



## **SUSTAINABLE AGRICULTURAL DEVELOPMENT IN THE ERA OF RURAL INSECURITY**

*Keynote Address presented by*

**Akpabio, Iniobong Aniefiok, PhD**

*Professor of Environmental and Development Extension*

*Department of Agricultural Economics and Extension*

*University of Uyo, Nigeria*

[dr\\_akpabio2@yahoo.com](mailto:dr_akpabio2@yahoo.com)

### **ABSTRACT**

Agriculture is the mainstay of the Nigerian economy as it provides a means of livelihood for an estimated 65% - 70% of the country's population. It is also the major driver of the non-oil sector of the economy and is reputed as the most important and resilient sector in the Nigerian economy. Hardly can a country industrialize without first modernizing its agricultural sector; this is because agriculture can rapidly reduce poverty, due to its ability to create powerful engines of rural economic growth. There is however a seeming disconnect between Nigeria's agricultural sector and its economic abundance. This situation is exacerbated by the prevailing unprecedented level of insecurity in the country. This keynote paper attempts to proffer solutions, as to ensure sustainable agro-development in the prevailing horrendous insecurity situation. It commences from background situation on the Nigerian economy as it relates to agro-development, and dovetails into the way forward for agro-transformation in Nigeria, even in the face of a seemingly insolvent insecurity situation.

*Keywords: Agricultural development, rural insecurity, socio-economic fabric, Infractions and Inequities, general barriers.*

### **INTRODUCTION**

Agriculture is the major occupation in developing countries of the World. The World Development Report (2008) divides developing economies into three groups of Urbanizing, Transforming and Agricultural countries. Urbanizing countries are mostly in Latin America (but also South Africa) with 255 million people, transforming countries are mainly in East Asia and the Middle East and North Africa (MENA) with about 2.2 billion rural people, while agricultural countries are mostly in Sub – Saharan Africa (SSA) with 417 million rural people. It is in the agricultural countries, most of which are now in SSA, in which agriculture can contribute most to poverty reduction, but it is also in these countries in which it has lagged the most and confront the biggest barriers to growth. The World Bank Group (2014) views Sub – Saharan African as the region with the lowest per capita incomes, largest shares of value-added capture by agriculture, the largest share of the workforce employed in agriculture, and lowest agricultural labour productivity.

It is instructive to note that the role of agriculture in stimulating inclusive economic growth is significant. This is because agricultural transformation plays a critical role in transforming

developing economies to end hunger and under nutrition while accelerating economic growth. Yifu Lin (2018) avers that countries that have achieved high-income status started with agriculture and went through an economic transformation that accelerated growth and reduced hunger and under nutrition. He attributes China's rapid growth in GDP per capita in current US dollars from \$155 to \$8,123 between 1978 and 2016 to agricultural transformation. Many other countries in Asia, Latin America and Africa have also utilized agriculture as the path to national transformation. Brazil and Vietnam, at the least, doubled the value of their agriculture sector within 20 years of starting its transformation, while Ethiopia and Rwanda, reduced poverty by 33% since 2000, with an agricultural GDP growth of near 10% per year being the main driver.

Arising from its multifunctional nature, a strong and efficient agricultural sector has a multiplier effect on a nation's socio-economic and industrial fabric, as it is expected to; ensure food security, provide raw materials for industries, generate respectable employment, enhance poverty reduction, earn foreign exchange and generally ensure inclusive economic growth.



Nigeria is West Africa's largest country, with 70 percent of the sub-region's GDP and 50 percent of its population. It is also the sub-region's most food-secure country. Nigeria's per capita income is higher than the sub-regional average, and it has one of the lowest shares of food-insecure people within the sub-region (just over 10 percent). According to USDA (2018) this is projected to fall to just over 4 percent by 2028. Due to the size of the country, this still leaves about 10 million people food-insecure, which is one-fourth of the estimated total population of West Africa in 2028. This current scenario may be worsened if cognizance is taken of the Hunger and Nutrition Commitment Index (HANCI-Africa, 2017) ranking which places Nigeria a very low 37<sup>th</sup> out of 45 countries in its commitment to ending hunger and malnutrition (Eagle-on-line, 2017).

Agriculture is the mainstay of the Nigerian economy. It provides a means of livelihood for an estimated 65% - 70% of the country's population. It is the major driver of the non-oil sector of the economy, contributing about one-third of annual economic growth. Agriculture is reputed as the most important and resilient sector in the Nigerian economy. The contribution of the agricultural sector to the Nigerian economy in 2010-2017 averaged 3.7 Billion Naira, covering about 40 percent of the GDP (On-line-Nigeria, 2017). The paper also reports that the triple sized expansion of the Nigerian economy in 2015 resulted from agriculture (27% growth); while the financial, oil and gas, trading and manufacturing sectors grew by only between 1.4 – 18%. It has been reported that the last time the agricultural sector contributed negatively to GDP was in 1987 (Proshare, Sept 28, 2017). It was the only sector that did not decline during the recession period (which lasted for five quarters, between 2016 and 2018) and, without which the country's GDP would have contracted by 2.5 percent in 2016. However agriculture contributed 24.4% to the country's GDP in that year and hence helped to stem the country's recession. The sector also intensified its strength as it expanded by 4.23 percent in the fourth quarter of 2017.

The agricultural sector is however still characterized by a 60-70% labour force, working on rain fed small and scattered holdings, utilizing simple tools, and shifting cultivation and yet producing over 80% of total food requirement for the country.

Recent attempts by the Federal Government to diversify the economy with regards to agricultural development led to the introduction of the Agricultural Transformation Agenda (ATA) between 2011 and 2015. The ATA was based on the principle that saw agriculture as a business, with the main priority to reintroduce the Nigerian economy to

sustainable agriculture, centered on business-like attitude mainly driven by the private sector.

The ATA had its deficiencies, and these, the current regime of President Mohammed Buhari has attempted to address through its Agricultural Promotion Policy (APP) which is aimed at resolving food production shortages and improving output quality. The Economic Recovery Growth Plan (ERGP) of the present administration also prioritizes food security and is primed to achieve self sufficiency in major crop commodities by 2020, during which the value of agricultural production is projected to be increased by 31 percent to NGN 21 trillion in 2020. The above stated policies and plans seem to be achieving its stated objectives, because as reported by FAO (2018) Nigeria's aggregate cereal output in 2017 was estimated at about 26 million tons, which is about 2 percent higher than the penultimate season's output and 12 percent above a five-year average.

In spite of all the accolades reported about the indispensable role of agriculture in the Nigerian economic development process, there is a seeming disconnect between the agricultural sector and its contribution to Nigeria's survival and ultimate sustenance. Agriculture is widely regarded as having an undisputable capacity for employment opportunities and contributed 17.42% to nominal GDP in the first quarter of 2018. This is however not reflected in the ever expanding labour market. The unemployment rate was 18.8% in the third quarter of 2017, while youth unemployment increased to 33.10 percent in the third quarter of 2017 from 29.50 percent in the second quarter of 2017. The NBS Labour Force Statistics (2018) reported that out of the 85.08 million active labour force in Nigeria in 2017, 51.06 million people were fully employed, 16 million was unemployed while 18.02 million was underemployed. It had been reported that about 60% of unemployed Nigerians are in the 15 – 44 years age group – including about 2.1 million graduates. (Reuben, 2018; Financial Watch, Nigeria; 2018).

