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# Impact of Agricultural Output on Nigeria's Economic Growth: 1986 – 2024

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## Abstract

Agriculture remains a cornerstone of Nigeria's economic growth, providing food security, rural income, and critical linkages to industrial and export sectors. Yet, despite its historical significance, the sector has been undermined by structural constraints, climate shocks, and policy inconsistencies. This paper analyzed the long-run impact of crop and fishery production on Nigeria's economic growth from 1986 to 2024, and utilized annual data sourced from the Central Bank of Nigeria and the National Bureau of Statistics. The Fully Modified Ordinary Least Squares (FMOLS) technique was applied within an endogenous growth framework to estimate the relative contribution of the crop and fishery sub-sectors to Real Gross Domestic Product (RGDP). The findings revealed a strong, statistically significant long-term relationship between both crop and fishery production and Nigeria's economic growth, with fishery output exerting a more pronounced influence. These results underscored agriculture's pivotal role in the nation's economic dynamics and its untapped potential. The paper recommended a comprehensive policy approach to modernize the crop and fishery value chains, deepen access to financing and inputs, and optimize rural infrastructure. Such a strategy will foster sustainable sectorial growth, boost economic resilience, and enable Nigeria to fully harness its agricultural endowment.

**Keywords:** *Agricultural Output, Economic Growth, Crop Production, Fishery Production, Fully Modified Ordinary Least Squares (FMOLS)*

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**Background to the Study**

Agriculture has historically served as the cornerstone of Nigeria's economic development. Before the discovery and subsequent dominance of crude oil, agriculture was the engine driving the Nigerian economy. It contributed significantly to national growth through four critical channels: product supply (food and raw materials), factor contribution (employment and capital formation), market contribution (stimulating demand for industrial goods), and foreign exchange earnings through export. With its wide coverage encompassing crop production, livestock, fishery, and forestry agriculture not only sustained the population but also fueled industrial development and international trade. In the early post-independence era, particularly the 1960s, agriculture accounted for over 60% of Nigeria's Gross Domestic Product (GDP) and provided employment to more than 70% of the population (Ogunkola, 2008). Nigeria was a major exporter of agricultural commodities such as groundnuts, cocoa, palm oil, and rubber. The sector was seen as a reliable and sustainable path to national development. However, the discovery of oil in commercial quantities in the late 1950s and its boom in the 1970s led to a sharp shift in focus. The overdependence on oil as the primary source of national revenue gradually marginalized agriculture, causing a significant decline in its contribution to GDP from 63% in the 1950s to between 29.2% and 33.3% by the 1980s (Aigbokhan, 2011). This transition not only distorted Nigeria's economic structure but also exposed it to global oil price shocks, unemployment, and regional disparities in income distribution.

Despite these challenges, agriculture continues to hold immense potential for revitalizing Nigeria's economy. It remains the largest contributor to employment, especially in rural areas, and serves as a critical source of food security, income generation, and industrial inputs. Moreover, in many low- and middle-income countries, agriculture remains a key driver of early-stage economic growth (Anriquez & Stamoulis, 2007). For Nigeria, with its abundant arable land, favorable climate, and large youthful population over 60% of whom are under 30 years old (NBS, 2020) agriculture provides a viable path to inclusive and sustainable development. Today, research institutions and universities, such as the Institute for Agricultural Research (IAR), continue to invest in innovations aimed at improving agricultural productivity, value addition, and supply chain efficiency (IAR, 2020). Yet, despite such efforts, the sector remains underdeveloped due to inadequate investment, poor infrastructure, and policy inconsistencies. Reversing this trend requires a data-driven understanding of how agricultural outputs translate into economic outcomes, particularly in the context of Nigeria's GDP growth.

This paper, therefore, focuses on examining the relationship between agricultural output and economic growth in Nigeria, with specific attention to crop production and fishery production. These two sub-sectors have been selected due to their economic significance and potential for rapid expansion. Crop production, for instance, remains the dominant activity among rural households and is critical for both food security and export. Likewise, fisheries contribute to dietary needs, employment, and income generation, especially in coastal and riverine communities.

