International Journal of Management and Commerce Innovations ISSN 2348-7585 (Online)
Vol. 7, Issue 1, pp: (61-69), Month: April 2019 - September 2019, Available at: www.researchpublish.com

THE IMPACT OF AGRICULTURAL SECTOR ON THE ECONOMIC GROWTH IN NIGERIA (2008-2017)

Prof. P.O. Idisi, Dr. E.S. Ebukiba, G.A. Sunday

University of Abuja,

Faculty of Agriculture, Department of Agricultural Economics Abuja, Nigeria

Abstract: **This research work is to study the impact of agricultural sector on the economic growth of Nigeria between the year 2008 and 2017. The study employed the econometric approach of OLS which involved the use of regression analysis (multivariate). This will be used to examine the impact of Total Agricultural Output (TAO), Government Expenditure on Rural Healthcare (GERH), Government Expenditure on Rural Road Network (GERN) and Government Expenditure on Rural Electrification (GERE) on economic growth (Gross Domestic Product(GDP)).These independent variables were carefully selected to take along as many of such variables that will impact on economic growth of Nigeria. For instance, the popular saying that 'Health is wealth' is an understatement. Rather, 'health is everything including wealth'. The specific objectives of this study are to examine the impact of the above independent variables on the economic growth in Nigeria. Secondary data is used. The data was sought from appropriate agencies-Central bank of Nigeria (CBN) and National Bureau of Statistics (NBS). By theoretical framework, we intend to examine some existing theories that can be used to study the nexus between agricultural sector and economic growth and development. These theories are the Lewis theory of development, the Solow-Swan neoclassical growth, the Harrod-Domar growth model and the theory of balance growth. The findings will be used to make recommendations to policy makers. It will also be added to the existing body of knowledge on the topic.**

1. INTRODUCTION

1.1 Background to the Study

Gunnar Myrdal, Nobel laureate in economics in his words said, "it is in the agricultural sector that the battle for long-term economic development will be won or lost". Todaro and Smith (2009) observed that to a large extent, agriculture and rural development has come to be considered as the *sine qua non* of national development. Generally, the sector contributes to the development of an economy in four major ways which include product contribution, factor contribution, market contribution and foreign exchange contribution.

Nigeria is a developing country, largely rural and an agrarian society. She has a larger proportion of its population in the rural areas. The population of Nigeria in rural area is put at 51.1% (NBS, 2018). This makes agriculture and the rural sector major policy concerns in the country. In recent years, Nigeria has been off-hand with agriculture, yet the sector still accounts for a significant proportion of her gross domestic product (GDP). Agriculture was the leading sector in the pre-oil boom era, contributing 63 and 54 per cents to GDP in the 1950s and 1960s respectively (Aigbokhan, 2001). The sector's share in gross domestic product though fell in the post-oil boom period, has being on gradual increase in recent past. For instance, between 1970 and 1980, the share of agriculture in real gross domestic product (RGDP) averaged 29.2%; it was 33.3% between 1980 and 2000, and 41.2% between 2001 and 2010 (CBN, 2012). As at 2018Q2, agriculture is contributing 38.46% to GDP. This performance depicts the relevance of the sector to the Nigerian economy.

The agricultural sector is dominated majorly of peasants who engage in agriculture not merely as a source of income or even as just an occupation but they have subsistence agriculture as a way of life. They solely depend on agriculture to eke out a living. According to Iganiga and Unemhilin (2011) agriculture is the largest contributor to non-oil foreign exchange

earnings. This means that agriculture holds abundant potential for enhancing and sustaining the country's foreign exchange.