The above-stated statistics do not augur well for national development. It is against the above-detailed background that Nigeria is conspicuously missing in the list of Africa's top 10 most advanced food-secure countries. The list, as released by the Africa Country Benchmark Report (ACBR, 2017) published by In-On-Africa (2017) depicts Tunisia, Morocco and Algeria as the most food-secure countries in Africa.

According to the ACBR (2017) the above-stated countries have some characteristics in common. All are democracies; all are at peace, all have historic trade routes with foreign markets and none is geographically landlocked. As democracies, their governments are more attentive to the needs of their



populations (i.e. voters). As countries at peace, they are able to focus national spending and efforts on food security. These conditions of more pro-people governance and absence of armed conflict – also lead to more prosperous economies, allowing citizens to purchase more and better quality food. These ten nations also have export-driven trading economies, where movement of food stuffs has been going on for centuries. Such trade assures availability of food even when local crops are affected by natural disaster. However, many of these countries are perennial food exporters, having long succeeded in growing surplus food for the international market.

Nigeria's agriculture must be empowered for a better and sustained performance of its avowed and well-touted roles. Nigeria's effort at revitalizing its agricultural heritage is however hampered by the unprecedented level of insecurity presently being experienced in the country. This has made national security threat to be a major issue for the government and has prompted huge allocation of the national budget to security. In order to ameliorate the incidence of crime, the federal government has embarked on criminalization of terrorism by passing the Anti-Terrorism Act in 2011. It has also embarked on fundamental surveillance activities as well as investigation of criminal related offences, heightening of physical security measures around the country aimed at deterring or disrupting potential attacks, strengthening of security agencies through the provision of security facilities and the development and broadcast of security tips in mass media. Despite these efforts, the level of insecurity in the country is still high. In addition, Nigeria has consistently ranked low in the Global Peace Index, signifying a worsened state of insecurity in the country.

The Global Peace Index (GPI-2019) which measures peacefulness across three domains: safety and security, ongoing conflict, and militarisation has placed Nigeria among the five least peaceful countries in Sub-Saharan Africa, including Democratic Republic of Congo (155), Central African Republic (157), Somalia (158) and South Sudan (161). The GPI also ranked Nigeria as 148th among 163 independent states and territories, according to their level of peacefulness. Nigeria's low rating, according to the Report is exacerbated by climate change hazard and lack of water (especially in Lake Chad region) with 24 percent of its population at risk. These have negatively affected conflict dynamics, because arising from unemployment and related food insecurity, Boko Haram and other terrorist organizations are able to successfully recruit unemployed youths in the area. It is against the above-enunciated background that the World Economic Forum in its 2018 Global

Competitiveness Index, ranked Nigeria 115 out of 140 countries. This means it moved three places downward from its 2017/2018 ranking of 112 out of 135 countries. This may also be one of the reasons the African Development Bank (2019) pointed accusing fingers at Nigeria and South Africa as 'pulling down Africa's average growth'.

All hope is not lost however, with regard to Nigeria's potential drive for agricultural transformation. As far back as 2011, Sanghvi, Simons and Uchoa, writing in McKinsey Quarterly (2011) had predicted 11 Africa countries, including Nigeria, as having the highest potential to increase food output in Africa through a focus on commercial farming. Of recent too, Goedde, Ooko-Ombaka, and Pais (2019) while analyzing productivity potentials across 44 countries in sub-Saharan Africa showed that nine countries make up 60 percent of the total potential, with three countries—Ethiopia, Nigeria, and Tanzania—comprising half of that.

It is against this back ground of rays of hope that this keynote paper has been articulated, with the main aim of attempting to proffer ideas on ways and means to enhance the performance of Nigeria's agriculture sector, even in the face of looming insecurity threats. It is however pertinent to note that for sustainability, the worsening insecurity situation must be addressed, arrested, and eventually contained as nothing practically can be achieved in the face of threats to lives and property. This paper encompasses various facets. It shall first focus on the state of insecurity in Nigeria; it will then articulate the present state and constraints of Nigeria's agricultural development. Another facet will deliberate on various insecurity-oriented (infractions and inequities) against Nigeria's agriculture and the entire socio-economic fabric, while the final aspect of this paper will detail ways and means to ensure the transformation of Nigeria's agriculture sector, even in the face of escalating security challenges.

## **2. INSECURITY IN NIGERIA**

Recently, Nigeria has witnessed an unprecedented level of internal insecurity (militancy, armed robbery, kidnapping, Boko Haram, herdsmen, hired assassins, terrorism etc). This has threatened national security and has prompted huge allocation of the national budget to security. The 1999 Constitution of the Federal Republic of Nigeria specifically states that "The security and welfare of the people shall be the primary purpose of government". Unfortunately, government on this constitutional responsibility has failed to provide a secured and safe environment for lives, properties and the conduct of business and economic activities. The alarming level of insecurity in Nigeria has



increased the crime rate and terrorists attacks in different parts of the country, leaving unpalatable consequences for the nation's economy and business (especially, agricultural) growth (Okonkwo, Ndubuisi-Okolo and Anagbogu -2015).

According to Nigeria - South Africa Chamber of Commerce (NSACC-2016) Security refers to stability and continuity of livelihood (stable and steady income), predictability of daily life (knowing what to expect), protection from crime (feeling safe), and freedom from psychological harm (safety or protection from emotional stress which results from the assurance or knowing that one is wanted, accepted, loved and protected in one's community or neighbourhood and by people around. It focuses on emotional and psychological sense of belonging to a social group which can offer one protection). The general understanding, however, is that security is not the absence of threats or security issues, but the ability to rise to the challenges posed by these threats with expediency and expertise.

On the other hand, according to Ubong King (In: NSACC (2016) Insecurity may be regarded as "the state of fear or anxiety, stemming from a concrete or alleged lack of protection." It refers to lack or inadequate freedom from danger. This definition reflects physical insecurity which is the most visible form of insecurity, and it feeds into many other forms of insecurity such as economic security and social security.

Foreign observers have located the sources of insecurity in Nigeria in four factors: political conflicts; unbalanced development that involves horizontal inequalities; religious/ethnic distrust; and leadership failure (NSACC, 2016). It could however also, be associated with low level of economic development as a result of poor governance and high level corruption.

A congruence of authors (Obayori et al., 2018; Okonkwo, Ndubuisi-Okolo and Anagbogu, 2015; NSACC, 2016; Egbefo and Salihu, 2014 ) however itemise causes of insecurity in Nigeria to include: Lack of institutional capacity resulting in government failure, described as the corrosion or breakdown of institutional infrastructures; pervasive material inequalities and unfairness; ethno-religious conflicts; conflicts of perceptions and expectations between the public and government; weak security system (inadequate equipment for the security arm of government, both in weaponry and training, in addition to poor attitudinal and behavioural disposition of security personnel); loss of Socio-cultural and communal value system; porous borders- leading to influx of immigrants and proliferation of Small Arms and Light Weapons; rural /urban drift; unemployment and poverty; social irresponsibility of companies and terrorism .

