# Impact of the Agricultural Sector on Job Creation in Nigeria

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## ABSTRACT

The study examined the impact of the agricultural sector on job creation in Nigeria. The agricultural sector was disaggregated into 4 subsectors namely; Crop farming, Livestock farming, Fishery and Forestry and investigated their individual impact on job creation in Nigeria using labour force as a proxy to measure job creation. Annual time series data from 1990 to 2023 obtained from the Central bank of Nigeria Bulletin and World Development Index were used for the study. The method of analysis employed was the Augmented Dickey-Fuller (ADF) unit root test and Auto – Regressive Distributed Lag (ARDL) technique with labour force as the dependent variable and all the components of agriculture as the independent variables. The results revealed that Crop Production Output had negative impact on Job creation both in the short-run and long-run whereas Livestock Production, Forestry and Fishery production output had positive impacts on Job Creation in Nigeria. The study recommends that government should put forward policies that aim at diversifying the agricultural sector as well as provide funds and subsidies to aid in mechanization and modernization of agriculture which will promote job creation in Nigeria.

**Keywords;** Crop farming, Livestock farming, Fishery, Forestry and Job creation.

## INTRODUCTION

Agriculture can simply be defined as the practice of growing crops and rearing of animals for sustenance or other necessities for the benefit of human beings (Korgbeelo, 2021). The importance of agriculture to the improvement of an economy cannot be overemphasized. Agriculture is seen as the backbone of almost all economies in the world (Ogbalubi and Wokocha, 2013). Sustainable Development Goals (SDGs) were adopted in 2015 and in Africa, 70 percent of the development target group live in rural areas and are dependent on agriculture for a living (IFPRI, 2019). As cited by Uzonwanne, Francis and Nwokoye (2023), invariably, agriculture increasing productivity, reducing poverty, improving nutrition and general well-being of the population would imply improving the livelihood of the majority and this hinges critically on the performance of the agricultural sector. Development economists have always assigned the agriculture sector a central place in the development process; however, the understanding of that role has evolved over time. Early development theorists emphasized industrialization, though they counted on agriculture to provide the necessary output of food and raw materials, along with the labour force that would gradually be absorbed by industry. Much later thinking moved agriculture more to the forefront of the development process; the hopes for technical change in agriculture and green revolution suggested that agriculture could be the dynamo for growth, (Wilber and Jameson, 1992).

Nigeria is a third-world country, largely rural and an agrarian society (World Bank, 2021). According to reports, Nigeria has 70 percent of its population in rural areas despite the growing increase in rural- urban migration. Nigeria was a leading agro-economy, as the country was among the top producers of palm oil, groundnut, cotton and cocoa globally in the 60's which a major source of foreign exchange was. Before the colonial masters arrived on Nigerian soil, our forefathers engaged primarily in farming as a major occupation and means of sustenance using crude farm implements. Despite the crude implements used, enough food was produced to feed themselves and also producing cash crops that were used for barter system of trade across the Sahara and the Atlantic Ocean. The Nigerian colonial economy depended on three major export crops. They were Cocoa from the west, Palm produce from the East and Groundnut from the North which accounted for about 70% of Nigeria's total export in colonial times and farm produce from Nigeria was exported to Britain and other European countries. However, the discovery of crude oil in 1956 progressively led to the neglect of the sector, which has seen Nigeria decline

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in the global market rankings for most agro-produce she was among the leading exporter/supplier– unarguably a resource curse situation. After independence in 1960, the contribution of agriculture to the GDP was about 60%, and this was easily obtainable for developing agrarian nations. At the peak of the oil boom, Abdullahi (1981) observed, Nigeria could no longer produce enough food for its fast growing population neither could the (then) agricultural system cope with the increasing demands of the agricultural raw materials to keep the country's oil mills, textile nor other agro-based industries operating at full capacity let alone have surpluses for export. In fact, many of the agro-based industries which once depended on locally produced raw materials were closing down unless of course they were allowed to import part or all of these raw materials from abroad. Numerous other parameters point to the obvious and undeniable fact that the country is progressively becoming unable to cope with the overall needs of its food and raw materials.

The agricultural sector in Nigeria comprises four sub-sectors: crop production, livestock, forestry, and fishing with crop production leading amongst the sub sectors. Maize, cassava, guinea corn, and yam are the major crops farmed in Nigeria, with 70% of the households engaged in crop farming. In the south, 7.3% of the households practice fishing, while 69.3% of the households own or raise livestock in Northwest Nigeria. In the third quarter of 2019, before the COVID-19 pandemic, the sector grew by 14.88% year-on-year. Crop production remains the largest part of the sector. During the third quarter of 2019, the agriculture sector contributed 29.25% to the overall real GDP. Between January and March 2021, agriculture contributed 22.35% of the total gross domestic product, 23.7% in 2022, 21% in the second quarter of 2023 and continues to decline. Nigeria has a total agricultural area of 70.8 million hectares, of which 34 million hectares are arable land, 6.5 million hectares are used for permanent crops, and 28.6 million hectares are meadows and pastures (Statistica, 2023). The agricultural sector is important for ensuring food and nutritional security, income and employment generation, and for stimulating Industrialization and overall economic development of the country.