Agricultural sector is vital to economic development of any nation. Economic development is the ultimate goal of every economy which cannot be achieved without economic growth. Lewis propounded two-sector model of economic development in which he places heavy emphasis on rapid industrial growth, with an agricultural sector fueling this industrial expansion by means of its cheap food and surplus labour. Simon Kuznets introduced an early schema, noting that agriculture made four contribution to economic development- the product contribution of inputs for industry such as textiles and food processing; the foreign- exchange contribution of using agricultural export revenues to import capital equipment; the market contribution of rising rural incomes that create more demand for consumer products and the factor market contribution. However, the agricultural sector suffers neglect after the discovery of oil which leads to slow pace of economic development in Nigeria. The performance of the sector was undermined by disincentives created by the macroeconomic environment, poor market structure and 'good-on-paper-only' agricultural policies and programmes. Without addressing the problem of the agricultural sector, it will be impossible to attained sustainable long run development goal of a country. The challenges in agricultural sector in Nigeria have been a major concern to all stakeholders in nation building. It is believed that without a critical assessment through empirical study of contribution of agricultural sector to the economic growth with a view to proffer a lasting solution to the challenges hindering its growth, the struggle to realize the potentials in the sector become a mirage. Overall, the sector has suffered from years of mismanagement, neglect and inconsistent government policies. This may not be unconnected to the era of huge oil revenues that today has nose-dived. Hence, there is need for reexamination of the contribution of the agricultural sector to the growth of the Nigerian economy.

A strong agricultural sector, as it is recognized is essential to economic development both in its own right and to stimulate and support the growth of industries. Economic growth has gone hand in hand with agricultural progress. The inability of the agricultural sector to perform its expected role to the growth of the Nigerian economy is responsible for myriad of economic and social problems in the country, prominent among which are unemployment, poverty and insecurity (terrorism).

1.2 Statement of the Problem

The agriculture sector after the discovery of oil suffered neglect and slow development. The performance of the sector was undermined by disincentives created by the macroeconomic policies and programmes. Without addressing the problem of the agricultural sector, it will be impossible for a country to attain its sustainable development goal. The concern of the policy makers has been the quest to address the agricultural challenges in Nigeria to realize the potentials that the sector has. Overall, the sector has suffered from years of mismanagement, neglect and inconsistent government policies. This may not be unconnected to the era of huge oil revenues that today has nose-dived. Hence, there is need for reexamination of the impact of the agricultural sector on the growth of the Nigerian economy.

1.3 Objectives of the Study

The main objective of this study is to analyze the impact of the agricultural sector on economic growth in Nigeria.

The specific objectives are:

1. To examine the effect of agricultural productivity on economic growth in Nigeria;

2. To determine the role of public expenditure on agricultural sector in Nigeria;

3. To evaluate the relationship between agricultural productivity, agricultural expenditure and economic growth in Nigeria.

1.4 Research Questions

The research questions that this study seeks to investigate are presented below:

(i) What are the impacts of agricultural sector on economic growth in Nigeria?

(ii) What are the effects of agricultural productivity on economic growth in Nigeria?

(iii) What is the role of public expenditure in agricultural sector on economic growth in Nigeria?

(v.) What is the relationship between agricultural productivity, agricultural expenditure and economic growth in Nigeria?

1.5 Statement of Hypotheses

The hypotheses that this study seek to tests is stated as follows:

$H_0$1: The level of agricultural productivity has no impact on economic growth in Nigeria.

$H_0$2: Public expenditure in agricultural sector has no impact on economic growth in Nigeria.

1.6 Scope of the Study

The scope of this study is to examine the contribution of agricultural sector to the growth of the Nigerian economy covering the period 2008-2017. This is with a view to investigate the impact of the sector on the economic growth in Nigeria.

1.7 Significance of the Study

Agricultural sector plays a significant role in growth and development of economies around the world (both developed and developing countries). The performance of the sector influences the level and direction of growth as it determines capital formation, employment, raw materials and foreign exchange. A study of this nature is of utmost importance realizing the potential of the sector to the economy.

The findings of this study will be of immense value to policy makers, researchers, and the general public by providing information for evidence-based decision.

2. LITERATURE REVIEWAND THEORETICAL FRAMEWORK

2.1 Conceptual Issues

Agriculture involves the cultivation of land, raising and rearing of animals, for the purpose of production of food for man, feed for animals and raw materials for industries. It involves forestry, fishing, processing and marketing of these agricultural products. Essentially, it is composed of crop production, livestock, forestry, and fishing. The role of agriculture in reforming both the social and economic framework of an economy cannot be over-emphasized. It is a source of food and raw materials for the industrial sector. It is also essential for the expansion of employment opportunity, for reduction of poverty and improvement of income contribution, for speeding up industrialization and easing the pressure on balance of payment (Nwankwu, 1981). In effect, it has been the main source of gainful employment, which the nation can feed its teeming population, a regenerative source of foreign exchange earnings, a means of providing the nation's industries with local raw materials and as a reliable source of government revenue.

