who found that the long run impact of exchange rate on economic growth is larger than their short-run impact. This implies that a unit increase in exchange rate and agricultural tariff will decrease economic growth by 1.110961 units *ceteris paribus*.

Furthermore, the coefficients of sesame seed (0.29624) cocoa bean (0.08988) and cashew nut (0.3345) were positive and statistically significant at 1% probability level, implying that in the long run increase in sesame, cocoa and cashew nut will increase economic growth in Nigeria. According to the findings of Abdul-karim & Osman (2024), positive changes in cashew nuts exports have a significant impact on economic growth. It is clear that on average, a 1% increase or shift of cashew nuts exports in the long-run is likely to increase annual economic growth by approximately 0.05%, ceteris paribus. This is consistent with the short-run results estimated earlier and findings were also compatible with other studies like Sanjuan-Lopez & Dawson (2010) and Faridi (2012) who both found non-traditional agricultural exports to exert a positive significant effect on the economic growth of the least developed countries in the long-run. Urriola *et al.,* (2018) also found that non-traditional agricultural exports have a positive and significant impact on the economic growth of Peru in the long-run.

Table 4. The Auto-regressive Distributed Lag (ARDL) Model for Long-Run Sesame Seed, Cocoa Bean and Cashew nut Exports on Economic Growth

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CointEq(-1)	-0.171646	0.02527	-6.790972	0.0000
Sesame Seed	0.296424	0.253616	7168789	0.0056
Cocoa Bean	.089881	0.9713	12.51.238	0.0000
Cashew nut	.334581	0.9809	18.96.252	0.0000
Exchange rate	-0.103255	0.138377	0.746190	0.0038
Agric tariff	-1.110961	0.276433	-4.018915	0.0006
Inflation rate	-0.006680	0.202423	-0.033002	0.9740
Constant	-1.398944	6.509054	-0.214923	0.8319
Trend	-0.090911	0.038744	-2.346445	0.0288

Source: Data Analysis, 2023.

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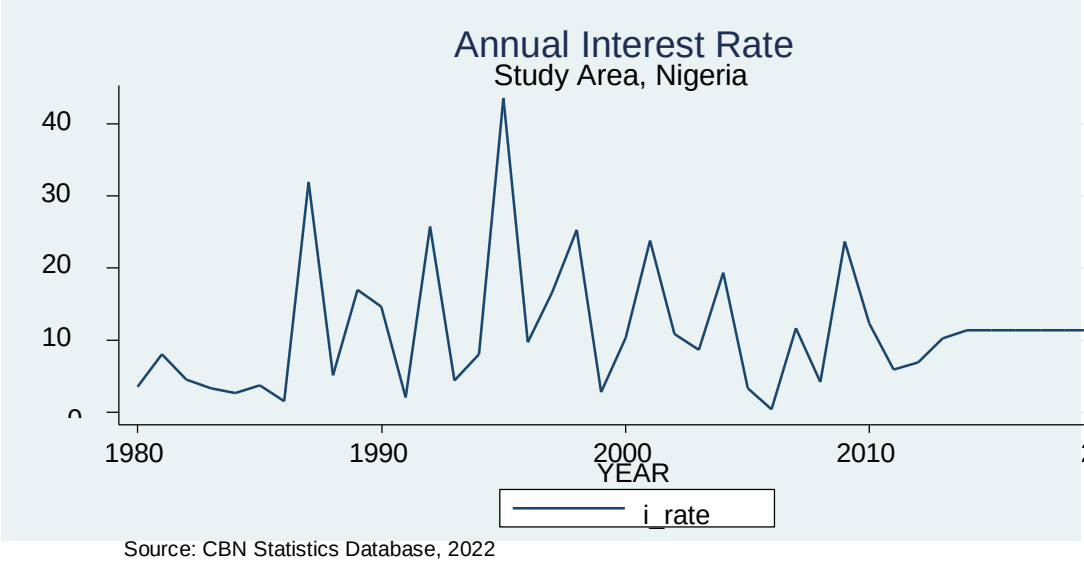
4.3. Trend Analysis

