NIGERIA AGRICULTURE SECTOR PERFORMANCE REVIEW

by

Aderibigbe S. Olomola
Nigerian Institute of Social and Economic Research (NISER)

and

Manson Nwafor
Regional Strategic Analysis and Knowledge Support System – West Africa (ReSAKSS WA)
International Institute of Tropical Agriculture (IITA)

A BACKGROUND REPORT FOR THE NIGERIA 2017 AGRICULTURE JOINT SECTOR REVIEW

AUGUST, 2018

TABLE OF CONTENTS

TABLES

FIGURES

ABBREVIATIONS AND ACRONYMS

APP	Agriculture Promotion Policy
ATA	Agricultural Transformation Agenda
CAADP	Comprehensive Africa Agriculture Development Program
CBN	Central Bank of Nigeria
ECOAGRIS	ECOWAS Agriculture Regional Information System
ECOWAP	ECOWAS Agriculture Policy
ERGP	Economic Recovery and Growth Plan
FAO	Food and Agriculture Organization
FEPSAN	Fertilizer Producers and Suppliers Association of Nigeria
FMARD	Federal Ministry of Agriculture and Rural Development
GDP	Gross Domestic Product
GESS	Growth Enhancement Support Scheme
IITA	International Institute of Tropical Agriculture
JSR	Joint Sector Review
MDA	Ministries, departments, and agencies
MDG	Millennium Development Goals
NAIP	National Agricultural Investment Plan
NGO	Non-governmental organization
NIRSAL	Nigerian Incentive-based Risk Sharing System for Agricultural Lending
ODA	Official development assistance
UNCTAD	United Nations Conference on Trade and Development

ACKNOWLEDGEMENTS

We would like to express our appreciation to the review team for the JSR and the ECOAGRIS focal points that sourced and provided much of the data that was used in the study. Members of the review team include Sylvester Baye, Paul Oranachu, Ibrahim Mohahmed, Onojighofia Emmanuel and Olagunju Olanrewaju. We would also like to thank those who took time to review the draft report and provided comments and those who provided feedback at the JSR workshop. A special thanks goes to Olagunju Olanrewaju for the diligent work done in following up on the data requirements for the study. Finally, much gratitude is owed to GIZ for providing financial support for the study.

CHAPTER ONE

INTRODUCTION

The agricultural sector has witnessed remarkable policy changes since the Nigerian Vision 20: 2020 (NV20: 2020) was launched in 2009. The first implementation plan (2010-2013) was ongoing when the agricultural transformation agenda (ATA) came on stream in 2011 and lasted till 2015. In August 2016, the agriculture promotion policy (otherwise known as the Green Alternative) was launched and it is now reshaping the direction of agricultural development in the country. As the nation experienced these different phases of strategic plans there has been no systematic framework of reviewing the performance of the sector in a holistic fashion to provide evidence to guide policy decisions and development strategies.

A regular review is required for proper planning, identification of priorities and setting of targets not only to achieve meaningful transformation of the sector but also to synchronize the sector's development with the nation's medium and long term development objectives. Usually, the reviews that have so far guided the aforementioned plans are hurriedly conducted spawning a number of stopgap measures which of necessity have to continue to change from time to time. What is more, such reviews are not participatory and sufficiently linked with economy-wide plans to ensure effective programme implementation in the agricultural sector. With weak data base and lack of generally agreed monitoring indicators, it has been difficult to provide evidence to support the scale up of some of the emerging innovations and success stories which the sector has witnessed in the recent past.

A review of the sector's performance is imperative at this juncture, as the end point of NV20: 2020 draws near and as economic planners and policy makers continue to reveal their preference for the sector as the fulcrum for food and nutrition security, rapid industrialization, employment generation, sustained economic growth, and poverty reduction. Moreover, as the prospects for reliance on crude oil dims globally, developments and investments in the agricultural sector need to be properly guided through participatory and regular reviews so that the sector can fully realize its potentials and serve as a viable alternative to oil as a source of tax and export revenues.

A further motivation for a joint review of the agricultural sector is the regional and sub-regional initiatives aimed at fostering peer review and knowledge sharing in the transformation

of agriculture in Africa to among other things achieve food security and global competitiveness as required under the ECOWAS Agriculture Policy (ECOWAP), the Comprehensive Africa Agriculture Development Program (CAADP) process and Malabo declaration. In 2014, Nigeria's president and other African Heads of State and Government assented to the Malabo declaration on accelerated agricultural growth and transformation for shared prosperity and improved livelihoods. The implementation of the declaration is to be monitored every two years with the first review meeting scheduled to take place in January 2018. The carrying out of Joint Sector Reviews (JSRs) is being encouraged by the African Union as a means of strengthening the agricultural policy process under the CAADP. The JSR is a process by which progress in implementing jointly agreed sectoral goals and targets is reviewed in an inclusive and evidence based manner.

JSRs are a means of actualizing mutual accountability which occurs when stakeholders hold one another accountable for mutually agreed goals and targets. The 2017 JSR is the first for Nigeria and it is implemented following the prescribed AU guidelines. In broad terms, a JSR seeks to assess the performance and results of the agricultural sector, assist the government in setting sector policy and priorities and assess how well state and non-state actors have implemented pledges and commitments. It is also viewed as a useful management and support tool for inclusive planning, programming, budgeting, monitoring and evaluation and overall development of the agricultural sector (Bahiigwa et al, 2013). In this way, it contributes to the national planning process and to the achievement of national goals and development targets. Nigeria's JSR is being implemented in the context of the Economic Recovery and Growth Plan (ERGP) and the Agriculture Promotion policy (APP). The JSR also recognizes Nigeria's implementation of the CAADP and the ECOWAP. It recognizes that country processes are to be aided by regional initiatives which Nigeria is part of and which are to be adapted to Nigerian peculiarities.

