Middle-East Journal of Scientific Research 25 (5): 1063-1079, 2017
ISSN 1990-9233

DOI: 10.5829/idosi.mejsr.2017.1063.1079

Government Expenditure on Agriculture and Agricultural Output on Nigeria Economic Growth (1980-2015)

Okpara Cyril Sunday

Department of Economics, Ebonyi State University, Abakaliki, Nigeria

Abstract: This study examined Government expenditure on agriculture and agricultural output on Nigeria economic growth for the period of 1980 – 2014. The study adopted time series econometrics analysis to determine Government expenditure on agriculture and agricultural output on Nigeria economic growth. For purpose of clarity, models were specified as (GDP) dependent variable, (GEXPA) and (AGO) as independent variables. In order to avoid spurious result, some standard econometric tests were conducted. The result reveals that two of the variables: gross domestic products (GDP) and government expenditure on agriculture (GEXPA) were integrated of order I(0), while the remaining variable: agricultural output (AGO) was integrated of order I(1), given the period under study. The result further reveals that the variables have long run relationship because of evidence of two cointegrating equations while the speed of adjustment of the ECM result is 90.9% per annum. The research concluded that government expenditure on agriculture and agricultural output significantly impacts on Nigeria economic growth. Based on the findings above; the study recommends that Since agriculture has positive impact on the Nigerian economy, the government should see that a higher percentage of allocations are invested on agricultural sector so that the economy will keep on growing in an increasing rate.

Key words: Government expenditure · Economic growth · Vector Autoregression · Error Correlation Model · Unit root

INTRODUCTION

Background to the Study: The Nigerian economy during the first decade after independence could be described as an agrarian economy because agriculture served as the engine of growth of the overall economy [1]. From the stand point of occupational distribution and contribution to GDP, agriculture was the leading sector. In the early 60's, contributions from this sector accounted for about 70% of the Gross Domestic Product (GDP). This was a period when we were not only virtually self sufficient in production of food crops to feed ourselves but also provided raw materials for industries and major crops for export [2]. Indeed, agriculture provided the main stimulus to our national economic growth despite the small farm holdings and primitive productive systems. These contributions of agriculture to the nation overshadowed all other economic sectors in the early 1960's [3]. During this period, Nigeria was the world second largest producer of cocoa, largest exporter of kernel and largest producer and exporter of palm oil [1]. Nigeria was also a leading exporter of other major commodities such as cotton, groundnut, rubber and hide and skins [4]. Despite the reliance of Nigerian peasant farmers on traditional tools and indigenous farming methods, these farmers produced 70% of Nigerian's exports and 95% of its food needs [4].

However, the reverse was the case of the agricultural sector in the seventies when its share of the GDP declined to only 34% by 1974 [2]. Ever since then Nigeria has been witnessing extreme poverty and the insufficiency of basic food items, the agricultural sector as at 1996 accounted for less than 5% of Nigeria's GDP [5]. Over the past two or three decades, the dormant role of agriculture in the economy, especially in terms of ensuring food security, gave way to massive importation of basic food items such as rice, beans and wheat [6]. This is a clear indication of the failure of the agricultural sector to keep pace with the demand for its products. This blatant neglect of agricultural sector and the attendant dependency of the economy on a mono-cultural product-petroleum have not augured well for the wellbeing of the economy as a whole. In a bid to correct this anomaly, the government, from the

Corresponding Author: Okpala cyril Sunday, Department of Economics, Ebonyi State University, Abakaliki, Nigeria.

year 1975 decided to directly participate in commercial production of food crops. Many large scales agricultural projects specializing in the production of grains, livestock, dairies, animals' feeds and others were established [7]. Sugar factory were set up at Numan, Lafiagi and Sunti [4]. The Nigerian Agricultural and Corporative Bank (NACB) was also established in 1973 as part of government's effort to channel oil fund into agriculture through the provision of credit facility to prop agriculture and agro-based ventures [8]. Various agricultural development programmes were also adopted as part of efforts to revitalize agricultural performance. These were backed up by substantial budgetary allocations, but agricultural output is still very low [9].

Take for instance, despite the huge amount invested in Fadama Rice programs, Nigeria is still spending huge amount on rice importation. This shows that the results were not adequate not only in relation to the committed financial resources, but also in relation to the nation's minimum needs of agricultural products. It is against this backdrop that this research work sets to examine the extent to which government spending influences agricultural output in Nigeria.

Statement of the Problem: Inadequate funding of the agricultural sector has been re-echoed by several experts as an obstacle to increased agricultural output (CBN, 2007; Bernard, 2009). However, from a nominal point of view, it is evident that in Nigeria, government spending on agriculture has continued to increase over the years while empirical evidence have revealed that the performance of the agricultural sector has been inadequate [2, 10]. The agricultural sector in Nigeria which was the main stay of the economy is no longer performing the lead role it was known for. By mid 1970's Nigeria's agriculture started to experience problems, agricultural exports began to decline and food shortages started emerging. From 1975, emboldened by considerable increased revenue from petroleum, government assumed heavier responsibilities for agricultural production, input supply and marketing; in addition to adopting credit control and other allocative policies in favour of agriculture [9]. Agricultural production stagnated at less than 1 percent annual growth rate between 1970 and 1982. There was a sharp decline in export crop production, while food production increased only marginally. Thus, domestic food supply had to be augmented with large imports. Food import bill rose from a mere N113.88 million annually in 1970-1974 to N1,964 million in 1991 [10]. Since 1990 and until recently, Nigeria has been spending an average of 60 million USD on the importation of rice annually (Alkali, 1997). Indeed in 1994, the agricultural sector performed below the projected 7.2% of budgetary output [4].

Theoretically, input-output theory in economics posits that input determines output. More so, Keynes postulated that increased government spending boosts economic growth. In the case of Nigeria, there has been a conflicting view about spending on agriculture just as we can see from various scholars cited above. Therefore there is need to examine the extent to which government expenditure as an input has affected agricultural production as an output. It is in the light of this that this research was carried out to study government expenditure on agriculture and agricultural output on Nigerian economic growth 1980 – 2014.

Research Questions: This research work shall seek relevant answers to these posers otherwise referred to as the research questions. They include:

- Is there any significant long run equilibrium relationship between government expenditure on agriculture and agricultural output on Nigerian economic growth?
- To what extent government expenditure on agriculture and agricultural output exert influence on Nigerian economic growth?

Objectives of the Study: The major aim of this study is to investigate government expenditure on agriculture and agricultural output on Nigerian economic growth. However, specific objectives of the study, which are to provide reasonable answers to the research questions, shall be to:

- Investigate the extent to which long run equilibrium relationship exists between government expenditure on agriculture and agricultural output on Nigerian economic growth.
- Determine the extent to which government expenditure on agriculture and agricultural output exert influence on Nigerian economic growth.

Hypotheses of the Study: This research work shall be guided by the following hypotheses:

- There is no significant long run equilibrium relationship between government expenditure on agriculture and agricultural output on Nigerian economic growth.
- Government expenditure on agriculture and agricultural output does not exert influence on Nigerian economic growth.

Significance of the Study: The fundamental importance of this study is to examine the relationship or correlation that exists between government expenditure on agriculture and agricultural output on Nigerian economic growth. So far, little has been done to determine the important of agricultural sector on economic growth in Nigeria, but a number of studies have been carried out on cross country analysis of less developed countries. Most studies in this area consider only a small number of variables trying to establish agricultural growth.

The basic significance of this study is that it employs econometric models with strong theoretical under pinning that relate agriculture and economic growth in Nigeria and that growing concern of the agricultural sector. It would be useful to explore this and come up with results that would help in the policy building of the Nigerian economy.