Economic growth refers to the continuous increase in the national output or income of a country. It is the increase overtime of an economy's capacity to produce goods and services needed to improve the wellbeing of the citizen in increasing numbers and diversity. Growth is a steady process of increasing the productive capacity of the economy which translates into increasing national income, being characterized by high rates of increase of per capital output and total factor productivity, especially labour productivity.

Economic development on the other includes growth and distribution of growth outcomes that improve the material welfare of the low income class. Development is conceived as a multidimensional process involving major changes in social structures, popular attitudes and national institutions, as well as the acceleration of economic growth, the reduction of inequality and the eradication of poverty.

The three basic objectives of development include (i) to increase the availability and widen the distribution of basic life sustaining goods (basic needs) such as food, shelter, health and protection; (ii) to raise the living standards of the people including higher incomes, job creation, better education and health, attention to cultural and human values, etc.; (iii) to expand the range of economic and social choices available to individuals and nations by freeing them from servitude and dependence not only in relation to other people and nation states but also to the forces of ignorance and human misery.

2.2 Empirical Review

There are studies that have examined the contribution of agricultural sector to the growth of the economy. Lipton, (2012) showed that an increase in agriculture growth results in an increase in the income level of the poorest of the population. Also results from cross-country regressions among developing countries show that $1 increase in GDP results in significantly more poverty reduction when the growth is in agriculture rather than other sectors (Lipton, 2012). This

sectoral growth increases the incomes and therefore purchasing power of farmers resulting in a vibrant domestic market for other sectors, hence growth in the economy. In studies that relates to Nigeria, Oji-Okoro (2011) investigated the contribution of agricultural sector on the Nigerian economic development. He found that foreign direct investment on agriculture is the highest (56.43). He concluded that every unit change in FDI on agriculture results in a corresponding change of 56.43 units in GDP.

Suleiman and Aminu (2010) examined the contribution of agriculture, petroleum and manufacturing sector of the growth of Nigerian economy. They found that agricultural sector contributed the highest compared to petroleum and manufacturing sectors. They concluded that agriculture contributed 1.79 units to GDP while petroleum contributed 1.14 units to GDP and manufacturing 0.96 units to GDP.

Awe and Ajayi (2009) Analysed the contribution of agriculture and petroleum sector to the growth and development of the Nigerian Economy for the period 1960-2010. The study revealed that the R^2 for agricultural revenue was significant. About 60 percent of the movement was explained in the relationship. Also, a dynamic relationship exists between the revenue from the non-oil sector economic development. Ekpo and Umoh (2012) revealed that the contribution of agriculture to GDP, which was 63 percent in 1960, declined to 34 percent in 1988, not because the industrial sector increased its share but due to neglect of agriculture sector.

Muhammad and Usman (2006) conducted study on production of agriculture in Nigeria and revealed that the negative coefficient of the value (-0.07) of the food imports indicates that as food import increases, domestic agricultural production decreases. The positive coefficient (286.91) of the GDP growth rate indicated that increase in the GDP also moves domestic agricultural production in the same direction. This shows that increased domestic economic activity has the impact of increasing the domestic agricultural production. The result also showed that population increases has been a major contribution to domestic agricultural production in Nigeria with the coefficient (18424.73). The coefficient of consumer price index was positive (8.49). The result of the coefficient (0.04) of government expenditure was positive, that is domestic agricultural production is positively related to increase in government expenditure.

Using Tobit regression model on multi-stage data from Kwara state, Nigeria, Obayelu (2012) found that domestic saving is low among rural dwellers/farmers in Nigeria. He highlighted the effect of high expenditure on food, which is a consequence of low income due to low productivity, on saving capacities of the farming households in the study. This implies that domestic savings largely influences the growth path of the economy.

Aminu and Abdulrahman (2012) investigated the contribution of agricultural sector and petroleum sector to the economic growth and development (GDP) of the Nigerian economy between 1960 and 2010. The variables in the model were found to be stationary and the results of Chow breakpoint test suggested that there is no structural change or break in the period under review. The results also revealed that agricultural sector is contributing higher than the petroleum sector, though they both possessed a positive impact on economic growth and development of the economy. They concluded that a good performance of an economy in terms of per capita growth may therefore be attributed to a well-developed agricultural sector capital.

