

Food Security Strategy in Nigeria: Is there Need for a Shift in Paradigm?

Abubakar D. Akpa*

Abstract

The paper highlights the problem of food security in Nigeria under a rapidly increasing population and declining crop productivity and sheds light on strategies that can guarantee self-sufficiency, wealth, and employment generation. To meet the increasing food demand in Nigeria, the necessary production growth will to a large extent have to be met by a rise in the productivity of the land. It posited that even though declining crop productivity is caused by several factors, there is no doubt that through innovative policy implementation strategies and significant budget commitment, Nigeria can achieve agricultural sustainability and food security. The paper concludes that policy thrust must be on production, processing and storage to minimise post-harvest losses and enhance farmers' incomes, foreign exchange earnings and achieve food security objectives.

I. Introduction

Food security exists when all people always have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life (FAO, 1996). National food security in that regard implies guaranteed quantity, quality, availability, stability, and affordability of food for a nation. To achieve food security, therefore, a strategy, which is a general plan to achieve one or more long-term or overall goals under conditions of uncertainty must be carefully designed.

The problem of food security in Nigeria as in other developing nations is very critical and the issues are currently on the front burner. It's a common fact that food availability, quality and affordability are basic problems across households in Nigeria. Despite various agricultural programmes being implemented by successive governments, poverty, hunger, and malnutrition are still at unacceptable levels (Kainga et al., 2016). This is more so by virtue of the peculiar nature of things in Nigeria and in Africa generally. Factors making these problems more pronounced are the general demographic trends in the third world nations, meaning that more mouths have got to be fed. As of Wednesday, September 01, 2021, the population of Nigeria was estimated to be 212,066,978 people. This is an increase of 2.9 per cent, compared with the population of 206,139,589 for 2020. Nigeria will be the third most populous country in the world by 2050, standing behind just India and China (Worldometer, 2021; TheCable, 2017). Nigeria's population, currently the seventh largest in the world, is growing most rapidly and is projected to surpass that of the

* Prof. Abubakar D. Akpa is a staff of the Department of Crop Protection at the Ahmadu Bello University, Zaria, Nigeria. The usual disclaimer applies.

United States by about 2050, at which point it would become the third largest in the world. During 2015-2050, half of the world's population growth is expected to be concentrated in nine countries (five coming from Africa): India, Nigeria, Pakistan, Democratic Republic of the Congo, Ethiopia, United Republic of Tanzania, USA, Indonesia, and Uganda, listed according to the size of their contribution to the total growth. These trends of population growth will create new pressures, especially for achieving food security, fueling the need for a more productive, diversified, and competitive food production, storage, processing, and preservation activities.

The current and projected Nigerian population dynamics carry major implications for agriculture and food security. Nigeria's food security challenges will grow with its population. The prevailing situation indicates that the agricultural sector in Nigeria has not been able to fulfill its traditional roles of feeding the population, meeting the raw materials needs of industries, as well as providing substantial export earnings for the economy. Indeed, the contribution of the sector to total Gross Domestic Product (GDP) has been falling, not necessarily because a strong industrial sector is displacing agriculture but because of low productivity. Production will have to expand at a higher rate. Agriculture is central to the economic development of Nigeria, currently contributing about 22.4 per cent to the GDP. The agricultural policy document of the Buhari government builds on the Agricultural Transformation Agenda of the Jonathan government, and is tagged "The Green Alternative", signifying the importance of agriculture (green) as alternative engine for the nation's economic development. Agriculture does indeed have the potential to drive economic development and wealth creation. For the past two decades or more, the agricultural sector has served as one of the key drivers of the Nigerian economy, contributing more than 20.0 per cent to the country's GDP. The sector also employs more than 40.0 per cent of the population – almost 90.0 per cent of such in the rural areas, most especially women.

The largely subsistence agricultural sector has failed to keep up with rapid population growth to the extent that Nigeria, once a large net exporter of food, has now become a net importer of food (Nwajiuba, 2012). Nigeria's urban population has outstripped the rural population. This drift to urban centres will become even more pronounced. Despite its rural roots, the urban population is disconnected from food production and relies on the market (domestic or imported) for food supplies. Youths make up a growing share of the population and are the bulk of urban migrants. The challenge is to retain them, educating and employing the next generation of farmers.

