**The contribution of the agricultural sector to the development of Nigeria economy (1983-2015)**

**BY**

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**U13/MSS/ECO/009**

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**TITLE PAGE**

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**A PROJECT SUBMITTED TO THE DEPARTMENT OF ECONOMICS, FACULTY OF MANAGEMENT AND SOCIAL SCIENCES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE (B. Sc) IN ECONOMICS**

**SUPERVISOR**

**Mr. Paius Eze**

**JULY, 2017**

**DECLARATION**

 I, Eze Izuchukwu Edwin hereby declare that this research work was written by me and has not been submitted or received anywhere for the purpose of acquiring degree in Economics or any other programme.

**……………………….** **…………………**

**Eze Izuchukwu Edwin** **Date**

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All Glory and Thanks goes to Almighty God for his guidance and protection through this project. I also want to my family most especially my late father, Mr. Edwin E. Eze; for his support and encouragement duribg his last days on earth while l writing this project; this work would not have been easy without you. I want to thank my mother for her love, support and encouragement while working on this project most especially Mrs Nneka Eze; your help was very important to me even in your worst times, I wouldn’t have made this far without you, so a very big “THANK YOU” to you. And finally I want to thank all the staffs of this institution Godfrey Okoye University, Thinkers Corner, Enugu State; most especially Mr. Paius Eze, my project supervisor for guiding me through this research. Thank you all for your Ultimate support.

**APPROVAL PAGE**

This is to certify that this research work The contribution of the agricultural sector to the development of Nigeria economy (1983-2015) by Eze Izuchukwu Edwin in the Department of Economics has been examined and approved as meeting the requirements for the award of Bachelor Science (B.Sc) Degree in Economics, Faculty of Management and Social Sciences, Godfrey Okoye University, Enugu.

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**External Examiner** **Date**

**DEDICATION**

This research work is dedicated to Almighty God for His providence, and also to my father, Mr Edwin E. Eze

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 **CHAPTER ONE**

**INTRODUCTION**

**1.1 BACKGROUND OF THE STUDY**

In the 21st century agriculture is one of the divers industries which are increasing rural income as well as long term stability of its natural resources. This can create different activities which will affect farmers, stakeholder, customers and government industries. Information and communication technologies have most important information about agriculture in developing countries. These developing countries now are connected with developed nations and getting the latest information and technologies regarding weather, natural resources and other related information (Rao, 2010).

Addul, Barkatullah, Ghulam, and Shakil (2014) noted that most of the developing countries are using different technologies and other sources for the development of agriculture and economic development. The agricultural sector is constantly being developed to the fullest extent possible with available means as a whole can progress only by the efficient and rational use of them. According to Ogidi (2015), in any nation, the agricultural sector has a great importance attached to it. Hence, agriculture constitutes one of the most important sectors of the economy. The significance of agriculture resource in bringing about economic growth and sustainable development of a nation cannot be underestimated. Agriculture contributes to the growth of the economy, provides employment opportunities for the teaming population, export revenue earnings and eradicates poverty in the economy. Abayomi (2009) stated that stagnation in agriculture is the principal explanation for poor economic performance, while rising agricultural productivity has been the most important concomitant of successful industrialization.

Oji-Okoro (2011) is of the opinion that agriculture resource has been an important sector in the Nigerian economy in the past decades, and is still a major sector despite the oil boom; basically it provides employment opportunities for the teeming population, eradicates poverty and contributes to the growth of the economy. The pervasive influence of agriculture on Nigeria’s economic and social development has also been articulated by Oluwasami (2013). A strong and efficient agricultural sector would enable a country to feed its growing population, generate employment, earn foreign exchange and provide raw materials for industries. The agricultural sector has a multiplier effect on any nation’s socio-economic and industrial fabric because of the multifunctional nature of agriculture (Ogen 2007).

Agriculture has been defined as the production of food and livestock and the purposeful tendering of plants and animals, (Ahmed, 2013). He stated further that agriculture is the mainstay of many economies and it is fundamental to the socio-economic development of a nation because it is a major element and factor in national development. In the same view, Okolo (2004) described agricultural sector as the most important sector of the Nigeria economy which holds a lot of potentials for the future economic development of the nation as it had done in the past. Notwithstanding the enviable position of the oil sector in the Nigerian economy over the past three decades, the agricultural sector is arguably the most important sector of the economy. Agriculture’s contribution to the Gross Domestic product (GDP) has remained stable at between 30 and 42 percent, and employs 65 per cent, of the labour force in Nigeria (Emeka 2007).

Generally, the agriculture sector contributes to the development of an economy in four major ways-product contribution, factor contribution, market contribution and foreign exchange contribution (Abdullahi 2012; World Bank 2010). Therefore, base on the above background this study aims to examine the contribution of the agricultural sector to the development of Nigeria economy between 1983 and year 2015 using econometric technique.

**1.2 STATEMENT OF THE PROBLEM**

In the study of Manyong et al., (2015) they reported that inspite of Nigeria’s rich agricultural resource endowment, there has been a gradual decline in agriculture's contributions to the nation's economy. In the 1960s, agriculture accounted for 65-70% of total exports; it fell to about 40% in the 1970s, and crashed to less than 2% in the late 1990s. The decline in the agricultural sector was largely due to rise in crude oil revenue in the early 1970s. Less than 50% of the Nigeria’s cultivable agricultural land is under cultivation. Even then, smallholder and traditional farmers who use rudimentary production techniques, with resultant low yields, cultivate most of this land. The smallholder farmers are constrained by many problems including those of poor access to modern inputs and credit, poor infrastructure, inadequate access to markets, land and environmental degradation, and inadequate research and extension services. The inability to capture the financial services requirements of farmers and agribusiness owners who constitute about 70 percent of the population is inclusive (Lawal, 2011).