Uma, et al. (2014) assessed the effect of agriculture on Nigeria's economic growth from 1970-2009. It examined the influence of output of various types of agricultural practices on real gross domestic product, as a proxy for economic growth. The study used error correction model. The study found that the contributions of crop production, livestock and fishing on economic growth were statistically insignificant. Only forestry contributed significantly to growth at the period of study. However, the combined effect of the variables was significant.

Chukwuma and Ezenekwe (2014) examined whether agriculture matter for economic development in Nigeria. They modelled life expectancy against agricultural output and agricultural expenditure, amongst other variables. They found that found that agricultural output has negative and significant impact on life expectancy in Nigeria. The impact of agricultural expenditure was found to be positive but insignificant. Real gross domestic product and industrial output were also found to influence life expectancy. The study concluded that agriculture matter for economic development but that can be achieved with corresponding and simultaneous development of other crucial sectors such as education, health, and industry will not yield positive fruits for economic development in Nigeria.

The empirical studies reviewed above suggest that agriculture have a strong linkage with economic growth. However, the contribution is a function of other sectors that also influence agricultural productivity like education, industrial, technology, and so on.

2.3 Theoretical Review

By theoretical framework, we intend to examine some existing theories that can be used to study the nexus between agricultural sector and economic growth and development. Some selected theories that provide linkages between agriculture and economic growth are discussed below to form the basis of our theoretical framework:

2.3.1 The Lewis Theory of Development

In this model, the underdeveloped economy consists of two sectors: A traditional, overpopulated rural subsistence sector characterized by zero marginal labor productivity-a situation that permits Lewis to classify this as **surplus labor** in the sense that it can be withdrawn from the traditional agricultural sector without any loss of output and a high productivity modern urban industrial sector into which labor from the subsistence sector is gradually transferred. The primary focus of this model is on both process of labor transfer, the growth of output and employment in the modern sector.

According to this theory, if the agricultural production in the economy increases, it would bring down the prices of food and leave more money in the hands of capitalists to promote investment in the economy.

2.3.2 The Solow-Swam Neoclassical Growth Theory

This theory postulates a continuous production function linking output to the input of capital and labour which leads to the steady state equilibrium of the economy. The model is popularly adopted framework for analyzing the process of economic growth and development. The Solow-Swan neoclassical growth model explains the long-run growth rate of output based on two exogenous variables which are the rate of population growth and the rate of technological progress and that is independence of the saving rate.

2.3.3 The Harrod-Domar Growth Model

The Harrod-Domar economic growth model stresses the importance of **savings and investment** as key determinants of growth. Every economy must save a certain proportion of its national income to be able to replace worn-out or impaired capital goods (buildings, .equipment and materials). However, in order to grow, new investments representing net additions to the capital stock are necessary.

3. RESEARCH METHODOLOGY

3.1 Analytical Framework of the Model

Endogenous growth theory highlighted the complementarity of different sectors of the economy. In fact, if productivity is to be increased, the labour force must continuously be provided with more resources. Resources in this case include physical capital, human capital and knowledge capital (technology) (Lipton 2012). Therefore, growth is driven by accumulation of the factor of production, while accumulation in turn is the result of investment in agricultural sector.

The linkage between agriculture and economic growth is through its effect on total factor of production or as an intermediate input in the industrial sector. In Solow-Swan growth equation, agriculture is a measure of linkage between the rural and industrial sector of the economy. Thus, agricultural seems to provide some form of linkages with industrial sector that drives the economic growth process.

3.2 Model Specification

The agricultural sector is decomposed into total agricultural output as ratio of GDP and government expenditure in the agricultural sector. The proxy for human capital is rural healthcare. The proxy for infrastructure is rural road network. The proxy for economic growth is gross domestic product (GDP).

Specifically, the model of the study can be specified as follows:

$$RGDP = f(TAO, GERH, GERRN, GERE), \quad \textbf{1.1}$$

Equation (1.1) shows economic growth model where;

RGDP=Real Gross Domestic Product;

TAO = Total Agricultural Output;

GERH= Government Expenditure on Rural Healthcare;

GERRN= Government Expenditure on Rural Road Network;

GERE= Government Expenditure on Rural Electrification.

The equation (1.1) above can be transformed into economic growth model by including the parameters as follows:

$RGDP_t = \beta_0 + \beta_1 TAO + \beta_2 GERH + \beta_3 GERRN + \beta_4 GERE + \mu_t$ **1.2**

Where μ is the stochastic or disturbance term.

