

TOPIC: FOOD SECURITY AND POPULATION GROWTH IN NIGERIA

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ABSTRACT

There is growing knowledge that food security is hampered by population explosion in sub-Saharan Africa. This paper interrogates the interface between population growth rate and food security in Nigeria. Food insecurity does not only reflect on the number of times an individual can afford a meal in a day, it is also measured against the nutritional content. As population growth contributes annually about 4.5 million youths into the labour market, it raises the question of its implication on food security. Mechanized and export targeted agribusiness is adopted as contemporary policy measure to contain food insecurity. We ask, to what extent can mechanized and export oriented agribusiness address food insecurity in Nigeria. Two hundred and ten questionnaires respectively were administered to six farm settlements, three in Ekiti and Ondo South-West Nigeria known to be among the largest food producing states in Nigeria. The focus was on yam, cassava and fruits farmers using purposive sampling techniques. Access to land was not a major problem but other challenges like bad road, high cost of transportation, climate change and insufficient funds. Fear of imminent food insecurity was sustained necessitating advocacy on re-contextualization of the nexus between food security and population growth in Nigeria.

Key words: Food security, population policy, national security, population explosion, poverty

1. INTRODUCTION

The rate of population growth in Africa and Nigeria in particular is disturbing and its implication for economic development is appalling. According to the Inter-Agency Regional Analysts Network (2016), Nigeria is the most populous country in Africa and the eighth most populous country in the world. Vanguard, (2017) captured a United Nations (UN) report that Nigerian population estimated at one hundred and ninety two million with an annual rate of about 3.2% (UN World Population Prospects, 2017) will become the third most populous country in the world by 2050. Like many other developing countries, Nigeria has experienced constant increase in food prices due to shortage of food supplies thereby plunging many households into hunger and poverty (Babatunde and Ajayi, 2010). While the population growth is increasing annually, the level of poverty and hunger is worsening exponentially.

In 2015, the International Monetary Fund (IMF) listed Nigeria as 22nd largest economy in the world (Ukwu, 2015). This finding does not support human development indicators such as food security, shelter, good hygienic environment, security, portable water, access to

education and respect for human rights and so on. The oil-rich economy exhibits severe economic inequality and poverty. Its enormous oil wealth has not been employed to build a viable industrial base and launching of a mechanised agricultural production to eradicate hunger and mass poverty in the country. Lack of appropriate development plan to engage her young population in agricultural development appears to be a contributory factor to the state of food insecurity in the country. Seventy percent of the young population in Nigeria (Makinwa-Adebusoye, 2014) underutilized for agricultural production also increases food consumption thereby adding to food security in Nigeria.

To feed the present and the estimated future population, the agricultural sector needs significant long-term plan and its related technologies to grow food. International Institute for Tropical Agriculture (IITA) located at Ibadan in Nigeria is currently engaged in agricultural research and development (R&D) but its contribution to food production in Africa has not adequately addresses food security in Nigeria. Despite its limited research focus (largely cassava, cereals and plantain), yet Africa has not fully developed the capacity to harness its research findings. With population growth contributing about 4.5 million youths into the labour market in Nigeria every year (Adejokun, 2019), it is imperative to examine if the population policy measures have taken account of its impact on the food demand.

Increase in population growth largely imposes a challenge on the country in terms of the demand for food and other necessities of life. If Nigeria's population growth continues to grow rapidly and her infrastructure and food production rate does not commensurate with its population growth rate, the high poverty index will continue to expand. Certain questions emerge; what is responsible for population explosion in Nigeria? Is there nexus between population and food security? Has there been any policy consideration to address the consequences of population explosion on food security in Nigeria? This paper interrogates these questions. The paper is segmented into eight segments. It begins with the introduction, the methodology, theoretical discuss, conceptual discuss, literature discuss, problems of food security in Nigeria, data analysis and conclusion

2. METHODOLOGY

This study is descriptive in design that made use of primary and secondary data. Two hundred and ten questionnaires respectively were administered to six farm settlements, three in Ekiti and Ondo southwest Nigeria known to be among the largest food producing states in Nigeria out which 1218 were returned. The focus was on yam, cassava and fruits farmers using purposive sampling techniques. Extant policy measures on population and food production (agriculture) were examined to analyse government efforts to address overpopulation and food insecurity in the country. Data on Nigeria population growth and food production were assessed, which aided the analysis. Statistical tools were used to analyse the data. The basic idea is to examine the impact of rapid population growth rate (overpopulation) on food security in Nigeria.

3. THEORETICAL DISCUSS

This paper is grounded on Malthusian theory. Reverend Thomas Malthus (1766-1834) first raised a concern on the negative impact human population growth could have on food sufficiency. Malthusian view is that population growth if not checked will exceed the means or capacity of agriculture to sustain a growing population. If human populations continue to grow at a geometrical rate of 2×2 while food production grows at arithmetic level of $1+1$, the consequences will lead to hunger, poverty, squalor, diseases and other harsh economic conditions. The shortage in supply of food will consequently lead to hike in the prices of the available food. The higher the prices of food the more the people are being pushed into hunger and poverty trap (Babatunde and Ajayi, 2010). The realities of Malthus's predictions on the effects of unchecked population growth cannot be faulted in African countries. In Egypt Hosni Mubarak had to order his soldiers to move to the State oven and bake bread for as many of his people as possible who were protesting against hunger (Bilewomo 2008: 28-31). The same conditions manifested in riot and crisis in Ivory Coast, Senegal, Ethiopia, Burkina Faso (Babatunde and Ajayi 2010).

However, technoecological theory emerged that argue on the impact of technology to reduce the negative effect of population growth on food security (Boserup 1981; Harper 1996; Simon 1990; Cohen 1995; Tweeten and McClelland 1997; Bongaarts, 1996). The argument advanced by technoecological theorists was challenged by neo-Malthusian school (Ehrlich and Ehrlich 1990; Ophuls and Boyan 1992), which maintained the position of Malthus on the inevitability of unrestrained population growth outstripping food consumption (Scanlan 2001). Technoecological theory as I will argue later has serious limitation in the Third world countries because of their inability develop appropriate technology to boost food production. Equally, rather than insist on technological innovation to boost food production, development countries devised other social control mechanism to control population explosion. Therefore, not jettisoning other causal variables we can sustain the simple logic that a plate of food meant for five persons cannot satisfy the hunger of one hundred persons.