Low agricultural output has a negative effect on the Nigerian economy as a whole. Several factors have been identified to enhance or retard growth in the agricultural sector. These factors include education (Huffman 2009;; Weir 2012), infrastructure (Querioz and Gaultam 2012) and inflation (Gokal and Hanif 2014).

**1.3 Research Question**

1. To what extent is technology relevant in increasing agriculture production in Nigeria?
2. What are the contribution and general impacts of agricultural output on the Nigerian economy?

**1.4 Objective of the Study**

 The main objective of this study remains on the impact of agricultural sector to the development of Nigeria economy. Other specific objectives include:

1. To find out the relevance of technology in increasing agriculture production in Nigeria.
2. To examine the impact of agricultural output on the Nigerian economy.

**1.5 Research Hypothesis**

**Hypothesis one**

Ho: Technology has no relevance in increasing agriculture production in Nigeria.

Hi: Technology has relevance in increasing agriculture production in Nigeria.

**Hypothesis two**

Ho: Agricultural output does not have any significant impact on the Nigerian economy.

Hi: Agricultural output has any significant impact on the Nigerian economy

**1.6 Scope of Study**

The study was limited within Nigeria; the scope is limited to a period between 1983 and 2015. The choice of this study period is based on the availability of data.

**1.7. Significance of the Study**

 The study of impact of telecommunication on agriculture is relevant to government, agricultural sector and to academia.

 The findings and recommendation stated in this work will be vital guidelines to government in policy formulation that will enhance the outcome of the agricultural sector of Nigeria economy.

To agriculturalists especially rural farmers, this work provides a comprehensive knowledge of the essence of adopting modern technology in their agricultural activities, as it will help to boost their outputs.

This work serves as one of the contributing literature to ne use for lecturing and reference purposes in the higher institution of learning, and also this study will serve as a guideline to prospective researchers who will wish to develop similar work on this subject.

**1.8 Operational Definition of Terms**

* **Agricultural Extension:** Agricultural extension is the application of scientific research and new knowledge to agricultural practices through farmer education. The field of 'extension' now encompasses a wider range of communication and learning activities organized for rural people by educators from different disciplines, including agriculture, agricultural marketing, health, and business studies.
* **Agriculture:** Agriculture is the cultivation and breeding of animals, plants and fungi for food, fiber, biofuel, medicinal plants and other products used to sustain and enhance human life.
* **Telecommunication:** Telecommunication is the transmission of signs, signals, messages, words, writings, images and sounds or intelligence of any nature by wire, radio, optical or other electromagnetic systems. Telecommunication occurs when the exchange of information between communication participants includes the use of technology.
* **ICT:** It stands for "Information and Communication Technologies." ICT refers to technologies that provide access to information through telecommunications. It is similar to Information Technology (IT), but focuses primarily on communication technologies. This includes the Internet, wireless networks, cell phones, and other communication mediums.

**CHAPTER TWO**

**REVIEW OF RELATED LITERATURE**

**2.1 CONCEPTUAL LITERATURE**

**2.1.1 Concept of Agriculture**

The term agriculture refers to cultivation of land, rearing of animals, fishing, crop production, forestry and wildlife undertakings, and associated activities that aid food and fibre production to sustain livelihood (Obinne, (2010). Agribusiness: It is also a field of study or an enterprise that is concerned with large‐scale, inputs supply, production, processing, storage and marketing of agricultural products (Ogidi, 2014). In order words, it is also a market oriented or a commercial agricultural venture (Glendenning, Babu and Asenso-Okyere, 2010). It represents two part system made up of (1) the agricultural input sector (2) the production sector.

To practice agriculture means to use natural resources to produce commodities which maintain life, including food, fiber, forest products, horticultural crops, and their related services. This definition includes arable farming or agronomy, and horticulture, all terms for the growing of plants, animal husbandry and forestry (Ulrich, et al., 2015). A distinction is sometimes made between forestry and agriculture, based on the former's longer management rotations, extensive versus intensive management practices and development mainly by nature, rather than by man. Even then, it is acknowledged that there is a large amount of knowledge transfer and overlap between the management of forests and agriculture (Committee on Forestry Research, 2010). In traditional farming, the two are often combined even on small landholdings, leading to the term agroforestry.

The major agricultural products can be broadly grouped into foods, fibers, fuels, and raw materials. Specific foods include cereals (grains), vegetables, fruits, oils, meats and spices. Fibers include cotton, wool, hemp, silk and flax. Raw materials include lumber and bamboo. Other useful materials are also produced by plants, such as resins, dyes, drugs, perfumes, biofuels and ornamental products such as cut flowers and nursery plants. Over one third of the world's workers are employed in agriculture, second only to the service sector, although the percentages of agricultural workers in developed countries has decreased significantly over the past several centuries.

