

ACCELERATING INCLUSIVE AGRICULTURAL GROWTH IN NIGERIA: AN EXAMINATION OF STRATEGIC ISSUES, CHALLENGES AND POLICY OPTIONS

Victor Ugbohem OBOH,^{1,2}

Head, Sub-Regional Institutions Office, International Economic Relations Division, Monetary Policy Department, Central Bank of Nigeria,
Correspondence email: vuoboh@yahoo.com

Adegoke Ibrahim ADELEKE,

Capital and Other Markets Office, Financial Policy Division, Monetary Policy Department, Central Bank of Nigeria.

ABSTRACT: *Agriculture has been identified as a critical sector with huge potential for promoting inclusive growth by stimulating economic growth, reducing poverty, and creating employment for a large number of people in developing countries. Against this backdrop, the paper assessed the sector's potential in accelerating sustainable broad-based growth and examined key strategies for realizing inclusive agricultural growth in Nigeria. Using data, covering 1981-2015, the results indicate agriculture's significant contribution to economic growth which is a necessary (but not sufficient) condition for achieving inclusive growth. Results of employment elasticity computed for the three major sectors suggested that agriculture led others (1.88) followed by services sector (1.18) and industry (0.33) in contributing to employment. Based on the analysis, the paper recommended policies such as increased public investment, access to farm inputs, youth-friendly and price stabilization programmes in order to accelerate inclusive growth in the agriculture sector.*

KEYWORDS: Inclusive Growth, Agriculture, Nigeria

JEL Classification: E24, Q11, Q18

INTRODUCTION

Inclusive growth has gained increasing attention in recent times from policy makers and will continue to remain on top of development agenda of governments across the globe, particularly

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² Postal Address: Monetary Policy Department, Central Bank of Nigeria, Head Office, Central Business District, Abuja, Nigeria.

in developing economies. This is based on the general belief that inclusive growth can create decent jobs, raise income and lift a broad spectrum of the population, especially those in the low income quintile, out of poverty into the mainstream of economic and social opportunities (Ali and Zhuang, 2007).

The poor economic and human development indices for Nigeria make inclusive growth not only compelling but also urgent. For instance, despite the robust and sustained growth averaging 7.5% annually within the past decade, Nigeria's score of 0.504 in the 2013 Human Development Index ranked her a low human development country. Nigeria missed most of the Millennium Development Goals and targets with poverty rate still remaining stubbornly high. Available statistics from the last household survey conducted in 2009/2010 puts poverty rates at 46% (adult equivalent approach), or 62% in per capita terms. In terms of geographical distribution, the Northern part of the country hosts the majority of the poor (66%) while poverty is also more prevalent in rural areas than in urban areas (Zamba and Oboh, 2013; AfDB, OECD and UNDP, 2015). This implies that the robust growth recorded over the past decade has not translated sufficiently into enhanced living standards, job opportunities and improved human outcomes. Furthermore, experts have traced the current insecurity challenges (terrorists attack, militancy, kidnapping, armed robbery and communal conflicts) to regional inequalities resulting from long absence or lack of economic opportunities as well as weak educational and health-care systems (UNDP, 2009).

Available evidence suggests high degree of social deprivation and inequality in Nigeria. While GNI per capita stood at US\$ 5,380, income distribution was highly skewed as shown by a Gini coefficient of 48.80 in 2013. In addition about 29% and 71% of the population lacked access to safe drinking water and basic sanitation respectively in 2015. Nigeria lags behind the African average for key social indicators. For example, while average life expectancy for Africa in 2014 was 60 years; Nigeria's life expectancy was estimated to be 53 years. Similarly, the 2011 adult literacy rate for Nigeria stood at 61.3% compared with 67% for sub-Saharan Africa (World Bank, 2016).

Rapid agricultural growth based on sustained productivity increase has been widely accepted as an essential requirement for achieving inclusive growth (Briones, 2013). This is premised on the role of agriculture in the process of structural transformation. Agriculture plays a critical role in promoting inclusive growth by stimulating economic growth, reducing poverty, and creating employment for a large number of people particularly in developing countries. It accounts for about 29 percent of the gross domestic product (GDP) and employs 65 percent of the labor force in poor developing economies. In addition, more than 75 percent of the poor in the developing world live in rural areas with most of them earning their livelihoods directly or indirectly from agriculture. The United Nations also identified productive and profitable agriculture as a critical strategy for achieving the Millennium Development Goals (Ki-moon, 2008).

Experiences of many developing countries including Nigeria have indicated that economic growth in the last two decades has been largely inequitable, non-inclusive and jobless in nature. In Nigeria, agriculture remains one of the major keys to inclusive growth, in view of the fact that the sector provides employment for about 60 percent of the economically active population, and 70 percent of the country's poorest communities.

The country has a large and untapped agricultural sector, which presents opportunities for investments and employment, particularly for the growing unemployed youth and women. Out of about 68 million hectares (75%) of the total land area in Nigeria that can support agricultural activities, only 33 million hectares are currently under cultivation. Similarly, only 7 % of the estimated 3.14 million hectares irrigable land area is put under cultivation (Abdulquadri and Mohammed, 2012). It therefore buttresses the point that the agricultural sector remains important for poverty reduction, increased income and employment generation.

Furthermore, the huge population of young people represents the country's greatest asset if they are appropriately empowered to participate actively in growth opportunities that would result in economic transformation. Increasing investments in agriculture can stimulate productivity, profitability and create wealth for smallholders and rural communities. As such, agriculture-based inclusive growth is crucial to poverty alleviation, job and wealth creation. With the high level of volatility in the oil market with its implications on economic growth, the need to diversify the economy away from oil becomes critical. The key question hinges on whether agriculture possesses the requisite potentials to stimulate the Nigerian economy inclusively and deliver decent jobs, raise income and lift people out of poverty.

Against this backdrop, the paper examined the key issues and policy options for accelerating agricultural development towards promoting inclusive growth in Nigeria. Given agriculture's position as the key driver of economic transformation, the paper assesses the sector's potential in accelerating sustainable broad-based growth in Nigeria.

The paper essentially seeks to address three main research questions: Does agriculture have the potential to contribute to inclusive growth in Nigeria?, What are the binding constraints to agriculture's optimal contribution to inclusive growth and what are the key strategies and policy options for realizing agriculture's potential more inclusively?

The overall objective of the paper therefore is to examine critical issues and developments in the agricultural sector and analyse policy options that can reposition the sector on the sustainable path of inclusive growth.

Specifically, the paper

- (i) Examines the potentials of agriculture to contribute to inclusive growth in Nigeria
- (ii) Analyse critical factors limiting agriculture's optimal contribution to inclusive growth
- (iii) Proffer key strategies and policy options for accelerating inclusive agricultural growth.

The rest of the paper is structured as follows: Section two reviewed relevant literature, while section three presented the methodology adopted for the study. Section four and five presented the major findings and Strategic Issues/Challenges respectively. The conclusions and policy implications are contained in section six.

