
Agriculture and Food Security Status in Nigeria

Nwadike Paschal Chibuzo^{*}, Ekwebelam Obumneme Nelson, Anyanwu Anthony Chibuikwe, Obele Francis Chibuikwe and Onyejelem Chidiebere Francis

Department of Agricultural Economics, Federal University of Technology, Owerri Imo State, Nigeria.

^{*}Corresponding author email id: Nwadikepaschal.c@gmail.com

Abstract – Agriculture and Food Security status in Nigeria, looked at Nigeria’s Agricultural sector, considering the existing agricultural production systems prevailing in the society. It is of interest to understand that the productivity and growth of agricultural sector has been on a decline for a period of time, which also has led to the economic stagnation and low living standard of the people in the society. It also considered the food security issues of the country and agrees that there are four ways of establishing the status of food Security in any society and these refers to when food is readily available, accessible, affordable and also usable by all. However, programs and projects in form of instruments of governmental policies have from time to time been implemented in readiness to caution this issue about declining level of production in agriculture and food insecurity. Starting from colonial era, several policies have been formulated to address these issues, but with not much to show. This gives the impression that agricultural issues and the achievement of a certain food security level in the country seems impossible. This study therefore presented some convincing approaches which if explored would cause a positive change from the status quo. They include establishment of commodity markets in all the 774 local government areas of the country, and to identify and sponsor the production of at least two commodities in each of the 36 states that make up the nation. However, this will be based on each states comparative advantage in agricultural production. It is very necessary therefore to pay keen attention and encourage the optimum functionality of these schemes and the use of extension services to ensure excellent knowledge transfer.

Keywords – Agriculture, Food Security, Agricultural Policy, Agricultural Systems, Agricultural Productivity, Agricultural Projects and Programs.

I. INTRODUCTION

Nigeria’s dream of economic diversification from high dependency on crude oil and its products is targeted majorly on agriculture. According to the Nation’s Encyclopedia, it is stated that although Nigeria relies mostly on oil sector for her revenue budget, yet it is known for her high agricultural involvement. However, agriculture in Nigeria is still practiced using the old, crude and traditional method of farming irrespective of the commitments the federal and state government has made in an attempt to improve agriculture and its productivity for a sustained and consistent food security in the country.

Nigeria also has a major problem of food insecurity with majority of her population depending heavily on imported foods. The crisis resulting from food insecurity in the country has vastly affected more than 90% of the country’s citizens from 2017 to 2018 Olomola & Nwafor (2018), accordingly, UNOCHA (2019) found that in the same period, the amount of individuals affected in the country climbed to about six times above the percentage of the world population (11%) affected by food security poverty at 64% around the country. Food insecurity in Nigeria is therefore to an extent said to be unresolvable considering the current statutes. Thus this study is aimed at suggesting possible measures that could be taken in addition to the already existing measures by the government to resolve the low agricultural produce and food security issues within the country. This study briefly provides answers to the questions of what has been done already, and what could still be done.

II. AGRICULTURE IN NIGERIA

Agriculture in itself has the tendency to transform the lingering rural inactivity and poverty to development. Nigeria is known for her huge and varying resource deposits and significant amounts of economic potentials, however, the development and growth status of the entire nation has been stagnant and the living standard of the people still stood very low, in which there should have been a breakout. Accordingly, Nigeria has about 200 million people, which makes it the most populated African country, also sixth in the world where over 50% of the workforce are being employed in agricultural and food industry Nigeria-NBS (2018 & 2019).

Agriculture in Nigeria is basically and still carried out on a subsistence level. Till date, several policies, programs and agricultural projects have only showed an insignificant effects in trying to change the traditional mode of agricultural activities and the resulting food security crisis. Though, in Nigeria, agriculture is greatly supported by soil and an ideal weather condition across the country, Enesi *et al* (2018). Unfortunately, the country still imports more food commodities like rice, wheat, and sugar than what is grown by the farmers at an unfavorable exchange rates UNOCHA (2019). Seasonal changes in weather and climate aggregate the major challenges of agriculture, in that it depends on nature, therefore is faced with various natural problems, which includes desertification, high temperatures, irregular pattern of rainfall and rising sea level, which leads to decline in productivity, hence the agricultural sector and the index of food security of the country is at risk of total breakdown. Accordingly, Ikeme, (2009), Nigeria is said to be facing a growing disease incidence, a decline in agricultural productivity, growing number of heat waves, unpredictable weather conditions, declining rainfall in the desert regions, leading to increased desertification, low production of food in central regions and the destruction of homes and livelihoods by rising water in the coastal areas where fish farming is the mainstay. Thus, Ajetomobi *et al* (1015) said that an objective assessment of the possible effects of local weather on agriculture ought to be primarily based no longer solely on the mean values of anticipated climatic parameters but additionally on the probability, frequency, and severity of feasible excessive scenarios. When a user centered weather and its data are always available without difficulty of access and are wisely applied by farmers and agricultural insurance corporations, the intending losses from detrimental weather and climatic variations can be reduced significantly.