**2.1.2 The Concept of Technology**

Technology can be seen as the process by which humans modify nature to meet their needs and want. This position approximate Hornby, (2010) view that Technology can be defined as the scientific study and use of mechanical arts and applied science and application of these two practical task in industries. Olayide (2009) also defined technology as the systematic application and collective human rationality to the solution of the problems through the assertion of control over nature and all kinds of human processes. Atala (2012) defined technology as an organized capacity for some purposive activity. The definitions above suggest that agricultural technology include both components and processes of agricultural production. These processes may include; production of plant and animal breeding (including biotechnology), the introduction of new crops, livestock and fisheries, mechanization, infrastructural development and inputs.

**2.1.3 Concept of Communication**

Communication is defined as channels that enable the easy conveyance of information from point “A” to point “B” (Overa, 2016). Some of the communication types are discussed as follows:

**a) Audio visual channels**

Films, slides or videotapes presented on any subject‐matter relating to health, income generation and the general environment will be useful in educating the rural people. Audiovisual technologies offer rich opportunities for skills acquisition and in solving meaningful problems. Munyua (2010) observed that traditional and modern Information Communication Technologies (ICTs) could be used concurrently to speed up the circulation of information. Audio visual channels can also be in the form of drama, dance, folklore, group discussion, meetings, exhibitions, demonstrations, visits, farmers‟ fields, schools, agricultural shows, radio, television, telephone calls and many others. Audio‐visual media are popular with illiterate rural people. It gives them opportunity to see and discuss complete agricultural techniques before using them. Radio cassette players can be operated with batteries if the community can afford it. A battery television set will be very useful in the teaching of new skills. Radio stations are also a unique channel of communication for promoting agriculture in Nigerian (Opeke and Ifukor, 2010).

**b) Inter‐Personal channels**

This is simply referred to as face‐to‐face communication. It is the exchange of ideas and information between sender and receiver (Aderibigbe, 2009). The mode of interaction is usually of a conversational nature and involves the exchange of either verbal or non‐verbal information between two or more people in a face‐to‐face or voice‐to‐voice setting. Interpersonal communication dominates our activities at home, office, market and elsewhere. It helps to break the barrier of formal relationships, generates warmth and creates harmony that is necessary for socio‐economic development.

**c) Information Technology**

The intelligent use of information technology increases the already tremendous potential of information systems and services. e.g. vast information storage capability, fast and inexpensive transmission of information to an entire region, links between different types of media, networking capacity, and provision of other means of communication other than face‐to‐face (Okwu and Shimayohol, 2011). However, there has been a great deal of concern about the applications of information technology in developing countries. Information technology transfer from developed to developing countries, has sometimes led to disappointment, disillusionment, and many problems or even failures (Ifukor, 2013). Software is also required as a means of communication with farmers via mobile devices and computers.

**2.1.4 Growth and Development Concepts**

The term development may mean different things to different people, it is important for the study to provide the working definition or core perspective on its meaning, without such perspective the direction of the discourse might not be well appreciated. This concept has been misconstrued by many to mean economic growth. This concept is more than a sustained increased in per capita income. This view is myopic because the concept does not consider if the increase in per capital income trickle-down. If the sustained in per capita income brings about the desirable social changes, and improve the functioning, capability of individual, we will say there is economic development. Though, the sustainable increase in income per capita (Economic Growth) must have occurred before there can be development. The role of agriculture can best be appreciated by referring to the pact signed by 189 leaders in the world at Washington, tagged the Millennium Development Goals. The first provision of this target is „Reduce Hunger and Poverty‟ (Michael and Stephen, 2006). The recognition of the role that agriculture plays in the development process of any nation necessitates the inclusion of this item in Millennium Development Goal Provision as the first and core objective to be pursued by all the leaders in the world.

**2.1.5 Overview of Nigerian Economy and its Agricultural Sector**

Nigeria is rated as the largest nation on the African continent, with a vast geographical landmass of 923,768 km2. Nigeria has an estimated population of over 170 million inhabitants (NPC, 2011 Est.). The country adjoined across the tropics of Guinea Gulf on the western Coast of Africa and also the Republic of Benin, Chad, and Cameroon in the east. Nigeria is endowed with a variety of vegetation, dynamic topography, and viable agro-climatological conditions. Nigeria is also one of the few in the continent blessed with good arable farmland for agricultural activities. Among the Nigerian industries, service accounts for 32% of the GDP, manufacturing 11% and agriculture 30%. Therefore, it is obvious that the agricultural sector plays a significant role in the economic growth and development of the Nigerian economy.

Agriculture deals with the cultivation of land for crop production and rearing of animals for the use of man and also for the feed of animals (livestock). Agriculture has several other sub-sectors like forestry, fishery, processing and marketing of the agricultural products. The agricultural sector provides job opportunities and raw materials for many agro-allied industries. Agriculture is known to be an extended age practice in the third world and developing nations. The importance of agricultural development to socio-economic growth and development in many third world countries is keen on their transition to economic prosperity. Agriculture contributes over one quarter of the GDP in the most developing nations of the world, especially in Nigeria.

The statistics are much higher in the least developed countries (United Nation, 2009). According to the World Bank development report (2009, 2008), agriculture serves as a haven for source sustenance of life, for over 2.5 billion people in the world. The agricultural sector engages a large number of the world population directly or indirectly in the value chain.

Beinteman and Stadt (2016) asserted that, most African nations remain dominated by small-scale farmers who employed crude tools and the use of largely fragmented land to cultivate the crop and rear animals for man’s advantage. Most of these peasant farmers dwell in the rural communities in Africa. These account for the overwhelming 80% of the labor force.