LITERATURE REVIEW

Conceptual Literature

There is a general consensus among development practitioners that inclusive growth is a necessary requirement for addressing the twin challenges of inequality and poverty. However, key institutions, government and other stakeholders are yet to agree on a common definition and approach. Consequently, various development institutions have different definitions and understandings, key among them are the Organisation for Economic Cooperation and Development (OECD), the World Bank, the International Policy Centre for Inclusive Growth and the African Development bank (ADB). The OECD defined inclusive growth as a process that leads to a less pronounced gap between the rich and the poor as a result of fair distribution of growth dividends. The outcome is usually demonstrated in terms of improved living standards, such as good health, decent jobs and skills, clean environment, community support etc (OECD, 2013).

The World Bank's definition places emphasis on the pace and pattern of inclusive growth. In this regard, growth is considered inclusive if it can lift a large number of people out of poverty and benefit the largest share of the country's labour force (World Bank, 2009). The International Policy Centre for Inclusive Growth (IPC-IG) stresses the importance of participation in its definition. In other words, people should actively participate in the policies and processes that lead to wealth creation, in addition to being beneficiaries of growth outcomes (IPC-IG, 2011). For the ADB, inclusive growth must result in a significant reduction in the discrimination of the most marginalised groups.

Although each of these definitions focused on a particular aspect of poverty reduction, a common feature that runs across all of them is the need for inclusive growth to be able to stimulate significant economic benefits and opportunities that are equitably distributed in a broad-based manner. The recent popularity gained by the debate on inclusive growth particularly among development economists is attributed to the rising rates of poverty, inequality and unemployment during the period characterized by increased growth. This paradox of growth without sustainable improved human well-being has triggered socio-political and economic unrest in several parts of the world especially in the Middle East and North Africa (Cordesman et al, 2013).

Chang (2014) enumerated four core criteria for inclusive growth to occur:

- (i) *Inclusive growth must translate into reduced poverty and inequality among the most marginalized groups.* It has been established that not all growth is inclusive. Any growth

that cannot reduce poverty, creates jobs and increase income for majority of the poor or marginalized groups cannot be considered inclusive. In this context, growth is seen as an intermediate objective or better still, a means to achieving increased human well-being.

- (ii) *Inclusive growth implies more than mere increase in income.* While income growth for the poor is important for growth to be inclusive, other indicators of human well-being such as quality of growth, access to water, food, shelter and health facilities are necessary considerations (Commission on Growth and Development, 2008).
- (iii) *Inclusive growth process must be participatory.* It is essential for inclusive growth process to adopt a participatory or democratic approach with respect to decision making as well as the growth process itself. In this way, the poor or the most marginalized are aware of available opportunities created through growth and can easily access them. Such an inclusive process ensures that the dividends of growth are equitably distributed among the beneficiaries.
- (iv) *Sustainable growth is an essential requirement for inclusive growth.* To achieve a long term poverty reduction and improved human well-being objective, consideration must be given to environmental sustainability. Sustainable growth implies “development that meets the needs of the present, without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development, 1987). Increased threats arising from climate change and other forms of environmental degradation implies that economic growth needs to be environmentally sustainable in order to achieve long term human development outcomes.

THEORETICAL UNDERPINNINGS

The theoretical foundation for this paper hinges on the dual economy model proposed by Lewis (1955). The model focused on the process of structural transformation of under-developed economies from traditional subsistence agriculture to a modernised, urbanized and industrialized economy dominated by the manufacturing and service sectors. According to Lewis, an under-developed economy consists of - a traditional, rural, subsistent and over-populated sector and a modern, urban and industrialized sector. The traditional sector is usually characterized by zero marginal labour productivity, in which some quantum of labour could be withdrawn from the sector without loss of output. The modern sector on the other hand receives surplus labour gradually from the subsistence sector (Sanusi, 2010). The movement of labour from low productivity agricultural sector drives economic growth through savings mobilization and capital accumulation. The model is however criticized on the ground that the transition from a traditional to a modern system could be hampered if a set of interrelated changes in the economic structure of a country is absent even if capital, physical and human resources are sufficiently mobilised.

Apart from Singapore and Hong Kong, perhaps, all other countries that have attained sustained poverty reduction were found to have first recorded increased agricultural productivity (Bautista,

1999). Increased agricultural productivity is necessary for providing food, labor, and even savings to fast-track the process of urbanization and industrialization. A sustained agricultural growth helps to raise labor productivity in the rural economy, pulls up wages, and gradually reduces the prevalence of abject poverty. At the same time, the process also results in agriculture's diminishing contribution to the overall economy. Consequently, the industrial and service sectors grow even more rapidly, partly through stimulus from a modernizing agriculture and migration of rural workers to urban jobs. The diminishing contribution of the primary agricultural sector to economic growth in the course of structural transformation is well documented in the literature (Barret et al, 2010; Dethier and Effenberger, 2012). It results from the fall in agricultural share of the GDP and its labour force as the rural population seeks for higher paid jobs outside agriculture. It is however important to stress that the short and medium term economic role of agriculture is critical to the transformation process and therefore cannot be ignored. At the household level, agriculture remains the key sector with huge potential for lifting rural dwellers out of poverty more quickly than other sectors. For structural transformation to happen, the decline in agriculture's share of the GDP need to be compensated by an increase in agro-industry's contribution to overall manufacturing value added and job creation.

It has been found that the effectiveness of an increase in the contribution of agricultural labour productivity to overall growth in improving the poor's income in developing countries triples an equivalent increase in GDP emanating from non-agricultural labour productivity (Bravo-Ortega and Lederman, 2005). Therefore, since the majority of the poor in developing countries are located in rural areas with agriculture as their primary occupation and means of livelihood, it is clear that any effective poverty reduction strategy must be inclusive of agriculture (Todaro and Stephen, 2011).

Empirical literature

Empirical studies on the contribution of agriculture to inclusive growth provide diverse results. Using a robust data set and detailed econometrics, Besley, Burgess and Esteve-Volart (BBEV, 2004) found that agriculture played a minimal role in India's poverty reduction program, contrary to earlier findings by Ravallion and Datti (1996). Rather, both secondary and tertiary sectors were found to have played more prominent role in poverty reduction. Several studies however reported positive contribution of agriculture to poverty reduction. Sen et al (2004) argued that agriculture's contribution was largely responsible for the pro-poor growth in Bangladesh and Vietnam. In an Indonesian case study, Timmer (2005) attributed the country's 30 years of consistent and rapid pro-poor growth between 1967 and 1997 to a deliberate agricultural-led strategy.

Using a cross-country data, Irz et al. (2001) found that agriculture directly increased farmers' income in rural Eithopia resulting in reduced poverty. Dev (1998) reported an increase of about 90% in farmers' income under a conducive agricultural setting in India. A similar study by Bravo-Ortega and Lederman (2005) revealed that agricultural productivity per worker impacted

significantly on the average income of the poorest quintile in comparison with effect from non-agricultural productivity as income increases. Another study by Cervantes-Godoy and Dewbre (2010) used a sample of selected 25 countries to assess the importance of agricultural growth in poverty reduction. The authors classified the countries into three groups and found that agriculture showed more effectiveness in lifting the poorer groups out of poverty. Their major conclusion was that growth in agriculture is more effective in lifting the extreme poor out of poverty while non-agricultural growth is more effective in reducing poverty among the well-off poor closer to \$2 per day.