4. Conceptual Discuss

Population as applied in this paper refers to the total number of people in a specified area. Taking a cue from the foregoing, Gee (1999) described population growth rate as the change in the size of population, depending on the balance of birth and death, which are measured both in absolute and relative terms. Population growth rate according to Mundi Index (2012) is the average annual percentage change in population, which is affected by birth and death as well as the balance of the number of people that are coming and leaving a particular country within a specified period. Influx of emigrants taking advantage of Economic Community of West Africa (ECOWAS) Protocol into Nigeria is therefore considered in the analysis of population growth in Nigeria.

Johari (2015), posited that while a large population is an asset in several respects the increasing population of a state might also be a source of anxiety. What this postulation means is that the increase in population becomes a source of anxiety and worry when the level of

food supply cannot meet up with the increasing demand. Paul and Anne Ehrlich (1990) had argued that unprecedented overpopulation is substantially contributing to problems of nation-states across the globe. Therefore, I argue that over population should not be measured only in terms of numbers but against the backdrop of a nation's ability to provide sufficient food accompanied with its nutrients to her population irrespective of whether less or highly populated.

The concept of security has burgeoned to incorporate human security contrary to the state centric security studies (Burgess 2008;, Alkire 2003; Baldwin 1995; 1997, Booth 2005; , Brown 1997; Buzan 1991b; Dalby 1997; 2000, Der Derian 1993; Huysmans 1998, Kaldor, 2000). These scholars revisited the traditional cold war notion of security that sees the State as both the object of security and the primary provider of security. In this context, food insecurity as well as other environmental challenges including diseases has transformed security to a speech act (Wover, 1995). Therefore, issues become a security threats if so defined by the elites who govern the society.

The United States Department of Agriculture (USDA) defines food security as access by all people at all times to enough food for an active, healthy life (Wikipedia, 2017). Bremner (2012) shared this view when he argued that food security exists when all people at all times have both physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life. Food access in this regards refers to affordability and allocation of food, as well as the preferences of individuals and households. This definition underscores the ability of individuals and households in a country to have sufficient, nutritious and safe food that can keep body and soul together for a healthy life style. Gueye, Abdelkarim and Diop-Ly (2013) argue that food security is therefore a prerequisite for human capacity development. Arguing that well-nourished people are more likely to be educated and prepared to use new technology, engage with community and participate in political and social life.

Food insecurity, from the above discussion, involves a situation in which individuals are in hunger or fear of starvation. That is, households' food insecurity exists when all members, at all times, have no access to enough food for an active, healthy life. According to Kegley and Blanton (2011), the impact of food insecurity is likely to aggravate poverty, starvation, healthy and environmental problems

5. Literature Discuss

Existing literature suggests that demographically, Africa is the world's most growing population (Soucat, Elaheebocus and Ncube 2013:1) and may reach 2.5 billion by 2050. Nigeria is the largest populated country in Africa, estimated to reach a of population 206.1 million people by December 2020¹. If this projection becomes a reality, it means more Nigerians would be exposed to acute shortage in nutritional value if the agricultural sector were producing below demand.

¹ Nigeria population 1950-2020, <https://www.ceicdata.com>.

Reutlinger (1986) and Tweeten (1997) offered a contextualization of food security beyond mere consumption and Smith (1998) extends the narratives to include accessibility of food by urban poor dwellers, which are often glossed over in the discus of food insecurity. The work by Rosegrant and Cline (2003) highlighted how problems associated with food security can be addressed through policy. These authors presented developing countries in special context that reveals its precarious nature in agricultural production. Critical issue on food security is the question of access. Reutlinger (1986: 1) argues that food security means access to food by all people at all times to enough food for an active healthy life. United Nations Development Programme (UNDP 1994: 2) amplifies the idea by positing that food security entails that “all people at all times have both physical and economic access to basic food”. To UNDP it is not just enough to go round but that people have ready access and entitlement to food, which implies growing the food and buying it by themselves. “Growing the food” is a problem in Nigeria context.

The evidence of accessibility by all to food in Nigeria can easily be dismissed. Inequality in income and proximity to food markets create advantage for some as against others. Unequal access to food is the major cause of malnutrition in children in Nigeria. Ironically, more of these children are found in the Northern Nigeria that has the largest concentration of farmers and from where other regions in Nigeria get large chunk of their food supply. UNICEF Nigeria (2019) posits that an estimated 2 million children in Nigeria suffer from severe acute malnutrition (SAM), but only two out of every 10 children affected is currently reached with treatment and seven percent of women of childbearing age also suffer from acute malnutrition. Nigeria has the second highest burden of stunted children in the world, with a national prevalence rate of 32 percent of children under five. The International Fund for Agricultural Development (IFAD 2012) had made the argument that despite its significant natural resources and continued economic growth, poverty remains widespread in Nigeria. An estimated 70 percent of Nigerians live on less than US\$1.25 per day and ranked 40th out of 79 on the 2012 Global Hunger Index and 156th out of 187 on the 2011 UNDP Human Development Index. The poverty rate is 80 percent in rural areas, where people live below the poverty line irrespective of the fact that agriculture is their dominant occupation.

Supply of foodstuffs from production site or from imports to the market (Tweeten1997) is a critical factor. Availability may be hampered by bad road, high cost of transportation and inefficient vehicles transporting foodstuff to the rural or urban market and the cost of imported foodstuffs obviously determined by the countries exchange volatility. This was the major argument made by Smith (1998) in assessing urban food supply systems in developing countries. Smith (ibid: 210) argues that rapid urbanization and structural adjustment programmes have combined to exacerbate food problems of the urban poor in many developing countries, making it one of the leading pressure points for managing poverty.

One source of supply of food to the urban poor is the various retail outlets ranging from Western-style and outright Western owned supermarkets and small retail shops that puts heavy burden on the poor to purchase goods at high cost. Though adjacent lands to cities are used to cultivate foodstuffs but the cost of productions are imputed on the products by the

farmers who also patronize other markets in the urban cities. Interaction between the urban rich and the urban poor influenced the poor into taking bread and tea like the very rich people. However, the eating of bread and tea is not enough to quench their hunger it also put a strain on their pocket. In addition, food utilization (Tweeten 1997) is an important component of food security. This refers to physical use of food that measure up with the important vitamins. Referring to balanced diet consumed by people in developing nations, a common understanding is that carbohydrate is commonly consumed thereby making nutritional requirement for body metabolism incomplete.