The JSR entails participatory activities in which stakeholders come together to examine progress in the agricultural sector and chart a way forward. This report was prepared as a background report to provide objective evidence for the participatory review of the performance of the sector during the JSR workshop. The study seeks to (i) provide an overview of agricultural policies, programmes, institutions and implementation processes right from 2009 to date; (ii) examine trends in financial and non-financial production factors and inputs required for

agriculture growth; (iii) review the performance of the agricultural production and trade using mutually agreed indicators under the Malabo declaration and (iv) undertake a review of progress in development results with a focus on poverty and food and nutrition security using standard indicators under the Malabo declaration. Essentially it is expected to guide key agricultural sector decisions including budgetary allocations, the national agriculture investment plan (NAIP) for 2018 to 2020 and the achievement of the objectives of the ERGP and the APP. It will also evaluate progress in meeting targets set under Vision 20: 2020. Thus, it is expected to add value to Nigeria's agriculture policy process towards the achievement of the goals and targets in the ERGP and the APP.

1.1 Methodology

The study is a comprehensive evidence-based review of the agriculture sector's performance using mutually agreed indicators of the ECOWAP/CAADP and the MALABO declaration which coincidentally cover most of the objectives of interest in the ERGP and APP. The study analyzed the performance of the sector by beginning first with the policy environment and inputs which affect results, examining intermediate results or outputs like production and trade and finally examining final outcomes like poverty and food security. Basically the analytical approach is to provide comparison of the sector's performance with baselines and targets in the Vision 20:2020, APP and ERGP and at the same time, compare recent trends with past trends as a way of assessing achievements and progress. The analysis covers the period from 2010 to 2016.

The qualitative and quantitative data for the study came from various sources including the National Bureau of Statistics, FAO, Famine and Early Warning System Network (FEWSNET), FMARD, Central Bank of Nigeria (CBN), United Nations Statistics Division, Official Government Documents (NV20: 2020, 1st NIP, ERGP, APP) and relevant professional publications. In tracking progress and achievements following the 2014 Malabo Declaration, the trend of the indicators for 2015 and 2016 are presented and viewed against the Malabo declaration targets as well as NV20:2020 targets. Average values of the indicators where applicable are also compared between recent sub-periods; 2011-2013 and 2014-2016 to keep track of the progress made since 2010. A draft report was produced and presented at the JSR which held on 28th – 29th September, 2017 in Abuja. Using comments from the JSR and other reviews the final report was then prepared.

1.2 Organization of the Report

Following this introductory chapter, the remainder of the report is structured as follows. Chapter two provides a review of agricultural policies, programmes and institutional characteristics capable of influencing the overall performance of the sector. Chapter three examines the allocation of resources to achieve the policy objectives in the sector as well as availability of needed agriculture services. In chapter four, the sector's performance in terms of agricultural production and trade is reviewed. Chapter five undertakes a review of progress in development results with a focus on poverty and hunger reduction as well as food and nutrition security while the report is rounded off in chapter six with policy recommendations and conclusions.

CHAPTER TWO

RECENT TRENDS IN AGRICULTURAL POLICIES, PROGRAMMES AND IMPLEMENTATION PROCESSES

The agricultural development trajectory in Nigeria is replete with intriguing plethora of policies and programmes with undulating sequence of implementation especially since the late 1980s following the cessation of the regular development planning activities in the country. Agricultural policies, programmes and projects featured in the various development plans until mid-1980s when planning was abandoned and SAP introduced. The first post-independence agricultural policy document was crafted during this period and launched in 1988. However, it could not be reviewed 10 years after its implementation as envisioned before the inception of civilian administration in 1999.

By 2001 a new policy was prepared (FRN, 2001) and implemented during the period of strategic planning exemplified by NEEDS I and II (2001-2007). The era witnessed the Presidential Initiatives aimed at developing selected agricultural commodities and it was followed by the Seven-Point Agenda (2007-2010) that witnessed the preparation of the Food Security Strategy Document in 2009 which started to emphasize the need for a value chain approach to agricultural development. These strategic planning periods also featured the formulation of sub-sector-specific policies such as the Land Resources Policy to guide sustainable use of agricultural lands, National Agricultural Mechanisation Policy, National Cooperative Development Policy, and the National Seed Policy which assigned primary responsibility for commercial seed supply to the private sector while Government would be responsible for foundation and breeder seed development, seed certification, quality control and certification while at the same time providing the enabling environment for accelerated development of the seed industry.

The National Policy on Integrated Rural Development was also formulated to integrate the rural economy into the mainstream of the national development process by ensuring its effective coordination and management to moderate rural-urban drift, redress the past neglect through provision of infrastructure and empower the rural population to create wealth and mitigate poverty.

The landmark programmes and projects implemented between 2001 and 2009 covered various areas of agricultural development such production, marketing and storage and financing. Notable among them were the Special Programme for Food Security (SPFS), the Fadama II Programme, the Fertilizer Revolving Fund (FRF), the Presidential Initiatives on Cassava, Rice, Vegetable Oil, Tree Crops and Livestock, the restructuring and recapitalization of the Nigerian Agricultural, Cooperative and Rural Development Bank (NACRDB).

In order to strengthen agricultural production, market information and outlets, storage and processing facilities among others, were established in 2004. Also, three agricultural development and marketing companies- the Tree Crops Development and Marketing Company, the Livestock Development and Marketing Company and the Arable Crops Development and Marketing Company were established. The Central Bank of Nigeria (CBN) also adopted new strategies on credit delivery, the Trust Fund Model (TFM), which reduced the risks faced by banks in agricultural lending with adequate emphasis on production, processing and marketing.