Terrorism: A little more should be said on the issue of terrorism. At the most proximate and least disputable level, terrorism is the most fundamental source of insecurity in Nigeria today, and its primary base. Sources of support have generally been located in religious fanaticism and intolerance. It is "the premeditated use or threat of use of violence by an individual or group to cause fear, destruction or death, especially against unarmed targets, property or infrastructure in a State, intended to compel those in authority to respond to the demands and expectations of the individual or group behind such violent acts (NSACC, 2016).

A clear and engulfing dangerous terrorist threat is that of the Fulani herdsmen. It is clear that the deadly escapades of arms-bearing herdsmen are becoming increasingly unsettling. They have left their footprints in virtually every part of the country. In their last outings, they have been very unsparing of hapless communities. Militants from the Fulani ethnic group are believed to have killed an uncountable number of people, and their activities threaten the peace, security and unity of the nation as one geographical entity and are capable of retarding growth and development in all spheres of people's lives.

Effects of terrorism and other insecurity-enhancing activities could be expressed singly or in multivariate of economic, political, social, religious, educational occurrences (See Ndubuisi, 2018). With reference to agricultural development the effects include; loss of produce in storage, displacement of farmers, reduction in output and income of farmers/nomads and scarcity of Agricultural products (Ajibefun, 2018).

The implications of the Nigeria insecurity situation for agricultural and other business activities cannot be overemphasized and there is a strong skepticism that if the level of insecurity in our country is not scaled down, our vision to be among the best 20 countries of the world may be aborted. We must strive to get to a level where crimes will be nipped in the bud before they are perpetuated. Therefore, the government, civil society groups, business organization and individuals must fight insecurity so as to create an enabling environment where business organizations will feel free and secured to achieve their full potentials and the country will itself be safe to achieve sustainable development.

### **3. INSECURITY IN THE AGRICULTURE SECTOR**

It has been asserted (Egbefo and Salihu, 2014) that the real security threat in Nigeria is the problem of underdevelopment, poverty, political instability and social injustice. These threats cannot be reasonably confronted by military preparedness. The crudest



expression between security and the socio-economic and political structure is expressed by the cliché about the choice between the guns and butter. ‘More butter for the populace rather than guns to defend their peace’. Dwight Eisenhower (in Briggs, 1990:313) corroborated this when he said: “no matter how much we spend for arms, there is no safety in arms alone. Our security is the total product of our economic, intellectual, moral and military strength” the emphasis here is that too much emphasis on military hardware does not necessarily determine national security or prevent security crisis.

Insecurity is rife in the agricultural sector due to neglect and nonchalant attitude of the government and other stakeholders in the sector. Akpabio (2018) refers to those acts as infractions and inequities on the agricultural sector. According to him, a lot has to be done, in order to revamp Nigeria’s agricultural sector, which has been described as one of the most underfunded in the world. Nigeria’s budgetary allocations to agricultural sector have not exceeded 2 per cent, until the 2018 budget allocation of 3.2 percent. This is contrary to the Comprehensive Africa Agriculture Development Programme’s (CAADP) Maputo Declaration’s 10 percent agricultural expenditure target in any year.

With regard to public Agricultural research and development (R&D) spending plans, figures reveal that between the periods of 2010-2015 Nigeria spent on the average, only about 1.5 percent of the budget on agricultural research activities [cf. Uganda (12.6 percent), Benin (17.0 percent), and Côte d’Ivoire (20.0 percent)] (Benin, McBride and Mogue, 2016) . It is not surprising therefore, why Nigeria has been ranked a very low 11<sup>th</sup> position out of 22 African countries, with regard to the Global innovation index 2018. South Africa, Mauritius and Kenya are ranked among the best places for innovation in Sub-Saharan Africa (Ojekunle, 2018). In a related development, Nigeria has been ranked 125<sup>th</sup> position, out of the 137 countries on the World Economic Forum’s (WEF) Global Competitiveness Index (GCI) for 2017-2018 (This day live, 2017).

Lending to the agricultural sector peaks at 3 percent for 2017 (cf. Kenya -6%; Brazil, 18%). This abysmal trend also re-echoes in Africa, where it is reported (Ssozi, Asongu & Amavilah, 2017) that of the total Foreign Direct Investment (FDI) in flow to Africa only an abysmal 0.04 percent goes into agriculture .

It has been reported by the International Fertilizer Development Centre (IFDC) that fertilizer use in Nigeria increased by 63% in 2017 rising from 959,364 metric tonnes in 2016 to 1,564,816 metric tonnes. (Punch on-line, 2018). Reports (IFDC, 2010; Knoema, 2018) indicated that this increased the

fertilizer use proportion in the country from 7kg/ha in 2010 to 8.3 kg/ha, as at 2015. At this rate, it still remains one of the lowest in SSA, which has an average of 8kg/ha (far less than the global average of 99kg).

Less than 1% (8, 000 tonnes) of improved seed inputs, is made available to farmers out of the estimated required figure of 1, 000, 000 tonnes per annum. Reports reveal that less than a third of African farmers use improved inputs. With regard to mechanized agriculture, the FAO reported that Africa has less than 50 agricultural tractors per 100 square kilometres of arable land and classifies Nigeria as one of the least mechanized farming countries globally, with a tractor density of 0.27hp/ha, far below FAO recommended 1.5hp/ha. It then ranked Nigeria 132<sup>nd</sup> out of 188 countries surveyed on agricultural mechanization (Business day on-line, 2017). Against this background, it has been estimated that Nigeria needs about 750,000 tractors to be at par with global average (Business day on-line, 2017)

As a fall out from the above depicted scenario, Africa is reported to have the highest share of food loss and waste, which totals 36 percent. According to the Malabo-Montpellier Panel (IFPRI, 2018) the major share of this, about 30 percent is lost due to poor harvest, post-harvest, processing, and packaging processes. In Nigeria, post-harvest losses have been estimated at About 15 – 40%. To compound matters, agricultural re –investment is at very low ebb, because only a reported 1 percent of farmers can easily access insurance, while of the estimated 20 million commercial farmers in Nigeria, only 700,000 (3.5%) have accessed agricultural insurance in the last five years as of 2014, implying over 19 million farmers are still not served (OXFAM-2017).

#### **4) INSECURITY IN THE SOCIO-ECONOMIC FABRIC OF THE ECONOMY**

A clear paradox in Nigeria is that of reported increase in domestic food production and increasing hunger and malnutrition in the country. CBN (2016) reported an increase of 3.5% in food production and 5.9% in livestock and fishery. The report also indicated that over 20 million MT of food was added to Nigeria’s domestic food production between 2012 and 2015. In spite of the above-stated figures, the Food and Agriculture Organization (FAO-2017) declared that in March 2017 about 7.1 million people in Nigeria were facing acute food insecurity and in need of urgent life-saving and livelihood protection. In a similar vein, Nwalie (2017) quoted statistics indicating that the proportion of Nigerian population that were undernourished in 2008 was 5.9%,



however in 2016 that proportion has gone up to 7% .