Furthermore, we can specify our model for estimation in a natural log form as follows:

$lnRGDP_t = \beta_0 + \beta_1 lnTAO + \beta_2 lnGERH + \beta_3 lnGERRN + \beta_4 lnGERE + \mu_t$ **1.3**

A Priori Expectations

The a priori expectation in equation (1.3) is such that β_1, β_2, β_3 and $\beta_4 > 0$. This implies that all the variables are expected to have a positive relationship with economic growth.

3.3 Technique of Data Analysis

The technique to be employed to analyse data include the unit root test for stationarity and cointegration test of long run relationship to avoid spurious regression. Ordinary Least Square will be used to investigate the impact of all the independent variables (TAO, GEA, GERH, GERN) on the dependent variable (GDP). The Granger causality test will be used where need be given the nature of the data in use- time series data.

3.3.1 Unit Root Analysis

Testing for the presence of a unit root is based on the assumption that the error term of the two consecutive times period of models are uncorrelated. The Augmented Dickey-Fuller (ADF) Test can be used as:

$\Delta yt = \alpha 2 \Delta t\text{-}1 + \delta yt\text{-}1 + \mu$ **1.4** no drift and trend

$\Delta yt = \alpha 1 + \alpha 2 \Delta yt\text{-}1 + \delta yt\text{-}1 + \mu$ **1.5** with drift

$\Delta yt = \alpha 1 + \alpha 2t + \alpha 3 \Delta yt\text{-}1 + \delta yt\text{-}1\ \mu$ **1.6** with trend and drift

3.4 Data Source and Description

The data for this study was obtained mainly from secondary sources. The choice of the Secondary source was based on their availability and reliability. The data is obtained from Central Bank of Nigeria (CBN) Statistical bulletin and National Bureau of Statistics (NBS). The time series span the period 2008-2017.

4. DATA ANALYSIS AND DISCUSSION OF RESULTS

4.1 Unit root Test of Stationarity

We use unit root test for investigating stationarity of variables. These tests have been done in log levels and at both levels and first differences which are shown in Table 4.1. In a time series analysis, the ordinary least squares regression results might provide a spurious regression if the data series are non-stationary. Thus, the data series must obey the time series properties i.e. the time series data should be stationary

The most popular and widely used test for stationary is the unit root test. Two standard procedures of unit root test namely the Augmented Dickey Fuller (ADF) and Phillips-Perron (PP) tests are performed to check the stationary nature of the series.

From the results of the unit root test presented in Table 4.1, it is evident that all the variables are log level non-stationary using ADF and PP test, we cannot reject the null hypothesis of a unit root. The results further indicate that all the variables are integrated of order one [I(1)], with linear deterministic trend except government expenditure on rural healthcare (GEA). The variables are thus non-stationary and exhibit unit roots but are stationary after first and second difference.

Table 4.1: Unit Root Test of Stationarity

Variable	ADF test Statistic	PP Test	Order of Integration
lnGDP	-1.2342	-3.5352***	I(1)
lnTAO	-2.7822**	-4.4657**	I(1)
lnGERH	-1.3427	-3.9733**	I(2)
lnGERRN	-0.8634**	-5.9439*	I(1)
lnGERE	-2.0436	-3.1540***	I(1)

Source: Computed by Author from E-Views7 iteration (ADF & PP Unit Root Test)

*** represents stationary at 1% level of significance; ** represents stationary at 5% level of significance; * represents stationary at 10% level of significance, Level represents Logarithms of variables.

4.2 Johansen Cointegration Test

The Johansen cointegration based on the trace test is presented in Table 4.2a. The trace test null hypothesis states that the number of cointegrating equations is greater than the number of variables involved. The null hypothesis cannot be rejected if the test statistic is smaller than the critical values of the trace tests. The trace test Johansen cointegration in Table 4.2a reveals that there exists four (4) cointegrating equation at 5 per cent ($\alpha = 0.05$) significance level. The null hypothesis of no cointegrating vector is therefore rejected.