Scope and Limitations of the Study: Though the research would make reference to the related studies of other economies of the world with a view to reviewing related literature on the subject matter, data for this work shall only be on Nigeria economy. Such variables shall include those related in existing literature between government expenditure on agriculture and agricultural output on Nigerian economic growth. It shall be collected between wide ranges of time spanning over a period of thirty five years from 1980 to 2014. Data for this study shall be secondary, majorly from government institutions like the Central Bank of Nigeria.

Review of Related Literature

Conceptual Framework: Various people have defined Agriculture in different ways but common among these definitions is the fact that it is the production of food, feed, fiber and other goods by the systematic growing and harvesting of plants and animals.

Akinboyo [11] defines Agricture as the science of making use of the land to raise plants and animals. It is the simplification of natures food webs and the rechanneling of energy for human planting and animal consumption. Until the exploitation of oil reserves began in the 1980s, Nigeria's economy was largely dependent on agriculture. Nigeria's wide range of climate variations allows it to produce a variety of food and cash crops.

Ikala [12] has described that agriculture is the profession of majority of humans. The United Nations Organization (2008) estimated that the world as a whole, over 50% of the world population is engaged in agriculture or dependent of it for a living, this is a general description of the sector. On the other hand, it includes farming, fishing, animal husbandry and forestry. Oji-Okoro [13], stated that agricultural sector is the largest sector in the Nigerian economy with its dominant share of the GDP, employment of more than 70% of the active labour force and the generation of about 88% of non-oil foreign exchange earnings. Its share of the GDP increased from an annual average of 38% during 1992 to 1996 to 40% during 1977-2001 compared to crude oil the GDP from which declined from an annual average of 13% in 1992-1996 to 12% during 1997-2001.

Government Expenditure: Government expenditure refers to expenses incurred in the public sector. It refers to expenses incurred by the government at various levels which include the Federal, State and local

government levels in Nigeria [14]. Public expenditure is used to provide public goods and services to the populace through which economic growth is induced (Bello, 2003). This work focused on government expenditure on the agricultural sector in Nigeria. Government expenditure is classified into two broad themes, namely recurrent and capital expenditures. Recurrent expenditures are goods, which includes all consumption items that occur in a year, they are payments for non-repayable transaction such as salaries, wages and allowances. Capital expenditure relates to payments for the use of non-financial assets used in production process which contributes to long-term development. Examples of capital expenditure include spending on agriculture, health, education, roads and electricity. Expenditures are further classified into functional and economic composition [15]. He further explained that the functional composition defines the purpose of expenditure and the sector to target, while the economic composition looks at the outlay such as capital, wages and salaries etc involves in providing such services. According to Samuelson and Nordhaus [16], no where can the changes in government's role are seen more clearly than in the area of government spending. Kalra [17] opined that there was a time when public expenditure was considered the economy's revenue and so the best policy was considered one which kept the public expenditure to its absolute minimum. He stressed further that in the course of time the thinking has gone a complete change. A sound public expenditure policy produces good effects both on production and distribution; it corrects the mal-adjustments in the personal distribution of wealth.

Agricultural Output: Agriculture is the production of foods, feeds, fiber and other goods by the systematic growing and harvesting of plants and animals. It is the science of making use of land to raise plants and animals [11]. Nigeria's wide range of climate variations allows it to produce a variety of food and cash crops. The staple food crops include cassava, yams, corn, cocoyam, cow-peas, beans, sweet potatoes, millet, plantains, bananas, rice sorghum and a variety of fruits and vegetables. The leading cash crops are cocoa, citrus, cotton, groundnut, palm oil, plan kernel, benniseed and rubber. They were also Nigeria's major exports in the 1960s and early 1970s until petroleum took over the economy. Chief among the export destinations for Nigerian agricultural exports are Britain, the United States, Canada, France and Germany. The oil glut of the early 1980s reduced substantially, inflows of foreign exchange and consequently, participation of government in investment activities. Most of the companies erected at the wake of the oil boom witnessed low capacity utilization and in extreme cases out-right closure [10]. This led to a drastic rise in food import bills and the price of imported goods. To redress this situation, the government embarked on integrated programmes aimed at increasing agricultural production and productivity [10]. Olaokun [18], explained that agriculture is a source of food and raw materials for industrial sector, it create more employment opportunities, it reduce poverty and improve income distribution, it speed up industrialization and easing the pressure on balance of payment.

According to FAO Stat [19] underdeveloped countries can hope to move from the condition of stagnation to one of self-sustained growth if the agricultural sector is developed so that, surplus labour force is absorbed by new industries. Omowale [20] also viewed agriculture as a means of reducing dependence on certain importations, curtailing food price increases, earning foreign exchange, absorbing many new entrances to labour market and increasing farmer's income. Helleiner [21] asserts that, no matter how much development and structural transformation that is achieved, agriculture will still maintain its dominance in the economy for many decades to come. For many other developing countries, agriculture remains the gate way to several desired ends which includes poverty reduction, rural transformation, employment generation, food security and improved national health profile of the citizenry [22].

Government Expenditure and Agricultural Output on Nigeria's Economic Growth: Before the discovery of oil in Nigeria, agriculture accounted for over 60% of its Gross Domestic Product (GDP) as well as being a major source of foreign exchange earnings. It provided food and employment for the teeming population and raw materials for the growing industries. Ogen [23] stated that from the standpoint of occupational distribution and contribution to the GDP, agriculture was the leading sector in the 1960s. Also, the Nigerian economy, like that of Brazil, could reasonably be described as an agricultural economy during the first decade after independence. This is because agriculture served as the engine of growth of the overall economy of the two countries. During that period, Nigeria was the world's second largest producer of cocoa, the largest exporter of palm kernel and the largest producer and exporter of palm oil. It was also a leading exporter of other major commodities such as cotton, groundnut, rubber, as well as hides and skins [24]. Lawal, [4] also affirmed the positive contribution of agriculture to the Nigerian economy before the discovery of oil. Despite the reliance of Nigerian peasant farmers on traditional tools and indigenous farming methods, these farmers produced 70% of Nigeria's exports and 95% of its food needs.

The agricultural sector however suffered neglect during the hey-days of the oil boom in the 1970s. Ogen [23] stated that agricultural sector accounted for less than 5% of Nigeria's GDP in 2004. Ever since then, Nigeria has been facing serious poverty challenges and the insufficiency of basic food needs [25]. It is further revealed by NEEDS Policy Paper, 2004 that two-thirds of Nigerians live below the poverty line of US$1 per day, most of them in the rural areas. The root of this crisis lies in the neglect of agriculture and the increased dependency on monocultural economy based on oil. In an attempt to address this drift and as a realization of the important roles which the agricultural sector can play in the development of the nation, a number of policies and programmes have been put in place by the government. Some of the prominent ones include:

Prominent Institutions Set up by Government to Support Agricultural Development: The setting up of the Nigerian Agricultural and Cooperative Bank (NACB) in 1973 was a project set up by the Government to boost food production for our growing population. Its main objective was to enhance the level and quality of agricultural production including horticulture, poultry farming, pig feeding, fisheries, forestry and timber production, animal husbandry and other types of farming as well as storage, distribution and marketing connected with such production in the country. The bank was restructured in 2000. It was merged with the Peoples Bank of Nigeria and

the Family Economic Advancement Programme (FEAP) and renamed the Nigerian Agricultural, Cooperative and Rural Development Bank (NACRDB) [26]. The capital base was increased from N2.0 million to N10.0 million to reposition the bank to effectively meet the increasing demand for agricultural credit [27].

The Operation Feed the Nation, (OFN) was a programme which was in the form of creating awareness in the general populace of the need to be self-sufficient in food production. It was a special food production drive launched in 1976 by the then Federal Military Government. The programme was launched to involve a much wider section of the Nigerian populace in food production and as such increase local food supply. The programme was backed by massive publicity and a sizeable injection of funds to procure and distribute agricultural inputs [28]. The Agricultural Development Projects launched in 1975 were to be used to increase food production in the states where they operated. The programme initiated the introduction of hybrid maize seeds to Nigerian Farmers by making funds available to International Institute for Tropical Agriculture, (Ibadan), to develop hybrids suitable for various ecologies in Nigeria. The programme also made the supply of farm inputs such as seeds, fertilizers, agro-chemicals and even farm tractors to farmers a top priority [27].