Daramola et al. (2009) asserted that agriculture constituted for 60- 70% of the nation’s export in the early 1950s and 1960s. Nigeria was viewed as a net exporter of most agricultural products like cocoa, rubber, oil palm, palm kernel, groundnut among many other cash crops with economic value. The accrual from the exports serves as a core source of revenue generation for the government. The above mentioned period was when Nigeria was referred to as food secured; that is self-sufficient in food production with the surplus for export.

However, there been a contrast to this trend, after the discovery of oil in commercial quantity in the late 1960s, which lead to the high influx of foreign exchange earnings for the country. The implication of the oil boom was the gradual decline in the other non-oil sectors especially the agricultural sector that received less attention. Much focus was geared toward the oil exploration, extraction and the returns it brought (Ifeanyi et al., 2010).

Nevertheless, the trend of agriculture in Nigeria over the past decades has not been favorable (FAO, 2016). The growth of agriculture in the sixties and seventies has been experiencing a downward trend. However, the growth rate increased sharply in the 1980s and 1990s. Between this periods, agriculture contribution to GDP rose from 1.1% to 2.3%.

**2.1.6 Agriculture, Economic Development and Growth in Nigeria**

Agriculture has a strong hold in an economy, for without it a country will always depend on foreign countries to feed its population, the potential contribution of agriculture to economic growth has been an on-going subject of much controversy among development economist, several authors argue that growth in the overall economy depends on the development of agricultural sector (Gollin, Parente and Rogerson 2012). The growth in the agricultural sector could be a catalyst for national output growth via its effect on rural incomes and provision of resources for transformation into an industrialized economy (Thirtle, Lin and Piesse 2013). Johnston and Mellor (2009) postulated that agriculture contributes to the economic growth and development through five inter-sectoral linkages. The sectors are linked via, (i) supply of surplus labor to firm in the industrial sector, (ii) supply of food for domestic consumption, (iii) provision of market for industrial output,(iv) supply of domestic savings and industrial investment and (v) supply of foreign exchange from agriculture export earnings to finance import of intermediate and capital goods. In addition to these five direct market-based linkages, Timmer(2015) observed that agriculture indirectly contributes to economic growth via its provision of better caloric nutrient intake by the poor, food availability, food price stability and poverty reduction.

Therefore it is clear that agricultural growth has played a historically important role in the process of economic development, evidence from industrialized countries as well as countries that are rapidly developing today indicate that the sector has been the engine that contributes to the growth of the overall economy.

**2.2 THEORETICAL LITERATURE**

Theoretically, this study reviews a number of theories in order to get a theoretical perspective of the study, and these theories are; Diffusion Theory, Endogenous Growth Theory and Developmental Communication theory.

**Diffusion Theory**

The Diffusion theory represents a long history of attempts to understand the spread of ideas and actions within social systems. Two late 19th Century French social theorists highlight conflicting ideas on how diffusion occurs. Gabrielle Tarde outlined three phases: (1) repetition, in which there is an inventor and an imitator; (2) opposition, in which there are diverse interpretations to the mimicry, especially with diverse or changing circumstances; and (3) adaptation, in which a new balance is achieved by the imitators after reconciling these interpretations. Gustav Le Bon, viewed diffusion as the result of a herd instinct or “collective behavior,” with little room for interpretive nuance, a perspective embraced by critics of the tyranny of the majority and crowd behavior. These early theories on diffusion may help unpack current tensions between the demand for fidelity of evidence-based practices and practitioners’ need for adaptability. The practitioners’ resistance and adaptation can be viewed not as infidelity to the evidence-based practices, but as a logical and natural adjustment of the intervention to fit varied and evolving situations (Green and Ottoson, 2004).

The implication of diffusion is the natural spread of ideas, dissemination is the conscious effort to spread new knowledge, policies, and practices to target audiences or the public at large. Twentieth century theories of diffusion evolved into more robust theories of knowledge utilization in waves, beginning with research observing and tracking the process of diffusion in agrarian systems, moving to an emphasis on organization and individual adoption of innovations and accountability, and ending with a focus on how knowledge utilization could improve human services in health, education, and social support (5). Currently we are inundated with reviews and guidelines promoting use of undervalued innovations and restraining practices evidence does not support. These guidelines, unfortunately, are often used as official justifications for denying reimbursement or program funding, discouraging local innovation, and imposing rigid standards and quality controls.

**Endogenous Growth Theory**

Endogenous growth theory holds that economic growth is primarily the result of endogenous and not external forces (Romer, 1994). Endogenous growth theory holds that investment in human capital, innovation, and knowledge are significant contributors to economic growth. The theory also focuses on positive externalities and spillover effects of a knowledge-based economy which will lead to economic development. The endogenous growth theory primarily holds that the long run growth rate of an economy depends on policy measures. For example, subsidies for research and development or education increase the growth rate in some endogenous growth models by increasing the incentive for innovation.

This view contrasts with neoclassical economics, which contends that technological progression and other external factors are the main sources of economic growth. Supporters of endogenous growth theory argue that the productivity and economies of today's industrialized countries compared to the same countries in pre-industrialized eras are evidence that growth was created and sustained from within the country and not through trade.

**Development communication theory**

The underlying fact behind the genesis of this theory was that there can be no development without communication. Under the four classical theories, capitalism was legitimized, but under the Development communication theory, or Development Support Communication as it is otherwise called, the media undertook the role of carrying out positive developmental programmes, accepting restrictions and instructions from the State. The media subordinated themselves to political, economic, social and cultural needs. Thus, communication becomes a vital tool in which any sector in any economy can experience all round development.