Generally, most agricultural systems prevalent in Nigerian society are all victims of climate and weather conditions. The systems of farming are based on the actions and patterns of activity carried out. However, the FAO has presented agricultural systems to represent groups of agricultural farms with similar resources base, management pattern, household sizes and resulting limitation factors, and where similar strategies of development and interventions were appropriately applied. The dominant systems found in the country are irrigation, tree-crop, root crop, mixed farming, crop rotation, and urban farming systems. Among others.

Factos Affecting Increased Agricultural Productivity in Nigeria

It is encouraged that measures be taken in relation to foreign exchange, rainfall pattern and improved infrastructures like rural feeder roads, and improved water management systems should be introduced efficiently to harness agricultural potentials of the nation, however, it has been foreseen that it will take about 20-30 years before these infrastructures could get to some humid and sub-humid regions in Africa Spencer, & Dunstan, (1994). More-so, Ojake, *et al*, (2016) Confirmed that these factors therefore must be taken into considerations

during policy development and implementation, channeled towards improving agricultural outputs in the country. In addition, however, the primary problems fighting against the development of agriculture and improvement of food security status of Nigeria includes poor supply of farm inputs, resistance to new and improved technology, and post-harvest losses that has led to accelerated importation of foods Ukeje, (2007). Due to the increasing rate of decline in Agricultural production, government has it as a duty to achieve a given level of food security for the citizens through the implementation of projects and programs that are centered on the possible means of securing the human food and nutritional needs. Some of the policies that were established as far back as the colonial period are the forest policies of 1937, 1945, & 1952; the Agricultural policies of 1946 & 1952; the natural resources policy of 1959; and the policy for oil, oil seeds and cotton marketing of 1948. However most of the policies threw up negative results for the sector instead of the proposed positive results. Others still have not met the a-priori expectation so stated. In Nigeria, so many systems and traditional backgrounds also affect the productivity of Agriculture. They include the land tenure system of ownership, land fragmentation and scattered plots of land, still intensive use of crude and traditional tools and practices in agricultural production, and the dominant subsistence level of operation.

Other Factors that May Have Influenced Agricultural Production Include

- (1) Education: This emphasizes the effects of a farmer's technical strength and knowledge in the production decision-making process, whose a-priori expectation is to effect positively on agricultural production. (Obasi *et al*, (2013), Looga *et al*, (2018)). Furthermore, education is also argued to have the capacity to shift the farmers' attention towards quality against quantity, which has a negative effect on herd size Duguma, & Debsu, (2019).
- (2) Extension: In other words, extension is said to aid the transfer of both skills and knowledge for the improvement of agricultural productivity through labor capacitation programs, introduction of new technology and management systems awareness. According to previous reports on the quantity of farm output, it is expected that there is a positive relationship between extension services and herd size. (Obasi *et al*, (2013), Duguma, & Debsu, (2019).
- (3) Age also has been presented to have effect on agricultural production level, which highlights technology and management stereotypes for the aged farmers Olujenyo, (2008). These aged farmers still hold on to traditional systems of agricultural production management, which results to lower quantity of farm output for the older female farmers (Obasi *et al*, (2013).

There are also perceived environmental factors affecting the agricultural production. These includes topography, climatic condition and soil nutrient composition and properties. It is the combination of these factors that determines specific crops to be grown in certain areas. Below listed are the environmental factors affecting agricultural production:

- 1) Environmental/Climatic factors.
- 2) Soil Factors (Edaphic).
- 3) Biotic Factors.
- 4) Agricultural policies in form of Projects and programs.