That overpopulation worsen the conditions discussed above, justifies the neo-Malthusian argument that the immediate threat to food security is over population which place strain on food availability, access and utilization. However, as I mentioned earlier Technoecological School emerged to contest neo-Malthusian thought. Technoecological theorists have projected the efficacy of technology to contain the negative impact of population and I argue that Third World countries have erroneously cued into it. I regard Technoecological theory just like theory of modernizing soldiers (Adekson 1978) that provided justification for military rule in new nations on the ground that the military would serve as “avant-garde of science and technology”. The theory failed as military intervention in new nations rather than introduce scientific governance and technological development, contributed to political instability and brazen corruption. At the end, it was discovered that the theory was masqueraded under cold war politics that sought for strong leaders to contain the spread of socialism. Technoecological theorists (Boserup 1981, Harper 1996, Simon 1981, 1990, Cohen 1995, Tweeten and McClelland 1997, Bongaarts 1996) have the same imperialist motive that put developing nation on dependency on the developed countries for import of technology needed to drive mechanized agriculture.

Techno-ecological theorists assert human ingenuity will always confront problems of scarcities that population explosion creates, arguing that new technologies will be adapted to contain the challenges. Where growing population pressure and urbanization affects land utilization, application of fertilizer as land intensification is recommended. Nigeria adopted Operation Feed the Nation of 1976-1980 and Green Revolution of 1980, the impact of which has been overwhelmed by annual increase in population growth rate at 3.2% (Worldometers 2017). Adopting Techno-ecological prescription means not only increase in the use of fertilizer but also other mechanized equipment like tractor, sophisticated earth excavator, pesticides and irrigation technologies. Research that enhances high crop yield through molecular biotechnology is also recommended for developing nations (Rosegrant and Cline 2003: 1918) to increase harvest index. They argued that the hybrid “New Rice for Africa” which was bred to grow in the uplands of West Africa produces more than 50% more grain than the current varieties when cultivated in traditional rain-fed systems without fertilizer. Simon (1981, 1990) had contended that population growth should not be considered a threat but an asset in that humans are the most valuable natural resource for their problem-solving capabilities. Tweeten and McClelland (1997) and Bongaarts (1996) added that improvement in trade and access to markets would further limit hunger. All these recommendations imply that limiting population growth does not matter.

I argue that this is a problem for sub-Saharan Africa. Sub-Saharan Africa is not able to indigenously develop necessary technology for food production but have increasingly shifted focus on importation of technology from some Asian countries whose technologies are substandard causing incremental cost on production because of rapid replacement and maintenance of the equipment. No doubt, neoliberal market expects that developing nations open up their domestic markets to foreign products but this have often led to drain of their foreign reserve and increase in debt profile (Orkiako 2000, Joseph and Gillies 2009, Hudson 2015).

As response to population increase Djerassi (1979) in his book on the use of contraception such as abortion, condoms, oral contraceptives, 'coitus interruptus' and so forth highlighted a use of the devise to control population growth even among developed world. Also, well grounded technological countries like India and China have other social policy rather than rely on improved technology to check population explosion against food production. China in 1980, initiated what Todaro and Smith (2011: 303-307) captured as One Child Policy. The policy aimed at lowering the annual birth rate to 1%. Stringent and often draconian measures to achieve that goal were introduced in 1982 and 1983 to limit family size to one child, requiring women to appeal to the neighbourhood committee or council for formal permission to become pregnant.

Although first births were routinely approved, second births were usually approved only if the first child had a serious birth defect or if the woman had remarried. Economic incentives included giving priority to one-child families in housing, medical care, and education. Mothers of two or more children were often denied promotions and to pay fines. Sometimes in excess of ten times China's per capita income were levied for second and third children. India in 1949 became the first country to implement a national family-planning programme. In 1975-1977, the Prime Minister of India, Indira Gandhi tried to implement drastic population control measures by deploying what is called forced sterilizations of the people, often in mass, referred to as "sterilization camps" with limited success (ibid). Joseph (2010) posited that China population growth rate is 0.6 per cent lower than USA, which is 0.9 per cent; Indian's annual population growth rate is 1.4 percent and currently Nigeria's population growth is 3.2 percent. It will take 50 years for India's population to double, whereas, Nigeria's is just less than 29 years. It is worthy of note that more advanced countries like USA, Britain and Japan practice self-restrain as fertility control measures, internalized by every member of the society, leading to high stable polity.

Oni, Faborode and Onwualu (2002) captured the works of the West African Society for Agricultural Engineering on its first international conference from October 24-28, 2002 in Abuja on food security and poverty alleviation in West Africa. This was the first holistic attempt by scholars in agricultural engineering who are supposed to lead in the innovations on technological equipment required for food production. Papers on genetic engineering for food security, local crop drying plat, rice processing techniques and insect inhibitive properties of some consumable local materials on grain in storage etc, were presented. The findings and recommendations were suggestive that the technology needed to drive food production is either to be imported or yet to developed in Nigeria. Okunmadewa (2002) whose article in

book centred on food insecurity and poverty alleviation identified that the poor depends on traditional agriculture, with limited technology for their sources in Nigeria. He also pointed to rising food price along with the general consumer price index as major factor affecting food accessibility to households and decreasing real income. The high cost emanates from production, distribution, processing, lack of storage system and supportive infrastructure. The danger as argued by the author (ibid p7-8) is that the poor rural dwellers which constitutes 77% of the entire population spend about 70% of their income on food, living little income for drugs, cloths, education and for good water.

Ostensibly driven by the geometric increase in the continent's population and excruciating poverty, African leaders at the AU Summit in Maputo, Mozambique 2003 adopted the Comprehensive African Agriculture Development Programmes (CAADP) to address problem of food security in the continent. There they promised to allocate at least 10% of their national budget to agriculture (Jere 2014). For instance, Dr Diamini Zuma, AU Chairperson in one of her interview with New Africa, states stated that African have been spending nearly \$40billion annually importing food (ibid, 15)

Babatunde and Ajayi (2010) carried out a study on food crisis and population growth in Nigeria. This study covered analysis on food crops production and population growth, which depicts a strong inverse relationship between the growth in population and each of the identified crops. According to the study, food crisis become obvious in Nigeria when the contribution of Agriculture to the economy started to decline in the 1970s. The authors argued that the shift of government attention to petroleum at the expense of Agriculture is plunging Nigeria into serious food crisis as increase in food prices is worsening hunger and scourge from poverty. Rapidly growing population, unemployment (Iwu 2015, Abdulrahman 2013) and demand for food consumption cannot but raise serious security challenges. The food and Agricultural Organisation (FAO), an agency of the United Nations (UN), once raised alarm that Nigeria, Morocco and Bangladesh will face imminent food crisis (Eme, Onyishi, Okala and Uche 2014). The authors have identified poor implementation of various population and agricultural policies and programmes as part of the challenges facing Nigeria. This according to them breed disequilibrium in the production, demand and supply of food in the country.