On a related note, the Global Hunger Index of International Food Policy Research Institute (IFPRI), data shows that from 2001 to 2014 Nigeria food insecurity situation remained on the “serious” category, which is between the score of 10.0-19.9 using the old formula and it has remained in the serious category up to 2016 scoring 25.5 in the new formula. In other words no significant change was recorded. (Nwalie, 2017) It is also reported (FAO - 2018) that Nigeria is still the largest rice importer in Africa, importing on average about 2.6 million tonnes per year. The FAO asserted that despite the above-average 2017 production, import requirements for the 2017/18 (November/October) marketing year are set at 7.8 million tonnes, with an increase by about 7 percent compared to the previous year and about 6 percent above the average due to higher demand for human and industrial use. With regard to food inflation, especially, in terms of prices of food items, Okojie (2018) reports that despite the continuous increase in Nigeria’s food prices, global commodity prices have been declining. She quotes figures from the FAO food price commodity index, to the effect that on a global level, prices of major food commodities declined for the fifth year in a row in 2016, averaging 161.6 points for the year as a whole. In contrast, the NBS shows that the country’s food inflation rose by 17.39 percent year-on-year in December 2016, up by 0.20 percent recorded in November, 2016. Okojie (2018) also quotes data from the National Bureau of Statistics (NBS) showing that between January, 2016 and January, 2018, food prices have been skyrocketing, not just because of inflation, but partly due to conflicts, mainly in the northern part of the country.

In a related development, the Brookings Institution has rated Nigeria as the nation with the highest number of extremely poor people in the world. According to the report, “at the end of May 2018, Nigeria had about 87 million people in extreme poverty and the number of Nigerians in extreme poverty increases by six people every minute (Vanguard Newspaper, 2018).

The inflation Rate in September, 2017 was reported at 15.98% resulting in low purchasing power, while Nigeria ranked a very lowly 6<sup>th</sup> on Hanke’s Misery Index 2017, behind Egypt, and with an index score of 52.1. On the prosperity Index, the Legatum Prosperity Index ranked Nigeria 128<sup>th</sup> out of 149 countries. Nigeria also ranked a poor 131<sup>st</sup> in Economic Quality sub-index. Despite being Africa’s largest economy, the country has been unable to exploit its vast resources for the benefit of its population. Its rising tide of economic growth has failed to boost its economy because as reported by

the Legatum Prosperity Index, Nigeria has the highest poverty rate in all OPEC countries.

Against the above detailed scenario, hunger and poverty have become the lot of majority of the Nigerian citizenry. It has been reported that 60.9% Nigerians lived in abject poverty (less than US\$1 or N160/day) in 2010, while 64.4% lived below the poverty line of US\$1.25/day (NBS, 2012). Against this background, Nigerians spend over half (56.4%) of household income on food (the highest of all the 10 nations, world-wide that spend more than 40% of their income on food). This is in sad comparison to the USA where its citizens spend at least 6.4% household budget on food. Oxfam (2017) views poverty in Nigeria as outrageous because it thrives in the context of expanded economy, where benefits are reaped by a minority. Oxfam (2017) avers that lifting all poor Nigerians living below the poverty line of USD1.90 for one year will cost about USD 24 billion, the amount of which is lower than the total overall wealth owned by the five richest Nigerians (USD 29.9 billion).

## 5. GENERAL BARRIERS TO A MORE PRODUCTIVE AGRICULTURE SECTOR

Akpabio (2012a, 2012b, 2015) Otavio Veras (2015); Downie (2017) and Price Water House (PWC-2017) attempted a summary of the salient macro-level barriers to a more productive Nigerian agricultural sector. These are as abridged below (full details in Akpabio (2018) to include:

- i) **Uncompetitive environment for agribusiness** (infrastructure deficits and governance shortfalls);
- ii) **Production constraints:** Lack of/ high cost/ lack of education on use of inputs like fertilizer etc and proliferation of pest attacks.
- iii) **Gender and Land Tenure/Access:** Insecure land tenure, especially against female farmers is a great impediment to rural economic development.
- iv) **Marketing/Trade constraints:** Poor logistics infrastructure, high cost of transportation, bad roads, and long distances from the farms to the market, underdeveloped value chains and limited understanding of key export markets (US, UK and EU); negatively impact the marketing of agricultural produce
- v) **Processing constraints:** Inadequate extension services for post – harvest handling, poor quality control, and limited use of modern processing practices and technology have limited the processing of agricultural output.
- vi) **Lack of access to credit:** Nigerian banks are wary of extending loans to farmers, even in the face of initiatives like Nigeria Incentive-Based Risk Sharing System for Agricultural Lending (NIRSAL). The ongoing recession has choked



lending and by September 2016 the average interest rate of loans to the agriculture sector had risen to 26 percent.

- vii) **Lukewarm political commitment:** Rhetorical supports by various levels of governance as tool of economic diversification are not backed by budgetary support/ policy enactment/ implementation.
- viii) **Neglected agricultural research system:** Nigeria's agricultural research system, the largest in sub-Saharan Africa, has stagnated. It is plagued by inadequate funding, poor research infrastructure and unskilled workers and has become largely disconnected from the priorities of Nigerian farmers.
- ix) **Lack of subsidies-** Wealthier countries subsidise their farmers. For example, members of the Organization for Economic Cooperation and Development (OECD) spent a total of \$258bn subsidizing agriculture in 2013. As a consequence, wealthy nations inflate their agricultural outputs to an artificial level, frequently flooding the commodities market and bringing prices down. This creates an unfair competition in the global market, where the most affected (negatively) are the small farmers in the poorest countries, where government subsidies are none-existent. An agreement was however reached in 2015, to change the narrative in the period between 2018 and 2023.

## **6. MEASURES TO DEVELOP AGRICULTURE IN THE ERA OF INSECURITY**

A very effective way to improve the lives of millions in poverty is to support the development of agriculture in developing agricultural countries like Nigeria. Only few countries have industrialized without first modernizing their agriculture sector. Most of the world's poor are small scale farmers, and those who are not, spend much of their income on food. A focus on the development of a country's agriculture sector can create jobs, raise incomes, reduce malnutrition, and kick-start the economy on a path to middle-income growth. Although rural families often make their living from many different types of work, improvements in farming have proved to be the path toward widespread, poverty-reducing growth in the rural economy.

Successful agricultural transformations have focused on the farming household, providing opportunities for farmers to earn a better income. As farmers have more money in their pockets, they spend more in the local economy, creating jobs opportunities, and more demand for agricultural goods (Boettiger, Denis and Sanghvi, 2017). The dynamics of an agricultural transformation start with increasing the income of rural households, higher productivity on farms, and greater demand in local

markets. As the sector becomes more productive, larger markets are served, agro processing expands, and some farmers decide to spend less time farming and take other jobs that offer better economic opportunities. With few exceptions, as countries move along an economic-development path, their agriculture sector modernizes, becoming more efficient and less labor intensive. At the same time, non-agriculture sectors in the economy (for example, manufacturing and service sectors) grow and absorb more labour (Boettiger, Denis and Sanghvi (2017).

The case of China is an example of the above-stated scenario. China undertook its agricultural transformation on a massive scale, but its genius lies in small, practical approaches. The drivers of Chinese reform, focused on smallholders, manifested themselves in programs at the micro level: undertook extension programs in every village; practiced agricultural engineering that emphasized small tools, machines, and systems; and provided incentives that engendered self-financing, iterative improvements, and incremental learning. By contrast, African leaders, as well as Western donors and investors, sometimes try to tackle problems with large-scale models and expansive programs that are inappropriate for smallholders.