It is possible as an end result of the above listed factors that different regimes of Nigerian governments have recorded countless improvement interventions, which is focused at the improvement of agricultural production systems, which is capable of bringing food self-sufficiency production. The interventions could be considered in two broad areas that is primarily dependent on the policy implemented and the agency under which it operates. This is as stated by Daneji, (2011).

(a) Intervention Programs Based on Policy

National Accelerated Food Production Program (NAFPP): The NAFPP program of the 1960s was a policy based intervention program introduced in conjunction with the federal and state government to speed up the rapid production of grain with major focus on maize, rice, guinea-corn, millet, wheat, and cowpeas. However, the interest of the initiating bodies were that the focus plants for rapid production are primarily staple foods of Nigerian origin/decent, thus with abundant production of these plants, hunger, starvation and other related food problems will be ameliorated. Progress has been recorded in the past through the use of improved crop varieties, fertilizers, agro-chemicals, quality storage and processing facilities, and the provision of savings and marketing channels. More-so, quite a few number of research based institutions were charged with the duty to increase elevated crop types which were publicized through extension, retailers and mass media channels.

Operation Feed the Nation (OFN): The OFN program was launched in 1976 as a policy based intervention program which was introduced in readiness to combat the level of food crisis, the continuous rural-urban youth migration, and the growing food importation cost. It tries to encourage the masses to actively take part in agricultural production and achieve self-sufficiency in food production. This program prompted the citizens towards farming thru the stipulated approach. The approaches are inputs subsidies, accelerated financial institution savings, the introduction of commodity boards and institution of captivating budgets for agriculture.

Green Revolution Program (GR): This Program was introduced to substitute for the 1976 military government's Operation Feed the Nation program in 1979 by the civilian government. The program aimed at bringing fundamental adjustments to agriculture in Nigeria and riddling off the system of protracted issues of several past governments. Both the small-scale, medium scale and large scale farmers obtained quantities of incentives to improve production scale for the duration of implementation. Livestock and crop factors have been delivered whilst the research organizations have been refocused to be more sensitive to the primary needs attributed to the program Jibowo, (2005).

(b) Intervention Programs as Agency

National Agricultural Land Development Authority (NALDA): NALDA was introduced with the sole aim of motivating the farmers to focus more on producing more agricultural commodities than their immediate consumption needs, this is to enable the marketing and/or exportation of the surplus to international markets for foreign trade. It is an intervention program in the form of an agency to encourage a nation-wide improvement of agricultural land by enhancing the efficient and resourceful use of more agricultural lands for agricultural purposes, which will trigger an increase in food production through the expansion of farm lands.

River Basin Development Authority (RBDA): This program was initiated as a result of the abundance of water resources in the country and its usability in enhancing agricultural productivity. The survival of the program is largely attributed to the seasonal nature of our climate, giving a periodic rainy season and in-between

dry periods, which limits the farming cycle to 12 month cycle. Through this program and the introduction of irrigation systems into farming, Nigeria has recorded a huge development in the production volume and has also improved the farming system away from only a 12 month cycle. Williams, (1981) had previously suggested that the Hadejia-Jama' River Basin, and Tiga and Challawa dams in the old Kanu state contains enough water that could be used to produce about 50% of the country's wheat needs for exportation and 30% of the country's need for rice, cotton, and sugar cane.

Agricultural Development Program (ADPs): This program was conceived out of the need to apply skilled expertise in all areas of agricultural activities. The program, which is supported by the world-bank was first introduced with two pilot tests in Gombe and Gusua towns in Northern Nigeria in 1972. It adopts the integrated rural development method in its operations, Jibowo, (2005). Through the success recorded from the two northern towns, the program was recommended to other states of the country. This has however facilitated a given level of development in agriculture in more than a few dimensions. It is in view of this historical past that superb extension works have been established.

Directorate of Food, Road and Rural Infrastructure (DFRRI): This agency based program was launched as a measure to help extend development to the rural areas. The Babangida regime introduced this program with the aim of opening up the rural areas through the provision of rural basic amenities like feeder roads, electricity, etc. Accordingly, Nigeria economic development depends heavily on the improvement of rural areas. Its major focus is to create good accessible roads that will connect the rural areas with the urban cities for easy supply of farm produce to the cities and supply of inputs and other needs of the people.