Over the last decade, Nigeria's domestic food production has consistently lagged national food demand. The increasing pattern of the annual shortfalls is a dangerous pointer to the fact that the nation may be on the threshold of food insecurity. Nigeria therefore faces huge food security challenges as about 70.0 per

cent of the population lives on less than US\$1.25 per day, thus, suffering from hunger, malnutrition, and poverty. Food security involves access and availability of food stuff, stability of supplies and the quality of the diet (Honfoga & Van den Boon, 2003). According to FAO, International Fund for Agricultural Development and World Food Programme (2013), Nigeria has an energy intake of 1,730 Kcal and an average protein supply of 64 g capita⁻¹ day⁻¹, far below the 2,500 – 3,400 Kcal minimum recommended daily intake. This shows that Nigeria is facing the challenge of unbalanced diet leading to various deficiency symptoms. Similarly, of the 109 countries assessed by Global Food Security Index (2015); Nigeria ranks 91st with 37.1 score, based on indices of affordability, availability, quality, and safety.

Several complex factors are responsible for the low productivity in the Nigerian agriculture. Most of the agricultural research conducted in Nigeria in the past six decades or so had focused on increasing crop productivity as the population and its food needs grew. The problem remains as challenging today as ever, with additional complexity generated by the reduced room for maneuver available environmentally, economically, and socially (FAO 2011; Brown 2011). This result from shrinking natural resources that are available to agriculture: arable soil, biodiversity, human labour, fertilizers, and the deployment of some key inputs, such as high-quality seeds and planting material (Evans, 1998; Smil, 2000). While food security is a critical issue in Nigeria and the other developing world, food safety has become a dominant concern in the developed world; however, the critical importance of food safety is also becoming recognised in the developing world (Wild & Gong 2010).

FMARD (2016) adequately spelt out the concerns for the status of our national food security and strategies for achieving and sustaining food security for Nigeria in the current administration's policy document on agriculture dubbed, "The Agriculture Promotion Policy (2016 – 2020)". In this document, the policy thrust for ensuring national food security include: expanding strategic food reserves; emergency intervention during civil strife or natural disasters; creating awareness about nutritious foods; enhancing the quality of foods by proper use of agrochemicals, as well as quality control and testing. Others are encouraging continued expansion of organic farming; creating a standard system for food safety inspections, origin tracking and nutrition labeling (e.g. caloric content); and encouraging tighter linkages in the supply chain policies of supermarkets and regional farm centres.

This paper rethinks the current food security strategy and ask the question: is there a need for a paradigm shift? To answer the question the paper reviews the existing strategies with a view to revealing the weak aspects for the strategy, the basis of which it will canvass for a shift in the status quo. Following the introduction, Section 2 discusses the factors militating against agricultural production, while Section 3 advances the strategies for increased food production. Section 4 presents the

“what next?” by proposing a paradigm shift from the status quo, while Section 5 concludes the paper.

II. Factors Militating against Agricultural Production

II.1 Uncompetitive Environment for Agribusiness

The structural impediments that are particularly harmful to agribusiness include: unreliable power supply, dilapidated irrigation systems, overcrowded ports, and poor roads. For example, it takes several days to move a truckload of tomatoes and similar perishable produce along the country's main transport corridor, from the far north to Lagos. Unless the cargo is refrigerated, and invariably it is not, it will perish before reaching Lagos port. In addition to these infrastructure deficits are governance shortfalls: an abundance of bureaucracy, corruption, overlapping responsibilities between the three tiers of government, and unclear policies including, for example, a constantly shifting list of items that are prohibited from being imported.

II.2 Poor Inputs

Access to quality inputs remains a major challenge for farmers. Lack of fertilizer is the biggest barrier faced by farmers in their operations and is frequently cited as their number one concern. Nigeria does not produce enough fertilizer to meet its needs. Distribution has also been hampered by the restrictions placed on the transport of urea-based fertilizer, due to fears it was being repurposed into explosives by insurgents. Seed availability is another significant problem for farmers. The research pipeline for new seed varieties is broken, and poor quality or counterfeit seed has flooded the market in the absence of a functioning regulatory system. Low rates of access to mechanical farm tools such as tractors and crop sprayers prevent farmers from utilising their labor and their land efficiently. Studies found that 90.0 per cent of farmers in Nigeria use rudimentary technology (hand tools), 7.0 per cent animal drawn tools and only 3.0 per cent use engine- powered technology. Land access itself is an enduring problem because of insecure tenure and harmful policies at the local level that limit the rights of non-indigenes. The country scored poorly for its land governance policies in a 2017 survey of the business climate for agriculture, conducted by the World Bank. Of the 62 countries studied, only Haiti and Myanmar recorded a lower overall score on a set of issues related to land management, access, regulation, and equity (World Bank, 2017).