It is also not easy to overlook the role of technology in China's rural-development story. China created or expanded scores of R&D institutes and universities focusing on agricultural innovations. New models for seed, fertilizers, and hydraulics were implemented; agronomics flourished as an academic pursuit with practical applications; a million-person extension service was instituted and China created direct links to farmers to ensure appropriate training and uptake; and private-sector investments were supported to ensure further innovation. The African experience to date has often underemphasized the role of technologies and extension services. But these will be critical to address the gaps, in productivity and market access that continue to stifle agricultural development.

It is however important to note that regardless of the much-touted strong link between agricultural growth and decreases in poverty, the connection is not that simple. Zambia, as a case study experienced a vast increase in maize yields from 2006 to 2011, but did not see a reduction in poverty, arising from underlying inequalities and government policy. Nigeria's paradoxical case of 'reported increase in domestic food production vis-a-vis increasing hunger and malnutrition in the country and a seeming general disconnect between the agricultural sector and Nigeria's economic development' had also been noted by Nwalie (2017) and Akpabio (2018). Successful African stories are however



available, with reference to Ethiopia and Rwanda, as earlier noted in this paper.

How can Nigeria improve its agricultural sector and use it as an engine of economic growth? There are a few common measures that, when put together, certainly increase the chances of a country to ignite a virtuous circle of growth fuelled by agriculture. The drivers of agricultural transformation, according to research findings (Boettiger, Denis and Sanghvi, 2017) reveal that the drivers fall into three main categories.

**First**, there are elements of “transformation readiness.” Changes to a country’s institutional framework, governing mechanisms, and political environment can significantly influence the likelihood of accelerating an agricultural transformation.

**Second**, the quality of the national agricultural plan or strategy is critical. **Last**, there are drivers related to delivery mechanisms. This category focuses on what is needed to translate the national agricultural plan into on-the-ground impact. This includes the ways in which countries manage decision making and progress against targets as well as how they use change agents to support the large-scale behavior change among smallholder farmers that underpins a successful agricultural transformation.

Sanghvi, Simons and Uchoa (2011) have identified four lessons to aid transformation, while Boettiger, Denis and Sanghvi (2017) have identified six core elements. These are adapted and presented below, by the author, with regard to aids to develop agriculture in Nigeria:

**A. Prioritized and differentiated strategies**

Developing an agricultural transformation plan demands **prioritization**—a plan will not succeed if it tries to cover everything. Instead, it should focus on the changes that are most likely to kick-start rural economic growth. Successful plans identify goals in a limited number of crop and livestock value chains, cross-cutting agriculture sector enablers (such as lower transportation costs or access to irrigation), and specific geographies.

A second related success factor is **differentiation**. Successful agricultural transformation plans differentially target agri-food systems and geographic areas with tailored strategies. For example, more productive land that is already well connected to markets, such as irrigated land, can support large- or small-scale farms; agribusiness is easier to scale there. In more remote areas, though, with bad roads, poor-quality land, and less well-connected markets, different strategies are needed. These might involve greater focus on staple crop productivity and social safety nets. Most plans don’t make these distinctions

A third related success factor lies in weighing the trade-offs among multiple objectives. Governments work toward a number of different goals, including growth in agro-processing, reduced unemployment, lower poverty incidence, food self-sufficiency, economic growth, increased exports, or lower rates of malnutrition. When the trade-offs among multiple objectives are not explicitly integrated into the agricultural transformation plan, progress is characterized by under delivery across too many, sometimes competing, objectives.

**B. Develop markets to complement supply measures**

Most agricultural-development plans focus on supply side interventions, such as improved seed and fertilizers. Many pay too little attention to the demand side—the place where the increased production will ultimately go. Unless the planners know the answer to this critical question, that increase will probably fail to produce economic gains and will make it hard to carry on with the program. Once the subsistence requirements of the producers’ families and local communities have been met, there are three main sources of demand: export markets (international and regional), domestic urban markets, and food processing. In Morocco, the government helped facilitate the export of high-value crops to Europe through a combination of technical assistance, economic and political measures (such as helping growers to meet European farm certification requirements), and an agreement with the European Union to expand tariff-free access for Moroccan producers.

Reliable domestic sources of demand are particularly important in countries where poor transport connections or a lack of comparative advantages constrain the ability to export. In Ethiopia, for example, improved seed and good weather led to a surge in maize production in 2002. Farmers couldn’t sell the surplus, however: the country had little export infrastructure, while high domestic-transport costs and low purchasing power made it uneconomic to move the maize to cities or regions with food shortages. Maize prices eventually fell by more than 50 percent, forcing farmers to let the crop rot in the fields. The government’s goal of doubling cereal production will therefore require substantial investment in transport, storage, and processing.

**C. Change Agents Identified and Mobilized**

The success of any agricultural transformation relies on how well millions of smallholders and small- and medium-size enterprises can be helped to change farming practices as quickly and effectively as possible. The critical enabler, without which an agricultural transformation is likely to fail, is a





frontline “change agent” that helps farmers modify their practices. Change agents are people who farmers trust and interact with regularly. The high-level objectives of a transformation are realized in practice only when they are effectively translated to smaller, on-farm shifts.

Effective change agents exist in both the public and private sectors (contact farmers or farmers’ organizations, input suppliers, warehouse operators, buyers, and traders, including international trading companies). Many scholars cite countries’ investments in national agricultural extension services as critical to agricultural transformation. Ethiopia’s investments in expanding the agricultural extension system are believed to have accelerated its agricultural transformation. Other mechanisms and agents have also played critical historical roles in transformation. Agricultural cooperatives, for example, can provide technical assistance to farmers but can also fundamentally change the farmers’ risk and potential revenue by providing access to storage, equipment, finance, and marketing services. Small-scale stockists, or input dealers, also have an important influence on the changes required among smallholder farmers if agricultural transformation is to succeed (for example, promoting the adoption of improved, higher-yielding varieties of seed). They and other middlemen also perform essential coordination work—for instance, linking small farmers to markets or providing inputs appropriate for local soil conditions. Governments and donors rarely have the local knowledge or capacity for these jobs. Also, international trading companies can not only contribute technologies and management skills but are also major buyers. Other kinds of organizations with change agents include warehouse aggregators, food processors, inputs distribution centers, and farmer collectives.

In Nigeria, an important emerging group of Agricultural start-up investors include Farm Crowd, Thrive Agric, Verdant, Agric Tech, Releaf, Farm fields Agro-Allied Services, Kerekusk Rice, etc. These private –oriented digital start-up groups are performing wonders and should be encouraged with incentives.

#### **D. Design implementation into the strategy**

To carry out an agricultural-development strategy, government officials must work with farmers and the private sector across departments, from the central ministry to extension workers. Since most African countries face capacity constraints, governments must design clear, simple strategies. They can reduce the number of agents they use by working with aggregators, such as nucleus farmers in Morocco, who in turn deal directly with smallholders.