**2.3 EMPIRICAL REVIEW**

Oji-Okoro (2011) 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 (2011) 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. Ogwuma (1981), studied on public expenditure in Agricultural sector using econometric analysis. Based on his report, Agricultural financing in Nigeria shows positive relationship between interest rate and loananable funds on the level of Agricultural output.

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 (2003) 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.

Oji-Okoro (2011) examined the impact of the agricultural sector on the Nigerian economy, while using multiple regression to analyze the data, the result indicated 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. His study also revealed that 81% of the variation in GDP could be explained by Domestic Savings, Government Expenditure and Foreign Direct Investment. In order to improve the agricultural sector he recommended that government provides more funding for agricultural universities in Nigeria to carry out researches on all areas of agricultural production this will lead to more exports and improvement in the competitiveness of Nigeria agriculture production in international markets and that the Central bank of Nigeria should also come up with a stable policy for loan disbursement to farmers at a reasonable interest payback.

Recently, Kamil, Sevin and Festus (2017) empirically examines the impact of agricultural sector on the economic growth of Nigeria, using time series data from 1981 to 2013. Findings revealed that real gross domestic product, agricultural output and oil rents have a long-run equilibrium relationship. Vector error correction model result shows that, the speed of adjustment of the variables towards their long run equilibrium path was low, though agricultural output had a positive impact on economic growth.

Olukoya Ogen (2009) researched on The Agricultural Sector and Nigeria Development: Comparative Perspectives from the Brazilian Agro-industrial Economy (1960- 2011) the study used expository method in its approach and revealed that successive Nigerian government has been paying lip service to agricultural development. it further emphasized that agricultural sector is the engine of growth in virtually all the developed economies.

Onunze M. T. (2012) carried out empirical investigation on the Impact of Agricultural Development on Nigeria Economic Growth. The study employed Ordinary Least Square (OLS) Method as the method of its analysis. The research work finds out that the productivity of the agricultural sector has positive impact on economic growth in Nigeria.

Gbaye et al (2013) research on agricultural exports and economic growth in Nigeria with the objective of determining the relationship between the agriculture product and economic growth in Nigeria. The study discovered that there is elastic relationship between the agricultural export and economic growth in Nigeria.

Olajide et al (2013) empirically examined the Agriculture Resources and Economic Growth in Nigeria with the objective of discovering the relationship that exist between agriculture and economic growth in Nigeria. Ordinary Least Square Method was employed to analyze the study. The study revealed that agricultural sector has been neglected during the period of oil boom, and it was further revealed that there is positive cause and effect relationship between Gross Domestic Product and agricultural sector in Nigeria.

Abogan et al (2014) investigated Non-Oil Export and Economic Growth in Nigeria between the period of 1980 and 2011. The study employed Error correction model. The study revealed that non-oil export and economic growth are co-integrated in the long run and predicts imminent collapse of Nigerian non-oil sector. More so, policies on non-oil export during the period do not sufficiently encourage non oil export, thus reduce their contributions to growth.

Nadira M. I. and Aminu M. F. (2014) explored the Impact of Agricultural and Credit Guarantee Scheme Fund (ACGSF) on Economic Growth in Nigeria (1978-2011) with the objectives of analyzing the impact of credit to this sector on the accomplishment of growth objective. The study used Vector Auto regressive model to evaluate the interrelationship among the variables. The study revealed that improved and efficient credit programme is required in the sector so that productivity of the sector can increased and promote economic growth.

Uma et al., (2013) appraised the influence of Agriculture on Economic Growth: Empirical evidence from Nigeria spanning 1970 to 2009. The objective of the study was to examine the effect of Crop Production, Livestock, Forestry and fishing on the economic growth of Nigeria. The study employed the Method of Ordinary Least Square in its analysis. The study found that the contribution of the livestock, fishing, and crop production were insignificant while only contribution of forestry is significant.

Yusuf (2014) carried out empirical investigation on the Role of Agriculture in Economic Growth & Development: Nigeria Perspective with objective of discovering the importance of Agriculture in the economic growth and development in Nigeria. The study employed Restricted Error Correction Model in a multivariate study. It was revealed that the sector has been neglected since 90's and it contribution to the GDP has been dwindling.

Mbanasor (2015) examined the effect of communication channels in improving agriculture in Nigeria. A sample of 324 farm families made up of 36 each from nine extension blocks in Benue State, Nigeria was used for the study. A 4‐stage stratified random sampling technique was used to select the farmer‐respondents. This was in line with the agricultural and ecological division of the state into zones, blocks, cells and sub‐cells. Research method used is this study is cross sectional field survey was carried out to obtain required primary data for the study. An interview schedule was designed to elicit information from the farmers since most of them were not educated enough to be administered with questionnaire. Validity of the instrument was ascertained through Jury method after the scrutiny of relevant experts. The test‐retest method of affirming instrument reliability was employed afterwards. The population for the study was made up of all the farmers in Nigeria. Research findings indicate that: Lack of knowledge of the information needs of users constitutes formidable barriers to information communication. Information agents seem to be ignorant of users‟ information needs. Lack of cooperation among related information systems create barriers to information flow.