II.3 Poor Market Access

In too many parts of the country, farmers simply do not have access to a market for their goods due to underdeveloped value chains. For example, fields lie fallow in Niger and Katsina States not because nothing can be grown there, but because

the dearth of nearby processing facilities means that the market for produce is limited to the immediate surroundings. The absence of adequate storage facilities for their goods means many farmers face the choice of selling immediately after harvest when prices are at their lowest or allowing their produce to rot. The Agricultural Promotion Policy (APP) notes that Nigeria's estimated demand for tomatoes is 2.2 million tonnes per year. While annual production is 1.5 million tonnes, almost half is lost at postharvest; thus, the challenge here is processing and not production (FMARD, 2016). Export markets remain underdeveloped, partly because agricultural produce is uncompetitive and do not meet international phytosanitary standards.

II.4 Access to Credit

Nigerian banks are wary of extending loans to farmers. A survey report indicated that 35.0 per cent of farmers cited access to credit as the main barrier to their operations. In the south-south geopolitical zone, the figure was 59.0 per cent (NOI Polls, 2016). Loans to the agriculture sector account for only 1.4 per cent of total bank lending (Ugwuede, 2016). Nigeria has undertaken several initiatives to promote more lending to the agriculture sector, notably the Nigeria Incentive-Based Risk Sharing System for Agricultural Lending (NIRSAL), launched by the Central Bank of Nigeria (CBN) in 2013, which guarantees loans extended to farmers and offers rebates to recipients who pay back the money on time. However, the ongoing recession has choked lending and by September 2016, the average interest rate of loans to the agriculture sector had risen to 26.0 per cent (Mbamalu, 2016).

II.5 Inconsistency and Summersaults in Agricultural Policies

Too often, governments have offered rhetorical support for agriculture as a tool of economic diversification, but failed to implement policies or provide budgets to match their ambitions. The government appeared not committed to making Nigeria self-sufficient in food and raw material production for industrialisation, with the baseless budgetary allocations to the agricultural sector. To attain sufficient growth in the agriculture sector, the Federal Government must implement policies and conform with international treaties. An example is the commitment of 10.0 per cent of its annual budgetary allocation to the sector. The National Assembly should find a way to domesticate policy actions from the Malabo Declaration. Policymakers must also ensure capital expenditure received enough share.

The apparent lack of commitment that government has towards agriculture is also demonstrated in the failure to determine what constitutes a Ministry of Agriculture,

signified by the frequent change of name.⁷ Agriculture, from which we obtain food, clothing, shelter, and overall health, constitutes the first and most important need of humans according to Abraham Maslow's hierarchy of needs and should like Ministries of Health and Education, be a standalone Ministry. Merging it with other sectors creates unnecessary bureaucratic complexities, notwithstanding the enormous contribution of agriculture to the national economy.

II.6 Neglected Agricultural Research System

Nigeria's agricultural research system, the largest in sub-Saharan Africa, has stagnated and become disconnected from the priorities of Nigerian farmers. The system has been starved of federal funding and become overly reliant on foreign donor funds (Flaherty & Abdullahi, 2014). The Buhari administration's agriculture policy, the APP, identifies most of these issues, and sets out a broad agenda to tackle them to achieve the twin objectives of becoming self-sufficient in food and developing vibrant export markets. Its proposals include developing domestic value chains for commodities like rice, wheat, maize, and soya beans; strengthening agricultural export markets for products including cocoa, cassava, oil palm, and sesame; providing a better enabling environment for agricultural development by improving infrastructure, designing clearer policies, and improving working relationships between the tiers of government, and providing better inputs, tools, and training that allow farmers to increase their yields. It is important to note that government attempts to stimulate the agriculture sector can only advance Nigeria pathway along the road toward economic transformation. A truly dynamic agriculture sector will only grow if the private sector takes the lead, as the APP acknowledges.