Such programs and projects were handled by organizations like FMARD, USAID, World Bank, CBN and some other private corporations that are geared towards bringing success to this goal. The objective is to induce growth and development in agriculture through the introduction of new technologies, and creation of adequate incentives to stimulate maximum adoption and hence create enough food surplus that could lead to food security and also benefit the growing industrial sector.

Food Security

Food security is a resultant effect of having food surplus, food safety, food quality, food accessibility, and food affordability in the system. However, a hungry citizen who has little or no access to quality and safe foods will appreciate anything that is edible-like, that is presented to him as food without minding the quality, neatness, and the composition. Once he perceived it, he feels free enough to take it in to satisfy his hunger. Food therefore is defined as any edible or consumable material present that could be taken to satisfy human hunger and gain energy to do work.

However, food is a term used to describe or refer to edible, metabolically material with good quality, which when consumed will lead to satisfaction of hunger, add and improve human nutritional needs, freshen the tissues, while still ensuring health security. It also leads to the development of the body of the individual and adds to the improvement of his reasoning. Food then is considered as a necessary and basic need of every human as it is expected to work and have response in all the above mentioned attributes to the body of the consumer.

It is of interest to understand the basic qualities that can be used to describe a good food and the subsequent

functions in the body as this could help in the assessment and selection of substances used as food in other to meet the essence for which the food is required. It is pertinent to establish a standard for checkmating food Security status. However it is said that irrespective of the fact that at the global level there is food supply abundancy, there is still high level of food security crisis in several countries and households, which is usually attributed to two separate conditions; because market forces regulates food supply to consumers, it is still very difficult to be afforded by individual households because most people are poor to pay for foods and could not produce on their own lands. Secondly, the speed of development and urban encroachment which takes up several important agricultural lands, thus suggesting that many households can only access foods present in the near-by markets, Timmer, (2017).

According to Saheed, & Isa, (2017), out of the 1billion population of sub Saharan Africa, it is said that 1 person in four has the problem of food security crisis. The increasing cost of accessing food items, and the effect of drought is putting more people into hunger and underfeeding, Bremner, (2012). Food security was coined out from the world food conference in 1974. It was originally said to be explained by the term; food supply, which is focused on ensuring not only the presence of food items but also the stability of prices of the foodstuff both at the international and national markets FAO (2006). Following the world food summit that took place in 1974, Food Security has continued to be reshaped accordingly to get what is now the standard acceptable definition as it was introduced during the 1996 world food summit. The adopted definition stress food access, food sufficiency, safe and nutritious food for all people at all times. FAO, (2008).

From the context of the above definition, certain factors are highlighted as the conditions necessary to establish food Security status. According to Saheed, & Isa, (2017), they are availability, access, usability and stable supply of food items. Based on the position of Simon, (2012), the four aspect are explained thus;

Food Availability: For food to be available, one must have the physical presence of food and also be able to make the financial commitments required to possess the food item, and the food must be able to satisfy the nutritional needs expected by the people. Simply put, this refers to the volume of physical foods available in the society. To a great extent, food availability is a function of the amount of food produced locally in the country, the amounts of food imported into the country and the prices of stock.

Food Access: Food access implies the monetary, social and physical access to food by everyone all the time. It ensures that the required amount of food items are always available not only at the national and the international markets, but most importantly to the households. Thus, it has to be locally accessible and affordable to all in terms of price, place, season and quality effectiveness compared to the financial and economic standards of living.

Food Utilization: This expresses the mode by which foods and their nutrients are utilized by the body, and this implies the mineral or nutritional contents of the food item. This is usually a function of the quality, nutrient values, method by which the food is prepared, the mode of storage and feeding pattern.

Food Stability: Food stability is the last factor that determines food security and it is the consistency of the other three factors at all times. This means that if one only has occasional access to good, adequate and nutritious food, s/he is still said to have food security issues. In essence, there should be a continuous (both in and off season) availability of food items in all regions and must be affordable, accessible and usable in terms of

quality of nutrients and value to everyone in the society.