4.3.1. Trend of Annual interest between 1980 and 2020

The graph as presented in the Figure 3 showed the trend for annual interest rate over time. The trend for annual interest rate began in 1980 and ended in 2020, with a total of 42 observations. From the graph, the rate of annual interest rate fluctuates at an average of 15 per cent between 1980 and 2000. The trend recorded a low interest rate in 1985 but peaked at 46 per cent in 1995 for the period under consideration. The graph also showed the index of agricultural output growth which has continued to increase from 1980 to 2020. The series began in 1980 and ended in 2020, with a total of 40 observations which is conformity with the findings of Okuduwor *et al.,* (2023) states that a positive relationship can be graphically established between GDP growth rate and agriculture export, as increase in agriculture export as percentage of merchandize export is associated with growth in GDP. The study observes a decline in GDP with decrease in agriculture export from 2012 to 2020.



Source: CBN Statistics Database, 2022

Figure 3. Trend of Annual interest between 1980 and 2020

4.3.2 Trend of Annual exchange rate between 1980 and 2020

From the graph in figure 4 below, the rate of exchange rate remained at similarly low level at an average N97/$1 between 1980 and 2000. As seen the trend for exchange rate started from 1980 and ended in 2020 with total of 42 observations. Exchange rate was lowest in the 1980 and at its peak in the year 2020. This indicates that the exchange rate of naira to dollar has continued to increase with time, which is also in tandem with the findings Okuduwor et al. (2023) from 1981 to 2020, which observed steady depreciation in the value of the naira against the US dollar and fluctuating economic growth in consonance with the exchange rate value of the naira. According to Nnoli et al. (2023) it is evident that there exists a significant and positive relationship between AEV and exchange rate which implies that a unit increase in exchange rate (appreciation of naira) will cause AEV to increase by 1057.724 and this is because the appreciation of naira will

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result in increased earnings from Agricultural export, which is also in line with the empirical findings of Akinlo and Adejumo (2014), who examined the impact of exchange rate fluctuations on Nigerian non-oil exports between 1986 and 2008 and found that real exchange rates had positive and important effects on exports outside of the oil industry (inclusive of agricultural exports). The finding is also in correlation with the findings of Essien et al. (2011), Umaru et al. (2013), and Gatawa and Muhmud (2017).