Effective implementation starts with assigning responsibilities clearly. One approach is to assign implementation to the department that developed the strategy— typically, a ministry of agriculture— investing in capacity and bringing in outside experts as needed. This approach can make use of existing institutions without undermining them. The downside is that it’s difficult to change the culture of large institutions, both public and private, to deliver the impact required. Since capacity-building projects in Africa have a mixed record, using existing capacity may be best when the strategy involves strengthening or expanding a program that the government has already shown it can administer. Another approach is to set up a special delivery unit to guide implementation. This may be appropriate if the government decides that capacity in an existing ministry is low or feels that the strategy is so innovative it would be better to create a unit with an explicit mandate. These units would serve as a contact point for government and donor organizations, track the progress of critical initiatives, and intermediate between public and private entities.

#### **E. Progress on Enabling Policies**

Agricultural transformation is more than changes in farming practices. It is about catalyzing transformation of a country’s rural economy. As such, more than agricultural trade and subsidy policies are in play. For example, laws and regulations that influence banking, labor, infrastructure, land ownership and access, access to water, telecommunications, taxes, and insurance are also critical considerations. Finally, effective policy making for agricultural transformation needs to become more evidence-based over time.

#### **F. Willingness to Change**

The most important factor that distinguishes successful agricultural transformations is the willingness of governments, donors, farmers, companies, and civil society organizations to take risks and change behaviors to pursue a better outcome. Commitment from the highest levels of government is needed before and during the development of agricultural transformation plans. Both political and financial capital are at stake for public-sector investors, and securing high-level commitment will ensure the development process produces more clearly defined practical plans that have a higher likelihood of being implemented. Sometimes, though, a country is just not ready for change, either because it is undergoing conflict or because the wider political system itself is not ready to work on agricultural transformation.

Boettiger, Denis and Sanghvi (2017) present 25 metrics across five (5) important categories that aid



successful agricultural development. As depicted in Table 1 below, 10 metrics are used to measure government commitment, the government's capacity to follow through on its commitments, and its ability to modify its strategies and implementation approach as an agricultural transformation moves ahead. This first category measures factors related to getting a transformation moving. It was however noted that Countries that had these in place did not always transform, but without one or more of these components, there are doubts as to whether even strong agricultural transformation policies and investments will achieve their goals.

The following two categories include factors that influence the potential speed, path, and sustainability of the transformation. These enabling capacities (represented by 15 indicators) can be built in a country over time. Some can be changed in the shorter term during the course of a transformation (category two). Others are considered more like country endowments (category three), which require a longer time and significant additional resources to change. These include, for example, improving transportation infrastructure or raising literacy rates. It is important to note however that there are many indicators related to agricultural transformation that are not included in this set. In essence, the framework is not meant to be comprehensive nor exhaustive. It is simply a guide to transformation of this very important sector and may be tweaked and adapted to suit various climes.

#### **G. Focus on Smallholder Farmers**

Smallholder agriculture is the foundation of food security in many countries and an important part of the socio/economic/ecological landscape in all countries. Smallholder farmers are the main investors in their own farming as they seek to increase productivity, improve their well-being, including food security and nutrition, and reduce environmental degradation. The following activities have been found instructive to help smallholders actively contribute to national development (FAO-High Level Panel of Experts on Food Nutrition and Security HLPE (2013).

**i) Increasing smallholders' access to natural and productive assets;** Increased access to land, tenure security and the right to use common property resources are essential to the livelihoods of many smallholder communities.

**ii) Improving smallholders' access to markets;** Smallholder agriculture needs to be better linked to markets by reducing transaction costs, with better infrastructure and key public investment.

**iii) Making institutions work for smallholders;** The state and local authorities also have a key responsibility in recognizing and enforcing the rights of smallholders, for instance to access land and water, and above all to ensure security of tenure and access to common property resources.

**iv) Strengthening the collective voice of smallholders** at various levels remains high on the agenda to improve investment capacities; the organizations themselves have to consider investments to serve their members within a market-led economy.

**v) Access to financial services;** There is an urgent need to improve smallholder access to financial services adapted to their needs. This includes facilitating monetary transactions (such as mobile-phone based money transfers), safe savings deposits (with incentives to save), low-priced credit (such as through joint-liability group lending), and insurance (such as index-based weather insurance). Novel solutions are needed that reduce financial risks, lower transaction costs and facilitate long-term investments, for instance in technological innovations and soil fertility improvements in sub-Saharan Africa. Liquidity constraints must be relaxed not only on working capital expenditures (fertilizers, seeds), but also on medium- and long-term investments, supported by fair subsidy mechanisms.



Table 1: Twenty – Five (25) Factors to Measure Agricultural Transformation Readiness

What to look for		Hypothesis	Source	
Essential enablers	Commitment	1. High government expenditures on agriculture	Countries committed to agricultural transformation will increase spending to drive transformation.	ReSAKSS
		2. Agricultural transformation is a high priority of head of state	Head of state and other top leaders must show high commitment to transformation for true change to occur.	Expert survey
		3. Agricultural policy is driven by evidence more than politics	Commitment to agricultural transformation entails difficult trade-offs that may not be made if politics are main decision driver.	Expert survey
	Follow-through	4. Agricultural plan has basic building blocks	Several basic building blocks are critical components of an effective agricultural plan.	Manual assessment of country ag plans
		5. High % of agricultural budget Disbursed	Countries committed to agricultural transformation follow through on budgetary commitments.	MAFAP
		6. High % of budget spent on enablers <sup>1</sup>	Infrastructure, R&D, and building human capital facilitate transformation more than subsidies, for example.	MAFAP
		7. Demonstrated commitment to policy stability	A stable policy environment is critical to support agricultural transformation.	Expert survey
	Responsiveness	8. Governance model allows agriculture ministry to make policy changes	Agriculture ministry needs a sufficient level of authority to change course when required.	Expert survey
		9. Willingness to adapt transformation strategy based on evidence	Transformation relies on decision makers open to external policy expertise to shape strategy (especially subsidies, tariffs, land, and irrigation) based on evidence.	Expert survey
		10. Effective process to coordinate national and local agricultural strategy	Agricultural transformation requires national and local alignment on strategic priorities.	Expert survey
Build immediately	11. Performance tracking exists for country agricultural strategy	For transformation to occur, consequences must exist when agricultural performance targets are not met.	Expert survey	
	12. Effective delivery of agricultural goods and services	A civil service that effectively delivers public goods and services is a key enabler of agricultural transformation.	MCC and expert survey	
	13. Consultation process across government, donors, and private sector	Government, donors, and private sector must work together to facilitate agricultural transformation.	Expert survey	
	14. Capacity of ministries to coordinate agricultural policies	A demonstrated ability to collaborate across ministries is a key enabler of agricultural transformation.	Expert survey	
<b>What to look for</b>		<b>Hypothesis</b>	<b>Source</b>	