Table 4.2a: Johansen Cointegration (Trace Test)

Hypothesized No. of CE(s)	*Eigenvalue*	*Trace Statistic*	*0.05 Critical Value*	*Prob.***
None *	0.791455	134.3662	69.81889	0.0000
At most 1 *	0.786843	84.20288	47.85613	0.0000
At most 2 *	0.439112	34.73969	29.79707	0.0124
At most 3 *	0.335393	16.23620	15.49471	0.0386
At most 4	0.094096	3.162287	3.841466	0.0754

Trace test indicates 4 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Table 4.2b presents the results of the Johansen cointegration tests based on the maximum eigenvalue. The maximum eigenvalue test is conducted on the null hypothesis of the number of cointegrating equations (r) against the alternative hypothesis of number of cointegrating equations plus one (r + 1). The null hypothesis cannot be rejected if the test statistic is smaller than the maximum eigenvalue test critical value. The maximum eigenvalue test in Table 4.2b reveals that there are two cointegrating equation at 5 per cent ($\alpha = 0.05$) significance level. The null hypothesis of no cointegrating vectors is also rejected.

Table 4.2b: Johansen Cointegration (Maximum Eigenvalue)

Hypothesized No. of CE(s)	*Eigenvalue*	*Max-Eigen Statistic*	*0.05 Critical Value*	*Prob.***
None *	0.791455	50.16328	33.87687	0.0003
At most 1 *	0.786843	49.46319	27.58434	0.0000
At most 2	0.439112	18.50348	21.13162	0.1121
At most 3	0.335393	13.07392	14.26460	0.0764
At most 4	0.094096	3.162287	3.841466	0.0754

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Therefore, it can be concluded that there are four significant long run relationships between or among variables using trace test and two significant long run relationships using Maximum Eigenvalue.

4.3 Ordinary Least Square Estimates (OLS)

The result of the estimated model is presented in Appendix (III). The variables are converted into natural log transformation and can be said to represents long term elasticity measures. The value of their coefficients, standard error statistics, t-values and probability values are summarized in Table 4.3. The coefficients for (lnTAO), (lnGERRN) and (lnGERE) are positive. While the coefficient for government expenditure in agriculture (lnGERH) is negative.

Specifically, lnTAO is positive and statistically significant at 5% level of significance, as it relates to the level of gross domestic product. A 1% increase in total agriculture output will results in 2.78% increase in gross domestic product. The result for lnGERRN is positive and significantly related to gross domestic product at 1% level of significant. *A* 1%

increase in Government Expenditure on Rural Road Network will results in 0.4% increase in gross domestic product. Also, lnGERE is positive and statistically significant as it relates to GDP. A 1% increase in Government Expenditure on Rural Electrification will result in 0.31% increase in GDP. However, the result for lnGERH is negative and not statistically significant as it relates to GDP.

To test the goodness of fit of regression model, its overall significance and the existence of serial correlation, other statistical indicators were examined. As regards whether our regression model suffers from the problem of serial correlation, the Durbin Watson (D.W.) statistics of 1.61 indicates the absence of serial correlation in our model.

Table 4.3: Ordinary Least Square Estimates

Variable	*Coefficient*	*Std. Error*	*t-Statistic*	*Prob.*
C	6.099077	8.244491	0.739776	0.4654
lnTAO	2.783850	0.180553	15.41843	0.0000
lnGERH	-4.999710	16.38740	-0.305095	0.7625
lnGERRN	0.400684	0.126449	3.168737	0.0031
lnGERE	0.306289	0.142262	2.152998	0.0379
R^2 = 0.989494; Adj. R^2 = 0.988045; F-Stat. = 682.8564; Prob (F-Stat) = 0.0000; Durbin - Watson = 1.61				

Source: E-Views 7.0 (Appendix III)

5. RECOMMENDATIONS AND CONCLUSION

5.1 Recommendations

The following suggestions are proffered base on the findings of the study:

1. There is need for adequate and sustainable financing of agricultural sector by government in order to boast its output.

2. Government should increase its spending on the provision of social amenities in the rural areas where farmers reside.

3. 'Health is not only wealth but everything including health'. The findings revealed the negative relationship between government spending on rural healthcare and real gross domestic product. Therefore, government should embark on massive rural populace orientation to promote patronage of orthodox medicine. As a matter of urgency, government should make its presence felt in rural area more than she ever did.