Job creation, on the other hand is a process that involves creation of new employment opportunities within an economy. Unemployment refers to as condition of not having a job, often referred to as being "out of work" Obisike, Okoli**,** Onwuka, Mba (2020). Unemployment is a critical problem in Nigeria currently, according to the Nigerian labour force Survey of the National Bureau of Statistics, the unemployment rate rose from 4.2% in the second quarter of 2023 to 5.0% in the fourth quarter. This is mostly due to the lack or insufficient manufacturing industries that make up a larger percentage of the real sector. Agriculture, which could have alleviated unemployment, has declined significantly in its contribution to the economy. The result of this has led to a declining rate in the participation of the active population to economically engage in agriculture in the country. Hence, the perpetual increment in the unemployment level in the country. The agricultural sector accounted for up to 35% of total employment in 2020, as it is one of the most critical sectors that has the potential to industrialize Nigeria, reduce poverty and create jobs for massive unemployed population. Despite several schemes, programmes and policies put in place by various governments since independence in 1960 to create job in agricultural sector and reduce poverty, the problem persists.

Successive governments of Nigeria have introduced various agricultural programmes since independence to promote agriculture, in order to generate employment, stimulate industrialization and overall economic development of Nigeria. The 1962-1968 Agricultural Development Plan was Nigeria's first national plan (Ogbalubi and Wokocha, 2013). This plan was initiated to boost agricultural productivity, increase food security and create employment opportunities in rural areas. National Agricultural Extension and Research Liaison Services (NAERLS) formulated in 1975 was aimed at providing agricultural extension services, research supports and training farmers. The National Agricultural Land Development Authority (NALDA) was launched in 1992 to promote land development, increase agricultural productivity and create employment opportunity for rural youths. The Agricultural Transformation Program (ATA) of 2011 was aimed at transforming Nigeria's agricultural sector into a modern, commercially viable industry. The Youth Empowerment in Agriculture Program (YEAP) was launched in 2013 to engage young people in agriculture, provide training, access to finance and support agribusiness start-ups. The Anchor Borrower Program (ABP) in 2015 was initiated by the Central Bank of Nigeria (CBN) to provide credit facilities to small holder farmers for the cultivation of rice, maize, wheat and cotton thereby boosting production, increasing income and creating jobs in agriculture. There were other programme and credit schemes like the Presidential Fertilizer Initiative(PFI) in 2016, Agricultural Promotion Policy(APP) in 2016, the Commercial Agricultural Credit Scheme(CACS) in 2009, Agricultural Credit Guarantee Scheme Fund (ACGSF) in 1977, National Food Security Council(NFSC) in 2018, National

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Livestock Transformation Plan (NLTP) in 2019, National Young Farmers Scheme (NYFS) in 2021 and many other externally supported programmes from FAO, UNIDO, WHO were directed towards increase in agricultural production and employment generation.

Notwithstanding, throughout the years, the sector has seen fast decrease in its role and contributions to growth and development (Ogbalubi and Wokocha, 2013) and the level of unemployment remains high. There is still limited access to finance and credit to farmers, resource shortages, food insecurity as a result of violent conflict in the rural areas and an outdated agricultural system. Efforts towards agricultural sustenance have been abandoned in quest for the dark gold which began with the oil boom. Therefore, Nigeria turned into a major consumer and importer of the agricultural products as against its position as a major exporter. For Nigeria, the quest to become one of the top 2020 global economies through economic diversification portends a mirage for the country following her steady decline in agricultural productivity (Uzonwanne, Mbah, Obi, Onyedibe 2023). The Federal office of statistics in its 1999 reports indicated that agricultural sector provided 41% of Nigeria's total gross domestic product (GDP) in that year. This represented a decrease of 24.7 % from its contribution of 65.7 % to the GDP in 1957 and 23.7% currently in 2022 according to World Bank development indicator which shows the continuous and rapid decline in agricultural sector productivity.

The Agricultural sector is one of the most important sectors in the Nigerian economy meant to be a source of revenue as well as providing job opportunities for the people. However, there remains a pressing issue regarding the extent to which agricultural activities translate into job creation opportunities for country's growing population. In light of this, a study that examines how agriculture contributes to job creation in Nigeria is in urgent need of attention. Though other research has been made on the work, this further investigation regarding how agriculture has contributed to job generation in Nigeria has to be carried out within the period of 1990 - 2024 because the importance of the agricultural sector in generating employment and stimulating overall economic development in a developing country such as Nigeria cannot be undermined.

There are several related studies that have attempted to determine the impact of the agricultural sector on job creation in Nigeria either theoretically or empirically. Some studies revealed that agricultural sector has a positive impact on job creation in Nigeria [ Ogbalubi and Wokocha (2013), Ita, Ukpong and Ekpebu (2013), Ayinde, Aina and Babarinde (2017), Bernard and Adenuga (2017), Ogbanga (2018), Osabohien, Mathew, Gershon, Ogunbiyi and Nwosu (2019), Ochada and Ogunniyi (2020), Tochukwu, Omoyele, Wahid and Aderemi (2021), Korgbeelo (2021), Orji, Ogbuabor, Alisigwe and Anthony- Orji (2021)]. Other researchers found that the agricultural sector does not have a positive impact on job creation in Nigeria [(Enilolobo Mustapha and Ikechukwu (2019), Adekanbi (2018), Aderemi, Pereowei, Abosede and Eusebius (2020), Ebere, Oresanwo, Omogboye, Aderemi (2022), Olu, Adama and Umejiaku (2023)] while some other studies maintain a neutral stand on the impact of the agricultural sector on job creation in Nigeria [(Obakiri, Ekine, Chukwuigwe, Okidim and Iroegbu (2021)].