The establishment of Agricultural Credit Guarantee Scheme (ACGS) Fund Act in 1977 was an attempt by the Government to encourage Banks to channel more of their funds to agricultural production. The Scheme was set up as a result of Commercial and Merchant Banks' lack of interest in agricultural financing. The Scheme commenced operation in 1988 by the approval of an authorised share capital of N100 million subscribed to by the Federal Government and the Central Bank of Nigeria in the ratio of 60% and 40% respectively. The share capital was increased to N1.0 billion and N3.0 billion in 1999 and 2001 respectively [27]. The aim of the scheme is to minimise the risks banks are exposed to, as a result of their lending activities to the agricultural sector. The scheme guarantees 75% of the amount of default on non-collateralized loan to an individual to a maximum of N5000, collateralized loans to individual of N50,000; and in the case of Cooperative Society and Limited Liability Company up to a limit of N1 million and N5 million respectively. The figures were subsequently raised to N20,000, N1 million, N5 million and N10 million respectively in 1999. The fund is managed by the Agricultural Credit Guarantee Fund Board and has the Central Bank of Nigeria as the managing agent (ACGSF, Annual Reports- 1977 - 1988).

Before 1986 when Structural Adjustment Programme (SAP) came into being, concessional interest rates were charged on agricultural facilities as incentives to boost agricultural production. Government attached so much importance to agriculture then that the agricultural loans used to attract concessionary rates. The lending rate under Agricultural Credit Guarantee Scheme (ACGS) was pegged at 5-6%. The rate was maintained till 1992. Apart from concessionary interest rates, various monetary guidelines accorded agriculture sector a priority by placing the sector under the preferred sector. Banks were obliged to lend a certain percentage of their total deposits to this sector failing which penalties were paid in the form of compelling the banks to deposit the amount of shortfall with the Central Bank of Nigeria. The shortfall so collected was on-lent to the Nigerian Agricultural and Co-operative Bank (NACB) for agricultural lending (Central Bank of Nigeria- 1986 - 1992 Reports). The Rural Banking Programme launched in 1977 was also aimed at boosting agriculture production in the country. The Monetary Authority in the various credit guidelines stipulated the percentage of deposits mobilised in the rural communities that should be lent to farmers in the rural areas.

In the 1994 monetary and credit policy guideline, the ratio of commercial banks' rural lending to deposits mobilized in the rural communities was 50% (CBN Reports). Various River Basin Development Authorities were also established in 1977 for the same purpose of boosting agricultural development in the country. The objectives of the River Basing Development Authorities were among others the followings: to

- Undertake a comprehensive development of both underground and surface water resources for multi-purpose use;
- Undertake schemes for the control of erosion or floods and for water-shed management including afforestation;
- control and maintain dams, boreholes, irrigation and drainage systems and other works necessary for food production and human water need; and
- Provide water resources and lakes for irrigation purposes to farmers and other groups of people as well as for urban water supply scheme, (Perspective Plan for Agric Development- 1990-2005).

The Green Revolution Programme which was launched by the Civilian Administration between 1980 and 1983 was yet another scheme to boost agricultural production in the country. The aim of the programme was to take Nigeria to self-sufficiency in the basic food needs within five years which led the Government to prepare a

"Food Production Plan for Nigeria" (Perspective Plan for Agric. Development- 1990- 2005). The Directorate for Foods, Roads and Rural Infrastructure (DFRRI) scheme launched in 1986 was a programme set up for the acceleration of rural development to aid agricultural production. Good road networks are needed for the evacuation of food items to the markets. The need for good road networks for the evacuation of food items from the point of production to the markets in the urban areas cannot be over-emphasised. The existing rural roads are not enough to rapidly transport farm produce. It is in response to this realisation that the Directorate for Foods, Roads and Rural Infrastructure was set up (Perspective Plan for Agricultural Development- 1990-2005). The establishment of the Federal Universities of Agriculture in 1988 in Abeokuta, Umuahia and Makurdi to offer degree programmes in all disciplines of agriculture was part of the effort to build human capacity to boost agriculture production and solve the problem of inadequate human resources at all levels of the agricultural sector [27].

Another Scheme which was set up to promote Agricultural production is the Nigerian Agricultural Insurance Scheme. The aim of the scheme was to provide financial support to farmers in the event of losses arising from natural disasters. Agriculture is exposed to a number of risks and uncertainties. It is in an attempt to reduce these risks and uncertainties to the barest minimum and to boost agricultural production that the National Agricultural Insurance Company (NAIC) was established by the then Federal Military Government on 15th December 1987 to operate and administer the Nigerian Agricultural Insurance Scheme [26]. The scheme has been designed to benefit the small, medium and large farmers. The objective of the scheme is to offer protection to farmers from the effects of natural disasters and to ensure payment of compensation to farmers who suffer loss to enable them remain in business. The scheme also aims to encourage the flow of agricultural credit from lending institutions to farmers (Nigerian Agricultural Insurance Scheme Guideline, 1987). The Nigerian Agricultural Land Development Authority (NALDA) which was announced in the 1991 Budget is a project set-up by the Federal Government in conjunction with the State and Local Governments aimed at giving a boost to food production in the country. The project is said to be patterned after the Malaysians example. The poor state of rural infrastructure has over the years affected the development of agriculture in the country. As stated in the Federal Ministry of Agriculture and Rural Development report (2000) and cited by Okolo [29], Nigeria is an agrarian country with 80% of its land mass in the rural areas and as such the rural areas have to be developed to favourably impact on agriculture. Lack of good infrastructure has hindered the prompt evacuation and distribution of farm produce after harvest and the supply of needed inputs for agricultural production. This has resulted into high food prices. The high cost of land development is another serious problem. The high cost of land development has contributed largely to inability for large food cultivation. Large hectares of land are uncultivated in most parts of the country because of the high cost and these represent a huge waste of natural resources. The opening up of such large areas will no doubt provide farmers with sufficient land to bring about an increase in food production.

The aim of Nigerian Agricultural Land Development Authority is to open up large areas of land in each state of the Federation in realisation of the important role land development is likely to play in contributing to increased food output and thus reducing the cost of food items (Perspective Plan for Agricultural Development- 1990-2005). The procurement of fertilizer and the distribution of same at subsidized prices to farmers is yet another attempt by the Government to boost agricultural development in the country. However, inspite of the various programmes and policies put in place as enumerated above and the priority accorded the sector by the Federal Government, none of these can be described as wholly successful (Okolo, 2004). Okolo (2004)[29] reported that over the last decade, Nigeria's domestic food production has consistently lagged behind the national food demand; and this annual shortfall could lead the nation to the threshold of food insecurity.

Poor Performance of Government Expenditure: Some of the key issues responsible for the poor performance of many Government support programmes include the followings: Policy instability and inconsistency in policies are said to be one of the major constraints to the effectiveness of past agricultural policies in Nigeria [26]. They reported that over the years, the rate of turnover of agricultural policies had been high with many policies formulated and scrapped in rapid succession. This problem they stated could be partly ascribed to political instability as every successive military government tended to jettison most of its predecessor's policies and programmes. They stated further that some agricultural policies and programmes of government tended to be mutually antagonistic rather than being mutually complementary and reinforcing. They cited as an example the conflict which existed between government's domestic food production policy and its cheap food

import policy. Ogen [23] in his own contribution stated that the lofty objectives of good projects turned out to be a mirage because of official corruption and lack of commitment on the part of those saddled with the responsibility of implementing the policies. On the issue of policy implementation, Manyong [26] are of the view that there was tendency on the part of government policy makers to regard formulation of policies as ends in themselves rather than being means to desired ends and as such, little attention was paid to the efficient implementation of the policies. They stated further that poor managerial capacity, bureaucratic bottleneck, corruption and high rates of policy turnover tended to complicate the problem of policy implementation.