Empirical works relating to agriculture's contribution to inclusive growth in Nigeria revealed mixed results. Kolawole and Omobitan (2014) investigated the relationship between poverty and agriculture using the error correction model. Adopting the production index as proxy for agricultural output, the study found a negative relationship between poverty and agricultural output, suggesting that (all things being equal), increasing food production could lead to a drop in poverty level. However, another study carried out by Oni (2014) showed a contrasting result in which agricultural output was found to positively relate with poverty.

METHODOLOGY

This study exclusively utilized secondary data, spread over a period of about thirty five years (1981-2015). In determining agriculture's potential to inclusive growth, our methodology relied on earlier work done by Mckinley (2010) to identify some key indicators of inclusive growth relevant to the Nigerian environment and for which data were available. These indicators include agriculture's contribution to aggregate growth and productive employment. The analysis of these indicators formed the basis for assessing the status of inclusive growth in Nigeria and the potential of agriculture vis-à-vis other key sectors in contributing to broad-based growth.

Economic growth:

Agriculture's contribution to aggregate economic growth is a key indicator of the sector's potential in accelerating inclusive growth. Given that the pace of growth lays the foundation for progress in many dimensions, the obvious initial point of analysis was to ascertain agriculture's level of contribution to national GDP. A model to determine agriculture's contribution to growth was developed as follows:

$LGDP = f(LAG_GDP, LNAG-GDP, LEX_SOC, EPC, INF)$ where:

LGDP (Gross domestic product) represents the country's economic growth;

LAG_GDP (Agriculture GDP) refers to the contribution of agriculture to growth;

LNAG-GDP (Non-agriculture GDP) measures the contribution of non-agricultural sectors to growth;

LEX_SOC (Expenditure on social services) measures expenditure on social services proxied by government spending on health and education;

EPC (Electricity per capita) as a proxy that determines infrastructural development; and

INF (inflation rate) is used as a proxy to gauge the general stability of the economy.

In arriving at the selected explanatory variables for the model, we relied on the earlier works of Oni (2014), Okuneye et al (2004) Kormendi, and Meguire (1985) and Barro (1997). The following variables: gross domestic product, agriculture's share of GDP, non-agriculture's share of GDP and expenditure on social services were logged to reduce skewness.

Data were sourced from various publications of the National Bureau of Statistics (NBS) and the Central Bank of Nigeria (CBN).

Employment:

Employment continues to remain an important component of inclusive growth particularly in view of the high prevalence of jobless growth across Africa, Asia and other developing regions. Therefore, tracking of employment growth is one of the critical measures of inclusive growth.

Data on aggregate employment were sourced from the published reports of the National Bureau of statistics. However, non-availability of employment data especially with respect to number of jobs created per sector covering the period of study limited the scope of analysis. Given the available data, we computed employment growth rates in order to understand the level of changes in employment. Growth rate of employment is calculated as:

$$r = [(M_t/M_o)^{1/t} - 1] * 100$$

Where:

r = annual compound growth rate of employment

M_t = value of employment at tth period and

M_o = value of the variable at initial period

In assessing the link between GDP growth and employment growth, we adopted the concept of employment elasticity (E). Employment Elasticity measures the quantitative responsiveness of employment to changes in output.

It is measured as

$$\text{Employment Elasticity (E)} = \frac{\text{Growth rate of Employment}}{\text{Output Growth rate}}$$

It quantifies employment growth associated with one percentage change in economic growth (Kapsos, 2005). In addition to the formula above, two other methods for estimating employment elasticity are the use of economic growth and the dual-logarithm models.

In this study, the use of employment elasticity was intended to interrogate the nature of the relationship that exists between employment and growth in Nigeria. It is cautiously interpreted as correlation, rather than causality. One of the key strengths of employment elasticity (also known as employment intensity) pertains to its ability to provide important information concerning the

labour market as it is a key labour market indicator. It is also useful in examining how employment growth and economic growth move hand in hand over time (Munyeka, 2014).

MAJOR FINDINGS

Agriculture's contribution to aggregate GDP and its potential for Inclusive Growth

Agriculture's share of the GDP

Inclusive growth begins with GDP growth. Agriculture constitutes a major component of the primary sector that makes substantial contribution to Nigerian economic growth. Other components of the primary sector are mining, crude oil and gas (Fig. 1). Since 2005, the agricultural share of GDP has been far higher than that of other components of the primary sector. For instance, between 2005 and 2015, the primary sector accounted for about 40.3% of total GDP out of which agriculture alone contributed 24.3% while solid minerals and crude oil and gas jointly accounted for 16%. Though agriculture's share of the GDP declined to 23.11% in 2015, the sector continues to remain relevant to inclusive growth in Nigeria given the huge proportion of the poor that depend on agriculture for their livelihoods.

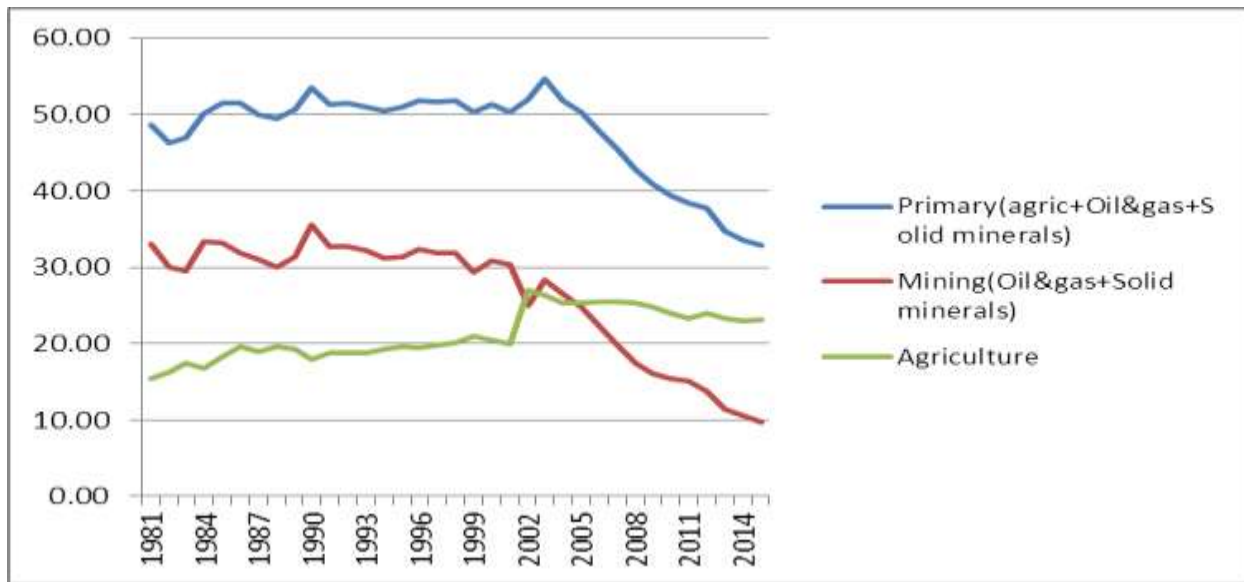


Figure 1: Contributions of the Primary sector and its components to total GDP (1981-2015)

Source: CBN database

It would be noted that the downward trend in the contribution of primary to the GDP between 2005 and 2015 was largely traced to the mining sector's substantial decline in the share of the

mining sector. This could be attributed mainly to the security challenges in the Niger Delta region which led to cases of oil theft and vandalism of oil and gas infrastructure.