The paper thus uses the following specific objectives:

1. Examine the impact of crop production on Nigeria's economic growth
2. Investigate the impact of fishery production on Nigeria's economic growth

## Literature Review

### Conceptual Review

### Economic Growth

Tadaro, (2017) defined the term economic growth as a process by which the productive capacity of the economy is increased over time to bring about raising level of national output and income. Kuznets (2018) on the other hand views economic growth as a long-term process where in the substantial and sustained rise in real national income, total population and real precipitate income. Mamokhere (2021) posited that, economic growth arises when a country's Gross National Product (GNP) increases tenfold in half a century and where personal consumption per capita doubles in real terms in less than thirty (30) years. Here, emphasis was laid on production capacity and the percentage of utilization of this capacity; implying that a fall in unemployment will lead to increase in national income (NI). They further stated that constant value of money is essential to measuring growth because a fall or rise in prices as the case may be affects output in either way. This is true of Less Developed Countries (LDCs) because of prices volatility and the fact that GDP is usually measured in monetary terms. The concept of agricultural output is very broad such that different individuals, scholars and organizations defined it in different ways and lay emphasis on crop and animal production. Forestry and fishing and aquaculture are embedded in crop and animal production respectively. Umaru and Zubairu (2019) defined agriculture as the systematic way of raising useful plants and livestock under the management and control of man.

### Crop Production

James Lind Institute (2019) defines crop production as the system of agriculture that is concerned with the production of crops for food and fiber. Production is a common agricultural practice followed by worldwide farmers to grow and produce crops to use as food and fiber. This practice includes all the feed sources that are required to maintain and produce crops. Some of the practices used during crop production include preparation of the soil, sowing of seeds, irrigation, and application of manure, pesticides, and fertilizers to the crops, protecting and harvesting crops, storage and preserving the produced crops. In the case of small-scale cultivation, farmers use the harvested crop for themselves while large-scale production is mainly for marketing. Thus, the cultivators have to store the grains. For this, proper storage space has to be arranged. Inadequate storage space and improper storage methods can lead to a huge grain loss. In addition to pest and rodents, microbes like bacteria, fungi, and environmental conditions such as moisture and temperature might attack the stored grains. Therefore, proper treatment is required before the grains are stored (Acquaah, 2012).

### Fishery Production

Fish are a very high source of proteins and have great nutritional value. About half of the fish consumed globally is raised through fish farming. Some of the common fish species that are farmed particularly in the Northern hemisphere include tuna, salmon, halibut, cod, and trout. Commercial fisheries include wild fisheries and fish farms, both in freshwater bodies (about 10% of all catch) and the oceans (about 90%). About 500 million people worldwide are economically dependent on fisheries (Abbas and Ahmed, 2016). The concept also includes the cultivation and management of forests for the production of multiple outputs such as timber for construction, pulp for paper, firewood for domestic and industrial energy, and non-timber forest products like herbs, resins, fruits, and bark used in pharmaceuticals and local economies.

**Empirical Review**

Maiga (2024) examined the relationship between agricultural productivity and economic growth in five African countries Tanzania, Ghana, Kenya, Morocco, and South Africa. Using secondary data and regression analysis, the study found that while agriculture significantly contributed to overall economic growth, the degree varied across countries. South Africa had the highest productivity but a lower contribution to GDP due to weak employment absorption. Conversely, Ghana and Kenya displayed more balanced outcomes. The study highlighted that employment and sectorial linkages matter as much as output levels in translating agriculture into growth.

Anugwon (2024) investigated the impact of agricultural sector output on economic growth and sustainability in Nigeria using data from the CBN Statistical Bulletin. The Ordinary Least Squares (OLS) technique revealed a negative and statistically insignificant relationship between agricultural output and economic growth. Similarly, variables such as rainfall, FDI in agriculture, and government expenditure on agriculture also had negative effects. The findings underscore inefficiencies in policy execution and investment, suggesting that merely increasing spending or output doesn't guarantee economic growth.

Jabuya et al. (2023) explored the impact of agricultural output on economic growth in Benin Republic from 1961 to 2014 using a Vector Error Correction Model (VECM). The results showed a significant long-run relationship between agricultural output, industrial output, capital formation, and GDP. The study concluded that while short-term fluctuations exist, agriculture remains a key contributor to long-run economic stability and development in West Africa. Policy interventions were recommended to enhance sectoral coordination and infrastructure.

Chukwu (2023) assessed the contribution of agricultural subsectors crop, livestock, forestry, and fish production to Nigeria's economic growth from 1981 to 2020. Using the OLS regression model, the study found that crop and livestock production had positive and significant impacts on GDP. However, forestry and fishery outputs did not show statistically significant relationships with economic growth. The study suggested that policy focus should target the high-performing subsectors while investing in the modernization of the underperforming ones.