The Technical Assistance to the House of Representatives Committee on Agriculture in their Policy Brief Paper No 2, (2005) stated that past public spending in agriculture has not produced the desired results. They saw the major weakness of agriculture sector spending as the large incidence of unintended beneficiaries. Citing the issue of procurement of fertiliser as an example, they stated that "while fertiliser subsidies are intended to benefit small-scale farmers and achieve increased crop productivity, the unintended but real beneficiaries have been rent-seeking government officials, fertiliser merchants and agents" (p.8). They further cited the Central Bank of Nigeria Reports to show that in 2001, fertiliser prices ranged from N1500-2500 as against the official subsidised rate of N1000 per a 50kg bag. Fertilisers which should have been sold directly to the farmers were used to seek political favours and diverted to middlemen and got to the end-users at prohibitive cost. Fertiliser's prices thus remained out of reach of farmers and fertiliser was not available at the right time (Technical Assistance to the House of Representatives Committee on Agriculture Policy Brief Paper No 2, 2005).

Okolo [29] catalogued the key issues responsible for the poor outcome of the agricultural sector as under investment in the sector and multiple political considerations in otherwise technical agricultural issues. The Technical Assistance to the House of Representatives Committee on Agriculture reported in their Policy Brief Paper No 2 of August 2005 that as at then, agricultural share of federal capital budget (1.5%) fell short of the target of 4% set by the National Economic Empowerment and Development Strategy (NEEDS). Evbuomwan [27] attributed the low performance of agricultural sector to the use of crude implements, a low level of inputs and limited areas under cultivation. They attributed the specific constraints to increased agricultural production in Nigeria to the absence of an enabling environment for the private sector to effectively engage in agricultural production by the Government.

Theoretical Literature Review: Development economists have focused on how agriculture can best contribute to overall economic growth and modernization. The physiocrats laid more emphasis on agriculture in the development of an economy. In their views, the development of an economy depends on the growth of the agricultural sector. The source of national wealth is essentially agriculture. The physiocrats believe that the fate of the economy is regulated by productivity in agriculture and its surplus is diffused throughout the system in a network of transactions. The agricultural sector to the physiocrats is the only genuinely productive sector of the economy and the generator of surplus upon which all depends.

Cobb-douglas Production Function: The theoretical basis of this study is anchored on Cobb-Douglas (CD) production function which is a substantial guidance for specifying supply–side agricultural potential output primarily determined by measurable input factor ($X = ALb_1 Kb_2$). This theory is to a large extent consistent with the theory of supply of production function that underlies specification of the supply-side of agricultural output. The Cobb- Douglas (CD) production function was derived from the observation by Cobb (1928) and Douglas (1948) that over the long-run, the relative share of National Output earned by Labour (L) and Capital (K) tends to be constant. The Cobb-Douglas function further assumes constant returns to scale and unitary elasticity of substitution. The Cobb-Douglas production is generally given by the equation:

$$X = Alb_1Kb_2 \quad (1)$$

where:
X = Total output
L = Labour
K = Capital
b_1 and b_2 = Substitution Parameter
$b_2=(1-b_1)$ and $(b_1+b_2)=1$

Linear Homogeneity of Cd Production Function: If we increase each factor in equation (1) by a constant λ, we have

$$Q = A(\lambda L)b_1 (\lambda K)b_2 \quad (2)$$

$Q = A\lambda b_1 + b_2 L b_1 K b_2$

$Q = \lambda A L b_1 K b_2 (\text{since } b_1+b_2=1)$ (3)

Therefore, $\lambda=1$

From equation (3), we observed that the CD production is linearly homogeneous in Labour and Capital. This implies that, if we increase all inputs by a constant multiple (λ), output will increase by that same constant. Thus the Cobb-Douglas function is to be characterized by constant return to scale. Average and Marginal Physical Product

$APPL = Q = Alb_1 Kb_2 = Alb_1 Kb_2 - 1$ (4)

$APPk = Q = ALb_1 Kb_2 = Alb_1 - 1 Kb_2$ (5)

$MPPL = ?Q = b_2 ALb_1 k\, b_2 - 1$ (6)

$MPPK = ?Q = b_1 ALb_1 - 1\, Kb_2$ (7)

Wagner's Law: The earliest theory advanced on public expenditure is that of Adolph Wagner in 1876 which came to be known as "Wagner's law". He propounded the "law of increasing expansion of public and particularly states activities' which is referred to as the "law of increasing expansion of fiscal requirements". The law suggests that the share of the public sector in the economy will rise as economic growth proceeds, owing to the intensification of existing activities and extension of new activities. According to Wagner, social progress has led to increasing state activity with resultant increase in public expenditure. He predicted an increase in the ratio of government expenditure to national income as per capital income rises. It is the result of growing administrative and protective actions of government in response to more complex legal and economic relations, increased urbanization and rising cultural and welfare expenditures. According to Musgrave, however, it is not fruitful to seek an explanation for the total expenditure. Tests carried out by various researchers have shown that the increase in expenditure is far more complex than in evident from the tests carried out on empirical data. Therefore according to him, it may be far more rewarding to adopt a desegregated approach (an approach which divides the study of expenditures of government) through a study of expenditures of government on capital formation, consumption and transfer payments. Irving (1968) used the law and came up with a different view [30]. He opined that public expenditure (E) is an increasing function of per capital gross national product (GDP). Similarly, Essien [31] carried out studies and employed modern econometric techniques, He posited that even though the variables public expenditure and economic growth were found to be stationary, that is integrate of order (1), they were not co integrated. Thus the long run tendency for public sector spending whether as a proportion of total output, its per capital value or as its singular definition, to grow with income could not be established. He therefore concluded that he found no evidence to support Wagner's law using Nigeria data. On the contrary, earlier study carried out by Arrow [32], established a more than unity income elasticity of public expenditure for Nigeria. In spite of all challenges by scholars, Wagner's law has endured as the premier generalization about the behaviour of government spending Awoke [33]. Any time there is need for important economic decision making on expenditure, policy makers and economic advisers still use the Wagner's law as bases for their decision. Representing Wagner's law functionally, $TGE = f(EG)$ where TGE is total government expenditure and EG is total national output.

Keynesian Theory: Of all economists who discussed the relationship between public expenditure and economic growth, Keynes was among the most famous and noted with his apparently contrasting view point on this relation. Keynes regards public expenditures as an exogenous factor which can be utilized as a policy instruments to promote economic growth. From the Keynesian thoughts, public expenditure can contribute positively to economic growth. Hence, an increase in government consumption is likely to lead to an increase in employment, profitability and investment through multiplier effect on aggregate demand. As a result, government expenditures augment the aggregate demand, which provokes an increased output depending on expenditure multipliers.

Neoclassical Growth Theory: The "neoclassical economic theory" tried to get closer to the Keynesian economics by development of the theory of expectations and of the real business cycle, where many problems could be faced today, both financial and social activities such as money and banking, organized securities, foreign exchange markets, large corporations, holding companies, business associations, organized labour, etc. Neoclassical economics provided the framework since its arrival in the 1870s Bernard [34] which paid attention to the choice of behaviour in analyzing the statistics model's special point of view of the quantitative processes of response, rather

than the qualitative mechanisms inherent in technological transformation. However, during the technological has been changed Second World War period the technological transformation altered rather than static quantitative model to increase in factor inputs, measured by increasing the economic growth rate [35].