The old age assumption that child mortality will moderate number of children in household cannot be sustained under improved medication offered in most health centres in Nigeria. Hence, Nigeria is witnessing increase in demographic profile. Factors responsible for population growth as examined by Adebayo (2010); Bremner (2012); Kegley and Blanton (2011); Adetiloye (2012); Abdulrahman (2013); and Makinwa-Adebusoye (2014) are many and these include fertility rate, mortality rate, migration, culture and religious beliefs. Fertility, mortality and migration are seen as contributors to population growth, notwithstanding, religious belief contributes to impervious attitudes towards population regulation in Nigeria. For example, Nnamdi (2008) report show one Alhaji Mohammed Bello Masaba a spiritual leader who married 86 wives that live in the same house with him and 10 other wives in a rented apartment totalling 96 wives. When confronted and arrested by law enforcement officers, they were obstructed by Masaba's wives, holding placards with messages that demanded the immediate release of their husband as thus:

‘Don’t force us into prostitution, release our husband Masaba. Intruder, enough is enough. No more intervention. Nobody laid complaints. We are a happy family. Our children are having good education. Stop harassing our husband Masaba. Release our husband now without any condition.’

Masaba who is having 115 children argued that there is no punishment stated in the Q’uran for a man who marries more than four wives. To Muslim clerics, adherents are permitted to marry only four wives but no limit to the number of children each wife in the family can give birth to.

Ero (2013) also captured an interview granted by Philip Njemanze². He argued against the Abortion Bill signed into law by the governor of Imo State on 29th of May 2012, captioned laws No. 7 and 12, and argued thus:

‘The developed countries have forged a plan to push abortion to developing countries of Africa....the idea was introduced in the Maputo Protocol. The Protocol was meant to prevent female genital mutilation. However, out of the 23 pages of that protocol only one sentence is on female genital mutilation. The document permitted abortion as a law, allowing it throughout the nine months of pregnancy. This law is law of extermination. The United States Agency for International Development (USAID), introduced a programme in Nigeria whereby they gave \$8.3 billion, and offering each doctor who wants to establish an abortion clinic and fertility clinic up to ₦37.5 million in Imo State. The law says that every woman shall have the right to enjoy reproductive right, including the right to medical abortion in cases of sexual assault, rape, incest and where the continued pregnancy endangered the life or the physical, mental, psychological or emotional health of the mother.’

Certainly, this position may be personal to him but the underlying trust of his position is that his association (Association of Catholic Medical Practitioners of Nigeria, Imo State Chapter) will disapprove abortion if it is legalized as measure to regulate population explosion. As argued (Iwu 2015), if population explosion poses security challenges it must be treated under national security calculus.

The two population policy options adopted by Governments since independence in 1960 to manage Nigeria’s population growth rate appear not to have yielded the desired results as the population growth has been on the increase. The first policy action which was tagged’’ Nigeria Policy on Population for Unity, Progress and Self-reliance’’ was introduced on February 4, 1988 as an attempt to manage the population trend through family planning. The family planning model adopted in Nigeria was voluntary to those who may wish to subscribe to it (Iwu, 2015). The Olusegun Obasanjo administration introduced the second policy known as ’’Nigeria policy on Population for Sustainable Development’’ on January 14th, 2004. The policy was designed to achieve a lower population growth rate through the reduction of birth rates through voluntary fertility regulation methods that encouraged four

² His is a medical doctor and chair Association of Catholic Medical Practitioners of Nigeria, Imo State Chapter.

children per woman rather than four children per couple (Iwu, 2015 and Abdulrahaman, 2013).

These policy actions could not yield the desired result due to the socio-cultural factors inherent in the multi-cultural practices and religious beliefs of the people (Abdulrahaman, 2013; Makinwa-Adebusoye, 2014; and Iwu, 2015). Family planning is a taboo in some culture. In addition, the general practice and belief that male children are the pillars of the family encourages many families to end up having many children in the quest for a male child. One defect on the two population policies adopted by Nigerian governments since independence is that they did not reveal any strict measure to contain population growth in the country (Iwu, 2015). The policies ended up as mere paper document as there was no legal means of ensuring compliance. The daunting task is how to provide enough food for this growing population.

6. Problems of Food Security in Nigeria

Food security has been a subject of national debate in Nigeria. Adeniyi, Abdulrahaman and Bello (2009); Adebayo (2010); Abu (2012); Abdulrahaman (2013); and Ojebode (2017) raised concern about food insecurity in the country. Nigeria, as a major food exporter in the 1960s has now become a major food importer spending a total of ₦334.3 billion to import prepared foodstuffs, beverages, spirits and vinegar and tobacco in the half-year (January – June) of 2019³. The importation of foodstuffs and the other items in the first half of 2019 increased by 47% compared with the corresponding period of 2018. Specifically, in the first half-year of 2018, the importation of prepared foodstuffs, beverages, spirits and vinegar and tobacco was put at N227.1 billion while the figure rose to N334.3 billion in half-year 2019.

Abdulrahaman (2013) had argued that the amount of statutory allocation earmarked for agriculture annually is too small for the sector to achieve its mandate. Ojebode (2017) puts the blame on short-term and low investment in agricultural research and development (R&D). Adeniyi et al. (2009) and Iwuchukwu and Igbokwe (2012) contend that poor agricultural policies and programmes and the ways and manners in which loans are being disbursed to farmers in Nigeria are the bane of agricultural productivity in the country. In the same vein, Adebayo (2010) opined that food insecurity is the negative outcomes of deregulation policies on agricultural sector in Nigeria. According to him, outrageous increase in the prices of foodstuffs has been one of the outcomes of the deregulation policies.

In Nigeria, several policies, programmes and agricultural schemes are in place to accelerate agricultural productivities right from colonial era. Most of the governments have

³ This is revealed in the foreign trade report released by the National Bureau of Statistics (NBS). (<https://nairametrics.com/2019/10/03/nigerians-spent-n334-3-billion-to-import-foodstuffs-tobacco-others-in-6-months/>).

common agricultural development strategies with slight differences in their objectives. Some of these include Farm Settlement Scheme of 1959, Land Army of 1966/67; Operation Feed the Nation of 1976-1980, Green Revolution of 1980, and Directorate for Food Road and Rural Infrastructure (DFRRI) in 1985/86 (Abdulrahman, 2013). The Structural Adjustment Programme (SAP) policy introduced in 1986 was meant introduce market-oriented agricultural policies and programmes. Ushering in private participation in food production and export, yet the supporting financial capacity of the private bodies was limited as the policy anchored on liberalization also expects the state to roll back its public spending, referred to as “the disappearing state” (Castles 2007). In justification of SAP irrespective of its failure in developing nations (with Ghana, Kenya and Côte d’Ivoire as slight exception), neoclassical advocates of structural adjustment recognized that there would be losers and gainers (Rapley 1996: 75).