Nelson et al. (2023) examined the effect of government spending on agriculture using ARDL models with data from 1990 to 2022. The study revealed a negative relationship between government credit to agriculture and overall agricultural output. This indicates that public sector investments have not translated into improved productivity, possibly due to misallocation or inefficiencies in fund usage. The authors recommended improved accountability and monitoring mechanisms for agricultural funding programs.

Ohwofaso et al. (2022) evaluated the relationship between agricultural productivity and economic growth in Nigeria using data from 1986 to 2021. Through co-integration and ECM analysis, the study found a long-run negative relationship between agricultural productivity and GDP, but a positive short-run effect. Capital productivity had a stronger and positive impact in the long run, while labor productivity's effect was more immediate. The study concluded that reforms in agricultural efficiency are required for long-term economic gains.

Anunwo (2022) employed the ARDL technique to examine the impact of crop, livestock, fishery, and forestry outputs on economic growth in Nigeria from 1981 to 2019. The results revealed that crop and livestock production significantly boosted economic growth, whereas fishery had a weak positive impact, and forestry output had a negative effect. The study recommended focused investments in crop and livestock sectors and regulatory reforms to manage the environmental cost of forestry practices.

Kadiri et al. (2022) analyzed the agricultural sector's influence on Nigeria's economic growth within the democratic period (1999 onward) using descriptive analysis and the Multiple OLS method. The study noted that agriculture's contribution peaked at 37% of GDP in 2002, driven mainly by crop production. The empirical results confirmed that agricultural output positively and significantly impacts growth, while trade had a negative impact and manufacturing was insignificant. This emphasizes the continued centrality of agriculture in Nigeria's development trajectory.

Ayetade and Adeyeye (2021) used the logistic growth model and ARDL bound testing to investigate the long-run and short-run relationships between agricultural output and economic growth from 1981 to 2025. The study revealed that there is a strong long-run association and a one-way causality flowing from agriculture to economic growth. The findings also emphasized the potential of agriculture to predict economic outcomes and guide sustainable policy formation.

Bridge et al. (2021) explored the relationship between government agricultural spending and productivity using VEC Granger Causality and Johansen co-integration models. Covering the period 1981 to 2019, the study found that agricultural expenditure positively affects productivity, but only in the long term. Additionally, impulse response functions showed a positive reaction of output to spending shocks. The bidirectional causality observed suggests mutual reinforcement between government policy and agricultural performance.

Nelson et al. (2021) applied an ECM model to evaluate the contributions of crop, livestock, forestry, and fishery outputs to economic growth in Nigeria from 1986 to 2020. The study found that livestock and fishery outputs had a positive and significant effect on GDP. In contrast, crop and forestry production had negative and insignificant impacts. These findings highlight the changing dynamics of sub-sector contributions and the need for diversified investment approaches.

**Theoretical Framework**

**Endogenous Growth Theory**

The theoretical foundation of this study is based on the Endogenous Growth Model, which identifies internal forces such as investment in physical and human capital, innovation, and sector-specific productivity as the primary drivers of long-term economic growth. Unlike exogenous growth models (e.g., the Solow-Swan model), which assume that technological advancement is determined outside the economic system, the endogenous model argues that economic growth is a function of deliberate policy decisions and sectorial dynamics, particularly in productivity-enhancing sectors such as agriculture. In the context of Nigeria, agricultural output is expected to positively impact Gross Domestic Product (GDP) by contributing through several key mechanisms: Job creation in rural and urban areas. Provision of raw materials to agro-industrial sectors. Food security and price stability. Foreign exchange earnings through exports his study adopts the Mankiw-Romer-Weil (MRW) variant of the endogenous growth model, which incorporates sectorial capital contributions into the aggregate production function.

The MRW framework is suitable for analyzing how investments in agricultural sub-sectors including crop production, livestock, fisheries, and forestry lead to long-term economic growth through increased productivity and capital accumulation. Demand-side factors influencing agricultural productivity include: Consumer demand for food and raw materials. Export market access, Household income levels and dietary changes. Supply-side factors influencing agricultural production include: Access to arable land and irrigation. Availability of inputs (seeds, fertilizer, machinery), Extension services and farmer education. Agricultural R&D and technology adoption and Infrastructure and logistics (roads, storage, markets). This is a dynamic panel data model used to estimate how agricultural output (AG) evolves over time based on internal (endogenous) factors, and how it contributes to economic growth.