4. Rural settlement should be open up through the construction of rural-road network. This will connect the rural dwellers (farmers) to government agencies such as Standard Organization of Nigeria, Export promotion council, NARFDAC etc to promote exportability of Nigerian agricultural commodities in the world markets.

5. Government should sustain the Anchor Borrowers' Programme with a view to continually provide credit to farmers and achieve its laudable objectives which include to;

create economic linkage between smallholder farmers and reputable large-scale processors with a view to increasing agricultural output and significantly improving capacity utilization of processors, increase banks' financing to the agricultural sector, reduce agricultural commodity importation and conserve external reserves, increase capacity utilization of agricultural firms, create new generation of farmers/entrepreneurs and employment, deepen the cashless policy and financial inclusion, reduce the level of poverty among smallholder farmers, assist rural smallholder farmers to grow from subsistence to commercial production levels.

5.2 Conclusion

Conclusively, it is established that there is positive relationship between total agricultural out-put, government expenditure on rural-road network, rural electrification. Therefore government should increase its spending on these areas. These are critical to human capital development which is labour. The Nigerian agricultural sector is to be flourished given her human and natural resources endowments. Agriculture should be practiced as a business and not as subsistence. Incentive should be given to mechanized farming until we move away from primitive methods of farming to sustain our growing population. The Federal Government should collaborate with state and local government to come up with various programs and policies to ensure continuous development of agricultural sector. For instance, we had National Accelerated Food Production Programme and the Nigeria Agricultural and Co-operative Bank under the implementation of Agricultural Development Projects (ADPs). There was also Operation Feed the Nation, and the Agricultural Credit

Guarantee Scheme and Commodity Board of 1978. The Green Revolution Programme, which was targeted or aimed at reducing food importation. There was Go-Back – to Land programme. More recently, the Obasanjo and Jonathan administration established and implemented various agricultural programmes. Buhari administration established Anchor Borrowers' Programme which was launched on November 17, 2015.

REFERENCES

[1] *A Koutsoyiannis.(1979), Modern Microeconomics, Macmillan Press Ltd, London.*

[2] CBN (2015). Statistical Bulletin. A Publication of the Central Bank of Nigeria, Vol. 25

[3] Ewetan Olabanji, Fakile Adebisi, Urhie Ese and Oduntan Emmanuel (2017), Journal of African Research in Business & Technology, DOI: 10.5171/2017. 516093

[4] Engle, R F., and Granger, C. (1987), 'Cointegration and Error Correction: Representation, Estimation and Testing,' Econometrica, 55, 251-276.

[5] *Henderson, J M and Quandt, R E. (1958), Microeconomics Theory: A Mathematical Approach. McGraw-Hill Book company, Inc. New York.*

[6] Johansen, S. (1988), 'Statistical Analysis of Cointegration Vectors,' Journal of Economic Dynamics and Control, 12, 231 254.

[7] *Kaldor, N.,(1973), Welfare Prepositions in Economics and Interpersonal Comparisons of Utility, Economic Journal.*

[8] Lewis, W. (1954). Economic development with unlimited supplies of labour. The Manchester School, 22(2), 139-191.

[9] Lipton, M. (2012). Learning from others: increasing agricultural productivity for human development in Sub-Saharan.United Nations Development Programme, Regional Bureau for Africa.

[10] Loto, M. A. (2011). Impact of government sectoral expenditure on economic growth. Journal of Economics and International Finance, 3(11), 646-652.

[11] Michael P. Todaro and Stephen C. Smith (2015). Economic Development. 12th ed, Pearson Education Limited, Edinburg Gate, Harlow CM20 2JE, United Kingdom.

[12] M. L Jhingan, (2013), The Economics of Development and Planning.40th ed. Vrinda Publications (P) Limited, B-5 Ashish complex, Delhi.

[13] M. L Jhingan, (2013). Macro Economics Theory 12th ed. Vrinda Publications (P) Limited, B-5 Ashish complex, Delhi.

[14] *Myers, N.; Kent, J. (2001). Perverse subsidies: how tax dollars can undercut the environment and the economy. Washington, DC: Island Press.*

[15] Olayide, S. O. &Essang, S. M. (1976). The role of commodity exports in Nigeria economic growth. Nigeria Journal of Rural Economic Development, 10, 105 – 122.

[16] Oluwasanmi, H. A.(1966).Agriculture and Nigeria's economic development Ibadan. Ibadan University Press.