Couple of policies geared towards enhancing food production emerged from 1999 such as National Economic Empowerment and Development Strategy (NEEDS), National Agricultural Policy (NAP) and Rural Sector Strategy (RSS). NEEDS and NAP aimed to diversify the productive base from oil to market-oriented and private sector-driven economy with strong local participation in Agriculture⁴. Jonathan Administration⁵ took fertilizer distribution as a major policy thrust, however, affected by corruption as farmers had little access to the fertilizers. Dr. Akinwumi Adesina, the then Minister of Agriculture and Rural Development disclosed that between 1980 and 2010, the Federal and State governments spent over N873 billion on fertilizer subsidies out of which Nigeria lost N776 billion to corruption and fertilizer racketeering. Then a policy referred to as Nigeria Incentive-Based Risk Sharing Systems for Agricultural Lending (NIRSAL) was introduced by the Central Bank of Nigeria (CBN) to reduce the risk. With this policy, farmers began to receive seeds and fertilizer directly from government.

Buhari⁶ Administration anchored his agricultural programme known as “5 Agriculture Initiatives. Number 1 refers to as Anchor Borrowers Programme (ABP), established by the Central Bank of Nigeria (CBN) and launched by President Muhammadu Buhari (GCFR) on November 17, 2015. The intention is to create a linkage between anchor companies involved in the processing and smallholder farmers (SHFs) of the required key agricultural commodities. The ABP provides farm inputs in kind and cash (for farm labour) to smallholder farmers to boost production of these commodities. At harvest, the SHF supplies the produce to the Agro-processor (Anchor) who pays the cash equivalent to the farmer's account. Number 2 is Presidential Fertilizer Initiative (PFI). PFI was launched in December 2016 as the outcome of a partnership between the governments of Nigeria and Morocco. It is implemented as a

⁴ Former Minister of Agriculture under Obasanjo's administration, Adamu Bello said that Obasanjo had successfully transformed the nation's agricultural sector such that it would have yielded the desired result if the Jonathan's administration had built on it. Daily Trust (Abuja). <https://allafrica.com/stories/201302200980.html>

⁵ <https://www.vanguardngr.com/2015/02/goodluck-jonathan-agriculture-revolution/>

⁶ Agric policy under Buhari administration. <https://www.pulse.ng/news/local/buhari-5-agriculture-initiatives-by-presidents-administration-he-wants-you-to-know/9sjkcnl>

Public-Private Partnership in Nigeria, led by the Nigerian Sovereign Investment Authority (NSIA) and the Fertilizer Producers and Suppliers Association of Nigeria (FEPSAN). Number 3 is Youth Farm Lab (YFL). The YFL is an Initiative of the Federal Ministry of Agriculture in conjunction with Synergos, to train Nigerian youths on livestock production and sustainable urban agriculture. The targets are youths between the ages of 18 and 35 years who are passionate about Agriculture and believe in its profitability potentials. Number 4 is Presidential Economic Diversification Initiative (PEDI). Launched in July 2017, the PEDI supports the revival of moribund industries (especially in Agro-processing) by facilitating new investments, reducing regulatory bottlenecks and enabling access to credit.

Specifically Number 5 focuses on Food Security Council. The Council was inaugurated on Monday, March 26, 2018 to be chaired by the President. Other members include governors of Kebbi, Taraba, Plateau, Lagos, Ebonyi and Delta States. Secretary to the Government of the Federation and some other government officials like Chief of Staff to the President, Chief of Defence Staff, Governor of the Central Bank of Nigeria and Director General of the Department of State Services (DSS) were involved. The broad objectives of the Council include developing sustainable solutions to the farmers-herdsmen clashes; Climate Change and Desertification and their impact on farmland; grazing areas and lakes, rivers and other water bodies; oil spillage and its impact on Niger Delta Fishing Communities; piracy and banditry; agricultural research institutions and extension services and the problem of smuggling.

The Council will also take interest in regional and global policies and trends that bear implications for food security in Nigeria. The outcome of the resolution of the council must have led to the embargo placed on importation of rice into Nigeria in 2019. The problem with this policy is that it did not address the issue of purchasing power or the poor rural dwellers that are finding it difficult to purchase rice at an increased price in Nigeria markets. There is no guarantee that the smallholder farmers (SHFs) will be paid enough by the big processing consortium. The history of marketing board or intermediaries in agricultural production is replete with manipulation and corruption against the small farmers that led to small farmers' revolt in the Western Nigeria in 1968-1970 popularly known as the *Egbe Agbekoya* peasant revolt (Beer 1976, Olayide 1980). Agribusiness is usually seen as a good option but the problem is that it negates poor farmers located in remote areas that face problem of bad roads to convey their products to urban markets including high cost of transportation. In the case of Buhari administration, farmers in some areas are getting more government attention as against others, thereby putting a high cost on transportation of food from one region to another in Nigeria. The next section shows analysis of survey of small farmers from six clusters in Ondo and Ekiti state South West Nigeria.

7. DATA ANALYSIS

The analysis of a survey carried out in Ondo and Ekiti state. The two states are known to be major food producers in the southwest Nigeria. Small farmers in Ondo 52.3% and Ekiti 63.3% owned land in which they farm. The farmers in both state 60.3% confirmed that bad

road and high cost of transportation were their major challenge moving their farm produce to the markets. The X^2 value of 2.718, df of 2 and a p value that was greater than 0.05 level of significant revealed that the distributions were not significantly different. This means that in both Ondo and Ekiti states, farmers had similar perception on the major challenge affecting the mobility of farm produce to the market.

Availability of market for farm produce is an important source of food security. Farmers 40.9% producing fruits confirmed that sometimes non-availability of markets for fruits prevent them from harvesting their fruits. The summary shows that with the significant chi square result ($X^2= 115.558$, $df= 2$, $p < .05$), it implied that most of the respondents sometimes do not harvest their fruits because there are no buyers.