$AGit=\alpha+\phi AGit-1+Xit\beta+\mu i+\varepsilon it$.............................................. (1)

In the given model, Agricultural output in region or country i at time $t$, is the dependent variable you're trying to explain. $\alpha$ Intercept or constant term represents the base level of output when all other variables are zero. Lag of agricultural output shows how past agricultural output influences current output. A significant and positive $\emptyset$ implies persistence and momentum in agricultural growth. Vector of explanatory (independent) variables are the factors influencing agriculture, such as capital input, labor, education, access to credit, technology, land use, infrastructure, etc. $\beta$ represents how strongly each of these affect's output. Region- or province-specific effect captures characteristics unique to each region that don't change over time, such as soil quality, historical development, local governance. Error term captures all other random shocks or influences on agriculture that aren't explicitly included in the model.

*AGit = f (CROPit, LIVEit, FISHit.)*…………………….. (2)

CROPit: Output from crop production, LIVEit: Output from livestock production, FISHit: Output from fishery, FORESTit: Output from forestry. Each sub-sector contributes uniquely to GDP via productivity improvements, input supply chains, and employment. The mathematical representation of the model is as follows: supply function.

Agricultural Function
Qs=*g* (L, I, T, R, A)……………………………………………………………… (3)

L: Land availability and quality, I: Input access (fertilizers, seeds, machinery)T: Technological adoption (modern tools, precision farming), R: R&D and innovation in agriculture, A: Access to finance, infrastructure, and markets.

The mathematical representation of the model is as follows: Demand function.
Agricultural Function
*Qd = h (P, Y, N, E)*…………………………………………………………...…… *(4)*

P, Price of agricultural products, Y, Household and export income level Population demand E: Export incentives and trade policies.

Equilibrium Condition
*f(CROP,LIVE,FISH,FOREST)=g(L,I,T,R,A)=h(P,Y,N,E)*…………………………………*(5)*

This implies that agricultural growth (and its contribution to economic growth) reaches equilibrium when supply-driven improvements align with demand-side drivers and contribute consistently to GDP.

**Methodology**
This study employed an ex-post facto research design, involving the collection and analysis of existing data. Variables such as Real Gross Domestic Product, Ratio of Crop Production to GDP, and Ratio of Fishery Production to GDP were utilized, with data sourced from the Central Bank of Nigeria statistical bulletins, providing reliable time series data.

**Model Specification**
The data analysis employed the Fully Modified Ordinary Least Squares (FMOLS) test, allowing for the examination of relationships and dynamics among the variables under investigation. The study adopted the t Endogenous Growth Model, which identifies internal forces such as investment in physical and human capital, innovation, and sector-specific productivity as the primary drivers of long-term economic growth. Unlike exogenous growth

models (e.g., the Solow-Swan model), which assume that technological advancement is determined outside the economic system, the endogenous model argues that economic growth is a function of deliberate policy decisions and sectorial dynamics, particularly in productivity-enhancing sectors such as agriculture. As proxy, the implicit function is

RGDP =f (CGDP, FSGDP) -------------------------------- (1)

Where:
RGDP= Real Domestic Product GDP (%)
CGDP = Ratio of Crop Production to GDP (%)
FSGDP = Ratio of Fishery Production to GDP (%)

It is expressed explicitly as

$$RGDP_t = \alpha_0 + \beta_1 CGDP_t + \beta_2 FSGDP_t \quad (2)$$

Where: t = Time Trend
$\alpha_0$= Intercept or Constant Parameter
$\beta_1 - \beta_2$ = parameter estimates of the regressors
$\mu_t$= Error

$$\text{FMOLS equation } Y_t = \beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_k X_{kt+} \mu_t \quad (3)$$

**Results and Discussions**

This section presents the descriptive statistical analysis of key economic indicators, including Real Domestic Product GDP (RGDP), Ratio of Crop Production to GDP (CGDP), Ratio of Fishery Production (FSGDP). The analysis includes measures of central tendency, dispersion, and normality.