Consequently, the sector was able to make significant progress. For example, output of staples such as maize, millet, sorghum, cassava, rice, vegetable oil and yam increased tremendously as a direct response to presidential initiatives in these areas. Specifically, annual production of cassava increased from 33 million metric tonnes in 1999 to 46.0 million metric tonnes in 2006 while output of rice increased from 3.3 million metric tonnes to 4 million metric tonnes during the same period (FAO 2017). In order to curb post-harvest losses and protect the gains of increased production, silo storage capacity across the country was increased from 600,000 metric tonnes to one million metric tonnes with the completion of four additional silo complexes. The presidential initiatives in livestock production, fisheries, and economic trees also helped to increase production significantly and create employment in these areas.

Despite these achievements, challenges remain including low productivity, underinvestment by the private sector, land ownership and tenure rigidities, weak research-extension linkage, poor infrastructure, restricted access to credit, ageing farming population and low return to investment; persistent rural-urban population drift and unsustainable development paradigm due to short planning horizons. These and other challenges were addressed in the Nigerian Vision 20: 2020 (NV20: 2020) which was prepared in 2009. The first implementation plan of the Vision was launched in 2010 to cover the period 2010-2013 with subsequent plan

periods scheduled for 2014-2017 and 2018-2020 for the second and third implementation plans respectively.

2.1 Agricultural Policies and Programmes during the Vision 20: 2020 Era

Following the launching of the NV20: 2020 in 2009 the First National Implementation Plan (1st NIP) was prepared for the period 2010 to 2013. The overall goals and targets of the vision 2020 were:

- To achieve a 3-fold increase in domestic agricultural productivity by 2015 and 6-fold increase by 2020
- To transform the Nigerian agricultural production system to a substantially mechanized system by 2020
- Expand dairy production and milk yield from the current less than 2000 kg to 5,000 kg per cow per lactation by 2015
- Achieve 20% farm-gate storage, 75% commercial storage and 5% strategic reserves by 2020
- To achieve a fully digital, green and biotechnology driven agriculture by the year 2020
- To derive over 50 % of the nation's foreign exchange earnings through agro-industrial exports by 2020
- To reduce the present level of food import by 50 % in 2015 and by 90 % in 2020
- To reduce the post harvest loss of agricultural produce by an average of 50% in 2015 and 90% in 2020
- Increase the size of irrigated land from current 1% of cultivable land to 10% of cultivable land by 2015 and to 25% by 2020
- Review and further develop an agricultural land and water policy that will address the problems of soil fertility, water productivity, land and environmental degradation by 2010
- Increase area of land planted with diversified biomass including economic species in agro-forestry program from current 3% to 10% in 2015 and to 20% by 2020
- Achieve an efficient agricultural extension delivery system which includes extension worker: farmer ratio of 1:500 by 2020
- Achieve the adoption of improved varieties/species of seed and brood stock by 50% of the farmers by 2015 and 75% by 2020

In addition, an agric GDP growth rate of 6.7% was targeted under the first implementation plan for the 2010 to 2013 period. As shown in Table 1, the plan contained specific programmes for developing all the agricultural sub-sectors as well as key institutions like research and extension. Large scale processing of cassava and rice was targeted under the plan. Local fish seed production was expected to increase from 5 million to about 20 million annually leading to 300 percent increase in fishery output. For Livestock, the expected outcomes included: reduction in

the incidence of major animal diseases, increase in production of Livestock products, reduction in pest infestation, increase in livestock exports and trade and increase in wholesome livestock and dairy products. However, it was in the middle of the plan period that election was held and a new administration inaugurated in May 2011. The agricultural transformation agenda (ATA) was designed during the year and it essentially became the driver of development in the sector from 2011 to 2015.

Table 1: Planned Agricultural Programmes Under the NV20: 2020 1st NIP

Activity Area	Programmes
Crops	-Implementation of agriculture cadastral programme in all the 36 states and FCT. -Clearing of 240,000 ha of land (2010-2013) in collaboration with the 36 states and FCT -Production of 62,500 MT of certified seeds and 27.5 MT breeder seeds, 508 MT foundation seed and establishment of Agricultural Seeds Centres in the 36 states and FCT -Construction and completion of on-going silos to increase the number of silos, which are aimed at increasing the number of silos to 44 from the current with storage capacity of 3 million MT. -Implementation of the programmes of community warehousing, which is aimed at achieving 700,000mt storage to store excess farm harvest. -Rehabilitation of old and moribund cocoa and Oil Palm plantations and planting of new farms -Establishment of 12 Agro Export Conditioning Centres (2 centres per geo-political zone). -Establishment through PPP of 200,000 cassava processing factories in the 36 states and FCT -Establishment through PPP of 181 large scale rice processing mills
Dam, RBDAs and Irrigation Schemes	All existing dams and irrigation facilities are to be exploited and managed through Public–Private Partnership (PPP). The River Basin Authorities are to be restructured and managed in a more efficient manner with a view to making them centres for improved seed for crops, livestock and fishery multiplication, for the construction and maintenance (not management) of dams and primary channels, promotion of a strong extension system for the States of cover and more importantly for the farms in their irrigated lands. -They will also be adequately funded to provide processing facilities for major crops and livestock of the RBDAs farm system; provision of potable water supply, roads and basic infrastructure for rural communities to facilitate access and product evacuation and improve the rural environment to attract young farmers.
Livestock	Establishment of 50 gazetted grazing reserves, Establishment of 6000 km stock routes, Establishment of 12 livestock breeding and multiplication centres and a hatchery in each geo-political zone, Promotion of national animal disease control programme and Establishment of Abattoirs in all of the 36 states and FCT (through PPP arrangement).
Fishery	Establishment of 120 fish farm estates across various geo-political zones; Inland Fisheries Development, Construction of Ornamental Fish Development Centres, Fish Seed and Feed Certification and Standardization, Shrimp farm development, and Establishment of feed mills and fish resources monitoring.
Research and Development	-Intensification of applied research; the strengthening of the Agricultural Research Council of Nigeria (ARCN), -Establishment and equipment of additional Research Institutes including the unbundling of the National Animal Production Research Institute (NAPRI) into a Beef and Dairy Cattle Research Institute to be located at Shika – Zaria with outstations in Sokoto, Jalingo, Umuahia, Maiduguri, Ilorin and Ebonyi (for Muturu sp.), a National Swine Research Institute, Makurdi, Benue State with outstations in Asaba, Ogbomosho and Awka; a National Poultry Research Institute, Enugu with outstations in Lokoja, Ado Ekiti and Minna; National Pasture/ Forage Research Institute, Yola, Adamawa State with outstations in Birnin-Kebbi, Shika, Abakaliki. -Establishment of specialized centres and laboratories for crops, livestock and fisheries agricultural