The case is different for cassava farmers where 40.5% of the respondents said it was not true that sometimes they do not uproot their cassava tubers because there are no buyers for them, 38.8% said it happens sometimes, while 20.7% said they always uproot. This distribution was confirmed by the chi square result ($X^2=90.599$, $df=2$, $p < .05$), thus, majority do not leave their cassava un-uprooted because there are no buyers.

Among yam producing farmers, 48.5% said they do not uproot their yam tubers because there are no buyers for them, 35.5% said they do sometimes, while 16.2% always uprooted. With the X^2 value of 197.401, df of 2 and a p value that was less than 0.05 level of significant, it implied that the observed differences in the distribution was significant and it means that most of the yam producing farmers do not leave their yam tubers un-uprooted because there are no buyers.

Testing for impact of climate change on farm yields, the respondents 79.9% supported the idea that the weather conditions had affected the yield of their farm produce, while 20.1% said it did not and this distribution were justified ($X^2= 451.36$, $df=1$, $p < .05$). In view of the impact of the weather conditions on farmers productivities, it was indicated that 70.3% said it led to low yields, 20.2% said it led to high yield, while 9.5% said it had no effect on their produce. This distribution was confirmed with the chi square result ($X^2= 798.684$, $df=2$, $p < .05$). This means that the weather conditions result to low yields of farm produce.

A test was carried out to elicit farmer's awareness of responses to government agribusiness policy. The respondents 57.8% were of the opinion that they had not attended any seminar on the new method of turning agriculture into business after government introduced the new policy, 38.6% said they had, while 3.6% were not certain.

After the introduction of the new policy, it was observed that just 28.4% of the respondents affirmed that they had obtained loan from micro-finance bank, 14.7% said they had obtained loan from other commercial banks, while 12% had obtained loan from Nigerian Agricultural, Co-operative and Rural Development Bank Limited. This means that most of the farmers did not and do not benefit from accessing loans from any of these banks for farming. Further, it was indicated that just 12% of farmers had received financial assistance for farming from State Government, 12.7% had received from the Federal Government, 18.6% had received from the Local Government, and 3.9% said they had received assistance from the

international non-governmental organizations, while 11.2% had received financial assistance from other non-governmental organizations.

Data was also elicited on implements necessary to boost food production. The findings revealed that 37.4% of the farmers received assistance on fertilizers, 11.6% on pesticides, 9% on seedlings, 4% on the utilization of tractors, 1.4% with other items like farm knives, 4.4% on hoes, 2.1% shovels, while 5.3% got wheelbarrows. From indications, it was evident that a large number of farmers did not benefit from the introduction of government agribusiness policy within the sample area.

Table 1: Simple Correlations showing the Relationship between Level of Awareness of Agri-Business Policy and Productivity of Farmers

Variables	Mean	SD	N	df	r	P
Awareness of Agribusiness	1.92	1.666	1263	1261	.000	> .05
Productivity of Farmers	2.27	1.839				

Table 1 shows that awareness of agribusiness policy do not relate significantly with the productivity of farmers [$r(1261) = .000, p > .05$]. This means that the knowledge of farmers about agribusiness policy do not lead to increase in level of productivity within the study area. This finding confirmed null hypothesis 1 and it was accepted.

Table 2: Mean and Standard Deviation showing Differences in the Types of Farming and Benefits from Government Agribusiness Policy

Types of farm produce	N	Mean	SD
Yam	591	2.19	2.098
Cassava	343	2.43	1.747
Fruits	284	2.49	1.680
Total	1218	2.33	1.915

From the mean explanation, it was observed that those producing fruits indicated the highest form of benefits from the government agribusiness policy with a mean score of 2.49 (SD=1.680). This was closely followed by those producing cassava (M=2.43; SD= 1.747), while the least benefit was among those producing yam with a mean value of 2.19 (SD=2.098). This explains that the impact and benefit of government agribusiness policy was mostly felt among farmers producing fruits, while the least impact was with those producing yam.

Table 3: Simple Correlations Showing the Relationship between Awareness of Government Agribusiness Policy and Difficulty Experienced in the Production of Farm Produce

Variables	Mean	SD	N	df	R	P
Awareness of agribusiness	1.92	1.67	1263	1261	.002	> .05
Difficulty with production of farm produce	3.88	1.70				

The result in the above table revealed that the awareness of agribusiness do not relate with the difficulty experienced with the production of farm produce by farmers [$r(1261) = .002, p > .05$]. This implied that farmers’ awareness of government agribusiness policy do not actually have any relevance with their experience of difficulty with production. This result confirmed null hypothesis 3 and it was accepted. There is the possibility that those that has the knowledge of government agribusiness policy do not benefit from the information espoused in the policies. This analysis confirms the existing fear on food insecurity in Nigeria. The two states studied especially Ondo state supplies food even to Lagos and some part of the northern and eastern Nigeria.

8. Conclusion

The population trend in Nigeria has been on a high growth rate. With an annual growth rate of 3.2%, Nigeria is projected to be number three in the world by 2050 with 410,637,868 people. Unfortunately, food production is lower than population growth rate thereby causing incidence of food insecurity in the country. Food shortage can only increase level of aggression and poverty in Nigeria. Problem of food insecurity in Nigeria is therefore imminent because rural farmers that produce for the majority of the consumers have no access to fund. They are confronted with bad road, climate change that affects yields, high cost of transportation, theft and attack by cattle herders who graze over their crops, lack of pesticides to control insect damage and their inability to purchase other supporting technology need for food production.

Pretty, Toulmin and Williams (2011) argued that despite improvements made in African agriculture in recent years, the rate of population growth suggests that the per capita availability of domestically grown food will not change the current problems with requirement for food resource in Sub-Saharan Africa on the scale for 50 and this trend is obtainable in other regions in Africa. Forum for Agricultural Research in Africa (FARA) through its executive director Yemi Akinbamijo (NewAfrican 2014) clearly argues that Africa is lacking in scientific human capital needed for scientific innovations that will drive agriculture in the continent. Akinbamijo (ibid p57) posits that “debates over the use of genetically modified (GM) crops, which can increase agricultural yields but are subject to safety concerns, continue to rage across the continent with different governments taking diametrically opposed decisions...showing lack of independent authority on agricultural

technology issues”. This is a confirmation that food sufficiency as a prerequisite for food security is largely lacking in Africa.

In other word, the problem lies with the inability of a country to ensure availability, accessibility and affordability of sufficient quantity of food. The cardinal policy objective of the Millennium Development Goals (MDGs) aim to eradicating poverty and hunger across the globe, targeting mostly sub- Saharan Africa and Nigeria in particular, however, remains a great challenge. Despite governments’ efforts, Nigeria is not on track to reach the MDG hunger target, and rapid population growth makes tackling hunger problem even more challenging. More measures that target old age welfare policy that can assure families or individual without child or children of adequate care and incentives to families who limits their birth to two children are required to contain population explosion in Nigeria that adversely affects food security.