To fill this gap, this study examines the actual impact of agricultural sector on job creation in Nigeria by disaggregating the agricultural sector into component sub sector such as crop farming, livestock farming, fishery and forestry in order to reveal the specific impact of the individual sub- sectors on job creation in Nigeria. This will enable us to see the comparative performance of the various components and also assist in making specific policy recommendations for the agriculture sector. Additionally, given the fact that most of the studies were conducted at different time frames, this study was updated to 2024 to capture the current situation in Nigeria. This is why this research seeks to broadly examine the impact of the agricultural sector on job creation in Nigeria by providing further illumination to the following specific objectives

1. To examine the impact of crop farming on job creation in Nigeria.

2. To analyze the impact of livestock farming on job creation in Nigeria.

3. To determine the impact of fishery on job creation in Nigeria.

4. To analyze the impact of forestry on job creation in Nigeria.

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This study will serve as a contribution to the existing literature and resource material to policymakers in Nigeria. The four arising hypotheses for the variables are tested in null form. Thus, the rest of the paper is structured into literature review, research methodology, data analysis and interpretation of results and conclusion and recommendations.

# LITERATURE REVIEW

**2.1** The theory in which this study is built on is the **High payoff input model of agricultural development.** The High Payoff Input Model in agriculture refers to the concept that certain inputs, when applied to agricultural production, can result in significantly higher outputs or yields. This model emphasizes the use of specific high-value inputs such as improved seeds, fertilizers, irrigation, and pest control measures that can dramatically increase agricultural productivity and profitability. The new high payoff inputs, according to Schultz (1964), can be categorized as the capacity of public and private sector research institutions to produce new technical knowledge, the capacity of the industrial sector to develop, produce, and market new technical inputs, the capacity of farmers to acquire new knowledge and use new inputs effectively. This model involves the use of inputs that significantly increase agricultural productivity and efficiency, such as high-yielding seeds, fertilizers and modern farming techniques. By boosting agricultural productivity, it can lead to increased crop yields and income for farmers.

The successful efforts to produce high-yielding varieties of grain suitable for the tropical region led to the acceptance and incorporation of the high payoff input model into an economic doctrine. It should be noted that, during the 1950s, new high-yielding wheat and corn varieties were developed in Mexico while high-yielding varieties of rice were introduced in the Philippines. Simply put, The High Payoff Input Model in agriculture demonstrates how targeted use of high-value inputs can significantly boost agricultural productivity and profitability. Its principles have been validated through various agricultural advancements and initiatives, such as the Green Revolution. By increasing crop yields and stimulating value chain development, this model has profound implications for job creation and rural economic development. Effective implementation of this model can lead to sustainable agricultural practices and broader economic benefits.

### 2.2 Empirical review of literature

Ogbalubi and Wokocha (2013) examined Agricultural Development and employment generation with reference to Nigeria. The paper acknowledged the important role agriculture plays in developing countries such as Nigeria not only in employment generation but also for overall economic growth. It identifies some major factors impeding the development of Nigeria's agricultural sector, such as neglect of agriculture following the discovery of oil, insufficient infrastructure, insufficient extension services, labour shortages due to rural-urban migration, land degradation due to oil activities in the Niger Delta Region, policy inconsistency, and so on. Data was obtained from Central bank of Nigeria and Federal Office of Statistics. To guarantee that agriculture takes its appropriate position in our economy, the paper advises providing finance to farmers, extension services, price stabilization, and making agriculture a priority, among other things.

Ayinde, Aina and Babarinde. (2017) while researching into the effect of agricultural growth on unemployment and poverty in Nigeria from 1980 to 2012 used the Granger causality and Co-integration model. It was discovered that agricultural growth led to a decrease in unemployment which in turn led to a decrease in poverty rate in Nigeria. The study recommended that the policy-makers embark on policies that would improve the agricultural sector in the country. Also, it is expedient that the policy-makers in the country should embark on massive investment in agriculture, and as such creation of employment and poverty reduction would be facilitated in the long run.

Bernard and Adenuga (2017) examined the impact of Agricultural Development on employment generation with particular reference to Nigeria. The paper acknowledged the important role agriculture plays in developing countries such as Nigeria not only in employment generation but also for overall economic growth. It showcases the agriculture sector as the most critical and basic sector that has significant potentials for the transformation of the Nigerian economy. To achieve this objective the Error Correction and Granger Causality test was employed to analyse the contribution of agricultural sector alongside other explanatory variables such as gross domestic

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product, foreign private capital, federal government expenditure and industrial on employment generation in Nigeria. The study also provides the overview of agricultural development in Nigeria and also provides a framework for understanding the agricultural sector in relation to the strategies employed by government to develop the sector. However, the result of the study revealed that agricultural sector and other explanatory variables contribute significantly to employment generation in Nigeria. There, to reduce the increasing unemployment in Nigeria, government should intensify effort in improving the agricultural sector that could serve as feedback mechanism in providing raw materials for industrial purposes.

Adekanbi (2018) while studying the impact agriculture has on job creation in Nigeria, concluded that agriculture does have an impact on economic development in Nigeria but observed that as government increases funding to the sector, there is little to show for it. According to the author, this may be due to various factors which include misappropriation of funds by those the funds are entrusted to, insincerity on the part of the government in the sense that most times spending by the government is mainly to score cheap political points and lack of coordination which is evident in the way successive governments abandon projects of their predecessors.

Ogbanga (2018) investigated the advancement of agriculture and job availability in the Nigerian economy from 2008 to 2017. Error correction model (ECM) and Granger causality were embraced to explain the objectives of this research. However, the study's findings demonstrated that the agricultural sector and contribute considerably to job creation in Nigeria. As such, all stakeholders in agriculture should intensify strategies that catalyse the improvement of agricultural sector via the availability of credit facilities to practitioners in agriculture and at same time prioritize agriculture in the Nigerian economy.