The study by Adebayo (2015) aimed at analyzing the communication channels that can sustain agricultural production in Nigeria. Research method used in this study is descriptive research via questionnaire used for data collection. The population was made up of all female farmers from the three senatorial districts that made up Delta State. Three communities were selected to represent each of the senatorial districts using Multi Stage Sampling Design. 1000 respondents were selected for this study. Three communities were selected to represent each of the senatorial districts. Research findings show that: a) It is very interesting to observe in some of the rural areas, the use of Internet services by the rural female farmers. b) The rural farmers were made to know about the activities of the ministry of Agriculture in Delta State and were compelled to form Rural Farmers Agricultural Cooperative Societies. Based on the study, the following are the recommendations: a) Adequate training and awareness given to the rural female farmers should be promoted by the government. b) The state government should engage the services of veterinary doctors to assist poultry female farmers with minimum charges or subsidized amounts.

In their study in Niger, Akur and Mbiti (2010) observed that an average trip to a market located 65 km away can take 2 to 4 hour roundtrip, compared to a tow-minute phone call. E-soko, a mobile and web-enabled repository of current market prices and a platform through which buyers and sellers interact in Ghana, managed to increase farmers revenue by 10% since they started using the platform in Northern Ghana.

Using time series data, Lawal (2011) 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. Ogwuma (1981), studied on public expenditure in Agricultural sector using econometric analysis. Based on his report, Agricultural financing in Nigeria shows positive relationship between interest rate and loananable funds on the level of Agricultural output.

**CHAPTER THREE**

**RESEARCH METHODOLOGY**

**3.1 THEORETICAL FRAMEWORK**

In the study of impact of telecommunication on agriculture, The Theory of Developmental Communication was adopted as the theoretical framework for this study.

The underlying fact behind the genesis of this theory was that there can be no development without communication. Under the four classical theories, capitalism was legitimized, but under the Development communication theory, or Development Support Communication as it is otherwise called, the media undertook the role of carrying out positive developmental programmes, accepting restrictions and instructions from the State. The media subordinated themselves to political, economic, social and cultural needs. Thus, communication becomes a vital tool in which any sector in any economy can experience all round development.

Further, communication as a stream of study and practice is vital for human development. Studies have established that the communication processes are centrifugal force to self-empowerment practices through which, respective communities are able to arrive at their own understanding of issues, consider and discuss ideas, innovate, negotiate, and engage in public debates at the community as well as the national levels. Hence, the adoption and maximization of telecommunication serves a vital tool in enhancing agricultural practice in Nigeria.

**3.2 SPECIFICATION OF MODEL**

The study employed Error Correction Model to determine the impact of Agriculture on economic growth:



RGDP = Gross Domestic Product per capita

GCF = Gross Capital Formation

ENR = Post-Primary School Enrolment

AGO = Agricultural output

Α α = constant term,

a = PCGDP coefficient

β = GCF coefficient

γ = Labour Coefficient

λ = Agricultural Output coefficient.

ɸ = Speed or rate of adjustment

P = lag length of Error Correction Model

e = White Noise Disturbance Error Term.

**3.3 Method of Data Analysis**

The method of data analysis is the ordinary least square (OLS) multiple regression method. We made use of Eviews 7.0, econometric software.

**3.4 Data Required and Sources**

The source of secondary data employed in the descriptive analysis of the study is Central Bank of Nigeria (CBN) Statistical Bulletin 2015, the data spanning 1983 to 2015. However, the researchers gave more investigative attention to the period the researchers adjudged as the period of resuscitation of the agricultural sector 2010 - 2015. The post primary school data and gross capital formation data were sourced from World Bank Development Index (WDI, 2013) spanning 1983 and 2015.

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**CHAPTER FOUR**

**PRESENTATION AND ANALYSIS OF RESULT**

**4.1 Descriptive Analysis**

The sector has an insignificant average annual growth of 0.8% during the decade of 1959/60 and 1969/70 and a decline of -0.7% on the average through the 70/81 decade; implying a stagnation more or less during the two decades 1960- 1980. Considering the period 1970 to 85 before the Structural Adjustment Programme (SAP), the growth rate was a little above zero (0.3%) (Fashola, 2005). In 1985-2000 there were significant growth rate of 3.9%. The decades of 1981 to 1990, when foreign exchange earnings decline sharply. The sector witnesses a significant growth rate of 4.1%. Any growth rate of agricultural sector that did not exceed population growth of 2.5 to 3.0 percent is considered insignificant if not disastrous, as it would lead to starvation or food insecurity. Consideration of the decades of 1990-2000, the sector is not performing appreciably with an annual growth rate of 3.3 % slightly exceeding the population growth rate of 2.5%. The initial impact of SAP seems to have promoted more rapid agricultural development but later slow down.

Examination of the structural change in the sector shows that the performance of the constituent sub-sectors of crops, livestock, forestry and fishing varied significantly. Crops, which constituted by far the largest sub sector with a share of 78% in 1959/60, had a growth performance slightly better than the average for the whole sector, and so were able to increase his share of 80% in year 2000. Livestock and fishing seemed to have good potentials to grow remarkably but lack consistency, as growth rate fluctuated widely. For instance, livestock with an initial share of 9.5% and 6% annual growth rate in the post SAP era. Its growth during the whole period was better than average for the whole sector, and so was able to increase its share to 12.6 % in the year 2000.