**Table 1:** Descriptive Statistics

| | RGDP | FSGD | |
|---|---|---|---|
| Mean | 45262.92 | 4123.9788 | 79.92529 |
| Median | 42044.78 | 110.9550 | 79.21000 |
| Std. Dev. | 20541.57 | 3.63402 | 20.59991 |
| Skewness | 0.167130 | 0.394705 | 0.058094 |
| Kurtosis | 1.396003 | 1.570479 | 1.853812 |
| Jarque-Bera | 3.803094 | 3.777822 | 1.880266 |
| Probability | 0.149337 | 0.151236 | 0.390576 |
| Observations | 34 | 34 | 34 |

**Source:** Author's Computation, using E- views 12, 2025

Table (1) provides summary statistics for the Jarque-Bera statistics for RGDP, three variables: RGDP, FSGDP, and CGDP. These FSGDP, and CGDP are 3.803094, 3.777822, and variables represent different economic measures, 1.880266, respectively. This test assesses whether Real Gross Domestic Product (RGDP), Ratio of the data follows a normal distribution. The Fishery Production to GDP (FSGDP), and Ratio of probability values associated with the Jarque-Bera, Crop Production to GDP (CGDP). Tests are 0.149337 for RGDP, 0.151236 for FSGDP, the mean values for RGDP, FSGDP, and 0.390576 for CGDP. Given that these values are CGDP are 45,262.92, 123.9788, and 79.92529, greater than the common significance levels (e.g., respectively. This indicates that, on average, RGDP 0.05 or 0.01), we fail to reject the null hypothesis which has the highest value among the three variables, normality. This suggests that the distributions of suggesting it is the largest economic measure in RGDP, FSGDP, and CGDP do not significantly absolute terms.

The median values for RGDP, deviate from a normal distribution. FSGDP, and CGDP are 42,044.78, 110.9550, and the table's statistics indicate that RGDP, 79.2100, respectively. The medians are close to the FSGDP, and CGDP have distributions that are means, indicating a relatively symmetric distribution approximately symmetric and do not deviate of these variables. Significantly from normality. The variability of the standard deviations is 20,541.57 for RGDP is notably higher than that of FSGDP and RGDP, 43.63402 for FSGDP, and 20.59991 for CGDP, which may reflect differing economic CGDP. RGDP has the largest standard deviation, dynamics captured by each measure. Further suggesting that it has the greatest variability among analysis could explore the relationships between the three variables.

The skewness values for RGDP, these variables and their implications in the context FSGDP, and CGDP are 0.167130, 0.394705, and of the study. 0.058094, respectively. All three variables have skewness values close to zero, indicating that their Unit Root Test Results distributions are approximately symmetric. This section presents the results of the positively skewed. Augmented Dickey-Fuller (ADF) test conducted to the kurtosis values are 1.396003 for assess the stationarity of the variables: RGDP, RGDP, 1.570479 for FSGDP, and 1.853812 for FSGDP, and CGDP. Stationarity is a crucial CGDP. These values are below 3, which suggests property in time series analysis, as non-stationary that the distributions of these variables are data can lead to spurious regression results and platykurtic, meaning they have lighter tails than an unreliable statistical inference. The ADF test helps normal distribution. Determine whether a variable is stationarity.

**Table 2:** Summary of Unit Root Test Result

| Variables | ADF test statistics | Critical values | Order of integration | Prob value |
|---|---|---|---|---|
| **RGDP** | -3.082960 | -2.957110** | I(1) | 0.0380 |
| **FSGDP** | -4.580759 | -4.273277* | I(1) | 0.0314 |
| **CGDP** | -8.707854 | -3.653730* | I(1) | 0.0000 |

**Note:** The tests include intercept and trend; * significant at 1%; *significant 5%
**Source:** Author's Computation, using E- views 12, (2025)

The ADF test results indicated in table (2) that the variables RGDP, FSGDP, and CGDP are non-Stationary in their levels but become stationary after (and at the 1% level for FSGDP and CGDP) suggests that these economic time series do not contain a unit root when differenced once. This finding implies that the data can be used in further the first difference, as denoted by their order of integration I (1). The rejection of the null hypothesis for all three variables at the 5% significance level econometric modeling and analysis, provided that the stationarity requirement is met after differencing.