Osabohien, Mathew, Gershon, Ogunbiyi and Nwosu (2019) assessed the contribution of agriculture to the availability of employment in reducing the West African level of poverty from 2000-2017 using General Method of Moments (GNN) as a method of data analysis. The result showed that agriculture helps the poor to rise in their earnings thereby reducing poverty. The study recommended that effective policies should be included in agricultural plans which will help increase agricultural earnings in the long run and bridge the poverty gap.

Enilolobo, Mustapha and Ikechukwu (2019) examined the impact of agriculture sector growth on job creation in Nigeria as well as the direction of causality between agricultural sector output and unemployment level in Nigeria. Secondary annual time series data between 1981 and 2016 were used for the study. Data on unemployment rate, agriculture sector output, public expenditure and industrial output were obtained from the Central Bank of Nigeria's statistical Bulletin while data on FDI and population growth were obtained from the World Bank World Development Indicators. The data were analysed using ADF (Augmented Dickey Fuller Test) unit root test, Autoregressive distributed lag Bounds test of co-integration, and Autoregressive distributed lag error correction model estimation and Granger causality. The results of ADF unit root test revealed variables were at different orders of integration, the ARDL bounds test revealed co-integration between variables, and the Autoregressive distributed lag error correction model estimation revealed that change in agriculture output in the current period is negative and significant for current unemployment level in Nigeria, while the change in one period lagged agriculture output was positive and significant for current unemployment level in Nigeria. Also, the error correction term indicated that about 74.10 percent of the disequilibrium in the system in the previous year would be corrected in the current year. Granger causality test results revealed bi-directional causality between agriculture output and unemployment level in Nigeria. The study recommends that the Nigeria government should using strategic policies targeted at boosting agriculture output such as increasing access to land for peasant rural farmers, investments in agricultural research, and so on, seek to boost agriculture output in order to reduce unemployment in Nigeria. Further, the Nigeria government should ensure that agriculture sector development policies are consistent with the objective of reducing unemployment and facilitating job creation in Nigeria.

Aderemi, Pereowei, Abosede and Eusebius (2020) appraised the impact of agriculture on employment generation in Nigeria; post SAP era from 1990 2017. The research data was sourced from CBN statistical bulletin and employed dynamic ordinary least square and Granger causality as a method of analysis. The findings showed that agriculture has an insignificant impact on employment generation in the post SAP era. Also, inflation rate has a positive impact on employment generation in the economy. However, the impact of agricultural expenditure to the employment generation was negative in the country. Furthermore, one-way causality flows

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from employment to agricultural expenditure and expenditure on agriculture Granger causes inflation rate in the economy. The following recommendations were made based on the findings of this research. They are, agriculture has the ability to reduce the issue of unemployment among the youth and government should provide proper funding for the agricultural sector.

Ochada and Ogunniyi (2020) focused on agricultural sector performance, employment generation and per capita income in Nigeria from 1981-2016. The study employed vector auto-regressive (VAR) as a method of analysis and sourced its data from CBN bulletin and world bank development indicators. The study found that there is a positive dynamic interaction between agricultural performance, employment generation and per capita income in Nigeria. It recommended that more attention should be given to the agricultural sector as it helps to cause an improvement in the living standard of people and also create employment opportunities.

Obakiri, Ekine, Chukwuigwe, Okidim and Iroegbu (2021) looked at the impact of agricultural development on employment generation in Nigeria. The study revealed that the agricultural sector is the most critical sector that has the potential to industrialize Nigeria, reduce poverty, increase food security and create jobs for the massive unemployed population. The study concludes that the development of agricultural sector is still at its infant age despite the numerous policy efforts of successive government to develop the sector. Therefore, it is suggesting that the only way forward for Nigeria agricultural sector to drive industrialization, guarantee food security and employment generation is by total and massive investment in the sector.

Tochukwu, Samuel, Olanipekun and Aderemi (2021) researched whether agriculture has aided the creation of job opportunities in Nigeria from 1990 to 2019. FMOLS and pairwise Granger causality was the method of analysis used in this study. The result of the analysis showed that agriculture impacts employment generation significantly and also, public spending on agriculture does not aid in the creation of jobs in Nigeria. The result also showed that there is no causality flow from agricultural value added to employment generation. This study then recommended that policy-makers should invest massively in agriculture as it will bring about employment generation.

Korgbeelo (2021) in his study on Agricultural sector performance and job creation in Nigeria examined the impact of crop production output, livestock output, fishery output and forestry output on the unemployment rate in Nigeria. Annual time-series data from 1981 to 2019 were used for the study. The data were obtained from secondary sources. The Autoregressive Distributed Lag (ARDL) approach was used in estimating the data. The findings indicated that crop production output significantly reduces unemployment in Nigeria while livestock and fishery outputs have weak reducing effect on unemployment in Nigeria. Also, forestry output insignificantly stimulates unemployment in Nigeria. Among other things, it is recommended that government should support farmers with subsidized inputs and improved varieties of crops.

Orji, Ogbuabor, Alisigwe and Anthony (2021) investigated the role of finance on the agricultural sector in enhancing the advancement of job creation in Nigeria from 1981-2017. ARDL was used to analyse the study with the results showing that the immediate (the short run) and the aftermath effect (long run) of agricultural output growth equally lead to a rise in employment generation solely in the short run. The study suggests that policy-makers should make every effort to ensure that every cash allotted for specific agricultural plans and interventions is properly utilized for its intended purpose. To enhance job possibilities, each plan and policy should be carefully monitored to ensure that its unique objectives are met.