As observed in Fig. 1, the share of agriculture in total GDP in Nigeria has been on the decline since the mid-2000s, though without a corresponding increase in per capita GDP. This differs from economic theory postulates which expect a decline in agriculture's share of aggregate GDP as the economy develops. The inability of the declining share of labor in agriculture to translate to growth in per capita GDP has largely been attributed to the urbanization of poverty. This pattern is common in some Sub-Saharan African countries and Latin America since 1980 (World Bank, 2008). Even though, agriculture's share in the GDP has been on the decline, the sector still employs a substantial share of the workforce. It therefore implies that performance in this sector is still significant for achieving inclusive growth and poverty reduction. In spite of the diminishing trend, overall inclusive growth depends substantially on strong agricultural growth due to the huge population of the poor that earn their livelihoods from the sector.

Within the agricultural sector, crop production dominated output, contributing an average of 85% of the agriculture GDP while livestock (11%), fishing (2%) and forestry (2%) made up the rest (Figure 2).

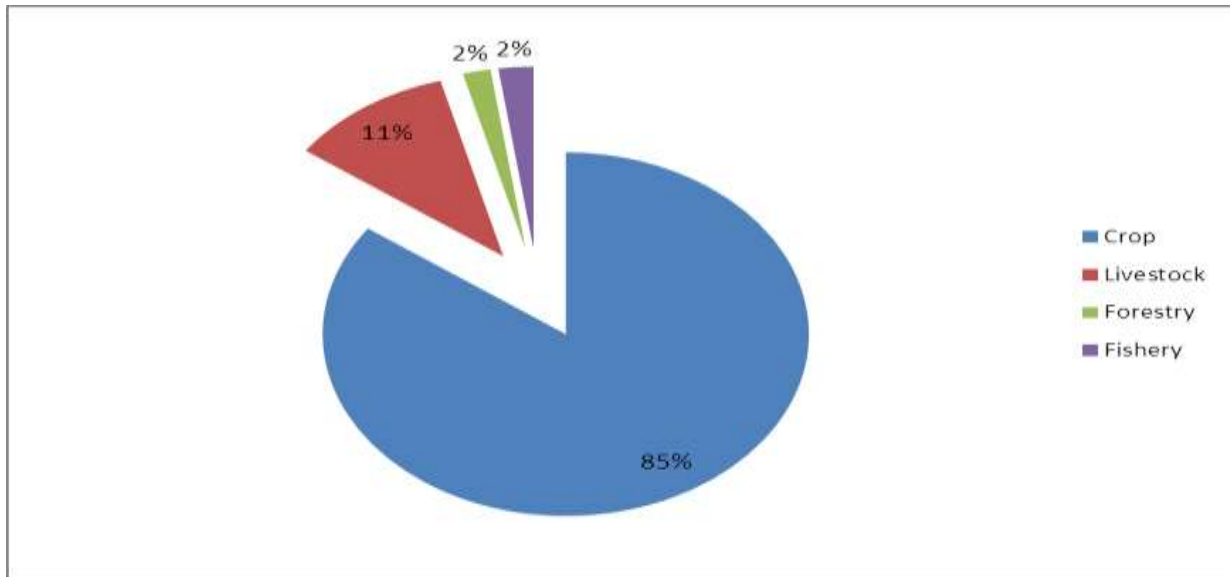


Figure 2: Sub-sectoral share of Agriculture GDP (1981-2015)

Source: CBN database

Increased agricultural output results mainly from expansion in cropped land size rather than from increased productivity. This could be explained by the inefficient agricultural practices including low uptake of improved technologies (especially fertilizer and seeds).

Relationship between agriculture and economic growth.

In order to determine the effects of agriculture on economic growth, we developed a growth model.

Results of Stationarity Test

Due to the non-stationary tendencies of most time series, we commenced the analysis by testing the unit roots of all the variables included in the growth model to determine their stationary levels. The results are shown on Table 1.

Variables	ADF test		KPSS test	
	Values	Order of integration	Values	Order of integration
LogGDP	-3.25**	I(1)	0.10***	I(1)
EPC	-7.16***	I(1)	0.07**	I(1)
INF	-5.31***	I(1)	0.28**	I(1)
LogAG_GDP	-3.84***	I(1)	0.17***	I(1)
LogNAG_GDP	-2.08**	I(1)	0.09**	I(1)
LogEXP_SOC	-6.84***	I(1)	0.26**	I(1)

Table 1: Levels of Integration of variables

*** and ** denote significance at 1% and 5% respectively.

The ADF test showed that all the variables were integrated of order one. We therefore reject the null hypothesis and conclude that the variables are stationary.

Co-integration Test: The Engle-Granger Two-Step Procedure

We adopted the Engle-Granger Two-Step Procedure for co-integration to examine the extent of relationship between gross domestic product (GDP) and each of the explanatory variables. A confirmation of co-integration between the variables would suggest that it is possible to use the information on one variable to predict the other in the long run. The Engle-Granger two-step method is suitable, given that it is a single equation model and integrated of order one. We followed two steps: estimation of the co-integration model and test for the stationarity of the residuals.

The residuals from the co-integration regression were tested and the results are presented in Table 2.

	t-Statistics
Augmented Dickey-Fuller test statistics	-6.29***
Critical values (Engle-Granger):	
1% level	5.28
5% level	4.71
10% level	4.43

Table 2: Engle - Granger Co-integration Test

*** denotes significance at 1%

Results in Table 2 suggest that the residuals are stationary at 1% significant level. This confirms the existence of a long run relationship between the variables used in the growth function. It implies that the long-term values of the variables can converge without possibility of changes in their behaviors.

Error correction presentation

The confirmation of a long-run relationship between the variables paved the way for applying the error correction model to remedy any disequilibrium that existed previously. We present the result of the error correction model in Table 3. The coefficient of determination (R^2) of 0.89 for the error correction model indicates that all the independent variables explained about 89% of the change in the dependent variable. The F-statistic showed that the overall model is statistically significant at 1%. The Error Correction Term (ECT) in the model indicates the rate of adjustment from short run equilibrium to the long run equilibrium state. The greater the coefficient of the parameter, the higher the speed of adjustment of the model from the short run to the long run. In the model, the ECT (-1) has a value of -0.36 and is statistically significant at 1%. This implies that the disequilibrium in the system is corrected by the ECT at a speed of 36% annually.