III. Strategies for Increased Food Production

Nigeria has over 84 million hectares of arable land, of which only about 40.0 per cent is cultivated; 230 billion cubic metres of water; abundant and reliable rainfall in over two-thirds of its territory, and some of the richest natural resources for agricultural production in the world. Crop production accounts for a huge chunk of activities in the sector representing 88.0 per cent of total industry size, with livestock, forestry, and fishing accounting for the balance of 12.0 per cent. Despite the huge potential of the sector, it has suffered a long and steady decline as consequence of the most enduring and damaging impacts of the oil and gas resource bane. Once noted as the major source of revenue and foreign exchange earnings, agriculture has suffered from decades of underinvestment, policy neglect,

⁷ Federal Ministry of Agriculture and Rural Development (2005-2006) to Federal Ministry of Agriculture and Natural Resources (2007), to Federal Ministry of Agriculture and Water Resources (2009) and currently Federal Ministry of Agriculture and Rural Development (from 2011).

corruption, and lost opportunities; making the nation currently a net importer of food, with majority of farmers operating at subsistence level. Consequently, successive governments have taken steps to revive agricultural production. Recently, President Buhari inherited the Agricultural Transformation Agenda (ATA) of the Jonathan administration that provided a platform to build upon. In particular, the ATA sought to re-orient agriculture from a development activity centered on the smallholder farmer to a more dynamic, profit-driven enterprise that connected the farmer to a value chain of processors, distributors, and retailers.

There are several reasons, why Nigeria should focus on agriculture (Downie, 2017):

1. It is a sector with high growth prospects, particularly if value chains can be developed to turn raw commodities into processed goods for domestic consumption or export;
2. Although agriculture already employs more than 70.0 per cent of the population, there are opportunities to expand both the number and variety of jobs in the sector by making it easier and more attractive. In addition, by diversifying the agriculture sector, it can be made more appealing to a vast youth population that is turned off by farming but might be attracted to processing, marketing, and other business opportunities along the value chain;
3. The country is keen at becoming more self-sufficient in food production to conserve the scarce foreign exchange for the importation of capital goods and other commodities that cannot be produced domestically; and
4. The food emergency in Northeast Nigeria brought on by the Boko Haram insurgency and the government's response to it has underlined the importance of expanding the agricultural sector to advance food security and nutrition.

The current administration demonstrated its intention to revive the agricultural sector by unfolding in June 2016, the Agriculture Promotion Policy (APP) emphasised the importance of building on the efforts of the previous administration. Unfortunately, the proportion of the federal budget allocated to agriculture was only 1.3 per cent in 2016, far short of the 10.0 per cent budget commitment made at the 2003 African Union Summit in Maputo. The lack of sustained financial commitment to agriculture is also mirrored at the state level, where few of the 36 states have prioritised the sector.

III.1 Increasing Budgetary Allocation to Agriculture

Budgetary allocation to the agricultural sector in the past 15 years (Table 1) has not been encouraging. The Food and Agriculture Organisation (FAO) recommends that 25.0 per cent of government capital budget be allocated to agricultural development. This has not been achieved by the various administrations of Nigeria, thereby affecting government programmes and policies for the sector (Iganiga &

Unemhilin, 2011). Nigeria has also consistently failed to reach the 10.0 per cent agriculture budget standard of the Maputo Declaration, which has led to negative implications for food security (Ochigbo, 2012). The amount of government budgetary allocation to the agricultural sector is indicative of the quantity and quality of national commitment to agricultural development. Adofu (2012) revealed that budgetary allocation to agricultural sector has significant effect on agricultural production in Nigeria and that the relationship between them is strong, positive, and significant. It was consequently recommended that budgetary allocation to the agricultural sector be increased and monitored, to guarantee food security, employment and overall economic growth and development of the nation. Total expenditure on agriculture, as a percentage of overall expenditure, fluctuated from 4.6 per cent between 1986 -1993, to an average of 4.5 per cent per annum, between 1994 -1998, to 3.5 per cent from 1999 to 2005; this reflects intensified efforts by the government to reduce its size (Udoh, 2011). This incessant reduction in agricultural expenditure over the years relative to the overall expenditure of Nigeria has led to inadequate funds for the sector. As argued by Okoro and Ujah (2009), the inadequate funding of the agricultural sector could never make the sector sustainable. While agricultural spending expressed as a share of total spending is generally low in African countries compared to other developing countries, Nigeria fares unfavourably even within the African context.