Ebere, Oresanwo, Omogboye and Aderemi (2022) conducted an investigation regarding the impact of agriculture on employment generation in Nigeria from 1990 to 2019, utilizing Dynamic Ordinary Least Squares. The summary of findings in this study could be stated as follows; agricultural value added (AVA) and rate of unemployment had a positive relationship while Government expenditure on agriculture and rate of unemployment had a significant positive relationship in Nigeria. Inflation rate (INF) and exchange rate (EXR) showed a positive and significant impact on unemployment except foreign direct. By and large, it could be submitted that agriculture did not contribute to employment generation in Nigeria. In view of the above findings, the recommendation for the Nigerian policy makers is that revamping of agriculture via massive investment in

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this sector of the economy is urgently needed in Nigeria before it could ensure employment generation in the country.

Olu, Adama and Umejiaku (2023) researched on Analysis of the impact of Agricultural Sector to Employment Generation in Nigeria. Secondary data sourced from the Central Bank of Nigeria statistical bulletin and National Bureau of Statistics between 1999 and 2021 were used for data analysis. The Ordinary Least Square (OLS) regression analysis technique was used to estimate and to obtain values for the parameters. The result revealed that though the agricultural sector has significantly contributed to employment generation but not to the extent of lowering the unemployment rate. This is due to the magnitude of the size of the unemployed in Nigeria. It is therefore recommended that since the agricultural sector holds a lot of potentials for employment generation but many yet see agricultural practice as derogatory; there is the need for more awareness to be created and needed machines and equipment purchase to ensure that more people especially young graduates are encouraged to come into agricultural practice rather than waiting for the never forthcoming white collar jobs; as such, the government should create enabling environment for the agricultural sector to thrive. Likewise, there is the need to dwell on the value chain addition of agricultural sector products as this also have potentials of creating more employment opportunities for the unemployed in Nigeria if driven with the right technology. It is through this that the agricultural sector can make significant contribution to employment generation in Nigeria.

Asaleye, Henry, Lawal, Oluwayemisi, Uche and Elizabeth. (2023) investigated the impact of selected macroeconomic variables on Nigeria's agricultural performance using two models for output and employment. The Error Correction Model (ECM) approach was used to establish the short and long-run behaviours. In the first model, output in the agricultural sector was used as the independent variable, while in the second model, employment in the agricultural sector was used as the independent variable. The study's findings showed that output positively relates to credit to the agricultural sector and exchange rate. However, it was depicted that output and employment in the agricultural sector in both the short-run and the long run are not statistically significant. The implication drawn from the study is that credit granted to the agricultural sector can foster aggregate output in the sector, which will promote long-term employment. The study suggests considerable investment in the agricultural sector and the need to strengthen institutions for proper management of resources to ensure effective evaluation of funds disbursed for improving the agricultural sector, among others.

Dikeogu-Okoroigwe, Okonkwo and Ifeanyichukwu (2024) examined the effect of agricultural sector productivity on employment generation in Nigeria from 1981 to 2021. The study adopts descriptive statistics, unit root test, co-integration and Error Correction Modeling techniques for the analysis. The study used ratio of employment to total population to proxy employment generation whereas agricultural productivity was disaggregated into crop production, livestock, forestry and fishing. The results of analysis indicated that a long run relationship exists among the variables based on the co-integration test. Furthermore, the paper revealed that crop production, livestock, fishing and deposit money banks' credit to agriculture does not generate employment in Nigeria while forestry generate employment in Nigeria. The paper therefore concludes that agricultural productivity does not generate employment in Nigeria within the period under review.

## METHOD OF THE STUDY

The model used for this study is adopted and specified based on the high payoff input model and the empirical models used by Enilolobo, Mustapha and Ikechukwu (2019) which specifies as follows:

JCR = f (Agricultural output) - - - - 3.1

JCR= f (CPO, LPO, FSO, FRO) - - - - - 3.2

The mathematical form of the model is:

$JCR = \beta_0 + \beta_1 CPO + \beta_2 LPO + \beta_3 FSO + \beta_4 FRO$

The explicit econometric form of the model is stated;

$JCR = \beta_0 + \beta_1 CPO + \beta_2 LPO + \beta_3 FSO + \beta_4 FRO + \mu t$
Where, JCR = Job creation proxied by labour force

CPO = Crop Production Output,

LPO = Livestock Production Output,

FSO = Fishery Output,

FRO = Forestry Output,

F = Functionality Notation.

$\beta_0$ = regression constant,

$\beta_1$, $\beta_2$, $\beta_3$, and $\beta_4$ = coefficients of the explanation variables,

$\mu$ = Error term

t =Time trend

## RESULT PRESENTATION, ANALYSIS, AND DISCUSSION OF RESULTS

This section centers on the presentation and analysis of data used, interpretation of the result and discussion of the findings from the analysis conducted.