Variables	Coefficients	Standard Errors	t- statistics
C	-0.000936**	0.000416	-2.249811
DEPC	-5.0E-05	2.44E-05	-2.044437
DINF	-2.74E-05*	1.56E-05	-1.759751
DLAG_GDP	0.230044***	0.004006	57.42980
DLNAG_GDP	0.782946***	0.006612	118.4215

D(LEXP_SOC)	-0.000220	0.000383	-0.574125
ECT(-1)	-0.363438****	0.121653	-2.987496
R ²	0.899556		
Adjusted R ²	0.880955		
F-statistic	4231.876		
Durbin-Watson stat.	2.035573		

Table 3: Results of the Error Correction Model

Dependent variable: DLGDP

***, **and *denote significance at 1%, 5% and 10% respectively.

An analysis of the estimated coefficients of the long run relationship in Table 5 showed that our variable of interest 'agricultural output' contributes positively and significantly to economic growth at 1% probability level. The estimated coefficient of agricultural output (0.23) suggests that, for every 1% increase in agricultural GDP, total GDP will increase by approximately 23%, all things being equal. Non-agricultural output also maintained a positive and significant contribution to economic growth. For every 1% increase in non-agricultural output, total GDP would rise by 78%. Inflation rate exhibited negative relationship with economic growth in accordance with *a priori* expectation. It was significant at 10%. Expenditure on social services showed negative relationship with economic growth though it was insignificant. The result agreed with Usman et al (2011) as well as Udeaja and Onyebuchi (2015) that found negative impact of education expenditure on economic growth. It however contrasted with Lawal and Iyiola (2011) whose works suggested positive impact of investments in social services (Health and Education) on economic growth. Poor state of human resources and infrastructural facilities in our educational institutions with its resultant low quality output could be responsible for the negative impact.

Agriculture's Contribution to Employment Generation

Unemployment Trends in Nigeria

Generation of decent jobs for majority of the population is one of the major criteria for assessing inclusive growth. Gainful employment increases income, human dignity and self-respect which are critical for earning a fulfilled livelihood. In Nigeria, unemployment remains a key socio-economic challenge. According to the National Bureau of Statistics, the rate of unemployment

rose to 23.9 percent in 2011 from 19.7 per cent in 2009 and 13.1 percent in 2000 (see Figure 3). It can be seen that unemployment has been on the upward trend since 2005.

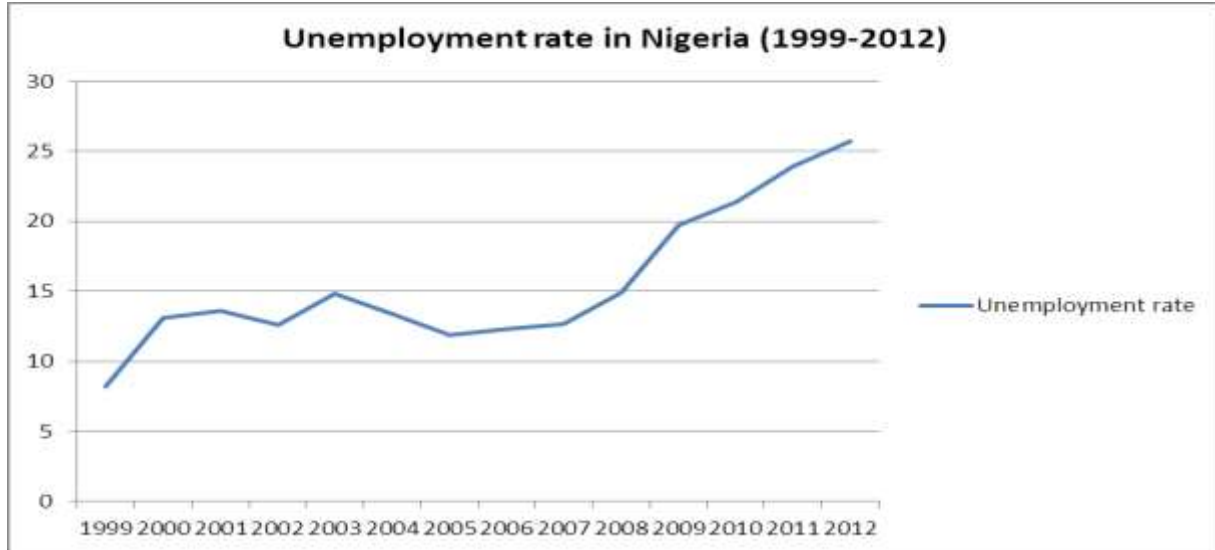


Figure 3: Unemployment rate in Nigeria

Source: National Bureau of Statistics (various publications).

In terms of rural-urban disaggregation, the “2011 Nigerian unemployment report indicates that rural areas hosted more of the poor (25.6 percent) than the urban areas (17.1 percent). Some of the key reasons for the rise in unemployment rate include high turnover of school graduates with no corresponding increase in job openings, embargo on employment by most public and private organisations and lack of employable skills among graduates of tertiary institutions (Sodipo, 2015).

Figure 4 compared GDP growth with unemployment rate. It showed that high growth rate for the period under review, was characterized by high unemployment rate particularly between 2006 and 2012, a concept popularly referred to as jobless growth. This contrasts sharply with the theoretical proposition of Okun’s law of a negative relationship between unemployment rate and economic growth. The findings however conformed to previous studies by Arewa and Nwakanma (2012) and Akeju and Olanipekun (2014). Some of the causes of this scenario according to Ajilore and Yinusa (2011) include huge loss of jobs and increasing number of new entrants to the labour market.

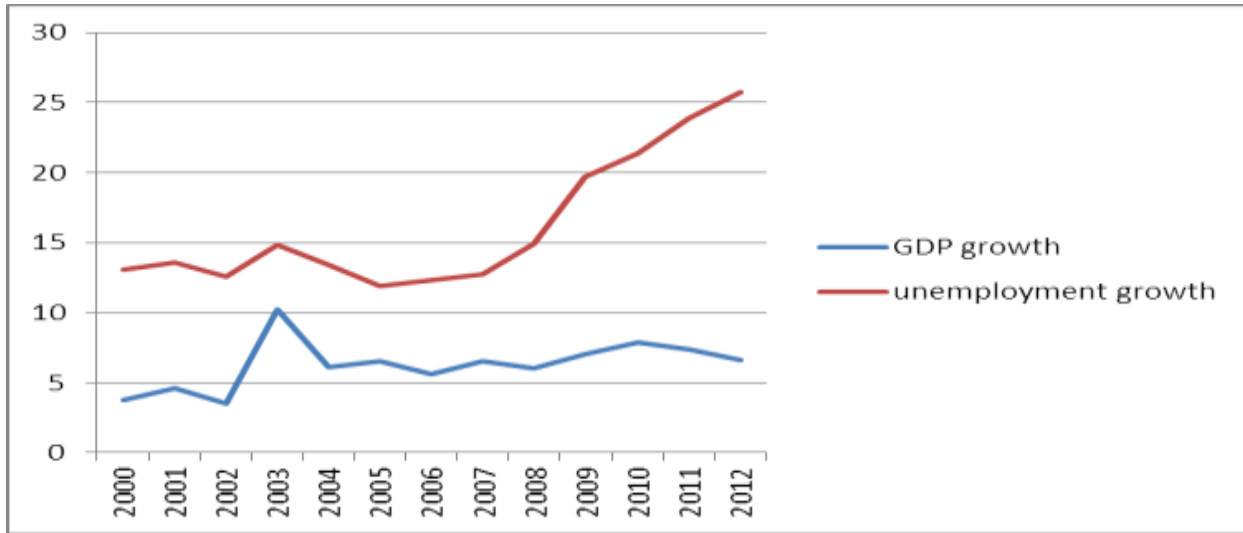


Figure 4: GDP Growth and Unemployment Rate in Nigeria (2000-2012).