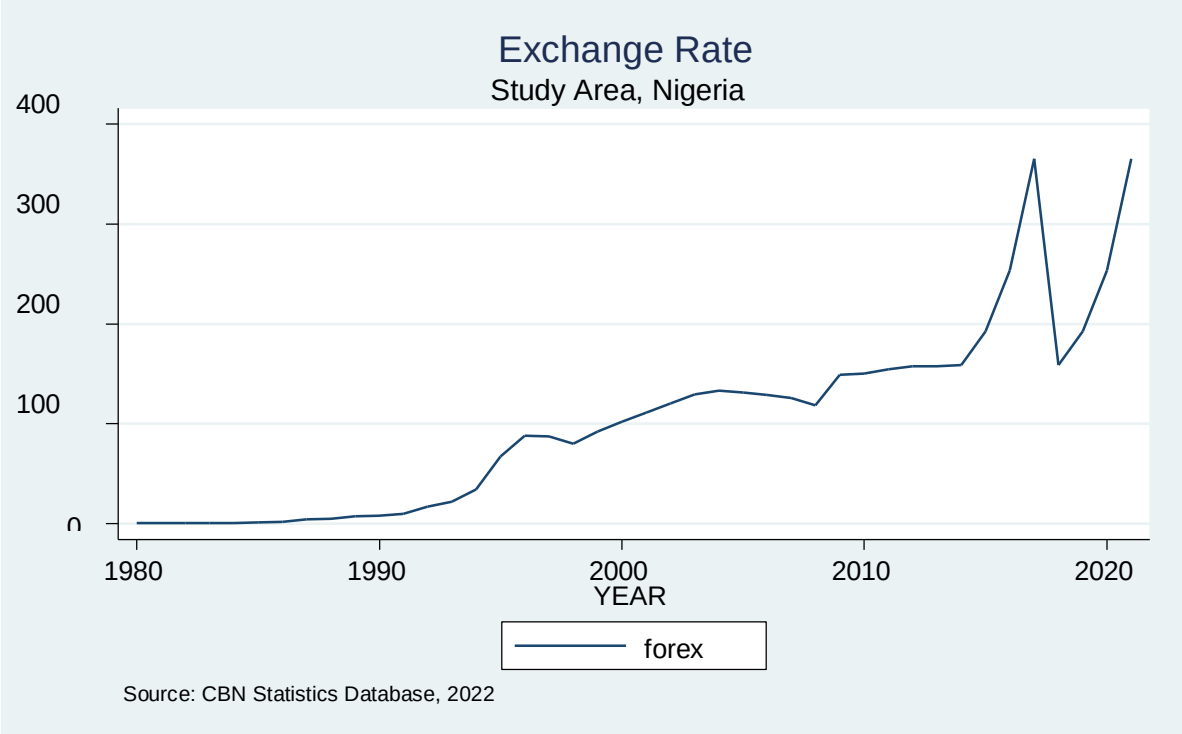

Figure 4. Trend of Annual exchange rate between 1980 and 2020

4.3.3 Trend of Annual Inflation rate between 1980 and 2020

From the findings in figure 5 inflation rate was highest in 1995 and continues to fluctutate and it was lowest in 2020, between 2010 and 2020 inflation maintained a steady downward trend indicating the sustainability of the inflation. According to Nnoli et al. (2023) From 1986 to 1998, Inflation rate was at its peak while exchange rate was at its minimum and the agriculture export value was decreasing during this period. From 1999, as exchange rate increased, Agricultural export value was also increasing till it got its peak in 2012 further increases in the exchange rate were accompanied by a decline in Agricultural export value while the inflation rate remained relatively constant.

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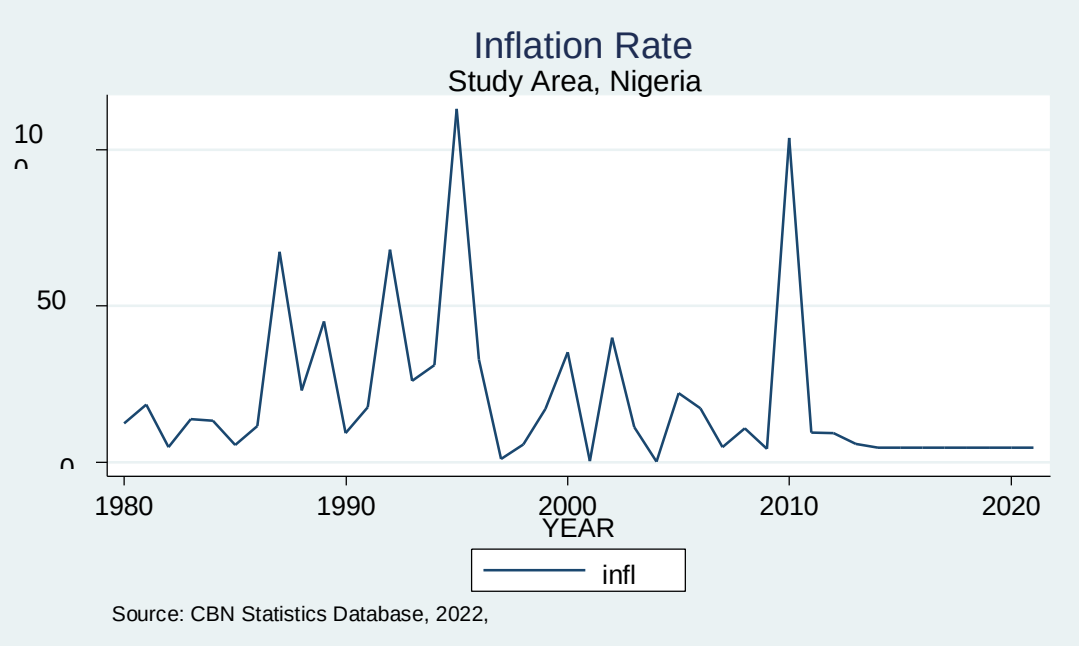

Figure 5. Trend of Annual Inflation rate between 1980 and 2020

4.3.4 Trend of Agricultural tariff between 1980 and 2020

The graph is Figure 6. shows the trend Analyses of Agricultural tariff The agricultural tariff was at its peak by 1992 and started declining until its lowest in year 2004. Higher agricultural tariffs influence production, prices, and trade dynamics, affecting both domestic and global economies. When tariffs are high Farmers respond to higher prices by increasing output. When tariffs are raised, prices for imported goods, domestic producers may ramp up production of similar goods, when agricultural tariffs are low it opens up markets for agricultural product, Lower tariffs mean lower costs for importing agricultural goods. Consumers benefit from more affordable food prices, improving overall welfare.