### 4.1 Unit root Test analysis

Table 4.1: Summary of Unit Root Test

| Variables | ADF test | Critical values | | | Unit root | Conclusion at 5% level | Level |
|---|---|---|---|---|---|---|---|
| | | 1% | 5% | 10% | | | |
| CPO | -3.550655 | -3.646342 | -2.954021 | -2.615817 | No | Stationary | At Level |
| FRO | -5.774907 | -3.646342 | -2.954021 | -2.615817 | No | Stationary | At Level |
| FSO | -3.269883 | -3.653730 | -2.957110 | -2.617434 | No | Stationary | At 1st difference |
| JCR | -5.549976 | -3.653730 | -2.957110 | -2.617434 | No | Stationary | At 1st difference |
| LOP | -3.277805 | -3.679322 | -2.967767 | -2.622989 | No | Stationary | At Level |

Source: Researcher's Computation (2025)

Evidence from unit root table above shows that crop production output, forestry output and livestock production output were all stationary at level, while fishery output and job creation were stationary data at first differencing. The decision rule is to reject null hypothesis if the ADF statistic value exceeds the critical value at a chosen level of significance (in absolute terms), and accept stationarity when ADF statistics is greater than criteria value. Thus, the ARDL technique can be employed for further estimation, since the assumption of stationarity at I (0) and I (1) had been met.

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### 4.2 Short Run Analysis

Table 4.2 Summary of Short Run Analysis Model

| Variable | Coefficient | Std. Error | t-Statistic | Prob.* |
|---|---|---|---|---|
| LNJCR (-1) | 0.951490 | 0.023788 | 39.99893 | 0.0000 |
| LNCPO | -0.001888 | 0.004560 | -0.414076 | 0.6832 |
| LNLOP | 0.016266 | 0.008664 | 1.877442 | 0.0751 |
| LNLOP (-1) | 0.001322 | 0.013374 | 0.098876 | 0.9222 |
| LNLOP (-2) | -0.011363 | 0.009770 | -1.163055 | 0.2585 |
| LNFSO | 0.004626 | 0.006740 | 0.686401 | 0.5003 |
| LNFSO (-1) | -0.004627 | 0.010146 | -0.456020 | 0.6533 |
| LNFSO (-2) | 0.012960 | 0.006918 | 1.873376 | 0.0757 |
| LNFRO | 0.012052 | 0.009987 | 1.206800 | 0.2416 |
| LNFRO (-1) | -0.045043 | 0.017401 | -2.588441 | 0.0176 |
| LNFRO (-2) | 0.022379 | 0.012160 | 1.840396 | 0.0806 |
| C | 0.842890 | 0.411090 | 2.050376 | 0.0537 |
| R-squared | 0.999952 | Mean dependent var | | 17.73858 |
| Adjusted R-squared | 0.999925 | S.D. dependent var | | 0.238815 |
| S.E. of regression | 0.002064 | Akaike info criterion | | -9.248594 |
| Sum squared resid | 8.52E-05 | Schwarz criterion | | -8.698943 |
| Log likelihood | 159.9775 | Hannan-Quinn criter. | | -9.066400 |
| F-statistic | 37736.35 | Durbin-Watson stat | | 2.269800 |
| Prob(F-statistic) | 0.000000 | | | |
| Source: Researcher's computation (2025) | | | | |

From the result in Table 4.2, all other explanatory variables held constant a unit increase Job Creation of previous year will increase Job Creation by 0.951490 and it is statistically significant at 5% significant level because the calculated t-value of 39.99893 is greater than 1.96 and also the probability value of 0.000 is less than 0.05 at 5% significant level. For crop production output, all other explanatory variables held constant a unit increase in Crop Production Output will reduce Job Creation by 0.001888 and it is statistically insignificant at 5% significant level because the calculated absolute t-value of 0.414076 is less than 1.96 and also the probability value of 0.6832 is greater than 0.05 at 5% significant level.

In the case of livestock production, all other explanatory variables held constant a unit increase in Livestock Production will increase Job Creation by 0.016266 but it is statistically insignificant at 5% significant level

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because the calculated absolute of 1.877442 is less than 1.96 and also the probability value of 0.0751 is greater than 0.05 at 5% significant level. For that of previous year, Job Creation will increase by 0.001322 but it is statistically insignificant at 5% significant level because the calculated t-value of 0.098876 is less than 1.96 and also the probability value of 0.9222 is greater than 0.05 at 5% significant level. Also, all other explanatory variables held constant a unit increase Livestock Production of two years ago will decrease Job Creation by 0.011363 and it is statistically insignificant at 5% significant level because the calculated absolute t-value of 1.163055 is less than 1.96 and also the probability value of 0.2585 is greater than 0.05 at 5% significant level.

For fishery output, all other explanatory variables held constant a unit increase in Fishery Output will increase Job Creation by 0.004626 but it is statistically insignificant at 5% significant level because the calculated of 0.686401 is less than 1.96 and also the probability value of 0.5003 is greater than 0.05 at 5% significant level. From the result in Table 4.2, all other explanatory variables held constant a unit increase Fishery Output of previous year will decrease Job Creation by 0.004627 and it is statistically insignificant at 5% significant level because the calculated absolute t-value of 0.456020 is less than 1.96 and also the probability value of 0.6533 is greater than 0.05 at 5% significant level.

From the result in Table 4.2, all other explanatory variables held constant a unit increase Fishery Output of two years ago will increase Job Creation by 0.012960 but it is statistically insignificant at 5% significant level because the calculated t-value of 1.873376 is less than 1.96 and also the probability value of 0.0757 is greater than 0.05 at 5% significant level. Also for Forestry Output, from the result in Table 4.2 all other explanatory variables held constant a unit increase in Forestry Output will increase Job Creation by 0.012052 but it is statistically insignificant at 5% significant level because the calculated of 1.206800 is less than 1.96 and also the probability value of 0.2416 is greater than 0.05 at 5% significant level.