	biotechnology research for the focused and intensified production of high yielding, consistently conformational and disease-resistant species of crops, livestock and fishery, with due consideration given to all ethical concerns.
Extension	-Training of 10,000 youths annually nationwide as private sector extension workers. Also, government will establish a framework to strengthen the research and extension linkages. Federal Universities of Agriculture shall be mandated to certify technologies as well as provide sustained training and certificate all extension personnel in agriculture in their areas of location.

Source: Adapted from Vision 20: 2020 1st National Implementation Plan, National Planning Commission (NPC, 2010)

2.2 Policies and Programmes Under the Agricultural Transformation Agenda (ATA)

Funding priorities, implementation strategies and agricultural policy direction changed under the ATA which was formulated and implemented between 2011 and 2015. The ATA was made up of six major components: (i) the Growth Enhancement Support Scheme (GESS) which was designed to improve farmers' access to modern agricultural inputs at subsidized prices; (ii) the Staple Crop Processing Zone based on the comparative advantage of each region and aimed at forming clusters in major food production for rice, sorghum, cassava, fisheries and horticulture. (iii) Agricultural Commodity Value Chain Development (ACVCD) which focused on developing key commodities in both crop and livestock sub-sectors in different agro-ecological zones (iv) Agricultural Marketing and Trade Development Corporations (AMTDCs) to enhance farmers' access to markets (v) the Agricultural Extension Transformation Agenda (AETA) to improve dissemination of information and adoption of innovations and (vi) the Nigerian Incentive-based Risk-Sharing System for Agricultural Lending (NIRSAL) to de-risk lending to agriculture and tackle the bottlenecks that affect agricultural commodity value chains and the agricultural financing value chain.

In the twilight of the ATA, specifically in December 2014, the federal government launched the Youth Employment in Agriculture Programme (YEAP) to address the problem of youth unemployment in the country. The programme was designed in 2013 in collaboration with FAO to increase decent rural employment opportunities for Nigerian youth along area-based priority agricultural value chains. The programme was expected to create 758,500 jobs for youths in the agricultural sector, over a 5-year period. The goal of YEAP was to attain national food security; lay a solid foundation for a more competitive, commercialized, and efficient agriculture to help Nigeria to rapidly diversify the economy and become globally competitive.

Participating youths in the YEAP were classified into two categories: (i) the nagropreneurs - youths aged between 18 and 35 years are graduates from higher institutions who

may or may not have studied agriculture, but who show interest in agribusiness. 500 youth were targeted for this group in each state, for 18,500 youth nationally; and (ii) Market-oriented producers who are youths aged between 18 and 35 years old with interest in agriculture regardless of their educational background. Under this component, 20,000 youths were targeted in each state and FCT for a total of 740,000 youths nationally. Both groups would be trained in priority value chains which included poultry; aquaculture; sheep and goat production; bull fattening; welding and fabrication; repair and maintenance of agricultural equipment; footwear and leather goods manufacture; production and processing of cassava, rice, soybean, cocoa, oil palm, sorghum, maize, wheat, or groundnut; snail-keeping and grass cutter production; bee-keeping and honey production (apiculture); horticulture (tomato production and processing and orchard and nursery establishment) and agricultural extension services.

The value chains were prioritized according to agro-ecological zones. Following the training, participants were linked with commercial banks to obtain loans to start their businesses. Implementation of the programme was carried in three phases starting with 12 states and FCT in the initial phase and 12 states in each of the subsequent phases. Each state was to be supported for 3 years after which it would take full responsibility and ensure sustainability of the programme (Adesugba and Mavrotas, 2016).

Although there are key achievements under the ATA (Table 2) by far the most successful and enduring program has been the GESS, under which the most innovative input subsidy scheme was designed and implemented to guarantee food security in the country and increase farmers' income, productivity, and access to modern inputs. The total public spending on fertilizer subsidies (by federal and state governments) under the GESS increased from ₦13.30 billion (USD84.44 million) in 2012 to ₦82.38 billion (USD519.57 million) in 2014.

Despite the achievements made through GESS and other components, recent evidence suggests that overall the ATA faced challenges such as weak access to credit by smallholder farmers, heavy fiscal burden resulting in sharp rise in indebtedness to banks (especially by agrodealers who obtained loans from banks to finance input purchase and distribution but who were not paid on time by the government who is responsible for paying 50 percent of what the farmers should pay the agrodealers under the existing subsidy program), unfulfilled financial commitments by external investors, high post-harvest losses, and illegal food imports, which prevented it from delivering on the stipulated targets. Consequently, Nigeria remains food

insecure, relying on food imports worth about $3.0 billion to $5.0 billion annually, especially wheat, rice, fish, and sundry items, including fresh fruits and vegetables (FGN, 2016).