**Fully Modified Ordinary Least Square (FMOLS)**

**Table 3:** Dependent Variable: RGDP

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| FSGDP | 411.2343 | 63.09102 | 6.518111 | 0.0000 |
| CGDP | 109.259 | 137.2526 | 0.796043 | 0.0323 |
| C | -15302.64 | 4658.462 | -3.28491 | 0.0026 |
| R-squared | 0.974363 | Durbin Watson Stat | | 1.3035 |
| Adjusted R-squared | 0.972654 | | | |
| F-statistic | 138.5397 | | | |
| Prob(F-statistic) | 0.0000 | | | |

**Source:** Author's Computation, using E- views 12, 20

Table 2 provides the results of a regression analysis, which appears to model the relationship between an endogenous variable RGDP (dependent variable) and two exogenous variables (independent variables), FSGDP and CGDP, with an intercept term (C). The table includes key regression outputs such as coefficients, standard errors, t statistics, and probability values, as well as overall model fit statistics the coefficients represent the estimated change in the dependent variable for a one-unit change in the respective independent variable, holding other variables constant. FSGDP coefficient is 411.2343, indicating that for every one-unit increase in FSGDP, the dependent variable increases by approximately 411.23 units, ceteris paribus. The coefficient is 109.259, suggesting that for every one-unit increase in CGDP, the dependent variable increases by approximately 109.26 units, ceteris paribus. Finally, C (Constant) intercept coefficient is -15,302.64, representing the estimated value of the dependent variable when all independent variables are zero.

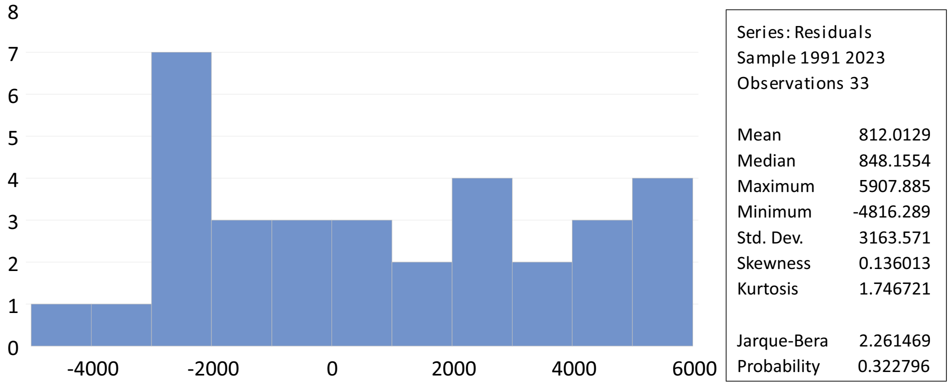
The standard error is 63.09102, indicating moderate precision of the FSGDP coefficient estimate while the standard error is 137.2526, suggesting less precision in estimating the effect of CGDP. And the standard error of the intercept is 4,658.462, reflecting variability in estimating the intercept.

The estimated Durbin Watson statistic is 1.3035, suggesting postive serial correlation in the residuals.

The estimated estimation is:

GDP = - 15302.64 + 109.259 CGP + 411.2343 FSGDP

**Figure 1:** Post estimation diagnostic test




The results shown in Figure 1 indicate that the probability value from the Jarque-Bera test is 0.322796, which suggests that the hypothesis of a normal distribution can be accepted.

**Discussion of Findings**

These findings underscore the central role that agricultural outputs especially fisheries play in Nigeria's economic performance. Notably, fishery production emerged as the more influential variable, suggesting its greater potential to catalyze economic activity within the agricultural sector. These outcomes align with prior studies highlighting the pivotal role of agriculture in economic development.

Maiga (2024) observed a strong contribution of agriculture to economic growth across African economies, albeit with varied sectoral impacts. The findings here corroborate that assertion within Nigeria, underscoring the fishery sub-sector as a pivotal area for investment. Similar results were presented by Anunwo (2022), who found that certain agricultural activities, especially fisheries and livestock, drive significant economic benefits in Nigeria. Meanwhile, the positive and significant role of crop production in this study is consistent with the observations of Kadiri et al. (2022) and Ayetade and Adeyeye (2021), both of whom confirmed agriculture's long-term economic impacts.

Chukwu (2023), which indicated that fishery output had an insignificant effect on Nigeria's economic growth between 1981 and 2020. This discrepancy suggests that fishery contribution may have strengthened in recent years, aligning with global trends wherein fisheries and aquaculture increasingly drive economic and nutritional outcomes. In contrast, the significant role of crop production in the long run affirms its timeless relevance for Nigeria's economic growth, in line with long-standing empirical evidence (Nelson et al., 2021).