For the period 1970 -1985, however its growth rate was quite negative (- 4.4, - 7.8%). On the role, the fishing subsector also had a larger growth rate than the average for the whole agricultural sector and thus increased its share of the agricultural sector from 3.1% in 1959/60 to 4.6% in year 2000, and continuous effort of the fishing subsector of agriculture also increased to

6.2% in the year 2010. The forestry sub-sector performed worst, with negative growth rates throughout except for the slightly positive growth of 0.7% during the post SAP era (Fashola, 2005) in a nut shell, between the period of 1997 and 2006 the contribution of agriculture to economic growth hover 4.1% (CBN, 2006). While the contribution of the sector between 2008 and 2013, the remarkable period that the sector witnesses the giant stride actions/policies by enunciating the political will of the government to revive the sector through the policies like 7 Point Agenda of Yaradua administration and the Transformation Agenda of Jonathan administration are tabulated below.

**Table 4.1:** **Contribution of Agricultural Sector and subsectors to RGDP expressed in Percentage (2008-2013)**



Source: CBN statistical bulletin; computed by Researchers.

From the table above it is clear that the percentage contribution of Agriculture to GDP in 2008 increases from 32.85% to 37.09% in 2009 and plummet to 30.34% in 2010. This may not be unconnected with the discontinuous of Yaradua Administration which strongly emphasize the revival of the sector as one of the term of reference of its reign.

In 2011 the contribution of the sector also picked up and improved slightly to 30.99%, showing the commitment of the new administration of President Jonathan who articulated several policies and allocated sizeable proportion of the national budget with the aim of bringing back the old glory of the sector. In reality, the sector has been contributing increasingly to the GDP of the nation.

It is obvious from the table that after the negative growth rate of the sector’s contribution to GDP it has been contributing positively to the economic growth of the nation. The crop production subsector is another interesting case. This subsector has not contributed less than 88% to the Agricultural output of the nation. While, the other subsectors; livestock, forestry and fishing contribute less than 12% to the Agricultural output. In fact, the same dwindling story that characterized the agricultural set in as the growth rate of agriculture contribution to GDP falls from 12.8% in 2008 to 4.84% in 2013.

**Econometrics Analysis**

Due to the properties of most time series, it is important to carry out the Unit root test on the series in the Vector Autoregressive (VAR) model. If the series are stationary, the results obtained from the VAR model are valid. However, if the series are non stationary, it is important to conduct Co-integration test to verify whether the time series are co-integrated or not. The Johansen Co-integration test has been found to be reliable and it is adopted in this study. If the Johansen Co-integration test indicates the existence of long run equilibrium in the model, then the VAR model gives the long run causality in the equation of the model. Correspondingly, the short run dynamics of the model are captured with the Vector Error Correction Model which implies the short run adjustment.

**Test for Stationarity**

This section presents the Unit root test conducted on the variables. As the first step, to diagnose the stationarity status of the variables in order to determine the appropriate test and estimation model to employ. Augmented Dickey- Fuller (ADF) test is used.

**Table 4.2: Unit Root test applied to variables**



Source: Computed from E-View7

The unit root test conducted on the variables, the variables found to be non stationary at level. A further test of stationarity by first level of difference shows that the variables attained stationarity. LNRGDP, LNGCF, LNER and LNAGO attained the stationarity by first level of differencing at one percent level of significance. The result of these tests necessitates the performance of Co-integration test in order to confirm the existence of long run associationship among the variables.

**Co-integration Test**

Having differenced the time series, it is certain that they are no more on the long run status. Therefore it is necessary to conduct Co-integration test on the model to determine if there is long-run relationship among the variables.

**Table 4.3: Presentation of Johansen Test of Co-integration**



Trace test and Max-Eingen test indicates 2 co-integrating eqn(s) at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

\*\*MacKinn-Haug-Michelis (1999) p-values

There are 2 co-integrated equations at the 0.05 level. The implication of this is that there is long run relationship or among the variables. Consequently, this necessitates the use of restricted VAR i.e. Vector Error Correction Model.

**Vector Error Correction Estimate**

The VECM estimated values of the coefficients for Error Correction Equations is as follows:

D(LNRGDP)=0.566406 + (0.445505)D(LNRGDP(-2)) + (-0.142801) D (LNGCF(-2)) + (-4.127226) D (LNENR(-2)) + (-2.773700)D(LNAGO(-2)) - 0.720128 ecm1t-1 + e1t

LNGDP error correction equation was chosen to test and confirm the long run causality as reflected in table 4.5 below, the C(1) is 1-period lag residual of the co-integrating equation. This is the error correction term. The C (1) is negative, as expected, and it is significant with the prob. Value of 0.000. Hence, there is long run causality from the explanatory variables agricultural output to Economic Growth (RGDP). The ECM value of -0.720128 indicates the speed of restoring the equilibrium in the short-run.

Analysis of Variance Decomposition

**Table 4.4: Variance Decomposition of LNAGO**



In the short run, e.g. in the period 3 or 4, impulse or shock to RGDP account for about 59.70 and 59.67 percent variation in Agricultural output in Nigeria. In the long run, at period 10 shock to RGDP account for 61.35% variation in Agricultural output.

In the short run e.g. in the period 3 and 4, impulse or shock to Agriculture sector account for about 20.50% and 21.33% variation in the Agricultural output in Nigeria. In the long run, at period 10 shock to agricultural sector accounted for 24.13% variation in Agricultural output. This is known as own shock.

**Table 4.5: Variance Decomposition of LNRGDP**



Source: Computed by from Eview7.