Build immediately	15. Ability to make evidence-based Policy	Making evidence-based policy requires good agriculture sector data.	GCI and expert Survey
	16. Presence of sufficient storage Infrastructure	Adequate crop storage is a key enabler of agricultural transformation.	EIU
	17. Attractive rural business Environment	Businesses need to be able to grow and flourish to enable transformation.	IFAD
	18. Good legal and regulatory framework for agricultural credit	Credit is an essential ingredient to grow rural business and link smallholders to input/output markets.	EBA
	19. Good legal and regulatory framework for seed	Smart seed regulation can ensure timely introduction of improved varieties to market.	EBA
	20. Good legal and regulatory framework for fertilizer	Smart fertilizer regulation can ensure timely marketing of new fertilizer	EBA
Build over time	21. High rate of literacy	Basic education requirements are necessary to facilitate technology adoption and agribusiness development.	UNESCO
	22. High rate of rural electrification	Reliable electricity in rural areas is a key enabler of agricultural transformation.	WDI
	23. High rate of rural telephony Infrastructure	The ability to stay connected in a rural setting is an enabler of agricultural transformation.	WDI
	24. Sufficient port infrastructure	As countries increase commercialization and exports, transformation will slow if ports are poor.	EIU
	25. Sufficient road infrastructure	Inadequate transportation infrastructure will slow/stall transformation by retarding market performance	EIU

Sources: Economist Intelligence Unit (EIU); expert interviews; Global Competitiveness Index (GCI); International Fund for Agricultural Development (IFAD); literature scan; Millennium Challenge Corporation (MCC); Monitoring and Analysing Food and Agricultural Policies (MAFAP); Regional Strategic Analysis and Knowledge Support System (ReSAKSS); UNESCO; World Bank's Enabling the business of agriculture (EBA); World Bank's World Development Indicators (WDI).  
**Source:** Boettiger et.al (2017): *Readiness for Agricultural Transformation* McKinsey Center for Agricultural Transformation. PP. 5-6

## CONCLUSION

***"It is the fundamental right of everyone to be free from hunger".***

(Article II International Covenant on Economic, Social and Cultural Rights).

Today, more than 80 percent of Nigeria's farmers are smallholder farmers and they are the main producers of over 90 percent of domestic output. It is also reported (World Bank 2015) that "half of working Nigerians are in smallholder farming" but this group accounts for the "poorest 40 percent of the population compared to only 17 percent of wage workers". A study in Nigeria also found out that most land is still held by smallholder farmers with less than five hectares. However, if these farmers are to boost productivity, economic conditions in many

regions must improve significantly. One striking example of this is that the return on investment (ROI) for smallholder farmers to use improved inputs must arise above the current zero levels. In this regard, these farmers must be availed of mitigation assistance, which must include crop insurance, government welfare plans, guaranteed off take, and even access to low-cost food for purchase that would allow them to focus on growing higher-value, nonfood crops versus crops for their own subsistence (Goedde, Ooko-Ombaka, and Pais, 2019). To succeed in these envisaged endeavours in the face of capacity constraints, the message is that agricultural-development plans must be less ambitious and more targeted. These plans would also differ for each agricultural zone and/ or state, so a uniform implementation isn't possible. There is no



gainsaying however that agricultural development comes to life when government, working with all interested parties, pursues selected initiatives that have identified sources of demand and appropriate enabling investments supervised by an effective and dedicated implementation authority.

It is imperative that Nigeria critically appraises, adapts and assiduously integrate its development policies and programmes into the goals enshrined in the African Union's Agenda 2063 which sets the vision and action plan for the development of the continent over the next 50 years. The first ten-year implementation plan (2014–2023) underpinning the Agenda was adopted in 2014 and covers seven priority areas aligned with the SDGs. Nigeria should also align itself with the principles enshrined in the CAADP's 2014 Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods. This should be done in consonance with the Africa Regional Nutrition Strategy 2015–2025 of ending hunger and halving poverty by 2025. All these are closely aligned with the SDG 2 and the Decade of Action on Nutrition 2016–2025- the framework to implement the commitments taken at the second International Conference on Nutrition and achieve the World Health Assembly targets.

Finally, it has become palpably obvious **that if the level of insecurity in our country is not scaled down, our vision to be among the best 20 countries of the world may be aborted. It therefore becomes a desideratum to nip the burgeoning insecurity situation in the bud, before it escalates to destructive proportions.** Mobilization of governments and all stakeholders will be decisive in determining if agriculture pursues the part of intensification and productivity needed to achieve sustainable development.

#### REFERENCES

- African Development Bank (2019) *African Economic Outlook 2019*
- Ajibefun, M. B. (2018) Social and Economic Effects of the Menace of Fulani Herdsmen Crises in Nigeria. *Journal of Educational and Social Research* 8 (2) May 133-139
- Akpabio, I. A. (2012a) Redefining Agriculture for Sustainability in Nigeria. Paper Presented at the 2012 *Charles Esu Annual Dialogue*; Tuesday, March 20. 19pp
- Akpabio, I. A. (2012b) *Youth Empowerment and Agricultural Development and Youth Employment: The Inextricable Siamese Twins*. 34<sup>th</sup> Inaugural Lecture Series. University of Uyo. Thursday, Sept 27. 85pp
- Akpabio, I. A. (2015) The Challenge of Agriculture in a Developing Economy. Plenary Paper
- Hanke, Steve H. (2018) *Hanke's Annual Misery Index: The World's Saddest (And Happiest)* Presented at the 15<sup>th</sup> Annual Scientific Conference/ AGM of the Society for Experimental Biology in Nigeria. 5<sup>th</sup>-7<sup>th</sup> May. 20pp
- Akpabio, I.A. (2018) 'Infractions, Inequities and General Constraints of the Nigerian Agricultural System' (In) *Sustainable Agriculture in a Diversified Economy: Nigeria In Perspective- A Specialised Compendium*. Ndaeyo, N.U; V.O. Ebong. I.A.Akpabio, L.I.Akpeokhai and U.R.Etuk (eds). Molsyferm United Services, Port Harcourt. Pp.2-11
- Boettiger, S, N. Denis and S. Sanghvi (2017a) *Readiness for agricultural transformation*. Mckinsey Centre for Agricultural Transformation.
- Boettiger, S., N. Denis and S. Sanghvi (2017b). *Successful Agricultural Transformations: Six Core Elements of Planning and Delivery*. Mckinsey and Company
- Briggs, C. (1990). *Challenges of National Security in Nigerian Democratic Setting*. Accra: Newday Academic Publishers
- Downie, Richard (2017) *Growing the Agriculture Sector in Nigeria*. A Report of the CSISGlobal Food Security Project Centre for Strategic and International Studies Washington DC. March. 20pp.
- Egbefo, D. O, and Salihu, H. A. (2014) Internal Security Crisis in Nigeria: Causes, Types, Effects and Solutions *Internal Journal of Arts and Humanities* Vol. 3(4), 12, September:176-195
- FAO- HLPE. (2013). *Investing in smallholder agriculture for food security*. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome. June. 113pp.
- FAO (2017). *Regional Overview of Food Security and Nutrition in Africa 2017. The foodsecurity and nutrition–conflict nexus: building resilience for food security, nutrition and peace*. Accra. 108pp
- FAO (2018) Country Briefs: Nigeria <http://www.fao.org/giews/countrybrief/country.jsp?code=NGAGIEWS> - Global Information and Early Warning System. (Ref.Date 02-August-2018). Accessed: 15<sup>th</sup> August, 2018.
- Financial Watch (11/04/2018) Youth Unemployment Rate in Nigeria <https://www.financialwatchngr.com/2018/04/11/youth-unemployment-rate-in-nigeria-all-time-high/>. Accessed: 11<sup>th</sup> July, 2018
- Goedde, L., A. Ooko-Ombaka, and G. Pais (2019) *Winning in Africa's agricultural market*. Mckinsey and Company