Finally, the findings reaffirm agriculture's status as a cornerstone of Nigeria's economic structure. The stronger influence of fishery production within the model highlights its rising role in food security, income generation, and national economic expansion. This provides an evidence-based justification for targeted policies that intensify the growth and modernization of both crop and fishery production.

## Conclusion and Recommendations

This paper confirms that Nigeria's economic growth is significantly influenced by its agricultural sector, with both crop production and fishery output acting as pivotal contributors. The results revealed that while both sub-sectors exerted a positive long-term influence on the nation's GDP, fishery production demonstrated a comparatively stronger role. This underscored the centrality of fisheries as a catalyst for economic resilience, rural income generation, and national food security. Meanwhile, crop production, though yielded a positive and statistically significant effect, operated within constraints that limited its contribution relative to its potential.

Based on the findings, the following recommendations are proposed**:**

1. Findings highlighted that despite long-standing efforts through policies and interventions, critical bottlenecks such as infrastructural deficits, climate-related setbacks, limited access to affordable credit, and market inefficiencies continue to impede the agricultural sector. These constraints have contributed to suboptimal productivity and weaker linkages between agriculture and wider economic growth, suggesting that targeted reforms and coordinated policies are necessary.
2. Prioritize Integrated Policy Frameworks for Agriculture, The Federal Ministry of Agriculture and Food Security (FMAFS), in collaboration with its Departments of Crop Development and Fisheries & Aquaculture, should intensify efforts to modernize the sector. This should involve aligning national policies with global best practices, strengthening partnerships with research institutions like the National Institute for Freshwater Fisheries Research (NIFFR), and leveraging international alliances (such as the FISH4ACP initiative) to scale aquaculture infrastructure, fish processing technologies, and value-chain connectivity.
3. Support Technological Innovation and Capacity Development, through collaborations with the Agricultural Research Council of Nigeria (ARCN) and the National Agricultural Seeds Council (NASC), policies must drive the adoption of climate-smart practices and precision agriculture. The National Agricultural Extension, Research, and Liaison Services (NAERLS) can further play a pivotal role by utilizing digital platforms to deliver training and extension services, especially for rural farmers and fishers.

**References**

Abbas, A., & Ahmed, M. (2016). Determinants of agricultural credit utilization in Nigeria, *International Journal of Economics, Commerce and Management*, *4*(4), 1–13.

Anugwon, C. I. (2024). Agricultural sector output and economic sustainability in Nigeria, *Journal of Economics and Development Research, 10*(1), 1–12.

Anunwo, O. (2022). Agricultural output and economic growth in Nigeria: An ARDL approach. *Journal of Development Studies and Research, 8*(2), 45–60.

Anríquez, G., & Stamoulis, K. (2007). *Rural development and poverty reduction: Is agriculture still the key?* (ESA Working Paper No. 07-02). Food and Agriculture Organization of the United Nations (FAO). https://www.fao.org /3/ah878e/ah878e.pdf*(link added for completeness, optional).*

Ayetade, A. F., & Adeyeye, A. A. (2021). Long-run relationship between agricultural output and economic growth in Nigeria, *African Journal of Economic Policy, 28*(1), 34–49.

Bridge, E. O., Adebanjo, R. A., &Onuoha, S. C. (2021). Government agricultural spending and productivity in Nigeria, *International Journal of Agricultural Economics and Development, 9*(3), 77–91.

Chukwu, A. O. (2023). Agricultural sector output and Nigeria's economic growth: 1981–2020. *Nigerian Journal of Economics and Social Studies, 15*(2), 102–117.

Jabuya, T., Kone, A., & Bello, H. (2023). Agricultural output and GDP growth in Benin Republic: A VECM approach. *West African Economic Review, 12*(1), 20–35.

Maiga, M. S. (2024). Agricultural productivity and economic growth in five African countries, *African Development Review, 36*(1), 55–71.

Mamokhere, J. (2021). *An analysis of the development of state capture and its indicators in South Africa, 2016–2018*, Commonwealth Youth and Development, 19(2), Article 13.

Nelson, D. T., Okoro, E. C., & Uche, C. A. (2021). Agricultural output and economic growth in Nigeria (1986–2020), *Nigerian Economic Research Journal, 14*(2), 58–76.

Nelson, D. T., Uche, C. A., & Okoro, E. C. (2023). Government spending and agricultural outputin Nigeria: An ARDL analysis, *Journal of Public Finance and Economic Development, 17*(1), 23–38.