Some studies have demonstrated clearly that budgetary allocation to agriculture is positively related to economic growth (Akinwale & Ayodele, 2019; Shuaib et al., 2015; Oyinbo et al., 2013). It is therefore recommended that budgetary allocation to the agricultural sector should be increased significantly so that adequate funds can be available for driving the activities of the sector. In a study involved with examining the relationship between government spending and real and nominal agricultural sector activity in Nigeria between 1999 and 2016, Iliyasu (2019) found that government spending on agriculture had a positive relationship with the sector and its subsectors and that it is an important factor in reviving the sector.

Even though allocation to the sector was relatively increased in 2018, the intent of government at diversifying the economy using agriculture as a lever to achieve food security, create jobs, and save foreign exchange for food imports has not been achieved. This is evident in the almost stagnant contribution of the sector to the GDP. It is therefore of utmost importance that the Nigerian government increase spending through higher budgetary allocation and ensure that financial institutions increase lending to small-scale farmers as single digit interest rate to reduce food insecurity and ensure diversification of the nation's economy

Table 1: Percentage of Federal Budgetary Allocation to the Agricultural Sector

Year	Federal Budgetary Allocation (per cent)
2007	1.97
2008	5.41
2009	5.38
2010	3.60
2011	1.80
2012	1.60
2013	1.70
2014	1.40
2015	0.90
2016	1.30
2017	1.80
2018	3.20
2019	1.60
2020	0.90
2021	1.50

Source: Author's compilation.

III.2 The Need for Policy Sustainability

As argued by Ayoola (2019), over 10 agricultural policies have been put in place since independence (Ayoola, 2019), including the current one, the APP. All these policies are aimed at making Nigeria self-sufficient in food production and have surplus for export. These policies have failed to achieve desired objective, not because they are faulty, but due to poor implementation (Idachaba, 2006).

Sustainability of policies across administrations is also a major hindrance to achieving food security in the country. A new administration can fine-tune a policy in the face of obvious lapses, but to scrap and start something entirely new should not be encouraged.

III.3 Research and Development

The first line of action in bridging the agricultural production and productivity gap confronting the nation is through investment in agricultural research. Nigeria has one of the highest concentrations of Agricultural Research Institutes in Africa, with over 80 government and high education institutes and over 2,000 researchers, including the International Institute for Tropical Agriculture (IITA), which is part of the Consortium of International Agricultural Research Centers (CGIAR) network, engaged in research (Downie & Eigege, 2016; Ishiyaku, 2021). However, data from Agricultural Science and Technology Indicators (ASTI) in 2017 revealed that Nigeria has one of the lowest agricultural research spending as a percentage of Agricultural GDP with 0.4 per cent instead of the required 1.0 - 2.0 per cent (Ishiyaku, 2021). Spending on agricultural research amounted to only 0.3 per cent of overall agricultural GDP in 2011 (Ogbeh, 2011). The current means of funding research relies

on the federal government's yearly annual budget which makes it impossible for researchers to design research activities on short (3-5 years) and long-term (6-10 years) basis for meaningful progress or for generating technologies that solve farmers' problems. Funding for Agricultural Research is also erratic, with no adequate consideration of the unique and time-bound nature of agricultural research activities in most policy decisions.

This funding constraint makes it difficult for researchers to be responsive to their clientele's needs and compounds the challenge of the long gestation period of research. Furthermore, evidence suggests that investments in agricultural research are leading to poor outcomes (Ragasa, 2016). Strengthening the research environment in Nigeria would require superior management systems. There is the need therefore, for stakeholders to devise means of funding research on a short and long-term basis. The funds can be domiciled in a national foundation where board of trustees will be able to monitor from time to time the utilisation of funds targeted towards meeting critical national technology needs. Research should be farmer-driven and should be geared towards solving practical problems that farmers encounter.

III.4 Encourage Youths to go into Farming as Business

A lot of efforts must be put in place to portray agriculture as an attractive career option for the youths as well as providing incentives for them to take up farming. These efforts should start early in their lives from the secondary school. In addition to whatever is being currently done, two approaches to achieve this objective are outlined below.