Countries27 Mar  
2018 <http://www.financialnigeria.com/hanke->



- s-annual-misery-index-the-world-s-saddest-and-happiest-countries-feature-206.html accessed 6th august 2018
- International Fertilizer Development Centre (IFDC, 2010) Africa Fertilizer Alliance Network. <http://www.ifdc.org/Alliances/AfricaFertiizer.org>. Accessed: 4th March, 2012
- IFPRI (2018) Mechanized: Transforming Africa's Agriculture Value Chains 2018. Malabo-Montpellier Panel. 55pp
- In-On-Africa (2017) *Africa Country Benchmark Report* <http://www.ngopulse.org/opportunity/2017/10/16/africa-country-benchmark-report>. Accessed: 05/08/2019
- Knoema Company. <https://knoema.com/atlas/Nigeria/Fertilizer-consumption>. Accessed: 14/08/2018
- Ndubuisi, C. I., (2018) A critical analysis of conflicts between herdsmen and farmers in Nigeria: Causes and socioreligious and political effects on national development', *HTS Teologiese Studies/Theological Studies* 74(1), a5065. <https://doi.org/10.4102/hts.v74i1.5065>
- New Telegraph (11/10/2017) CBN Boosting Non-oil Exports to Sustain Foreign Stability <https://newtelegraphonline.com/2017/10/cbn-boosting-non-oil-exports-sustain-forex-stability/> Accessed 18/08/2018
- Nigeria Bureau of Statistics (NBS, 2012) <http://www.nigerianstat.gov.ng/index.php/pages/contactNbs>. Accessed: 19th March, 2012.
- NBS (2018a) Labour Force Statistics (2017). Abuja
- NBS (2018b) <http://www.nigerianstat.gov.ng/>
- Nwalie, Martin (2017) The paradox of food insecurity in Nigeria (2011-2017) *African Journal of Agriculture and Food Security* 5 (5) 202-208. September
- Nigeria - South Africa Chamber of Commerce (NSACC-2016) Security Challenges in Nigeria and the Implications for Business Activities and Sustainable Development <http://nsacc.org.ng/security-challenges-in-nigeria-and-the-implications-for-business-activities-and-sustainable-development/> August. Accessed: 06/08/2019
- Obayori, J. B, Osai, V. A, Ahmodu, K. O. & Maeba, L. S. (2018) Security and Terrorism Challenges in Nigeria: Causes, Consequences and the Way Forward. *International Journal of Advanced Studies in Economics and Public Sector Management / IJASEPSM* 6 (2) 2018. June
- Ojekunle, Aderemi (16/08/2018) Global innovation index 2018: 10 best countries for innovation in sub-Saharan Africa <https://www.pulse.ng/bi/strategy/top-10-best-countries-for-innovation-in-sub-saharan-africa-id8732371.html>. Accessed: 19/08/2018
- Okojie, Josephine (2017) Food prices rise in Nigeria, despite global drop Business Day, January 25, 2017. <https://www.businessdayonline.com/companies/agriculture/article/food-prices-rise-nigeria-despite-global-drop/>
- Okonkwo, R. I., P. Ndubuisi-Okolo and T. Anagbogu (2015) Security Challenges and the Implications for Business Activities in Nigeria: A Critical Review. *Journal of Policy and Development Studies* 9(2) 157-168. February
- On-line-Nigeria (29-11-2017). The contribution of the Agricultural sector to the Nigerian Economy. <https://www.onlinenigeria.com/news/headline/s/11111-thecontribution-of-the-agricultural-sector-to-the-nigerian-economy.html>
- Oxfam International (2017) *Inequality in Nigeria: Exploring the Drivers*. United Kingdom. 56pp May.
- Price Waterhouse and Coopers (PWC-2017) Transforming Nigeria's Agricultural Value Chain: A case study of the Cocoa and Dairy industries. <https://www.pwc.com/ng/en/assets/pdf/transforming-nigeria-s-agric-value-chain.pdf> 28pp.
- Proshare, Sept 28, 2017). Nigeria's Agricultural Sector: Relevant and Resilient <https://www.proshareng.com/news/Agriculture/Nigeria%E2%80%99s-Agricultural-Sector--Relevant-and-Resilient/36538> Sept 28,2017. Accessed: 14/08/2018
- Punch on-line (2018) Nigeria's Fertilizer Consumption. <https://punchng.com/nigerias-fertilizer-consumption-rose-by-63-in-2017-report/>. Accessed: 11/08/2018
- Reuben, Hopo (2018) Nigeria's unemployment burden <http://sunnewsonline.com/nigerias-unemployment-burden/> 01.05.2018 Accessed 14/08/2018
- Sanghvi, S. R. Simons, and R. Uchoa (2011) *Four lessons for transforming African Agriculture* Mckinsey Quarterly
- Ssozi, J; S. A. Asongu and V. Amavilah September (2017) *Is Aid for Agriculture Effective in Sub-Saharan Africa?* 2017 African Governance and Development Institute (AGDI) Working Paper WP/17/035 September.
- The Eagle on-line (2017) Nigeria Ranks 37 Among African Countries Committed To Ending Hunger – Report. <https://theeagleonline.com.ng/nigeria-ranks-37-among-african-countries-committed-to-ending-hunger-report/>
- The Legatum Prosperity Index 2017 <https://www.prosperity.com/globe/nigeria>. Accessed: 14/08/2018.
- This Day bgl 50 (2011) Interventions in the Agricultural Sector: How has the Nation



- Benefitted. This Day – The Sunday Newspaper. pp.33 – 34 August 28
- This Day On-Line (17/09/2017) Nigeria Ranked 125<sup>th</sup> in Global Competitive Index <https://www.thisdaylive.com/index.php/2017/09/27/nigeria-ranked-125th-in-global-competitiveness-index-as-ease-of-doing-business-reforms-get-nod/> Accessed:21/08/2018
- Vanguard Nigeria (25/06/2018) Nigeria overtakes India as the World's Poverty Capital <https://www.vanguardngr.com/2018/06/nigeria-overtakes-india-as-worlds-poverty-capital-report/> Accessed: 14/08/2018
- Veras, Otavio (2017) Agriculture in Africa: Potential versus reality <https://www.howwemadeitinafrica.com/agriculture-africa-potential-versus-reality/57635/> Accessed: 04/08/2019
- World Bank (2015) *More, and More Productive, Jobs for Nigeria: A Profile of Work and Workers* © 2 International Bank for Reconstruction and Development. Washington DC
- World Bank Group. (2014). World Development Indicators <http://databank.worldbank.org/data/views/variableselection/selectvariables.aspx?source=world-development-indicators>
- World Development Report (2008): *Agriculture for Development*. Washington DC: The World Bank. Washington DC
- Yifu Lin, Justin (2018) Agriculture is key for economic transformation, food security, and nutrition. IFPRI Blog: Guest Post. February 8, 2018 <http://www.ifpri.org/blog/agriculture-key-economic-transformation-food-security-and-nutrition>. Accessed, 14th April, 2018.
- FAO- HLPE. (2013). *Investing in smallholder agriculture for food security*. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome. June. 113pp