In the short run e.g. in the period 3 and 4, shock to Agricultural output accounted for about 28.11% and 27.36% variation in RGDP (Economic Growth). While, the analysis revealed that in short run the shock to RGDP itself accounted for about 71% variations in its fluctuation. In the long run, at period 10 shock to Agricultural sector accounted for 22.85% variation in RGDP.

**CHAPTER FIVE**

**SUMMARY OF FINDINGS CONCLUSION AND RECOMMENDATIONS**

**5.1 SUMMARY OF FINDINGS**

From the percentage analysis of the study between 2010 and 2015, it is revealed that agricultural output has been dwindling and started resuscitating from 2011 and afterwards contributes significantly to the economic growth. The study finds out that despite all the efforts directed to resuscitate the sector in the last 5 years, the improvement in the sector is lopsided as only the Crop production contributes about 89% of Agricultural output to GDP (Economic Growth) while the other 3 subsectors (livestock, forestry and fishing) contribute about 11% of Agriculture output to Economic growth.

From the Econometric Analysis of VAR Variance Decomposition, Capital and Labour that are conventional determinants of the economic growth contribute less to economic growth as shown in the decomposition value of these variables and the values of their respective shock as they cause variations in economic growth. The reason for these is obvious; labour cannot be productive without food. More so, the inputs that labour will work on depend on the output of agricultural sector. Furthermore, the material input that capital will work on or process depends chiefly on the productivity of the agricultural sector.

The variance decomposition analysis reflected the significant role plays by the agricultural sector in the growth and development process of the economy. It is seen from the variance decomposition of economic growth proxy by RGDP that the Agricultural sector contributes the largest percentage of the decomposed value of 29.20. This is to say that all the above discussion on the role of agriculture in the development of the nation is not by chance. It indicates that all the sectors in the economy rely on the agriculture sector.

**5.2 CONCLUSION**

At last it could be concluded that agriculture doesn’t only play significant roles on economic growth and development; it is also a life-wire of the economy.

**5.3 RECOMMENDATIONS**

Base on the findings, the researcher recommends;

1. That Government should provide funds to acquire sophisticated farm tools and increase her budgetary allocation to this sector in a consistent manner because of its importance to the national economy.
2. There should be a proper monitoring of funds given to farmers, to ensure that funds are utilized mainly for agricultural production purposes.
3. Agricultural cooperatives should pull funds together to assist each other in purchasing modern technology required for agricultural activities.
4. The peasant farmers who live in the rural areas and who are the major providers of food for the nation should be adequately catered for by making the rural areas more conducive and habitable by the provision of adequate infrastructural facilities such as good roads, pipe borne water and electricity. The provision of these facilities will no doubt impact positively on the rural farmers’ productivity.

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**APPENDIX**

**Data on Gross Domestic Product (GDP) and Agricultural Output in Nigeria(1975-2015)**

|  |  |  |
| --- | --- | --- |
| **Year**  | **Agricultural Output**  | **GDP**  |
| 1975  | 2,576.40  | 5,281.10  |
| 1976  | 3,033.70  | 6,650.90  |
| 1977  | 3,092.70  | 7,187.50  |
| 1978  | 3,261.20  | 8,630.50  |
| 1979  | 4,377.99  | 18,823.10  |
| 1980  | 5,872.92  | 21,475.24  |
| 1981  | 6,121.96  | 26,655.78  |
| 1982  | 7,401.64  | 31,520.34  |
| 1983  | 8,033.55  | 34,540.10  |
| 1984  | 9,213.14  | 41,974.70  |
| 1985  | 10,011.46  | 49,632.32  |
| 1986  | 13,580.32  | 47,619.66  |
| 1987  | 15,905.50  | 49,069.28  |
| 1988  | 18,837.19  | 53,107.38  |
| 1989  | 23,799.43  | 59,622.53  |
| 1990  | 26,625.21  | 67,908.55  |
| 1991  | 27,887.45  | 69,146.99  |
| 1992  | 39,204.22  | 105,222.84  |
| 1993  | 57,924.38  | 139,085.30  |
| 1994  | 69,713.00  | 216,797.54  |
| 1995  | 84,344.61  | 267,549.99  |
| 1996  | 97,464.06  | 312,139.74  |
| 1997  | 145,225.25  | 532,613.83  |
| 1998  | 231,832.67  | 683,869.79  |
| 1999  | 349,244.86  | 899,863.22  |
| 2000  | 619,806.83  | 1,933,211.55  |
| 2001  | 841,457.07  | 2,702,719.13  |
| 2002  | 953,549.37  | 2,801,972.58  |
| 2003  | 1,057,584.01  | 2,708,430.86  |
| 2004  | 1,127,693.12  | 3,194,014.97  |
| 2005  | 1,192,910.00  | 4,582,127.29  |
| 2006  | 1,594,895.53  | 4,725,086.00  |
| 2007  | 3,357,062.94  | 6,912,381.25  |
| 2008  | 3,624,579.49  | 8,487,031.57  |
| 2009  | 3,903,758.69  | 11,411,066.91  |
| 2010  | 4,773,198.38  | 14,572,239.12  |
| 2011  | 5,940,236.97  | 18,564,594.73  |
| 2012  | 6,757,867.73  | 20,657,317.67  |
| 2013  | 7,981,397.32  | 24,296,329.29  |
| 2014  | 9,186,306.05  | 24,794,238.66  |
| 2015  | 10,273,651.99  | 29,205,782.96  |

**Source: Central Bank of Nigeria Statistical Bulletin, 2015 Edition**