Source: National Bureau of Statistics (various publications).

Growth in Employment

Employment growth trend in Nigeria is shown in Figure 5. It depicts an unstable pattern with negative growth in 2000 and 2002. Employment growth had been low despite an impressive GDP growth. It can be observed that employment growth rate spiked in 2001 and thereafter did not rise above 5% after 2003. Infact, it dropped to as low as 0.9% in 2009. The slow pace of employment growth has been attributed to various factors, such as the non-inclusive nature of growth, structural challenges especially infrastructure, causing industrial output to decline and outsourcing of jobs from abroad in the oil and gas sector.



Figure 5: Growth Trend in Employment (2000-2012).

Source: Authors' computation

Employment Elasticity

Aggregate Employment Elasticity

High employment elasticity is an indication that output growth translates effectively to corresponding job opportunities while low estimates of employment elasticity suggests low correlation between economic growth and employment. Figure 6 shows the rate of response of employment to economic growth. Employment elasticity during the review period was generally low averaging 0.49. After recording negative growth in 2000 and 2002, it rose marginally between 2003 and 2007 and increased to 0.8 in 2008. Thereafter, employment elasticity dropped sharply to 0.1 in 2009 mirroring the negative impact of the 2007/2008 global financial crisis.

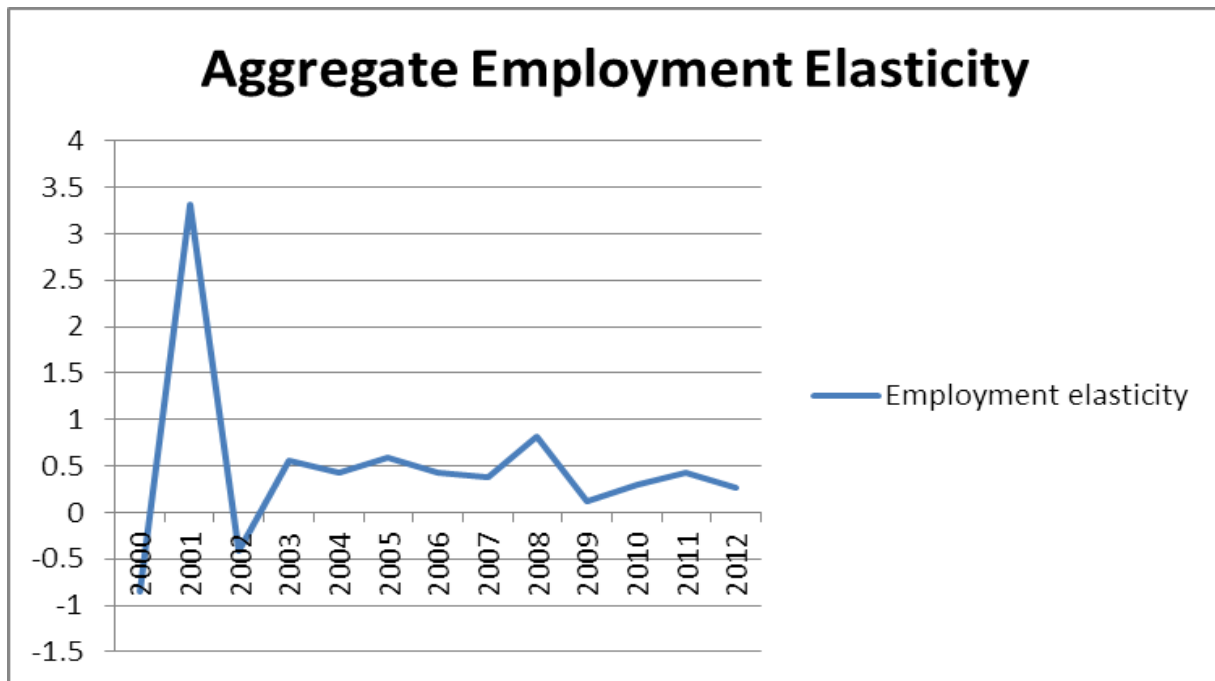


Figure 6: Aggregate Employment Elasticity (2000-2012).

Source: Authors' computation

Employment Elasticities for key sectors of the economy

Given that achieving inclusive and pro-poor growth require high employment intensity of growth, it is important to disaggregate the analysis on sectoral basis. Figure 7 showed the employment elasticity in the three key sectors of the economy. In terms of average, the agricultural sector leads others with employment intensity of 1.88 followed by services sector, 1.18 and industry lagging with 0.33. This result indicates agriculture's high potential for creating jobs. The sector therefore tends to remain a key driver of inclusive growth in Nigeria.

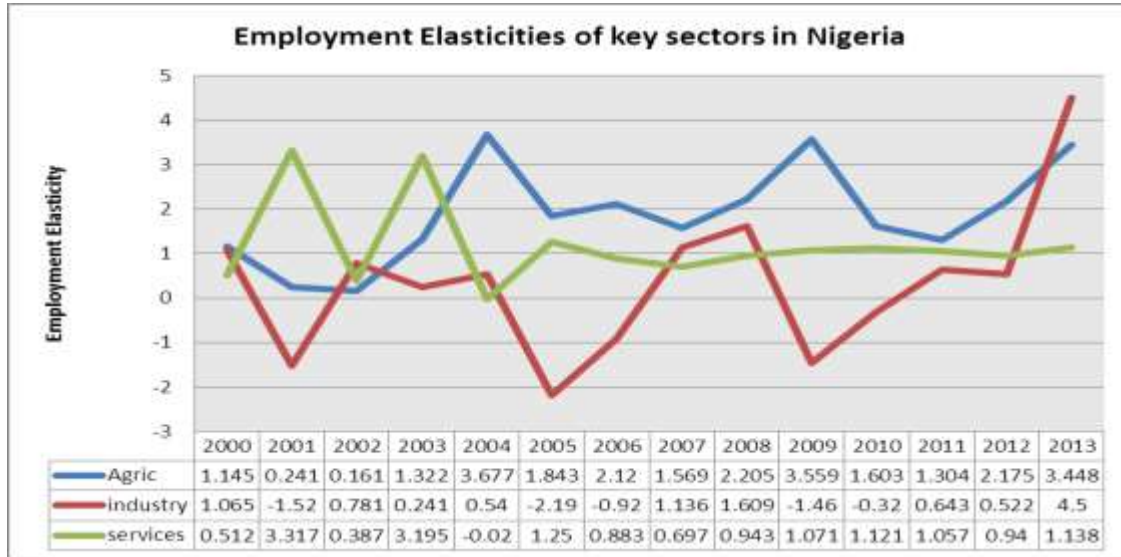


Figure 7: Employment Elasticities of some key sectors (2000-2012)