III.4.1 School Agriculture Support Programme

Young school leavers have always been reluctant to engage in agricultural enterprise partly because they have not been sufficiently prepared, since they prefer white collar jobs. It has however become very clear in recent times that jobs no longer come easy. Given our wealth of arable land coupled with favourable climatic conditions, agriculture provides a pivot for wealth generation and employment creation. The strategy is to 'catch them early' by getting secondary school students interested in agriculture through the introduction of the school agriculture support programme. Once positive attitudinal changes towards agriculture are affected early in the life of the youths, the sustainability of the green alternative of Government can be assured. The major index for growth and development across the globe is sustainable entrepreneurial development for the enhancement of poverty eradication, anchored on a sound educational background. The time is now for the re-orientation of the youth to make them understand the essence of entrepreneurial empowerment. Our educational system

should address this re-orientation right from the primary to tertiary education, so that students can develop entrepreneurial skills not just for self-employment, also to reposition them to be employers of labour.

For a start, three (3) secondary schools could be selected per senatorial zone, making a total of one hundred and nine (109) across the states including the FCT. These will be sensitised to engage in enterprise projects including one crop, one ruminant, one poultry of local importance, and fish. These projects can be in the areas of production, processing, or storage of their interest and for which their zone has comparative advantage.

It is expected that the successful execution of this project will encourage youths to engage in agriculture as a business enterprise after leaving school. The project would revolve within the school and expand with time to cover more schools.

III.4.2 Graduate Agriculture Support Programme

Up and until 1976, all graduates were employed in the public or private sectors immediately after graduation and virtually all were given loans to purchase cars within the first three months of employment. These privileges and opportunities started declining steadily with attendant increase in graduate unemployment. It is estimated that graduate unemployment account for about 2.9 million of the 13.9 million unemployed youths in Nigeria. This number represents a huge pool of labour, and with appropriate policy initiative, can take up farming as an occupation, either as employees or self-employed, who could eventually become employers of labour; thus, leading to a reduction in unemployment figure and improvement in national food security.

Under this programme, agricultural (and other) graduates, with interest in agriculture, should be sufficiently motivated to go into farming, through assisted land acquisition and clearance, 3.0 per cent interest (Central Bank) loans, provision of seeds/seedlings, day-old chicks and fingerlings. Graduates to be supported for crop production, should have access to a minimum of five hectares of land. For a start, the programme can be targeted at a million graduates. Once accepted as a policy initiative, the details can then be worked out later.

IV. What Next?

The fact is that a lot of food is currently being produced. This is so not because yield per hectare is increasing, but due to increase in the number of hectares cultivated. Currently, a significant amount of produce, especially fruits and vegetables are lost at post-harvest. The wastages that occur in tomatoes, mangoes and oranges are particularly disturbing. To achieve food security and diversify the economy, there

should be a paradigm shift from production and export, principally of raw materials to processing and export of finished products. This requires that more resources should be allocated to the sector. Production of finished products requires processing facilities and raw material storage facilities to mop up produce during the production seasons. For instance, poultry farmers do experience intermittent egg gluts, and that putting an egg powder machinery in place to mop up eggs is too capital intensive, running into billions of naira. Effectively tackling gluts in the poultry and in other subsectors of agriculture would require persistent heavy investments in holding capacities and processing facilities.

The cassava output has increased tremendously from 9 million tonnes in 1970 to 60 million tonnes in 2018, making Nigeria the highest producer of cassava in the world (FAO, 2018). However, starch, flour, sweeteners that can be made from cassava continue to be imported. This paradox is due principally to the fact that cassava is produced, marketed, and consumed in Nigeria in a largely subsistence to semi-commercial manner. The overarching strategy should be turning the cassava sector in Nigeria into a major player in local and international Starch, Sweeteners, Ethanol, High Quality Cassava Flour, and dried Chips industries by adopting improved production and processing technologies and organising producers and processors into efficient value-added chains. Implementation of the value-added chain activities will be driven by the private sector with support from the public sector.

There are numerous other crops (yams, cocoa, coffee, cashew, etc.) that need value addition to enable farmers maximise incomes and for the country to earn higher foreign exchange accordingly.