Causes of Food Insecurity

Food insecurity in Nigeria is basically caused by lack of food sufficiency in the country and low income for citizens, however, other factors also contribute to this effect. They include;

- (1) Lack of efficient technology usage in agriculture and all other food industries.
- (2) Lack of improved inputs/raw materials for production of qualitative and quantitative products and produce.
- (3) Lack of efficient management of resources available.
- (4) Unproductive resources, especially the human resources that most times contribute at 0% to the food sector and consume at an unquantifiable rate.
- (5) The level of risk factors associated with food production. It has been observed that many Nigerians are not willing and may not engage in farm work even if they are provided with the necessary capital, especially the financial capital, instead they will end up investing the capital into some other activities that has lower risk factors compared to agriculture and food production. A leading cause of this is lack of security and protection to farmers and their farm. More-so, agriculture in Africa is perceived to have the highest level of risk and uncertainty, probably because of the nature of agricultural practices that we engaged in, which is compounded by the seasonal nature of African agriculture. Therefore, a significant level of security and management practices should be granted to the farmers to serve as an incentive to the citizens at any level to engage in agriculture and food production.

While these factors dominate, there are still other important factors that contribute their own quota to this directly or indirectly, like mode of production and level of production, and government policies. The policies of the government may be beneficial to the production of quality and sufficient food for the citizens or it may cause the opposite and lead to acute food shortages. In the later case, the industry suffer and struggle to survive the policy, and may sometimes face failure while others leave the area and relocate to more favorable areas.

The implementation of projects and programs to address this food security issues in the country has been made over the years but most were not very successful due to wrong management resulting from appointment and employment of unqualified personnel into the system which also cause inappropriate allocation of resources to the sector concerned. If there are proper allocation of resources to improve productivity of agriculture and other food sector, there would probably be an increase in the level of production which is likely to influence food surplus in the system. When there is surplus food in the country, there will be initiatives to preserve the surplus food produced.

Solutions to Solving the Agriculture and Food Security Problem

- (1) Favorable government policies and intervention: The Federal Government should make policies that could possibly place the agricultural sector and all other food industries at an advantage and at the forefront of the economy so that those that have made a profession in that sector of the economy will be motivated to practice and apply their knowledge to productive use in this field as it would further contribute to food surplus and subsequent food security for the citizens.

- (2) Provision and supply of incentives: in every organization, there are some acts or factors perceived as an incentive to increase interest and attract the mind of the people to participate in particular activities. Such incentives in the agricultural and food sector may include: provision of finances either in form of grants or loan of single digit interest rates, provision of efficient technology needed in the field from point of production to distribution of products, employment and appointment of professionally qualified individuals in the industry as this would encourage the growing ones to put more effort so as to be recognized and rewarded in such a manner, provision of improved inputs that would bring forth quality and quantitative output. There should also be organizations spread out to all the areas concerned to monitor production techniques and to ensure that the right combinations are used in right proportion in production.
- (3) Producers should form organization and cooperatives and work together as one body to achieve a stated objective in the best way possible. This would also bring them closer to the government and make them stand at better chance to benefit from government's support and intervention policies.

III. CONCLUSION

However, the first step to provide food security in the country is to create availability of food anywhere and anytime for the population. This could be achieved by fostering all related agricultural activities in the rural areas, sub-urban and urban areas of the country, and encourage agricultural pilot industries establishment through government and private investors. I have three basic steps or strategic plans which if executed would lead to reasonable enhancement of food security.

- (1) Create three different farm groups and allow the individual farmers to join any one of them. The essence of this is to make it easier for farmers to benefit from government's support and intervention. On the other hand, the government may have a level of control/management of the farmers' activities and influence them by being a part of the government program.
- (2) Develop at least one food market in each of the 774 local government areas in the Country. In these markets, there will be continuous buying and selling of goods at cheaper rates every day. Farmers from all around the communities in each LGA would have the opportunity to sell their goods any day and any time they decide instead of waiting for a particular market day when almost everyone will be there to sell almost similar goods and which leads to wastage of food quality and further discourages the individual farmers from farm work.
- (3) Have at least 2 specific farm products to sponsor and produce in each state according to their comparative advantage. Individual farmers would have the freedom to produce any type of crop they want but government would have at least two crops of interest to the country which they will sponsor and provide incentives for.
- (4) Having all the information gathered, the agricultural sector has been a major contributor to Nigeria's national domestic product. Even though there has been much focus on the oil sector. It plays major role in generating foreign earnings and the only sure way to achieving food security in the country. Food security in the country is seen as the base of national economic growth and development because it is only when a man attains a level of food sufficiency that he would consider saving and further investment on projects and programs that would benefit him and possibly lead to economic growth in the future.