The only program that witnessed slow progress under the ATA was the marketing transformation program under which progress was not made beyond preliminary studies for the design of the institutional arrangements. The remaining ATA components recorded appreciable progress during the implementation period. For instance, the value chain development initiative involved distribution of modern inputs to producers in all the sub-sectors of agriculture to boost output and drive food self-sufficiency in the country. Implementation commenced in 2013, with focus on soybean, ginger, groundnut, sorghum, sesame, oil palm, cotton, cashew, cocoa, poultry, sheep and goats, piggery, dairy, leather, beef, aquaculture and artisanal fishery.

Achievement in the sub-sectors varies considerably with the livestock sub-sector witnessing an upward trend of input distribution compared to declines in the trend of some inputs distributed in the other sub-sectors. For instance, the number of day-old chicks distributed to poultry producers increased from 28,500 in 2013 to 220,900 in 2014 (or by 675 percent) while the quantity of chicken feed increased from 36 metric tonnes to 169 metric tonnes (or by 369 percent) over the period. Over the same period, the distribution of improved seeds under the value chain development programme increased from 376,281 to 791,090 metric tonnes (or by about 110 percent); whereas the quantity of fertilizer distributed increased from 23,947 metric tonnes to 36,115 metric tonnes (or by about 50.81 percent) (Olomola, 2015a). In the fishery sub-sector the emphasis was on aquaculture. The number of juveniles distributed to fish farmers declined from about 3.7 million in 2013 to 2.4 million in 2014 while the quantity of fish feed distributed declined from 553 metric tonnes to 361 metric tonne over the period. The limited performance under the value chain development initiative was due not only to declining revenue of government but also to the increasing inability of the entrepreneurs involved to meet their own cost of such inputs.

Table 2: Some ATA Achievements and Challenges (2011 – 2015)

Area	Achievements	Challenges
Input Supply	-Set-up of the Growth Enhancement Scheme (GES) to register small holder farmers and provide targeted input subsidies (E-Wallet) - GES database contains 10.5 million farmers -Targeted means-based subsidies provided to about 12 to 14 million farmers between 2011 – 2014 -Farmers gained improved access to inputs i.e. access to fertilizer and of seeds	-GES's limited focus and exit strategy set aside, with material implications for Ministry's budget, hence the sharp rise in indebtedness to banks. -The system has many leakages from farmer registration and data capture to supply and distribution mechanism. -Insufficient access to improved variety seeds e.g. still a 300,000MT gap between demand and supply of seeds
Financing	-In partnership with Central Bank and Bankers Committee, set up of NIRSAL credit guarantees -Revival and partial ₦15 billion recapitalization of Bank of Agriculture -Engagement with commercial banks to finance GES and boost lending to agriculture from about 1percent to 6 percent of all formal credit by 2015 - Creation of special funds to support farmers e.g. ₦10 billion Cassava Fund and FAFIN/KfW Facility of $35M	-Credit access particularly for small holders remains weak -NIRSAL's 2013 change in credit guarantee rules disrupted market for agriculture financing until mid-2015 when rules were reviewed again -Backlog of unpaid GES loans (estimated at ₦39 billion) has slowed down bank lending -Out off about $8 billion in domestic and foreign investor commitments often cited, only limited volumes actually moved from idea to reality
Infrastructure and Logistics	-Designation of staple crop processing zones; 1st site in Kogi for cassava production remains under development -Concession of Federal warehouses and storage assets	-Investment inflows into infrastructure and midstream logistics e.g. warehouses, storage, processing systems remains rudimentary - Staple crop processing zone (SCPZ) strategy has not yielded results. For example, Kogi SCPZ has not taken off due to withdrawal of Cargill, the anchor investor from the project
Production	-Introduction of new higher yielding crop varieties e.g. Cocoa, Rice (Faro 42 and 44) - Domestic food production rose by an incremental 20.1 million tons. - Rice paddy production rose an estimated 2.0 – 2.5 million tons - Creation of a Federal Dept. of Agricultural Extension	-Growth in food production remains limited due to gaps in input supplies e.g. rice; hence rice imports still exceed $1 billion/annum. Outlined below is an *illustrative* "best estimates" of demand-supply gaps given data quality issues still present in Nigeria. It is anticipated that as production gaps are closed via yield improvements, per/ton equivalent costs will also decline, helping reduce food costs and ultimately, inflation.
Market Access	-Re-establishment of select commodity marketing corporations e.g. Cocoa Marketing Corporation	-Post-harvest losses still an issue but improving moderately - Illegal food imports remain an issue, depriving farmers of market opportunities
Others	- Reform of the Agricultural Research Network	Federal – State coordination of policy became significant challenge; some states made choices at odds with federal approach e.g. continuing direct procurement of fertilizer - Absence of programme delivery infrastructure / unit at the federal and state levels; held back key implementation and donor funding - Data collection and evidence based reporting remains weak, hence tracking results / M&E continues to be a challenge

Source: FGN (2016) The Agriculture Promotion Policy (2016 – 2020). FMARD, Abuja

The SCPZs were designed to boost import substitution, improve the competitiveness of Nigeria's agricultural sector, and establish the appropriate linkage between the sector and the industrial sectors as a basis for Nigeria's industrial development with a focus on key commodities such as rice, sorghum, cassava, fisheries, horticulture, livestock, and oil palm. The production clusters for these commodities were delineated in 2013 with the support of state governments. The identified sites were located in Anambra, Enugu, Kogi, Kebbi, Sokoto, Niger, Bayelsa, Taraba, Kano, Kwara, Lagos, Benue, Ogun, and Rivers states. An additional site was included in November 2014 stretching over 200 km and targeting various crops including maize, rice, cassava, oil palm, and cocoa in Cross River state.