Olatoye, R. A., & Ogunkola, B. J. (2008). Parental involvement, interest in schooling and science achievement of junior secondary school students in Ogun State, Nigeria, *College Teaching Methods & Styles Journal, 4*(8), 33–40

Ohwofaso, S. I., Akpan, U., & Etuk, R. (2022). Agricultural productivity and economic growth in Nigeria: Evidence from 1986–2021, *Journal of Agricultural Economics and Rural Development, 14*(3), 110–127.

Umaru, A., & Zubairu, A. A. (2019). An empirical study of the contribution of agriculture and the petroleum sector to the growth and development of the Nigerian economy from 1960 to 2010, *International Journal of Social Science and Education* 2(4): 758–769

Yilson, A., Ojo, M., & Eze, P. (2021). Sectoral output and GDP in Nigeria: Evidence from the agricultural sub-sector. *Journal of Economic Research and Analysis, 7*(2), 91–109.

Yusuf, S. A. (2018). Role of agriculture in economic growth and development: Nigeria Perspective, MPRA Munich Personal RePEc Archive.

**APPENDIX I**

**Table 5:** Data Presentation

| YEAR | REAL GROSS DOMESTIC PRODUCT (RGDP) (# Billion) | CROP PRODUCTION (CRPD) (# Billion) | FISHERY PRODUCTION (FSPD) (# Billion) |
|---|---|---|---|
| 1986 | 15,237.99 | 25.97 | 1.57 |
| 1987 | 15.263.93 | 39.66 | 1.59 |
| 1988 | 16.215.37 | 61.85 | 1.86 |
| 1989 | 17,294.68 | 71.88 | 2.17 |
| 1990 | 19,305.63 | 86.93 | 2.35 |
| 1991 | 19,199.06 | 101.65 | 2.44 |
| 1992 | 19,620.19 | 153.38 | 2.99 |
| 1993 | 19,927.99 | 249.20 | 3.97 |
| 1994 | 19,979.12 | 377.31 | 5.98 |
| 1995 | 20,353.20 | 670.18 | 8.25 |
| 1996 | 21,177.92 | 906.89 | 10.37 |
| 1997 | 21,789.10 | 1026.29 | 12.55 |
| 1998 | 22,332.87 | 1.133.39 | 13.88 |
| 1999 | 22,449.41 | 1,204.70 | 19.31 |
| 2000 | 23,688.28 | 1,270.63 | 24.49 |
| 2001 | 23,267.54 | 1,699.69 | 29.98 |
| 2002 | 28,957.71 | 3,875.46 | 36.23 |
| 2003 | 31,709.45 | 4,161.57 | 44.13 |
| 2004 | 35,020.55 | 4,419.06 | 56.39 |
| 2005 | 37,474.95 | 5,372.20 | 67.45 |
| 2006 | 39,995.50 | 6,723.22 | 80.20 |
| 2007 | 42,922.41 | 7,654.22 | 91.50 |
| 2008 | 46,012.52 | 9,039.63 | 108.10 |
| 2009 | 49,856.10 | 10,419.63 | 121.25 |
| 2010 | 54,612.26 | 11,683.90 | 135.72 |
| 2011 | 57,511.04 | 12,484.85 | 153.05 |
| 2012 | 59,929.89 | 14,071.24 | 170.16 |
| 2013 | 63,218.70 | 14,862.32 | 187.95 |
| 2014 | 67,152.79 | 15,812.57 | 207.24 |
| 2015 | 69,023.93 | 17,189.97 | 1,748.03 |
| 2016 | 67,931.24 | 18,883.08 | 1,875.78 |
| 2017 | 68,490.98 | 21,096.11 | 1,974.45 |
| 2018 | 69,799.94 | 24,207.80 | 2,048.20 |
| 2019 | 71,387.83 | 28,296.93 | 2,108.95 |
| 2020 | 70,800.54 | 26,252.36 | 2,078.77 |
| 2021 | 73,387.75 | 26,782.40 | 2,106.23 |
| 2022 | 75,775.34 | 27,205.75 | 2,126.85 |
| 2023 | 77,857.59 | 27,452.62 | 2,138.55 |
| 2024 | 80,507.70 | 27,868.41 | 2,162.11 |

**Sources:** CBN Statistical Bulletin 2021 Version/National Bureau of Statistics (NBC)