REFERENCES

- Abdulrahman, S. (2013). ‘‘ Population Growth and Food Security in Nigeria (2010-2012)’’ *Arabian Journal of Business and Management Review* (Nigerian Chapter) Vol. 1, No. 3.
- Abu, O. (2012). Food Security in Nigeria and South Africa. *J Hum Ecol* volume 38 (1) pp132-150
- Adebayo, A. A. (2010). Food Security Status in Nigeria: Pre and Post Deregulation Review’’, *International Journal of Economic Development Research and Investment*. Vol. 1 (1) pp 132-150
- Adejokun, S. (2019). 4.5 million Nigerians joined labour force in 2018 — World Bank. *Tribuneonline.com*. Accessed 21/3/2020
- Adekson, B. J. (1978). On the theory of modernising soldier: a critique. *Current Research on Peace and Violence* vol. 1, no. 1. pp. 28-40
- Adeniyi, I. M.; Abdulrahman, A. & Bello, A. I. (2009). Agricultural Credit Guarantee Scheme and Food Security in Nigeria. *Journal of International Economic Review*, Vol. 2 (1-2) pp167-176.
- Adetiloye, K. A. (2012). Agricultural Financing in Nigeria: An Assessment of the Agricultural Credit Guarantee Scheme in Nigeria (1978-2006). *Journal of Economics*, Vol. 3 (1) pp 39-48
- Alkire, S., (2003). *A conceptual framework for human security*. Centre for Research on Inequality, Human Security and Ethnicity. Oxford University. Working Paper 2.
- Babatunde, B. O & Ajayi, S. O (2010). Food Crisis and Population Growth in Nigeria. Leadership, Mentoring, Coaching and Motivation. *Manager*.
- Baldwin, D .A. (1997). The concept of security. *Review of International Studies*, 23, 1: 5-26. 1
- Baldwin, D. A. (1995). Security studies and the end of cold war. *World Politics*, 48: 117-141.
- Beer, C. E. (1976). *The politics of peasant groups in Western Nigeria*. Ibadan: Ibadan University Press
- Bilewomo, A. D. (2008). The worsening food crisis : a number of factors combine to push up prices of staple food items, compounding an already bad situation especially among the poor. *Tell Magazine*, No. 18. May 5.
- Bongaarts, J. (1996). Population pressure and the food supply system in the developing world. *Population and Development Review* 22:483-503.
- Booth, K. (2005). ‘‘Critical security studies and world politics’’. Boulder: Lynne Rienner.
- Boserup, E. (1981). *Population and Technological Change: A Study of Long-Term Trends*. Chicago: University of Chicago Press.
- Bremner, J. (2012). Population and Food Security: Africa’s Challenge, *Policy Brief, Population Reference Bureau*
- Brown, L. (1997). Redefining national security. *Worldwatch Paper*, Washington: Worldwatch Institute.

- Burgess, P. J. (2008). *Non-military security challenges*. In Craig A. Snyder (ed), *Contemporary security and strategy*. New York, Palgrave Macmillan. pp 60-78.
- Buzan, B. (1991). *People, States and fear: an agenda for international security studies in the post-cold war era*. 2nd edn, Boulder: Lynne Rienner.
- Castles, F. G. (2007). *Introduction* in Francis G. Castles, *The disappearing state: entrenchment realities in age of globalization*. USA: Edward Elgar
- Cohen, J. E. (1995). *How Many People Can the Earth Support?* New York: W.W. Norton.
- Dalby, S. (1997). *Contesting an essential concepts: reading the dilemmas in contemporary security discourse*, in Krause, K. and Williams, M.C. (eds). *Critical security studies: concepts and cases*. Minneapolis: University of Minnesota Press.
- Dalby, S. (2000). *Geopolitical change and contemporary security studies: contextualizing the human agenda*. Working Paper No. 30, Vancouver: Institute of International Relations. The University of British Columbia.
- Der Derian, J. (1993). *The value of security: Hobbes, Marx, Nietzsche, and Baudrillard*, in Ronnie D. Lipschutz (ed). *On Security*. New York: Columbia University Press.
- Djerassi C. (1979). *The politics of contraception: A global perspective on fertility control today and into the twenty-first century*. Canada: George J. McLeod
- Ehrlich, P. R & Ehrlich, A. H. (1990). *The population Explosion: From Global Warming To Rain Forest Destruction, famine, and Air and Water Pollution- why overpopulation is our no.1 environmental problem*. New York: Simon and Schuster
- Eme, O. I., Onyishi, T., Okala A. & Uche, I.B (2014). *Challenges of Food Security in Nigeria: Options Before Government*, *Arabian Journal of Business and Management Review (OMAN Chapter)*. Vol. 4, No.1.
- Ero, A. (2013). *We will never accept abortion law*. *Tell Magazine*, No 41. October 14.
- Gee, E. M. (1999). *Population Growth*. Retrieved from: <http://www.deathreference.com/Nu-Pu/population-Growth.html#b#ixzz2ICoYU8el>. Accessed 3/2/2020.
- Gueye, M, Abdelkarim O. B. & Diop Ly M. (2013). *Modernizing agriculture* in Agnes Soucat and Mthuli Ncube (eds). *One Billion People, One Billion Opportunities: Building Human Capital in Africa*. Washington D.C. Communications Development Incorporated
- Harper, C. (1996). *Environment and Society*. Upper Saddle River, NJ: Prentice Hall.
- Hudson M. (2015). *Killing the host: How financial parasites and debt destroy the global economy*. Baskerville: ISLET-Verlag
- Huysmans, J. (1998). *Security! What do you mean? From concept to thick signifier*. *European Journal of International Relations* 4, no. 2. Pp 226-255.
- Inter-Agency Regional Analysis Network, (2016). *Nigeria trend analysis: Challenges and opportunities of the demographic shift and its link to stunting: An outlook to 2030 Central & West Africa Report*.