In addition to driving rural industrialization, the 15 SCPZs have the potential to strengthen downstream activities and increase revenues by reducing post-harvest losses and food imports. Some of the incentives put in place to achieve this include tax breaks on the importation of agricultural processing equipment, tax holidays for food processors who are located within an SCPZ, and increased government investments in roads, logistics, storage facilities and utilities. To date however, the project is yet to be fully implemented due to inadequate financial resources.

With regard to NIRSAL it has provided incentives to attract the banking sector to lend to agriculture, although it took considerable time and effort to convince and persuade the commercial banks to take advantage of the lending opportunities and incentives. As at 2012, when they were expected to finance the agrodealers and input suppliers, many of the banks remained unconvinced about the prospects of NIRSAL and so the level of financing was quite low. The situation changed in 2013 as 13 commercial banks granted loans to the agrodealers to finance their input distribution across the country. Nonetheless, a substantial part of the NGN19.612 billion loan came from only six banks, implying that, despite the available incentives (improved guarantee cover and interest rate rebate ranging between 20 and 40 per cent), only a few banks have the capacity to cope with the requirements of agricultural lending in accordance with NIRSAL guidelines (Olomola, 2017).

One of the areas of concern in the implementation of ATA is cross-tier participation and collective decision making. The intensity of intergovernmental interaction varied from one state to another on account of improper understanding of roles and deep-seated misgivings about the non-collective nature of the decisions leading to the assignment of stakeholders' roles. In a

recent study, Olomola (2015b) found that the cooperation in the implementation of the GES scheme between the federal and state governments was more visible than that between the state and local governments. The weak cooperation in respect of local governments was due to the fact that in designing ATA and the GES scheme, partnerships were not inclusive of the local government. In consequence, during its implementation the participation of LGAs was relatively marginal. Olomola (2015b) revealed that the level of cooperation with states and local governments depends largely on the extent to which the population in the state depends on agriculture for their livelihoods, the calculation of the political benefits of participation, and states' fiscal capacity. States tend to hesitate to give full cooperation to those activities which offend their political authority, especially when there is no prior joint decision about such activities. Thus, a useful lesson from the ATA experience is that attainment of desired objectives of agricultural programmes depends largely on the extent to which intergovernmental and inter-agency interactions are understood, coordinated, and integrated into the design and implementation of such programmes. Needless to say, the successful implementation of ATA also required strong institutional capacity.

An institutional capacity assessment was undertaken as the ATA implementation got underway in 2012. Wide ranging capacity gaps were discovered within and outside the policy implementing ministry (FMARD); and a number of steps were taken to remedy the situation. These included (i) building the capacity of key players in the policymaking process, especially officials at the federal, state, and local government levels involving them in the ATA decision making process and allowing them to take ownership of the strategy, (ii) conducting specific training courses in order to strengthen policy and strategy development and analysis role, as well as ability to monitor and evaluate programmes and policies, (iii) strengthening the ATA value chain commodity teams in order to identify the opportunities and challenges along their respective value chains and develop strategies, budgets, and plans for implementation, (iv) developing organizational capacity to strengthen the management information systems in FMARD to help in tracking progress and realigning resources towards reaching ATA goals, and (v) developing the capacity to collect and analyze data from the state and local levels and increasing the use of ICT to facilitate knowledge sharing and promote coordination both horizontally across line departments and vertically between government levels to enhance the speed of ATA implementation (Africa Lead-IFPRI, 2012; Babu et al., 2014).

Invariably, despite the achievements under the ATA, there were areas where progress was slow and there were also a number of implementation challenges as presented in Table 2. In particular, inadequate attention was paid to agricultural marketing and none of the proposed marketing development corporations came on stream throughout the ATA period. As the first phase of the ATA drew to a close, the financing of the subsidy scheme was becoming increasingly difficult thus, stalling the efforts by FMARD to finalize the legislations aimed at perpetuating some of the reforms. These challenges are being addressed under the Agriculture Promotion Policy which was launched in the third quarter of 2016.

2.3 The Era of Agriculture Promotion Policy

In June 2016, the Agriculture Promotion Policy was launched and has since continued to guide the development initiatives in the sector. It strives to consolidate the successes of the ATA, close the policy gaps and reposition the sector for greater investment and increased diversification in order to accelerate economic recovery, reduce poverty and enhance food security. There is a clear policy thrust which centres around food security, import substitution, job creation and economic diversification. This is to be achieved through a three-pronged approach of (i) productivity enhancement (with emphasis on access to land, soil fertility improvement, access to information and knowledge, production management, storage, processing , marketing and trade, (ii) private investment expansion (with emphasis on access to finance and agribusiness investment development) and (iii) institutional realignment for improved service delivery and development outcomes (with emphasis on greater inclusiveness, participation of youth and women, infrastructure, research and innovation, climate change as well as food and nutrition security).

2.3.1 Presidential Fertilizer Initiative

The Presidential Fertilizer Initiative (PFI) which commenced in December 2016 is a multipartite arrangement in which the Nigerian Sovereign Investment Authority (NSIA), FMARD, Fertilizer Producers and Suppliers Association of Nigeria (FEPSAN) and the government of Morocco are involved. The President of FEPSAN and Chairman of OCP Morocco signed an agreement on the supply of phosphate on December 2, 2016 in Nigeria in the presence of the Nigerian President and the King of Morocco. The NSIA is backing up the implementation of the agreement with

FEPSAN through a special purpose vehicle (SPV) company NAIC-NPK Limited. Under the initiative, 12 of the 28 abandoned fertilizer blending plants in various locations in the country have since been fully reactivated and made functional. The reactivation programme, under the agriculture-focused funding programme of NSIA is part of its support to government towards achieving food security.