Source: Authors’ computation

Strategic Issues and Challenges

The foregoing analysis suggests that GDP growth emanating from agriculture tends to be more effective in contributing to inclusive growth than GDP growth from other sectors. This can be explained by the fact that majority of Nigeria’s poor depend on small-scale agriculture for their livelihoods. It therefore follows that promoting agriculture growth could help significantly in accelerating the country’s overall economic growth and improving the quality of lives of majority of the poor population.

As part of efforts to strategically reposition agriculture towards maximizing its potential as a key driver of inclusive growth, the following issues are pertinent for consideration:

Accelerating agricultural Productivity

Growth in agricultural productivity enhances the standard of living of farmers, consumers and other value chain actors because, increase in people’s real income raises their purchasing power to be able to afford basic necessities of life and alleviate poverty.

In Nigeria, agricultural production increases have largely resulted from expansion in cultivated land area rather than from productivity increase. A comparative analysis of indices of crop

production index for 2013 showed that Nigeria lagged behind other contemporary agricultural countries (Figure 8). In order to boost Nigeria's agricultural productivity, it is important to critically examine the drivers of agricultural productivity such as efficient use of the factors of production (land, water and labour), availability of fertilizers, seeds, capital and appropriate climate management (UNDP, 2012).

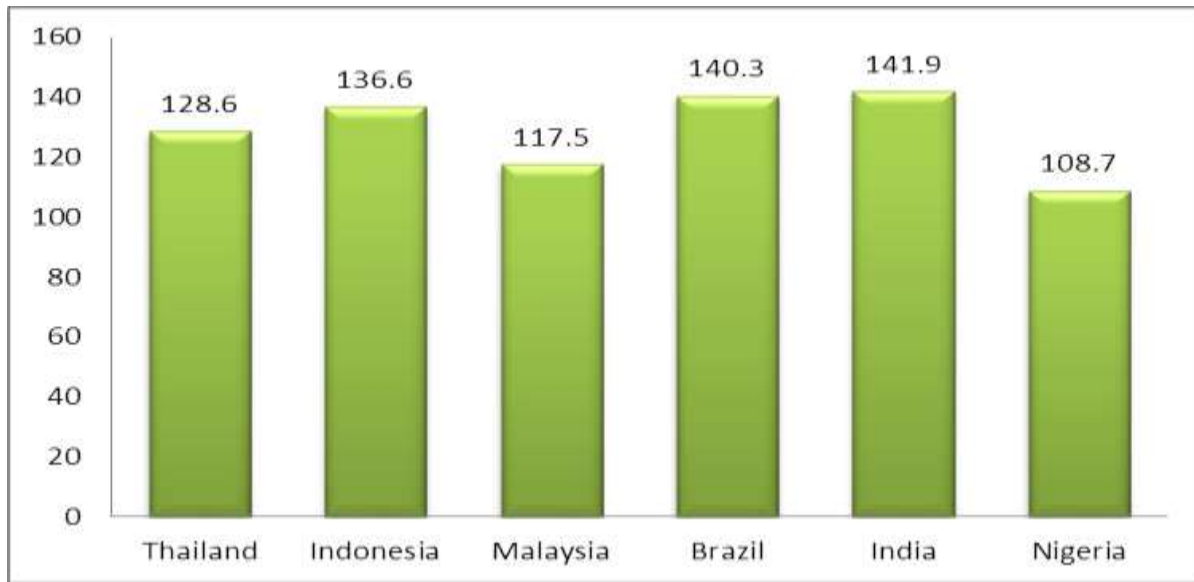


Figure 8: Crop Production Index of selected countries (2013)

Source: <http://data.worldbank.org/indicator/AG.PRD.CROP.XD>

Note: 2004-2006 = 100

Improving Farmers' Access to Modern Agricultural Inputs

Low productivity in Nigeria could be attributed largely to low utilization rate of fertilizer and improved seeds coupled with inadequate public investment. Figure 9 showed a comparative analysis of the average rate of utilization of fertilizer. Nigeria trailed other countries such as Brazil, Indonesia, Malawi, South Africa and Zimbabwe in terms of fertilizer usage.

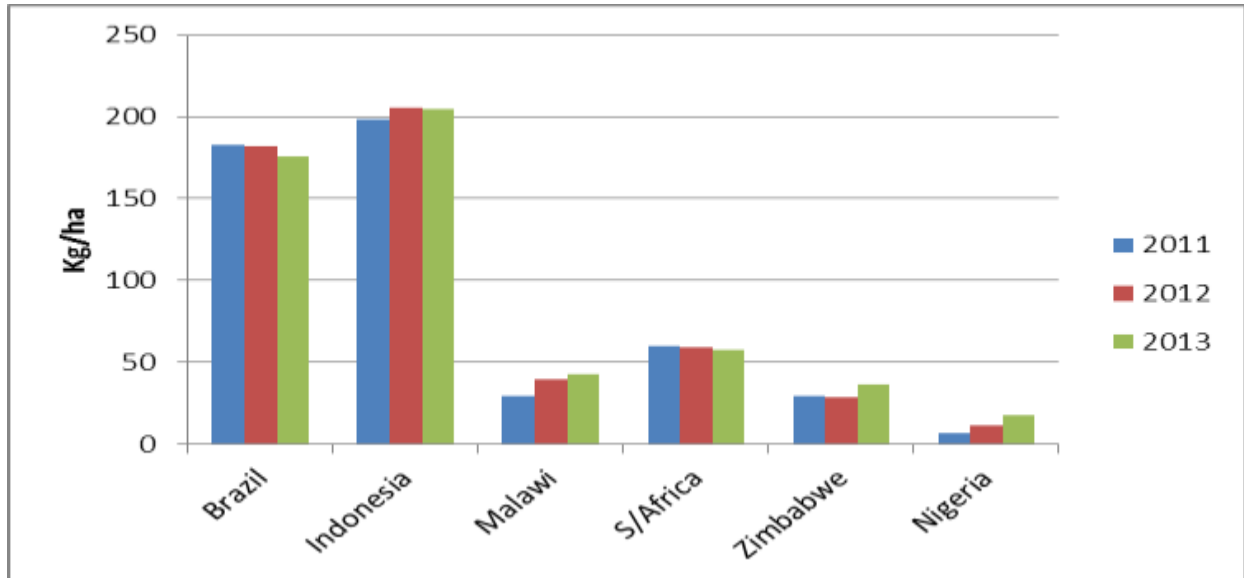


Figure 9: Fertilizer usage (Kg/ha) among selected countries

Source: <http://data.worldbank.org/indicator/AG.CON.FERT.ZS>

Similarly, Nigeria trailed East Africa and Asia in the level of adoption of improved seeds. Only about 5% of Nigerian farmers had access to improved seeds in comparison with 25% and 60% for East Africa and Asia respectively. With respect to intensity of agricultural mechanization, Nigeria had only 10 tractors per 100 hectares compared to 241 tractors per 100 hectare in Indonesia (Chikaire et al, 2014). This implies that Nigerian farmers relied more on less efficient local farm implements. Drudgery ranks high among factors that drives youths away from agriculture in developing countries (Nwankwo, 2014, Afande et al, 2015).