- International Fund for Agricultural Development (IFAD 2012). *Nigeria IFAD. Annual report*
Retrieved from: <http://www.foodsecurityportal.org/nigeria/resources>. Accessed 11/3/2020
- Iwu, H. N. (2015). Nigeria's Population Policy, Unemployment and National Security''. *Journal of Faculty of Social and Management Sciences, Adekunle Ajasin University Akungba Akoko, Ondo State, Nigeria*
- Iwuchukwu, J.C & Igbokwe, E.M (2012). 'Lessons from Agricultural Policies and Programs in Nigeria, *Journal of Law, Policy and Globalization* (online) retrieved on 10th January, available at www.iiste.org. Vol. 5.
- Jere, R. J. (2014). How Africa can feed itself beyond food aid and corporate greed. *New Africa. March*, Issue 537, An Ic Publication.
- Johari, J. C. (2015). *International Relations and Politics: Theoretical Perspectives in the Post-Cold War Era*, Sterling Publishers Pvt. Ltd., New Delhi
- Joseph, R. & Gillies, A. (2009). Smart aid for African development. Boulder London: Lynne Rienner Publishers
- Joseph, W. A. (2010). China. In *Mark Kesselman, Joel Krieger and William A. Joseph (eds). Introduction to comparative politics*. WADSWORTH Gengage Learning
- Kaldor, M. (2000). *Global insecurity: restructuring the global military sector*. London: Printer Vol. 3.
- Kegley, C. W. Jr & Blanto, S. L. (2011). *World Politics Trend and Transformation*, 2010-2011 Edition, Wadsworth.
- Makinwa-Adebusoye, P. K. (2014). *Attaining a Demographic Dividend in Nigeria: How a Young Population Can Make Development Possible*. Ibadan: Jodad Publishers.
- Malthus, T. (1798). *An Essay on the Principle of Population*. 6th Edition. John Murry, London, United Kingdom.
- Mundi Index (2012). *Country Facts and Figures*. <http://www.indexmundi.com/facts/indicators/nigeria>
- NewAfrican (2014). Interview with Yemi Akinbami, Executive Director FARA. No. 544
- Nnamdi, F. (2008). *Trouble for a mega polygamist*. The News. September 29. Vol.31. No. 12.
- Ojebode, M. (2017). Preserving Pollinator is Imperative for food Security. *Financial Nigerian Magazine*.
- Okunmadewa, F. (2002). Food insecurity and poverty in Nigeria: Breaking the jinx'' in K.C. Oni, M.O. Faborode, and A.P. Onwualu, (2002). *Food security and poverty alleviation in West Africa: Option and action plan*. Ghana: Department of Agricultural Engineering, Kwame Nkrumah University of Science and Technology pp 2-12
- Olayide, O. S. (1980). Characteristics, problems and significance of farmers. In S. Olajuwon Olayide, J. A. Eweka & V. E. Bello-Osagie. *Nigerian small farmers: problems and prospects in integrated rural development*. University of Ibadan: Centre for Agricultural Rural and Development (CARD), PP 2-15

- Oni, K.C, Faborode, M. O., & Onwualu, A. P. (2002). *Food security and poverty alleviation in West Africa: Option and action plan*. Kumasi Ghana: Department of Agricultural Engineering, School of Engineering. Kwame Nkurumah University of Science and Technology.
- Ophuls, W. & Boyan, S.A. (1992). *Ecology and the Politics of Scarcity: Re-visited*. New York: W.H. Freeman.
- Orjiako, H. (2000). *Killing sub-Saharan Africa with aid*. New York: NOVA Science Publishers, Inc
- Pretty, J., Toulmin, C. & Williams, S. (2011). Sustainable intensification in African agriculture” In Julues Pretty, Camilla Toulmin and Stella Williams. Sustainable intensification: increasing productivity in African food and agricultural systems. *International Journal of Agricultural Sustainability* 9(1) 5-24.
- Rapley, J. (1996). *Understanding development: Theory and practice in the Third World*. London: Lynne Rienner Publishers
- Reutlinger, S. (1986). *Poverty and hunger: Issues and options for food security in developing countries*. Washington, DC: The World Bank.
- Rosegrant, M. W. & Cline, S. A. (2003). Global Food Security: Challenges and Policies Science. *American Association for the Advancement of Science*. New Series, Vol. 302, No. 5652, pp. 1917-1919
- Scanlan, S. J. (2001). Food Availability and Access in Lesser-Industrialized Societies: A Test and Interpretation of Neo-Malthusian and Technoecological Theories. Springer: *Sociological Forum*, Vol. 16, No. 2, pp. 231-262
- Simon, J. L. (1981). *The Ultimate Resource*. Princeton, NJ: Princeton University Press.
- Simon, J. L. (1990). *Population Matters: People, Re-sources, Environment, and Immigration*. New Brunswick, NJ: Transaction.
- Smith, D. W. (1998). *Urban Food Systems and the Poor in Developing Countries*. Blackwell: The Royal Geographical Society: Transactions of the Institute of British Geographers, New Series, Vol. 23, No. 2, pp. 207-219
- Soucat, A., Elaheebocus, N. & Ncube, M. (2013). *Overview of Africa’s rapidly changing human capital landscape*. In Agnes Soucat and Mthuli Ncube (eds). One Billion People, One Billion Opportunities: Building Human Capital in Africa. Washington D.C. Communications Development Incorporated
- Todaro, P. M & Smith, S. (2011). *Economic development*. Addison-Wesley Pearson
- Tweeten, L. G. (1997). *Food security*. In Luther G. Tweeten and Donald G. McClelland (eds.), Promoting Third-World Development and Food Security: 225-226. Westport, CT: Praeger.
- Ukwu, J. W. (2015). *IMF: Nigeria Now World’s 22nd Largest Economy*”, in Business and Economy News, NAIJ.com, Nov. 28.
- UNICEF Nigeria. (2019). *UNICEF for every child*. <https://www.unicef.org/nigeria/nutrition>. Accessed 11/3/2020

- United Nations Development Programme (UNDP) (1994). *Human Development Report*. New York: Oxford University Press.
- Vanguard (2017). *Nigeria to become 3rd most populous country by 2050 – UN report, June 21, 2017* available at <https://www.vanguardngr.com/2017/06/nigeria-become-3rd-populous-country-2050-un-report/>
- Wikipedia (2017). “Food Security and Nigeria population”. available at [www.http://en.wikipedia.org/wiki/food_security](http://en.wikipedia.org/wiki/food_security).
- Worldometer (2017). *Elaboration of data by United Nations, Department of Economic and Social Affairs, Population Division. World Population Prospects: The 2017 Revision. (Medium-Fertility Variant)*. Retrieved from: <https://www.worldometers.info/>
- W@ver, O. (1995). *Securitization and desecuritization* in Ronnie D. Lipschutz (ed). *On Security*. New York: Columbia University Press.