The number of plants to be reactivated is expected to rise to 18 in 2018. The initial annual production target of 1.5 million metric tonnes (30 million bags) of fertilizer was reduced to 600,000 metric tonnes (12 million bags) in 2017 due to transportation challenges which necessitated reliance on rail to move the products. With the local abundance of urea and limestone, two components that make up 65 per cent of the raw materials it was resolved that instead of continuing to import blended fertilizer, only 35 per cent could be imported and shipped to the blending plants, for the product to be fully blended and sold to farmers. At the commencement of the programme in December 2016, phosphate was bought in from Morocco and potash from European traders at international market prices, while urea and limestones were sourced locally. The 50,000 metric tonnes of fertilizer blended by one of the plants that year were sold to farmers ₦14,000 per bag. In 2017, however, given the involvement of the reactivated plants, farmers were getting the NPK fertilizer at a price of ₦5,500 per 50-Kilogramme bag (compared with the market price of ₦8,000 per 50-Kg bag) through agrodealers who were to procure them at ₦5,000 per 50-Kg bag.

2.3.2 Export Drive

The government has prioritized the production of a variety of commodities such as beans, cocoa, cashew, cassava (starch, chips and ethanol), ginger, sesame, oil palm, yams, horticulture (fruits and vegetables), beef and cotton for export. The Federal Ministry of Agriculture and Rural Development (FMARD) is also working with a network of investors, farmers, processors and other stakeholders to deepen the supporting infrastructure to ensure that quality standards are defined and maintained across the value chain. In this regard efforts are being made to equip additional testing laboratories, improve traceability of crops, disseminate market intelligence on export and consumer preferences and strengthen linkage with relevant MDAs in promoting agricultural exports. The goal is to build a high quality brand for Nigerian foods based on rigorous data and processes that protect food safety for domestic consumption and export. These

efforts are already yielding positive results with the increase in the value of export of yams to European markets in 2017.

2.3.3 Intensification of the commitment to the CAADP process

Under the APP, there is a recommitment to the CAADP process as evidenced by recent adoption of a memo on CAADP at a National Council on Agriculture meeting, regular engagement with stakeholders, establishment of a steering committee to drive the agricultural sector review process and the preparation of the AU Biennial report. The very first biennial report was validated by stakeholders in August and submitted to ECOWAS/AU in September 2017.

2.3.4 Preparation of New National Agricultural Investment Plan (NAIP)

The NAIP is an important instrument for agriculture development in Nigeria and other African countries. It is a medium term sector strategy and expenditure plan – typically 4 years in duration. Under the CAADP, each country (where it has not been doing so) is encouraged to have a medium term sector strategy/expenditure plan for the agriculture sector. For countries like Nigeria that usually have a Medium Term Sector Strategy (MTSS), the value addition brought by the CAADP process, is that the development of the NAIP from the MTSS is supported so that the quality of the NAIP can be as high as possible. Support is also provided in designing a NAIP that can assist the country in achieving mutually agreed goals at the national and international levels such as the APP, ECOWAP and MALABO goals.

During the first quarter of 2017, FMARD commenced serious engagement with national stakeholders with analytical support from international partners to deliberate on the major components of the new NAIP being developed. The NAIP places emphasis on intra-sectoral diversification such that the crop, livestock and fisheries sub-sectors receive their fair share of investment in accordance with the AU's 2014 Malabo Declaration, which seeks to cut poverty rates by half by 2025 through agriculture-led economic growth. An action plan for the validation of the draft NAIP (2018-2020) for Nigeria was prepared during the third quarter of 2017 with the expectation that the new NAIP will be launched before the end of the year.

2.3.5 Intensification of Legislative Backing for Input Sector Reform

The incentives being provided under the APP are being processed for legislative backing to provide support to farmers in meeting the challenges of agribusiness especially in acquiring modern inputs such as seeds, fertilizer and crop protection products. It seeks to promote a seed and fertilizer distribution and financing platform that is technology driven and productivity enhancing all in a bid to enhance the nation's food and nutrition security status. The private sector (including the NABG, FEPSAN, SEDAN) is championing this process and forging effective partnerships with FMARD, AGRA and other development partners to ensure hitch-free implementation and sustainability of the ongoing regulatory reform in the input sector. In this regard, two bills – the Fertilizer Quality Control Bill (FQCB) and the Revised Seed Bill have passed through several stages in the legislative process.

Stakeholders believe that the FQCB will be helpful in addressing key challenges such as poor quality, product adulteration, high cost, scarcity and poor enforcement of regulation. It is therefore, likely to improve profitability at various stages in the fertilizer distribution channel, protect farmers from middlemen abuses and enhance access to adequate fertilizer of the right quality, at affordable prices and at the right time. The revised Seed Bill seeks to enable the private sector perform its expected functions of meeting quality seed requirements of farmers, provide the desirable incentive required by the private sector to achieve the objective of supplying sufficient quality seeds that can be accessed by farmers at affordable prices and to deregulate some of the functions of the National Agricultural Seed Council (NASC) such that the seed industry is private sector-led with government performing only a regulatory role. This will ultimately enhance the availability and affordability of improved seeds, improve productivity and encourage more investment in agriculture.