In Nigeria, one of the recent remarkable programme designed to increase the adoption of farm inputs is the Growth Enhancement Scheme (GES). Introduced in 2012 as the key driver of the Agricultural Transformation Agenda (ATA), the GES uses an electronic system to channel subsidized inputs including fertilizer and seeds to registered farmers. The GES registered about 12 million farmers in 2012 and another 4 million in 2013 for direct redemption of farm input through the e-wallet (FMARD, 2013).

Following government's withdrawal from direct fertilizer purchase and distribution, the GES has achieved some level of transparency and efficiency in input distribution system. However, the scheme faces some critical challenges ranging from inadequate buy-in from the sub-national (states and local government) tiers of government, late delivery of inputs, poor network in rural areas to low quantity of subsidized inputs (FMARD, 2013).

Replacing the aged farming population with young entrepreneurs

Despite its ranking as the largest sector in Nigerian economy, agriculture is dominated by the aged. With 47 years as farmers' average age and life expectancy of 50 years, the Nigerian farming population is dominated by the aged (NBS, 2010).

Agriculture remains an un-attractive sector and holds little appeal for youths due largely to the drudgery involved, perceived low returns on investment and relatively high gestation period. In order to attract youths into agriculture, government need to support them with modern technology, affordable credit and entrepreneurial skills.

Recent government youth agricultural programmes such as "Youth in Agribusiness" and the National Schools Agriculture Programme (NSAP) were designed to attract young people to agriculture. These initiatives hold great potentials for creating jobs for many unemployed youths as a way of promoting inclusive growth. However, uncertainty over policy continuity and inadequate funding by the three tiers of government could threaten the success of the programmes.

Increasing public investment in Agriculture

Agriculture has for long suffered from extreme budgetary neglect. From a budgetary share of 6% in 1983, allocation to agriculture diminished by half to 3% in 2011 with a further decline to less than 1% in 2015. Increased public investment is essential for supporting more relevant research as well as for funding irrigation and other related infrastructure.

5.5 Guaranteed minimum price for food crops to stabilize prices and improve farmers' income

Agriculture is one of the most investment risky sectors due to its exposure to natural hazards and market failures. Prices of agricultural outputs are relatively more volatile than products from other industries. For instance, supply can vary as a result of change in climatic condition. A 'good harvest' could mean an increase in supply which might result in a significant fall in price. Such a sharp drop in price without any intervention implies a fall in revenue for farmers. This could reduce farmers' income, dampen their morale and retard agriculture's contribution to inclusive growth. It explains why many countries including those in the EU subsidize agriculture heavily as a way of protecting farmers' incomes.

Guaranteed minimum price can be effective in reducing the effects of volatile food prices. The scheme essentially guarantees farmers' basic income by subsidizing food prices. Brazil presents a success story of the use of Guaranteed Price Policy in achieving food security. Targeted at small and medium-sized farmers, the policy ensured that purchase prices at least cover production costs and a set level of profits. Government purchases surplus crops by paying producers above the market price. By helping to reduce farmers' risks, the policy contributed significantly to increase in farmers' income.

Though the Nigerian government has attempted to re-introduce marketing boards to link farm produce with markets in order to stabilize market price across all value chains, much needs to be done to cover targeted farmers especially those in the rural areas of the country.

CONCLUSION AND POLICY OPTIONS

The paper highlighted the critical role and potentials of agriculture as the key driver of inclusive growth and economic transformation in Nigeria. Given the huge population of the poor and marginalized group that derives their livelihood from agriculture either directly or indirectly, the paper argued that any poverty reduction strategy that undermines agriculture is unlikely to make sustainable impact.

Agriculture has continued to contribute significantly to economic growth. In addition, a cross-sectoral analysis showed agriculture as having the highest employment elasticity compared to manufacturing and services sectors. The result indicated agriculture's high potential in creating jobs and contributing significantly to inclusive growth.

In spite of the sector's enormous contribution to growth and potential to drive broad-based development, some critical constraints that are mutually reinforcing, have persisted. These include low agricultural productivity, low access to agricultural inputs, dominance of the ageing farming population, declining public investment in agriculture, volatile prices of farm outputs and policy instability.

In view of the evidence from this paper suggesting that agriculture holds huge potential in contributing to inclusive growth, it is important for government to focus more attention on the sector especially in the following areas:

- (i) Sustained implementation of the Growth Enhancement programme and other components of the Agricultural Transformation Agenda. Continuing with the implementation of the GES will increase the adoption of improved farm inputs especially fertilizer and seeds which will result into higher productivity. The sub-national levels of government should own the programme leaving only the coordinating and monitoring role to the federal tier. It is expedient to expand registration to more targeted farmers and insulate the programme from political and bureaucratic interference.
- (ii) Deliberate agricultural innovation policy to help in bringing young people back to agriculture. In addition to making inputs available, a youth friendly agricultural program should be designed. This will include providing well targeted subsidies, mechanized farm implements, infrastructure, finance and extension services. Encouraging the formation of Youth Agricultural cooperatives will help to increase voice and participation of young farmers in decision making.

- (iii) Increased public investment in agriculture. The highly volatile and dwindling nature of crude oil revenue has once again exposed the unreliability of depending largely on crude oil. Consensus has continued to grow on the need for Nigeria to diversify its economy away from oil to other productive sectors, especially agriculture. However, good intentions are not enough. Deliberate efforts are required to massively invest in agriculture. Despite the huge revenue accruing into Nigeria's account for the past decade, budgetary allocation to agriculture remained below 3%. Both state and federal governments should increase allocation to fund research in targeted areas. Agricultural research institutes and faculties of agriculture should be mandated to focus on providing solutions to specific and relevant challenges confronting agriculture in their catchment areas.
- (iv) Price stabilization and income enhancing policies for farmers. Farmers particularly in rural areas incur huge wastages arising from lack of storage facilities for their agricultural produce. These wastages translate into loss of revenue and profit. In addition, prices of farm produce fall drastically, sometimes below production cost due to glut in the market. To arrest negative price fluctuation and its effect on farmers, government needs to collaborate with the private sector to establish more agro-processing factories in rural areas. Secondly, guaranteed minimum price policy should be fully implemented.

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