V. Conclusion

Attaining sustainable national food security is an objective that must be achieved. Consequently, there must be a conscious effort to increase crop and animal productivity despite numerous challenges. Nigeria does have an agricultural policy in place that has set clear priorities, recognises the different needs of small and large-scale farmers and emphasises the involvement of the private sector. These noble intentions should be followed through implementation to the logical end, with greater commitment at three tiers of government. Looking ahead, the policy thrust must be on produce processing and storage to minimise post-harvest losses and enhance farmer income, and foreign exchange earnings and achieve food security objectives. Furthermore, the government must match its rhetoric on agriculture with greater political and funding will towards the sector. To attain sufficient growth in the agriculture sector, the Federal Government must implement policies, and conform with international treaties, e.g., the commitment of 10.0 per cent of its annual budgetary allocation to the sector. The National Assembly should

find a way to domesticate policy actions from the Malabo Declaration. Policymakers must also ensure capital expenditure receives greater share.

References

- Adofu, I., Abula, M. & Agama, J. E., (2012). The effects of government budgetary allocation to agricultural output in Nigeria. *Sky Journal of Agricultural Research*, 1 (1), 1-5.
- Akinwale, O., & Ayodele, A. P. (2019). Effect of government expenditure components on agricultural productivity in Nigeria (1981-2017). *Journal of Economics and Sustainable Development*, 10 (18), 1-13.
- Ayoola, G. B. (2019). Rural infrastructures and the challenge of food insecurity in Nigeria: are good intentions of policymakers enough? *Nigerian Agricultural Policy Research Journal*, 7 (1), 21-35.
- Brown, L. R. (2011). *World on the edge: How to prevent environmental and economic collapse*. New York, London: W. W. Norton & Company.
- Downie, R. (2017). Growing the agriculture sector in Nigeria. *A Report of the Centre for Strategic & International Studies' Global Food Security Project*, 12.
- Downie, R., & Eigege, J. (2016). Sound policy, uneven performance: Assessing Nigeria's agricultural strategy. *A Report of the Centre for Strategic & International Studies' Global Food Security Project*, 6.
- Evans, L. T. (1998). *Feeding the Ten billion: Plants and population growth*. Cambridge: Cambridge University Press.
- Food and Agriculture Organisation, (FAO), (1996). Rome declaration on food security and world food summit plan of action. Rome, Italy: FAO.
- Food and Agriculture Organisation, (FAO), (2011). <http://faostat.fao.org>.
- Food and Agriculture Organisation, (FAO), (2018). Food Outlook - Biannual Report on Global Food Markets – November 2018. Rome, p. 104. License: CC BY-NC-SA 3.0 IGO. <http://www.fao.org/3/ca2320en/CA2320EN.pdf>.
- Federal Ministry of Agriculture & Rural Development, (FMARD), (2016). The Agriculture Promotion Policy (2016–2020): Building on the Successes of the ATA, Closing Key Gaps, Policy and Strategy Document, 59 pp.
- Flaherty, K., & Abdullahi, A. S. (2014). Agricultural research and development indicators factsheet: Nigeria, Agricultural Science and Technology Indicators (ASTI), 2014. Retrieved from: <http://www.asti.cgiar.org/pdf/factsheets/Nigeria-Factsheet.pdf>. FMARD, 2016. The Agriculture Promotion Policy, 2016–20, June 2016. Retrieved from: <https://www.tralac.org/images/docs/10154/nigeria-agriculture-promotion-policy2016-2020.pdf>.
- Global Food Security Index, (2015). Retrieved from: www.foofsecurityindex.eiu.com.
- Honfoga, B. G., & Van Den Boon, J. G. M. (2003). Food consumption patterns in Central West Africa, 1961 to 2000, and challenges to combating malnutrition, 2003. *Food and Nutrition Bulletin*, 24(2), 167-182.
- Idachaba, F. S. (2006). Good Intentions are not Enough. Collected Essays on Government and Nigerian Agriculture, 1. University Press Plc.