All other explanatory variables held constant a unit increase Forestry Output of previous year will decrease Job Creation by 0.045043 but it is statistically significant at 5% significant level because the calculated absolute t-value of 2.588441 is greater than 1.96 and also the probability value of 0.0176 is less than 0.05 at 5% significant level. While, all other explanatory variables held constant a unit increase Forestry Output of two years ago will increase Job Creation by 0.022379 but it is statistically insignificant at 5% significant level because the calculated t-value of 1.840396 is less than 1.96 and also the probability value of 0.0806 is greater than 0.05 at 5% significant level.

The coefficient of determination that measures the goodness of fit is 0.999952. The percentage of the total variation in the dependent variable that is explained by the independent variables is 99.99%. Specifically, the total variation in Job creation which was proxied by labour force, crop production output, livestock production output, fishery output and forestry output is 99.99%, while the remaining 0.01% is explained by other variables not included in the model but are accounted by the stochastic term. From the result above, the probability chi-square values of 0.0812 > 0.05, so we conclude that there is no auto-correlation in the models above. The study therefore, concluded that the explanatory variables are not perfectly linearly correlated, as no coefficient exceeded 10. From the result of the post estimation tests that were conducted, the F-probability values of the Breush-Pagan-Godfrey test and ARCH test of (0.3657) and (0.8019) respectively, are both greater than 0.05, so we conclude that there is no heteroscedasticity, therefore we conclude that the model is normally distributed.

### 4.3 Economic Aprior expectations

All the independent variables from the theoretical expectation are supposed to have a positive impact on the dependent variable, job creation which shows that the dependent and the independent variables have direct positive relationship in which one increases as the other increases. This test is carried out to ascertain in the parameter estimates conform to what economic theory postulates in terms of sign and magnitude. Therefore, we compare the a priori signs with the obtained sign of the variables from our result. The test is summarized in Table 4.3.

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Table 4.3 Apriori Expectation Table

| Variables | Abbreviation | Expected Sign | Obtained sign | Conclusion |
|---|---|---|---|---|
| Job Creation | JCR | Dependent variable | | |
| Crop Production Output | CPO | Positive (+) | - | Not Conform |
| Forestry Output | FRO | Positive (+) | + | Conform |
| Fishery Output | FSO | Positive (+) | + | Conform |
| Livestock Production Output | LOP | Positive (+) | + | Conform |

Source: Researcher's Computation (2025)

From Table 4.3, Livestock Production Output, Fishery Output and Forestry Output all had positive relationships with Job Production in Nigeria, it was only Crop Production Output that had negative coefficient which may be as a result of lack of access to credit, small scale farming, use of non-mechanized farming implement and food insecurity in the country.

**T-test**

This is the test for individual significance of variables and a variable is significant when the absolute t-statistics is greater than the $t_{0.05}$ critical value at 5% level of significance.

Table 4.4: Summary of T-Test

| Variables | T-test | T-critical value at 0.05 level | Assessment |
|---|---|---|---|
| CPO | 0.414076 | 1.96 | Insignificant |
| FRO | 1.206800 | 1.96 | Insignificant |
| FSO | 0.686401 | 1.96 | Insignificant |
| LOP | 1.877442 | 1.96 | Insignificant |

Source: Researchers' Computation (2025)

Table 4.4 shows summary of the t-test. From the above, all variables have insignificant relationship with Job Creation in Nigeria. The result show that the critical value of 1.96 is greater than the calculated t-table result. Moreover, the result also shows that the Lag of Forestry Output (Lag1) had significant relationship with Job Creation in Nigeria.

**F test**: From the ARDL result in Table 4.2, we can conclude that our model is significant at 5% significant level because the f-probability value (0.000000) is less than 0.05.

**4.4 Evaluation of Research Hypothesis**

In testing the working hypotheses, which partly satisfies the objectives of this study, the study employs a 0.05 level of significance. In doing so, the study is to reject the null hypothesis if the t-value is significant at the chosen level of significance; otherwise, the null hypothesis will be accepted. Decision rule: Reject $H_0$ if t-calculated > t-critical

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Hypothesis 1:

$H_0$: Crop Farming has no significant impact on job creation in Nigeria.

$H_1$: Crop Farming has significant impact on job creation in Nigeria.

From the results, Crop Production Output had negative relationship with Job creation both in the short-run and long-run. They are both statistically significant at 5% level of significant. This implies that they are limited people engaging in crop farming in Nigeria, it has not contributed more in the eradication of unemployment in Nigeria. Since Crop Production Farming had no significant relationship with Job Creation in Nigeria, we therefore fail to reject the null hypothesis ($H_0$) and conclude that Crop Farming has no significant impact on job creation in Nigeria.

Hypothesis 2:

$H_0$: Livestock Farming has no significant impact on job creation in Nigeria.

$H_1$: Livestock Farming has significant impact on job creation in Nigeria.

From the results, Livestock Production Output had positive relationship with Job creation both in the short-run and long-run. They are both statistically significant at 5% level of significant. This implies that Livestock production has a tendency of increases employment in Nigeria but, many people have not yet pick interest due to so many factors. Since Livestock Farming had no significant relationship with Job Creation in Nigeria, we therefore fail to reject the null hypothesis ($H_0$) and conclude that Livestock Farming has no significant impact on job creation in Nigeria

Hypothesis 3:

$H_0$: Fishery has no significant impact on job creation in Nigeria.

$H_1$: Fishery has significant impact on job creation in Nigeria.