During the 1960s, neoclassical growth theory was practiced and people generally accepted its approach to modelling growth in the long-term, which has been driven by increasing returns: Ramsy (1928), Arrow (1962), Ebere and Osundina (2014), Solow (1956) and Swan [36, 32, 38, 39]. This kind of framework assumed the neo-classical model production of consumption rising as a function of the stock of knowledge increasing within constant return to scale, which returns to each input (labour and capital) as well as smooth elasticity of the substation between the inputs. For instance, Arrow [32], in his model "learning by- doing", argued that new machines are improved and more productivity will result as the function of the cumulative which will also increase investment for the industry, because new knowledge should be discovered as the result of investment. However, Arrow's model meant that two problems could be encountered which would increase any rates of growth model of increasing returns:

- Existing competitive equilibrium.
- The function of capital and labour increase returns to scale.

Smith [40] pointed out the technological improvement in the form of "learning by doing" or "learning by using" with economies of scale through to the concept of division of labour in the process of the wealth of nations. Furthermore, according to some recent studies [41, 42, 43], it has been argued that the major difference between the more and less developed countries increased by learning-by-doing. Thus, "learning-by- doing" increased the stock of knowledge and human capital and other factors such as yield quality.

Empirical Literature: In any economy, successful economic development depends on open balanced interaction between various sectors over a period of time, often the process of interaction is such that some sector becomes more important than others, depending o the level and the stage of development. In Nigeria, Agriculture is an example of one key sector whose role is and would remain crucial to development fortunes. Economic history is replete with ample evidence that agricultural revolution is a fundamental pre-condition for economic growth, especially in developing countries [44, 45, 46].

Iganiga and Unemhilin [47] studied the effect of federal government agricultural expenditure and other determinants of agricultural output on the value of agricultural output in Nigeria. A Cobb Douglas Growth Model was specified that included commercial credits to agriculture, consumer price index, annual average rainfall, population growth rate, food importation and GDP growth rate. The study performed comprehensive analysis of data and estimated the Vector Error Correction model. Their results showed that federal government capital expenditure was found to be positively related to agricultural output.

Oji-Okoro [13] employed multiple regression analysis to examined the contribution of agricultural sector on the Nigerian economic development. They found that a positive relationship between Gross Domestic Product (GDP) vis a vis domestic saving, government expenditure on agriculture and foreign direct investment between the period of 1986-2007. It was also revealed in the study that 81% of the variation in GDP could be explained by Domestic Savings, Government Expenditure and Foreign Direct Investment.

Using time series data, Lawal [48] attempted to verify the amount of federal government expenditure on Agriculture in the thirty-year period 1979 – 2007. Significant statistical evidence obtained from the analysis showed that government spending does not follow a regular pattern and that the contribution of the agricultural sector to the GDP is in direct relationship with government funding to the sector.

The strong correlation that has been established between Nigerian's total GDP and the agriculture suggests that the prospects of the non-oil sub-sector and the overall economy are closely tied to the performance of the agricultural sector. Ukeji [49] submits that in the 1960?s, agriculture contributed up to 64% to the total GDP but gradually declined in the 70?s to 48% and it continues in 1980 to 20% and 19% in 1985, this was as a result of oil glut of the 1980's.

Wahab [50] examined an analysis of government spending on agricultural sector and its contribution to Gross Domestic Product (GDP) in Nigeria, using trend analysis and a simple linear regression to analyse the time series data, the result obtained shows that such spending does not follow a regular pattern and that the contribution of the agricultural sector to the GDP is indirect relationship with government funding to the sector.

Ebere [37] examined the impact of government expenditure on agriculture and agricultural output on economic growth in Nigeria over the years. A time series data of 33 years sourced from the Central bank of Nigeria was used. Ordinary Least Square (OLS) technique of data analysis was used in evaluating the secondary data. From the findings agricultural output, government expenditure and GDP are positively related. It was found that a significant relationship exist between government expenditure in the agricultural sector and the economic growth in Nigeria. The findings also revealed that the sector still encounter some problems like inadequate finance, poor infrastructure and others.

Iganiga [47] examined the impact of federal government agricultural expenditure on agricultural output in Nigeria, they used the Cobb Douglas Growth Model, Descriptive Statistics and Econometrics Model were used to analyze the time series data. Co-integration and Error Correction methodology were employed to draw out both long-run and short- run dynamic impacts of these variables on the value of agricultural output. Federal government capital expenditure was found to be positively related to agricultural output. With a one-year lag period, it shows that the impact of government expenditure on agriculture is not instantaneous. The policy import of the study is that investment in the agricultural sector is very imperative and this should be complemented with monitored credit facilities.

FAO (2010) reported that in terms of capital allocation to agriculture in Nigeria, it as an average of 4.74 percent from 1970-1980. But, from 1980-2000, it rose to 7.00 percent and 10 percent from 2001-2007, though revealing an increase, but still falls short of Food and Agricultural organization (FAO) recommendation that 25 percent of government capital budget being assigned to the agricultural development capital budget.

Akpan [30] uses time series data of 33 years and the OLS method of regression to analyze the contribution of government expenditures to the growth process in Nigeria. He concluded that capital expenditure on agriculture though not statistically significant but influence positively on investment.

Oguamanam [51] did an empirical work on commercial bank credit to agriculture sector in Nigeria. From the analysis, commercial bank loans and advances have positive relationship with the level of agricultural output, Federal government capital expenditure contributed positively to the growth of agricultural output in Nigeria.

Similar work was carried out by Nnanna [52], on bank lending behaviour and output growth with implication on monetary policy in Nigeria. He revealed a significant relationship between banks lending behaviour and output growth. He further suggested that in the medium-term, the decline in output has negative influence on bank credit to private sector.

Also Isijola [53] revealed a significant relationship between credit supply and agricultural output in Nigeria. Isijola also identified commercial banks' loans and advances, Agricultural Credit Guaranteed Scheme as the determinant of agricultural credit supply in Nigeria.

Shanggen [54] in their empirical analysis on government spending, growth and poverty supported the view that government spending enhances the growth in agricultural productivity. His managerial analysis also shows that additional government expenditures on agricultural research and extension have the largest impact on agricultural productivity growth.

Ekpebu [55] reviews that the performance of the agricultural sector has been unsatisfying over the years due to insufficient funding or credit facilities, inadequate infrastructural facilities, low technology base, high cost of farm input and inadequate extension services.

Ekechi [56] supported the view that raising the volume of financial savings will increase the volume of total deposit of the banking sector which will further lead to increase in the supply of credit to other sectors of the economy (agricultural sector inclusive).

The Cobb-Douglas production function was used by Bernard [34] in his work; Empirical Analysis of Credit Supply and Agricultural Output in Nigeria. He used four explanatory variables (bank loans, government spending on agriculture, agricultural credit guarantee scheme, investment from other countries) and used the OLS method to test the significance of the explanatory variables on output in Nigeria. The result he obtained revealed that except the foreign direct investment on agriculture, other variables expressed significant influence on agricultural output in Nigeria.

In summary, the above empirical review indicates that most of the works mentioned were studies of Nigeria and of which were either weak due to fewer numbers of years covered in the study or suffer from inadequacies that the study extends its scope to 2014 from 1980.

Research Methodology

Research Design and Methodology: The research design to be employed in this work is the ex-post facto. The choice of the ex-post facto stems from its major objective which is to explore the relationship between government expenditure on agriculture and agricultural output on Nigeria's economic growth. The Ex-post facto research design is considered most appropriate for a research of

this sort for the following reasons: This research design tries to dig out the cause and effect relationships where causes already exists and cannot be manipulated. The ex-post facto or causal comparative research design makes use of what already exists and looks backwards to explain why it is so. It provides a means to measure the effects of the independent variables on the dependent variable.

Model Specification: The model specification will be

$$GDP = F (GEXPA, AGO) \quad (8)$$

where;
GDP is the Nigeria's economic growth
GEXPA is the Government expenditure on agriculture
AGO is the Agricultural output.