IV. RECOMMENDATIONS

Agriculture in Nigeria has been greatly supported by the government through various schemes with the sole aim of improving agricultural productivities and suppressing the food security crises that has been said to be predominant in the country. As this study have unraveled, it is very necessary to pay keen attention and encourage the optimum functionality of these schemes and the use of extension services to ensure excellent knowledge transfer. Therefore, in a further study, it will look closely at the empirical factors that has continued to hinder the effectiveness of the existing programs and policies.

REFERENCES

- [1] Olomola, AS, Nwafor, M (2018) Nigeria agriculture sector performance review. Lagos, Nigeria: Nigerian Institute of Social and Economic Research (NISER): International Institute of Tropical Agriculture (IITA).
- [2] UNOCHA (2019) United Nations Office for the Coordination of Humanitarian affairs Nigeria Report 2018–2019. Abuja, Nigeria: United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA).
- [3] Enesi, RO, Hauser, S, Lopez-Montez, A, et al. (2018) Yam tuber and maize grain yield response to cropping system intensification in south-west Nigeria. *Archives of Agronomy & Soil Science* 64 (7): 953.
- [4] Ikeme, J. (2009). Assessing the future of Nigeria's economy; ignored threats from the global climate change debacle" *African Economic Analysis Journal* 1 (2).
- [5] Ajetomobi, Joshua; Ajakaiye, Olusanya; and Gbadegesin, Adeniyi. (2015). The potential impact of climate change on Nigerian Agriculture. *AGRODEP Working Paper* 0016. Washington, DC: International Food Policy Research Institute. <http://ebrary.ifpri.org/cdm/ref/collection/p15738coll2/130099>
- [6] Ojake G.O., Charles E, & Eko O. (2016) Constraint to agricultural development in Nigeria. *International Journal of Development and Economic Sustainability* Vol. 4, No. 2, pp. 1-15, May 2016 __Published by European Centre for Research Training and Development UK (www.eajournals.org).
- [7] Ukeje, E. (2007) Modernizing small holder agriculture to ensure food security and Gender empowerment: issues and policy; international food policy research institute, Brief, 5: 16-26.
- [8] Spencer, & Dunstan S.C., (1994). "Infrastructure and technology constraints to agricultural development in the humid and subhumid tropics of Africa;" EPTD discussion papers 3, International Food Policy Research Institute (IFPRI).
- [9] Obasi P.C.A. Henri-Ukoha, I.S. Ukwuihe and N.M. Chidiebere-Mark (2013) Factors Affecting Agricultural Productivity among arable crop farmers in Imo State, Nigeria *American Journal of Experimental Agriculture* 3 (2): 443-454 DOI:10.9734/AJEA/2013/2030
- [10] Looga, Evelin Jürgenson, K Sikk, E Matveev, S Maasikamäe (2018) Land fragmentation and other determinants of agricultural farm productivity: The case of Estonia. *Land use policy* 79, 285-292, 2018.
- [11] Duguma, A, L, & Debsu, J, K, (2019). Determinants of likes stock production development of small holder farmers *Journal of Applied sciences and environmental management* DOI:10.4314/jasem.v23i8.18 Corpus ID: 203534360
- [12] Olujenyio, F.O. (2008). The Determinants of Agricultural Production and Profitability in Akoko Land, Ondo-State, Nigeria. *Journal of Social Sciences*, 4 (1), 37-41. <https://doi.org/10.3844/jssp.2008.37.41>
- [13] Daneji, M.I. (2011) Agricultural Development Intervention Programmes in Nigeria (1960 To Date): A Review. *Savannah journal of Agriculture* Volume 6 (1); June, 2011.
- [14] Jibowo, A. A. (2005). History of Agricultural Extension in Nigeria. *Agricultural Extension in Nigeria*. 251Pp.
- [15] Williams, S.K.T. (1981) "Structures and Organization of Agricultural Extension Services in Nigeria. An Invited Paper Presented at the Workshop on Utilization of Agricultural Research Results in Nigeria. Bakersu, July 1991.
- [16] Timmer C.P. (2017) Food Security, structural transformation, markets and government policy. Wiley online library <https://online.library.wiley.com/journal/20502680> Asia & the Pacific Policy Studies Volume 4, Issue 1 p. 4-19.
- [17] Bremner, J. (2012) Population and Food Security: Africs's Challenges. The Population Reference Bureau, Washington DC.
- [18] FAO (2006) Food Security. FAO's Agriculture and Development Economics Division (ESA) with Support from the FAO Netherlands Partnership, Amsterdam.
- [19] FAO (2008) An introduction to the basic concepts of food security. In: *Food Security Information for Action: Practical Guides*, EC-FAO Food Security Program.
- [20] Simon, G.-A. (2012) Food Security: Definition, Four Dimensions, History. FAO, Rome.
- [21] Saheed, M. & Isa, E. (2017) The challenges of food Security in Nigeria. *Journal of scientific research*. Vol. 04 No. 12 (2017), Article ID: 81175, 22 pages 10.4236/oalib.1104185
- [22] Nigeria-NBS (2018) labor Force Statistics v2: Employment by sector Report (Q3 2017 report No. 711; p. 625). Abuja, Nigeria: national Bureau of Statistics, Nigeria federal government (Nigeria-NBS), retrieved August 13, 2019 from <https://nigeriastst.gov.ng>.
- [23] Nigeria-NBS (2019) Nigeria Gross Domestic Report (Q4 2018 report No. 15437). Abuja, Nigeria: national Bureau of Statistics, Nigeria federal government (Nigeria-NBS), Retrieved August 13, 2019 from <https://nigeriastst.gov.ng/elibrary>.