- Iganninga, B. O. & Unemhillin, D. O. (2011). The impact of federal government agricultural expenditure on agricultural output in Nigeria. *Journal of Economics*, 2 (2), 81 – 88.
- Iliyasu, A. S. (2019). An empirical analysis of the impact of government spending on agriculture in Nigeria. *Journal of Economics and Sustainable Development*, 10 (24), 14-21.
- Ishiyaku, M. F. (2021). Need for paradigm shift in agricultural research as panacea to attaining optimum economic diversification. A Paper Presented at the Ahmadu Bello University Agric-Vet Complex Symposium on Agriculture at Mamman Kontagora Square, March 29, 2021. <https://www.abu.edu.ng/news-andevents/news/symposiums/docs/need-for-paradigm-shift-in-agriculturalresearch-as-panacea-to-attaining-optimum-economic-diversification.pdf>.
- Kainga, P. E., Ekunwe, P. A., & Ogueri, E. (2016). Food availability and affordability among rural households in Ekpetiama area of Bayelsa state, Nigeria. *Journal for Applied Research*, 7 (1), 35-43.
- Mbamalu, M. (2016). Agriculture, Others Suffer Setback as Lending Rates Favour Governments," *The Guardian*, October 31, 2016, <http://guardian.ng/news/agricothers-suffer-setback-as-lending-rates-favour-governments/>.
- NOI Polls, 2016. Poll of 1,000 Nigerians, conducted on the week of October 31, 2016. For more details, see, "Nigeria's Agricultural Sector Still Dominated by Subsistence Farming; as Farmers Call for More Support."
- Nwajiuba, C. (2012). Nigeria's Agriculture and Food Security Challenges. *Agriculture & Food Security*, 2012, 45-53.
- Ochigbo, F. (2012). Nigeria's agriculture budget under 10 per cent'. *The Nation Newspaper*, Nigeria. Retrieved from: <http://www.thenationonlineng.net/2011/business/60002-per-centE2%80%98nigeria%E2%80%99s-agric-budget-under10%25%E2%80%99.html>, September 01, 2012.
- Ogbeh, A. (2011). Speech by Minister of Agriculture and Rural Development, National Council of Agriculture, Kano, February 10, 2016). Retrieved from: <http://fmard.com.ng/speech-bythe-honourable-minister-of-agriculture-and-rural-development-chief-auduogbeh-on-national-council-of-agriculture-coronation-hall-government-housekano-kano-state-on-tuesday-10th-februa/>.
- Okoro, D., & Ujah, O. C. (2009). Agricultural policy and budget analysis in Nigeria (1999- 2007): Perspectives and Implications for SLISSFAN Project States. Report Submitted to OXFAM GB Nigeria.
- Oyinbo, O., Zakari, A., & Rekwot, G. Z. (2013). Agricultural budgetary allocation and economic growth in Nigeria: Implications for agricultural transformation in Nigeria. *Consilience: The Journal of Sustainable Development*, 10 (1), 16 – 27.

- Ragasa C. (2016). Organisational and institutional barriers to the effectiveness of public expenditures: The case of agricultural research investments in Nigeria and Ghana. *The European Journal of Development Research*, 28, 660–689.
- Shuaib, I. M., Igbinosun, F. E., & Ahmed, A. E. (2015). Impact of government agricultural expenditure on the growth of the Nigerian economy. *Asian Journal of Agricultural Extension, Economics and Sociology*, 6(1), 23-33.
- Smil, V. (2000). *Feeding the world: A challenge for the twenty-first century*. Cambridge: The Massachusetts Institute of Technology Press.
- TheCable, (2017). Nigeria population. Retrieved from: www.thecable.ng.
- Udoh, E. (2011). An examination of public expenditure, private investment and agricultural sector growth in Nigeria: Bounds testing approach. *International Journal of Business and Social Science*, 2(13), 285-292.
- Ugwuede, K. (2016). NIRSAL guarantees over ₦61bn loans to agriculture. *Business Day*, July 29, 2016. Retrieved from: <http://www.businessdayonline.com/nirsal-guarantees-over-n61bnloans-to-agriculture/>.
- Wild, C. P., & Gong, Y. Y. (2010). Mycotoxins and human disease: A largely ignored global health issue. *Carcinogenesis*, 31, 71–82.
- Worldometer, (2021). Retrieved from: <https://www.worldometers.info/world-population/nigeriapopulation/>.
- World Bank, (2017). *Enabling the Business of Agriculture 2017* (Washington, DC: World Bank, 2017), 112, Retrieved from: <http://eba.worldbank.org/~media/WBG/AgriBusiness/Documents/Reports/2017/EBA-Full-Report.pdf>.