The Nigeria's economic growth is the dependent variables while government expenditure on agriculture and agricultural output are the independent variables. To show government expenditure on agriculture and agricultural output on Nigeria's economic growth will be,

$$GDP = \beta_O + \beta_1 GEXPA + \beta_2 AGO + U_t \quad (9)$$

where Ut are those variables that can affect the GDP which are not stated in the model specification.

Estimation Procedure: Multiple regressions involving the ordinary least square method of estimation shall be employed in this research.

The choice of this method is based on the "BLUE" property that is Best Linear Unbiased Estimation. This is because it helps to ascertain quantitatively the impact of certain factors on a given phenomenon under study. According to Koustsyianis [57] states that in attempting to study any relationship between variables, it is important to express the relationship in mathematical form. In the preliminary tests, the following tests shall be conducted. They are as follows;

Unit Root Test: The unit root test is utilized to test for the stationary of time series data. Since most of the macroeconomic time series are non-stationary [58] and are prone to spurious regression, the first step in any econometric or time series analysis is always to test for stationary. The widely used augmented dickey fuller (ADF) test statistic shall be used to test for stationarity. It shall be compared with the critical values at 5% level of significance. If the ADF test statistic is at any level, greater than the critical values with consideration on their absolute values, the data at the tested order is said to be stationary. Augmented Dickey-fuller test relies on rejecting a null hypothesis of stationary. The tests are conducted with and without a deterministic trend (t) for each of the series. For the purpose of this research, an augmented dickey-fuller (ADF) test shall be conducted by carrying out a unit root test based on the following structure: s

$$\Delta xx_t = k + a_t + \theta x_{t-1} + \Sigma_{t=1} \Phi \Delta_{t-1} + e_t \quad (10)$$

where X is the variable under consideration, ? is the first difference operator, t captures time trend, at is a random error and n is the maximum lag length. The optimal lag length is identified so as to ensure that the error term is white noise. K, a, θ and Φ are the parameters to be estimated. If we cannot reject the null hypothesis that θ=o, then we conclude that the series under consideration has a unit root and is therefore non-stationary. On the assumption of unit root for all the variables employed, we would proceed to test for co integration.

Vector Auto Regression Test: Due to the absence of long run relationship among the variables, the researcher adopted the econometric method of Vector Auto Regression Estimates (VAR) to show the short run relationship.

Estimation of Toda-yamamoto Using Var Test: The main idea of this method is as Gujarati and Porter [59] stated ''to artificially augment the correct VAR order, k, by the maximal order of integration, say dmax''. Then, a (k + dmax)th VAR order is calculated and the coefficients of the last lagged dmax vector are ignored (Johansen and Juselius, Nigerian Agricultural Insurance Scheme Granger, Koopmans T [60, 61, 62, 63]. Afterwards, the Koopmans (1965)[63] procedure ensures that the usual test statistic has the convenient asymptotic distribution for which well-founded inferences can be carried out.

Sources of Data: Data is obtained from secondary sources. Secondary data according to Awoke [33] are those that have already been collected by some other persons and have passed through some statistical processes. Hence, he refers to such data as "second hand". All the variables to be employed in the empirical estimation and analysis shall be sourced from various issues of the Central Bank of Nigeria [63].

Table 1: Augmented Dickey Fuller Unit Root Test at level (Trend and intercept)

Variables	ADF @ Level	1st difference	2ND Difference	Critical value (1%)	Critical value (5%)	Order of integration	Remarks
D(GDP)	-2.221991	-5.236162	-	-4.262735	-3.552973	I(1)	Stationary
D(GEXPA)	-2.584001	-8.154720	-	-4.262735	-3.552973	I(1)	Stationary
D(AGD)	-0.354286	-3.484085	-6.336923	-4.273277	-3.557759	I(2)	Stationary

SOURCE: Researcher own compilation

Presentation and Analysis of Results: The attempt to study the impact of government expenditure on agriculture and agricultural output on Nigerian economic growth led the researcher to subject the data collected to Unit Root, Vector Auto Regression Estimates and Estimation of Toda-Yamamoto using VAR Test. The variables considered in this research work are: gross domestic products (GDP) (dependent variable) and the independent variables include: Government expenditure on agriculture (GEXP) and Agricultural output (AGO). The empirical results are presented below:

Unit Root Test: In other to test for the presence or absence of unit root in the data used for the empirical analysis, Augmented Dickey-Fuller (ADF) test was employed and the test result is as presented below:

From the result above, only two of the variable, that is, gross domestic products (GDP) and government expenditure on agriculture (GEXPA) exhibited stationarity at first difference. While the remaining variable, agricultural output (AGO) exhibited stationarity at second difference. The stationarity was achieved by comparing their respective ADF test statistics with the 5% critical values; it was observed that their respective test statistics were greater than their critical values in absolute terms. Thus, the series are stationary.

Vector Auto Regression (VAR): Due to the absence of long run relationship among the variables, the researcher adopted the econometric method of Vector Auto Regression Estimates (VAR) and the result from the test is shown in the table below.

The results of the Vector Auto Regression Estimates (VAR) in the table above indicated that there is no long run relationship among the variables, indicating the presence of short run relationship between government expenditure on agriculture and agricultural output on Nigerian economic growth for the period under investigation. Specifically, the results of the VAR test suggested gross domestic products (GDP) had equilibrium relationship with government expenditure on agriculture (GEXPA) and agricultural output (AGO) which kept them in equilibrium to each other in the short run.

The coefficients of the VAR equation given by the short-run relationship is

Table 2:

Vector Autoregression Estimates
Date: 08/10/16 Time: 14:13
Sample (adjusted): 1982 2014
Included observations: 33 after adjustments
Standard errors in ( ) & t-statistics in [ ]

	LGDP	LGEXPA	LAGO
LGDP(-1)	0.575462	-1.396679	-0.142614
	(0.25055)	(1.02219)	(0.16911)
	[2.29683]	[-1.36636]	[-0.84333]
LGDP(-2)	0.196203	-0.183380	0.216256
	(0.26618)	(1.08595)	(0.17966)
	[0.73712]	[-0.16887]	[1.20373]
LGEXPA(-1)	0.017328	0.174487	0.010109
	(0.05083)	(0.20737)	(0.03431)
	[0.34092]	[0.84143]	[0.29467]
LGEXPA(-2)	0.057774	0.046279	0.079126
	(0.05021)	(0.20484)	(0.03389)
	[1.15071]	[0.22593]	[2.33497]
LAGO(-1)	0.646811	2.700815	1.492736
	(0.33074)	(1.34936)	(0.22323)
	[1.95565]	[2.00156]	[6.68690]
LAGO(-2)	-0.513809	-0.207945	-0.690911
	(0.36749)	(1.49928)	(0.24804)
	[-1.39817]	[-0.13870]	[-2.78554]
C	1.035920	-3.645162	0.828087
	(0.50454)	(2.05842)	(0.34054)
	[2.05322]	[-1.77086]	[2.43171]

GDP = 0.017328GEXPA + 0.646811AGD

where GDP is the dependent variable, 0.017328 is the coefficient of GEXPA and 0.646811 is the coefficient of AGO. The sign borne by the adjusted coefficient estimates of GEXPA and AGO is positive. This implies that in the short run, the relationship that will exist between GEXPA, AGO and GDP will be positive.

Estimation of Toda-yamamoto Using Var Test: The Toda and Yamamoto (1995) approach fits a VAR model to the levels of the variables, thereby minimizing the risks associated with possible incorrect identification of the order of integration of the series.