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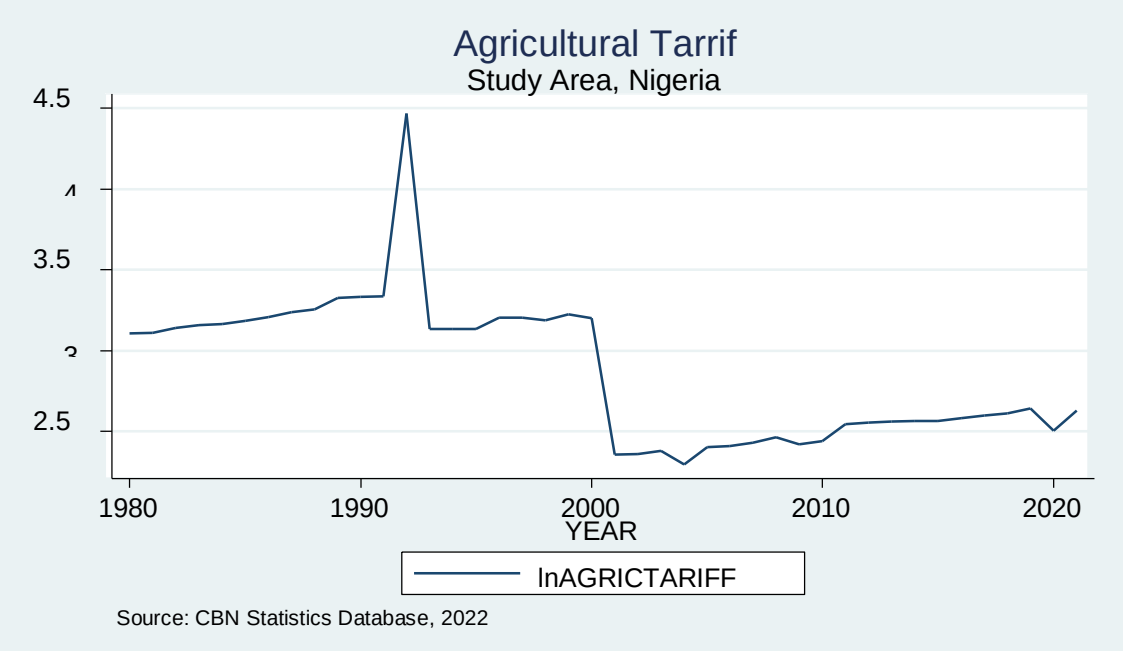

Figure 6. Trend of Agricultural tariff between 1980 and 2020

5. CONCLUSION AND RECOMMENDATION

5.1. Conclusion

This study rigorously investigated the impact of three major agricultural export commodities (sesame seed, cocoa bean, and cashew nut) on Nigeria's economic growth (1981–2021). through trend analysis, regression modeling, and causality testing. The study concludes that agricultural export commodities specifically sesame seed, cocoa bean, and cashew nut have a statistically significant and positive impact on Nigeria's economic growth from 1981 to 2021.

5.2. Recommendation

Based on the findings of the study, the following policy recommendations were made;

(i) The government in power should attempt to diversify and promote exports in order to fully exploit the benefits of the agricultural sector and promote economic growth.

(ii) The government should expand beyond oil by prioritizing high-performing agricultural commodities like sesame seed, cashew nut, and cocoa bean.

(iii) The government should encourage cashew, sesame and cocoa small-scale farmers with necessary inputs and modern production technology in order to boost the production of these commodities for export.

(iv) The government should encourage regional crop specialization based on Agro-ecological zones to maximize yield and export potential.

(v) The findings also suggest that there a need to establish Agro-processing zones to reduce raw exports and increase foreign exchange earnings.

(vi) Expand the role of Nigeria Export-Import Bank (NEXIM) in providing credit guarantees and insurance and also to create low-interest loan schemes for export-oriented agribusinesses.

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(vii) Upgrade transport and logistics systems, especially around key ports like Apapa and Tin Can.

(viii) Build modern storage facilities to reduce post-harvest losses and preserve export quality.

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