AUTHOR'S PROFILE

**First Author**

Nwadike Paschal Chibuzo, A Graduate of Agricultural Economics from the Federal University of Technology, Owerri. Paschal holds strong passion for education, teaching and research, and has high penchant for the efficient application of economic principles, theories and models in solving pertinent human and societal problems, especially as it relates to agricultural development and environmental quality. His enthusiasm to conduct impactful research has reflected in several works which he has sole authored or contributed to. Paschal has participated in several programs and conferences that is aimed at improving agriculture, environmental safety and campaign for high adoption of green technology in Africa and beyond.



Second Author

Ekwebelam Obumneme Nelson, I am a graduate of the Federal University of Technology Owerri, where I graduated with a second class upper division. I'm passionate about research, business, leadership, and agriculture. I thrive as both a goal getter and a team player, and I am always eager to contribute my skills and knowledge to any project. [email id: ekwebelamobumnemenelson1@gmail.com](mailto:ekwebelamobumnemenelson1@gmail.com)



Third Author

Anyanwu Anthony Chibuik, I am an accomplished Agricultural Economist with a B. Agric. Tech degree from the Federal University of Technology, Owerri (FUTO). Having strong passion for exploring the intersection of economics and agriculture, Anthony's academic journey has equipped me with a deep understanding of the challenges and opportunities within the agricultural sector. As a co-writer of the project, I have contributed my expertise to creating meaningful insights and innovative solutions. My dedication to advancing the field of agricultural economics is evident through my commitment to collaborative research and in pursuit of impactful projects. [email id: Anyanwuanthony50@gmail.com](mailto:Anyanwuanthony50@gmail.com)



Fourth Author

Obele Francis Chibuik, I studied agricultural Economics in my undergraduate level at the Federal University of Technology, Owerri. After my graduation I have dreamt of furthering my education to the graduate level where I will be equipped to contribute to research at the global level Focusing gender barriers that affect human's participation in agriculture and all other works of life. [email id: Francisobele@gmail.com](mailto:Francisobele@gmail.com)



Fifth Author

Onyejelem Chidiebere Francis, is a leader, passionate researcher and a First-class graduate of Agricultural economics from the Federal University of Technology, Owerri. I specifically deal on collection, analysis of data, making policy and proffering solution to problems in Agriculture. My experience spans across diverse research works, which I carried out as a student and also a graduate, encompassing the undergraduate research works as a student and also assisted some lecturers in gathering data and conducting research for their post graduate studies. My love for research poised me to carry out and proffer solution to the prevalent problem of Nigeria's food security in my undergraduate work "The effects of No-madic activities in the productivities of arable crop farmers in Imo state, Nigeria". My enthusiasm about research has always drove me to widen my horizon by seeking every possibility of exploring more in research and leadership. [email id: Chidiebereonyejelem5@gmail.com](mailto:Chidiebereonyejelem5@gmail.com)