Vector Autoregression Estimates	
Date: 08/10/16 Time: 14:16	
Sample (adjusted): 1982 2014	
Included observations: 33 after adjustments	
Standard errors in ( ) & t-statistics in [ ]	
	LGDP
LGDP(-1)	0.575462
	(0.25055)
	[2.29683]
LGEXPA(-1)	0.017328
	(0.05083)
	[0.34092]
LAGO(-1)	0.646811
	(0.33074)
	[1.95565]
C	1.035920
	(0.50454)
	[2.05322]

Source: Own Computation (See Appendix)

$R^2 = 0.994638$

The result is significant since the coefficient of multiple determinations (0.994638) is greater than zero. From the result of the Estimation of Toda-Yamamoto using VAR Test presented above, the coefficient of the constant term is 1.035920 implying that when other variables are kept constant gross domestic products (GDP) increased by 1.035920 units. The coefficient of GEXPA(-1) is 0.017328 implying that a unit change in government expenditure on agriculture brought about 0.017328 units increase in GDP. Similarly, the coefficient of AGO(-1) is 0.646811 meaning that a unit increase in agricultural output brought about 0.646811 units increase in GDP.

The above result indicates that the R_2 is 0.994638 indicating that the explanatory variables explain about 99.46% of the total variations in GDP during the period under consideration while other variables not captured in the model accounted for about the remaining 0.54 percent. Coincidentally, the goodness of fit of the regression remained very high after adjusting for the degree of freedom as indicated by the R^2 (R^2=0.9946 or 99.46%).

Test of Hypotheses

Hypotheses One:

Ho: There is no significant long run equilibrium relationship between government expenditure on agriculture and agricultural output in Nigeria.

$H_{1:}$ There is significant long run equilibrium relationship between government expenditure on agriculture and agricultural development output in Nigeria.

Due to the absence of cointegration, the Vector Auto Regression Estimates (VAR) was ran which indicated that there is no long run relationship among the variables, indicating the presence of short run relationship between government expenditure on agriculture and agricultural output and economic growth of Nigeria for the period under investigation. In other words, the null hypothesis of no cointegration among the variables is accepted. Hence, the test result shows the existence of a short-run equilibrium relationship.

Hypotheses Two:

H_o: Government expenditure on agriculture and agricultural output does not exert influence on Nigerian economic growth.

H_1: Government expenditure on agriculture and agricultural output does exert influence on Nigerian economic growth.

From the relationship existing between government expenditure on agriculture and agricultural output on Nigerian economic growth as was revealed by the Estimation of Toda-Yamamoto using VAR Test analysis, we observed that there was a positive relationship between government expenditure on agriculture, agricultural development and Nigerian economic growth and as such we reject the null hypothesis and conclude that Government expenditure on agriculture and agricultural output does exert influence on Nigerian economic growth**.**

Implication of the Study: The Estimation of Toda-Yamamoto using VAR Test analysis result indicated that there was a positive relationship between government expenditure on agriculture, agricultural output and Nigerian economic growth. This does conform to a priori expectation. A positive relationship was expected to exist among government expenditure on agriculture, agricultural output and Nigerian economic growth. Hence the positive relationship could be attributed to the fact that the government increased her budgetary allocation to this sector in a consistent manner because of its importance to the national economy, hoping that with proper monitoring of fund, it would contribute more significantly to the economy of the country. An effective utilization of such funds was also advocated and all areas of wastage blocked. The implication of the result is that increased government expenditure on agriculture will continue to boost agricultural output with a direct reflection on Nigerian economic growth.

Summary, Conclusion and Recommendation

Summary of Findings: The study investigated empirically the relationship between government expenditure on agriculture and agricultural output on Nigerian economic growth for the period between 1980 and 2014 employing various techniques of econometric analysis. In the course of the study, the main objective was to investigate government expenditure on agriculture, agricultural output and related variables on Nigerian economic growth for the period under review. The variables used for the empirical analysis in this study are; gross domestic products (GDP), government expenditure on agriculture (GEXP) and Agricultural output (AGO). On the application of advanced econometric techniques (Augmented Dickey Fuller, Vector Auto Regression and Estimation of Toda-Yamamoto using VAR Test), the following information were extracted;

- Two of the variables (GDP and GEXPA) became stationary at first difference by ADF
- The remaining variable (AGO) became stationary at second difference; this means they all have unit roots which necessitates the application of Johansson cointegration test to test for long run relationship.
- Due to the absence of long run relationship among the variables, the researcher adopted the econometric method of Vector Auto Regression Estimates (VAR). Hence, there exists a short-run equilibrium relationship between government expenditure on agriculture and agricultural output on Nigerian economic growth.
- To ascertain government expenditure on agriculture and agricultural output on Nigerian economic growth, the study made use of Estimation of Toda-Yamamoto using VAR Test. From the result of the VAR presented above, there exist a positive relationship between government expenditure on agriculture, agricultural output and Nigerian economic growth. The positive relationship between GDP, GEXPA and AGO does conform to a priori expectations.

Finally, the regression result indicated that the coefficient of determination (R^2) was 0.994638. This indicates that the explanatory variables explain about 99.46% of the total variations in GDP during the period under consideration while other variables not captured in the model accounted for about the remaining 0.54 percent.

CONCLUSION

On the whole, the agricultural sector contributes significantly to Nigeria's GDP. The employment base of the Nigeria economy is largely dependent on this sector. The finding showed agricultural sector contributes more than 50 percent to the economy i.e. 0.646 or 64.6% percent. As expected agricultural sector maximally to Nigerian economy more than 50 percent, but the low 0.646 in nominal value is due to the neglect of agriculture when oil was discovered in a commercial quantity in the 1970s. It is well over due for the Nigerian economy to diversify. The negative perception and orientation of the average Nigerian about agriculture sector should be disabused so that these sectors can contribute optimally to GDP.

Recommendation: From the findings and careful investigation of the contribution of agricultural output towards economic growth, it is therefore necessary to make the following policy recommendation to the government and all the agencies in-charge of economic growth in Nigeria thus: Considering the fact that agricultural output from the result of our findings, has contributed positively to the growth of the economy in Nigeria, The following recommendations were made:

- The government needs to develop a modernized policy to help the sector to keep growing steadily as time moves on.
- Government should help the agricultural sector as far as it is concerned by encouraging commercial production of non-staple cash crops, particularly those that result in robust links to the non-farm sector, as this will be the major means to increase and improve employment for the rural poor.
- Influencing international policy processes will be important, but primarily to ensure access to developed country markets for more processed and high quality products from developing countries.
- Since agriculture has positive impact on the Nigerian economy, the government should see that a higher percentage of allocations are invested on agricultural sector so that the economy will keep on growing in an increasing rate.
- The government should endeavour to increase an improved storage infrastructure to help the sector on the finished product in other to avoid wastage of agricultural products especially perishable products.

- The government should make policies that will enhance and support the small farmers to increase productivity to cope with producer services for example through improved varieties.