From the results, Fishery Output had positive relationship with Job creation both in the short-run and long-run. Fishery had an insignificant relationship with Job Creation in Nigeria in the short-run and had a significant relationship with Job Creation in the long-run. This is an indication that fish farming can reduce unemployment in Nigeria if the necessary awareness and support are in place. Since Fish Farming had a significant relationship with Job Creation just in the long-run and insignificant relationship in the short-run, we therefore fail to reject the null hypothesis ($H_0$) and conclude that Fishery has no significant impact on job creation in Nigeria.

Hypothesis 4:

$H_0$: Forestry has no significant impact on job creation in Nigeria.

$H_1$: Forestry has significant impact on job creation in Nigeria.

From the results, Forestry Output had positive relationship with Job creation both in the short-run and negative relationship with Job Creation in long-run. They are both statistically significant at 5% level of significant. Since Forestry had no significant relationship with Job Creation in Nigeria, we therefore fail to reject the null hypothesis ($H_0$) and conclude that Forestry has no significant impact on job creation in Nigeria.

### 4.5 Discussion of Findings

This study investigated the impact of agricultural sector on job creation in Nigeria from 1990 to 2023.The findings of the study revealed that Crop Production Output had negative relationship with Job creation both in the short-run and long-run and it is statistically insignificant at 5% level of significant. This is an indication that there are a few people who are engaged in crop production. Pre-colonial period, Nigeria was said to be practicing

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agrarian-economy where farming was the major pillar of the economy. Cocoa were harvested from the western part of the country, palm oil from the east and groundnut from the north. Nigeria generated most of her foreign reserves from export of cash crops. Today, the reverse is the case. Presently, Nigeria is now experiencing hike in food prices, people barely eat three square meals due to high cost of food stuff. Factors such as; insecurity, poor seedlings, lack of fertilizer and poor storage facilities are some of causes in the decline in crop farming.

The findings of the study also showed that Livestock Production had positive relationships with Job Creation in Nigeria but statistically insignificant. Livestock production need to be encouraged. One of the challenges faced by most unemployed youth and SMEs is lack of finance to set up a business and lack of capital for expansion respectively. Livestock production requires capital, and the return on investment is not spontaneous. Therefore, credit facilities should be provided to encourage those who wants to dive into it.

The result of the study also revealed that Fishery production output had positive relationship with Job Creation in Nigeria. It had an insignificant relationship in the short-run and a significant relationship in the long-run. This is an indication that fish farming has the capacity to create employment but the people who engaged in fish farming are mostly from rural and riverine regions. Also, Forestry had positive relationship with Job Creation in Nigeria in the short-run and negative relationship with Job Creation in the long-run. Both short-run and long-run had statistically insignificant relationship. This study conformed to a few empirical literatures reviewed in this research work such as; Obakiri et al. (2021) which stated that agriculture is still at its infant age despite the numerous policy efforts from the government. Also, Aderemi et al (2020) agriculture has insignificant impact on employment generation in Nigeria.

The results of the study revealed that crop Farming, livestock farming, fishery and forestry have no significant impact on job creation in Nigeria. Agriculture has high tendency to create massive employment if the right approaches are applied. Nigeria is rich with massive (fertile) land and human capital. The government and other stakeholders including the financial institutions should design policies that will encourage young people to venture into agriculture. Also, the government should put forward policies that aim at diversification of the agricultural sector as well as provide funds as well as subsidies to aid in mechanization and modernization of agriculture which will promote job creation. There is a need to create more awareness on the need for an agrarian-economy in Nigeria.

## CONCLUSION AND RECOMMENDATION

This study has illuminated the impact of the agricultural sector on job creation in Nigeria. Despite the Nigerian government's efforts to develop the agricultural sector and create job opportunities in the sector through various policy, programmes and management techniques, macroeconomic factors have posed challenges to achieving the desired objectives. However, by diligently implementing the recommendations proposed in this study, Nigeria has the potential to make significant progress in attaining its macroeconomic goal of reduction of unemployment and thus being able to create jobs in the agricultural sector. Specifically, policies aimed at boosting agricultural output, which will invariably lead to job creation in Nigeria. Also, the government should ensure that the agricultural sector’s development policies are consistent with the objective of job creation in Nigeria.

Based on the findings, the followings recommendations were considered:

1) The government should possess a political goodwill to diversify the current mono-cultural nature of the economy towards agricultural sector by benchmarking reasonable budget/funds to revamp this sector of the economy with a view to generating a substantial gainful employment for the current teeming unemployed youths and adequate food supply for all and sundry in the country

2) The Nigeria government should engage in strategic policies targeted at boosting agriculture output such as increasing access to land for peasant rural farmers, investments in agricultural research, and so on. Such development policies should be consistent, seek to boost agriculture output in order to facilitate job creation in Nigeria.

3) Policies that aid in the modernization and mechanization should be employed by the government. By

modernizing livestock farming techniques, promoting value addition, and providing necessary infrastructure and financial support, the Nigerian government can significantly increase job opportunities in the livestock sector.

4) Investments in critical infrastructure such as fishing ports, cold storage facilities, transportation, and marketplaces by government will improve the efficiency of the fisheries sector and create employment. Government support for the development of rural roads and fish landing sites in riverine communities can make it easier for fishers to access markets and reduce post-harvest losses, generating additional jobs in construction, logistics, and storage.

5) Policies that encourage the establishment and expansion of industries related to timber processing, paper production, furniture manufacturing, and wood-based energy (such as charcoal and biomass) with regulations can generate significant employment.

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