REFERENCES

1. Ogen, O., 2003. Patterns of economic growth and development in Nigeria since 1960 in S.O. Arifalo and Gboyega Ajayi(Eds) (2003). *Essays in Nigerian Contemporary History*. Lagos First Academic Publishers.
2. Ekerete, P., 2000. Assessment of agricultural contributions to total export marketing in Nigeria. International Journal of Economic and Development Issues, 1(2).
3. Abayomi, A., 1997. Deficit financing and economic development: Empirical perspectives from Nigeria. AERC Project Report.
4. Lawal, A.A., 1997. The economy and the state from the pre-colonial times to the present in Osuntokun, A. and Olukoju, A. (Eds) Nigerian Peoples and Cultures. Ibadan: Davidson.
5. Olagbaju, M.A. and J.D. Falola, 1996. Economic issues in Nigeria's development" in Akinbi, J.O. (ed) towards a better Nigeria. Ibadan: Ben Quality Press.
6. Egbuna, J., 2003. Long road to food security. Business Concord, 5(370).
7. Fasipe, F., 1990. The development of public expenditure in western industrial countries. A Comparative Analysis of Public Finance 38(1).
8. Olagunju, B.C., 2000. Economic issues in Nigeria's development in Akinbi, J.O. (ed) towards a better Nigeria. Ibadan: Ben Quality Press.
9. Ojo, M.O. and O.O. Balogun, 1991. "Sustaining agricultural production in a deregulated economy. CBN Economic and Financial Review, 31(2).
10. CBN, 2007. Changing the structure of the Nigerian economy and implication for development. Realm Communication Ltd Lagos. Central Bank Annual Report and Statement of Accounts, 2005.
11. Akinboyo, O.L., 2008. Five decades of agricultural policies: What role has statistics played? CBN Bullion, 32: 134-165.
12. Ikala, P.A., 2010. Impact of public agriculture expenditure on agricultural output and economic growth: (1978-2007). An Unpublished thesis of the Caritas Unversity, Amorji-Nike; Emene Enugu.
13. Oji-Okoro, I., (2011). Analysis of the contribution of agricultural sector on the Nigerian economic development. World Review of Business Research, 1(1): 191-200.
14. Siyan, P., 2002. Introduction to economic analysis. Abuja Nigeria: B. Anny Publishers, 1st edition.
15. Bello, A., 2003. Federal Ministry of Agriculture and Rural Development. Abuja: Ministerial Press Briefing, December.
16. Samuelson, P.A. and W.D. Nordhaus, 2003. *Economics*. Delhi: TATA McGraw-Hill.
17. Kalra, K.B., 2006. Dictionary of economics. New Delhi: Academic Publishers, 1st Edition.
18. Olaokun, A., 1979. The structure of Nigerian economy. Lagos: Macmillan Press Ltd.
19. FAO Stat 2010. TradeSTAT [Online] http://faostat.fao.org/default.aspx Accessed on: 14 October 2010.
20. Omowale, A.I., 1979. Economics for professionals. Ibadan: Nigeria. Best printing company.
21. Helleiner, A.E., 1966. Contemporary economics, 4th Edition. Worth Publishers, Inc, USA.
22. Okpanachi, U.M., 2004. Public options for repositioning the Nigerian agricultural sector in the food basket myth: Implication for food security and agricultural policy reform in Nigeria. (ED) Ogiji P. Makurdi, Aboki publishers.
23. Ogen, O., 2007. The agricultural sector and Nigeria's development: Comparative perspective from the Brazilian Agro-Industrial Sector Economy, 1960-1995) Nebula March 2007@Noble World Archives.
24. Alkali, A., 1997. An assessment of the sustainability of Nigeria's fiscal deficit, 1970- 1990. Journal of Africa Economics, 2(2).
25. Nigeria Economic Empowerment and Development Strategy-NEEDS. 2004. Executive Summary on Nigeria Agricultural Policy Support Facility (A-PSF). An Agricultural Policy, Research and Knowledge Program to Support Nigeria's NEEDS.
26. Manyong, V.M., 2003. Agriculture in Nigeria: Identifying opportunities for increased commercialization and investment**.** Being the main report of a research funded by United States Agency for International Development (USAID), Nigeria.
27. Evbuomwan, G.O., 2003. Agricultural development: Issues of sustainability and contemporary economic policy issues in Nigeria. Abuja: Research Department, Central Bank of Nigeria, 185-221.

28. Akande, O., 2003. Nigeria Macro Report: A report to the Afrint project. Nigeria Institute for Social and Economic Research (NISER), Ibadan.
29. Okolo, D.A., 2004. Regional study on agricultural support: Nigeria's case, being special study. Report prepared for Food and Agricultural Organization (FAO).
30. Akpan, A., 1999. The finance of Nigeria government 1968–1970. Quarterly Journal of Administration, 3(4): 269-288.
31. Essien, A.E., 2005. A consistent macroeconomic framework for the agricultural sector under the National Economic Empowerment and Development Strategy (NEEDS). CBN Bullion, 29(4).
32. Arrow, K., 1962. The economic implications of learning by doing. Revised Economics Studies, 29(3): 155-173.
33. Awoke, M.U., 2001. Econometrics: Theory and application. Abakaliki: Willy Rose and Apple Seed Publishing Co., pp: 182.
34. Bernard, O.A., 2009. Empirical analysis of credit supply and agricultural output in Nigeria. Department of Economics, Kogi State University, Ayingba-Nigeria.
35. Brinkman, R. and J. Brinkman, 2001. The new growth theories: A cultural and social addendum. International Journal of Social Economics, 28(5/6/7): 506-525.
36. Ramsy, F., 1928. A mathematical theory of saving. Economics Journal, 38(152): 543-559.
37. Ebere, C. and K. Osundina, 2014. Government expenditure on agriculture and economic growth in Nigeria. International Journal of Science and Research, 3(9): 2319-7064.
38. Solow, R., 1956. A contribution to the theory of economic growth. Quarterly Journal of Economics, 70(1): 65-94.
39. Swan, T., 1956. Economic growth and capital accumulation. Economics Recording, 32(63): 334-361.
40. Smith, A., 1776. An inquiry into the nature and causes of the wealth of nations. London: Methuen and Co, Ltd.
41. Lucas, R., 1988. On the mechanics of economic development. Journal of Monetary Economics, 22(1): 3-42.
42. Romer, M., 1986. Increasing returns and long run growth. Journal for Political Economics, 94(5):1002-1037.
43. Stiglitz, J., 1987. The cause and consequences of the dependence of quality on price. Journal of Economics Literacy, 25(1): 1-48.
44. Woolf, S.S. and E.I. Jones, 1969. Agrarian change and economic development: The historical problem. London: Methuen.
45. Oluwasanmi, H.A., 1966. Agriculture and Nigeria's economic development. Ibadan: Nigeria.
46. Eicher, C. and L. Witt, 1964. Agriculture in economic development. New York: McGraw Hill, London.
47. Iganiga, B.O. and D.O. Unemhilin, 2011. The impact of federal government agricultural expenditure on agricultural output in Nigeria. Journal of Economics, 2(2): 81-88.
48. Lawal, W.A., 2011. An analysis of government spending on agricultural sector and its contribution to gdp in Nigeria. International Journal of Business and Social Science, 2(20): 244-250.
49. Ukeje, R.O., 2003. Macroeconomics: An introduction. Port Harcourt: Davidson Publication.
50. Wahab, A.L., 2011. An analysis of government spending on agricultural sector and its contribution to GDP in Nigeria. International Journal of Business and Social Science, 2(20): 244.
51. Oguamanam, C.N., 1996. Nigeria Republic Finance: London. Longman Group.
52. Nnanna, M., 2001. Economics growth performance Nigeria: Analyzing a performance.
53. Isijiola, M.O., 2000. Modernizing Nigerian cooperatives. Lagos: Nigeria. Fred Atoki Publishing Company.
54. Shanggen, G.O., 1998. Foreign Aid and Foreign Policy. New Harper and Row Publisher.
55. Ekpebu, 2006. Impact of food importation. Africana Publications.
56. Ekechi, R.O., 1977. An economic history of Nigeria: 1860-1960. Africana Publications.
57. Koutsoyiannis, A., 2001. Theory of econometrics Second Edition. New York; Palgrave Publishers Ltd, pp: 681.
58. Nelson, B. and M. Plosser, 1982. Government deficits and the inflationary process in developing countries. International monetary fund (IMF) staff papers, 25(3): 383-416.
59. Gujarati, D.N. and D.C. Porter, 2009. *Basic Econometrics.* New York; Mc Graw-Hill International, pp: 922.
60. Johansen, S. and K uselius, 1990. The maximum likelihood estimation and inference on cointegration with application to demand for money. Oxford Bulletin of Economics and Statistics, 52(2): 169-210.
61. Nigerian Agricultural Insurance Scheme (1987). Operational guidelines Lagos. Agricultural Finance Dept, CBN.

62. Granger, C.W., 1969. Investigating causal relationships by econometric models and cross spectrum methods. Econometrica 37: 424-438.

63. Koopmans, T., 1965. On the concept of optimal economic growth. Cowles Foundation Discussion Papers, (163): 226-300.