2.3.6 Agriculture Sector Food Security and Nutrition Strategy

In May 2017, the FMARD produced the Agriculture Food Security and Nutrition Strategy as the nutrition component of the agriculture policy and the agriculture component of the National policy on food and nutrition. The strategy has 8 priority areas: (a) enhancing value chains for improved nutrition (b) diversifying household food production and consumption (c) improving food safety along the value chain (d) building resilience and social protection nets (e) promoting nutrition research and information systems (f) Improving the agriculture sector's capacity to

address food security and nutrition challenges (g) Nutrition education and advocacy and (h) Nutrition surveillance, monitoring and evaluation. The strategy covers the period of 2015 to 2025.

2.4 Macroeconomic and Related Policies in Support of Agriculture

It is important to stress that the effects of the agricultural policies and programmes implemented from time to time will depend in no small measure on the macroeconomic policies and other social factors that affect the supply and demand for agricultural products. In this context the fiscal, monetary and trade policies (including exchange rate, interest rate, tax policies etc) are germane and have been relied on over the years to support a number of sector-specific policies driving the development of agriculture in the country especially to stimulate export, promote import substitution and enhance food security. In particular, the tax policies have been adopted to incentivize various actors in the agribusiness sector.

In 2012, policy was introduced which provided tax holidays for investors in processing plants in staple crop processing zones. This was also to serve as an incentive for small-scale farmers who were involved in supplying raw materials to the processing plants. Moreover, there was also a policy that revenue derived from an increased levy on agricultural commodity imports should be used to support domestic production. Some of the tariff policies that were introduced in 2012 were to serve as incentives for assisting small-scale farmers to boost production. These included zero tariffs (custom, excise and value added) on imports of agricultural and agro-processing equipment; and increase in the levy on imports of any commodities that Nigeria can produce (starch, sugar and wheat).

Specifically, from 1st July 2012, wheat flour attracted a levy of 65 percent to bring the effective duty to 100 percent, while wheat grain attracted a 15 percent levy to bring the effective duty to 20 percent. The levy of 25 percent on brown rice was increased to 30 percent. In addition, to encourage domestic rice production, a levy of 40 percent was placed on imported polished rice, leading to an effective duty rate of 50 percent. From 31 December 2012, all rice millers were to move towards domestic production and milling of rice, as the levy of 50 percent was raised to 100 percent. Besides, all tax waivers and concessions for rice and wheat importation were abolished (Olomola, 2013) as part of measures to promote domestic production of the commodity.

2.4.1 Wheat Flour Substitution Policy

The policy to substitute wheat flour with 40 percent high quality cassava flour (HQCF) in the production of bread was adopted under the ATA as part of the efforts to reduce the burden of wheat import. A legislation mandating that bread is produced with 10 percent cassava flour was first passed in 2005. The efforts continued in 2013 when the proportion was increased to 20 percent. Following complaints by bakers regarding the difficulty of reaching the specified blend, FMARD established a cassava bread development fund of $66m to train them. This policy was also aimed at boosting cassava production to meet domestic and export demand.

In an attempt to concretize legislative support for this policy, a Cassava Bill was sent to the National Assembly in 2014 stipulating that bread produced in the country must include at least 20 percent cassava flour. Some corporate bakers implemented the 20 percent cassava bread standard even ahead of parliamentary approval. A target of 40 percent cassava flour inclusion was set for 2015 in the implementation of this policy. By 2014, the federal government proposed a sum of $22.3m to be deposited with the BoI for upgrading the equipment of small and medium-sized enterprises to enable them increase the production of cassava flour and to serve as incentives for sustaining supply response to government's efforts to expand cassava production.

By and large, the most recent episodes of monetary and trade policies which have potential implications for food security, domestic production and agricultural product prices began to unfold right from mid-2015. Following the drastic drop in international oil prices and sharp decline in foreign exchange inflow the CBN rolled out new set of monetary policies which regarded some goods and services as invalid for foreign exchange in the Nigerian foreign exchange market. Importers of such goods are no longer qualified to obtain foreign exchange from CBN or official market to buy them from overseas. Of the 41 categories of goods, agricultural products represent 15 percent and they include rice, tomatoes, palm produce, vegetables and processed vegetable products, meat and processed meat products, chicken, eggs and turkey.

The CBN policy on foreign exchange is expected to ensure efficient utilization of foreign exchange, stabilize the market and encourage local production of the goods involved. With the interest rate policy of the CBN however, the extent to which its impact will be felt on domestic investment and output especially in the agricultural sector may be limited. The CBN has increased monetary policy rate by 200 basis points from 12 percent to 14 percent in 2016 in

pursuance of a tight monetary policy regime aimed at combating inflation; bringing lending rate to over 20 percent. By stifling growth and being powerless to reduce inflation, the tight monetary policy has tended to bring double jeopardy to the economy.

For the whole of 2016, the economy was in recession and inflation has continued to rise in spite of the tight monetary policy. The rate of inflation rose from 8 percent in 2014 to 9.6 percent in 2015 and assumed double digit in 2016; during which time it rose from 17.9 percent in September to 18.03 percent in October and to an all-time high of 18.55 percent by December (Olomola, 2017). To date, this inflationary pressure has not diminished remarkably since the rate stood at 16.05 percent as at August 2017. Inflation continues to be fuelled by exchange rate depreciation and high cost of doing business, two critical factors that can make the agricultural sector investment-unfriendly.

2.5 Institutional Performance

The nature and performance of the institutions in the agriculture sector has considerable impact on eventual food and nutrition security outcomes. Here, the review of institutional performance is based on key criteria identified under the CAADP framework. These include the extent of implementation of the CAADP process, accountability and commitment to food and nutrition security improvement, institutional capacity to plan, implement and review progress and the level of inclusiveness in sector governance. Performance under these criteria as at 2016 is reviewed in this section.

2.5.1 Institutional Performance Relating to the CAADP Process

The CAADP process is expected to commence with its internalization in a country and the development of a roadmap for implementing the vision of CAADP (the MALABO declaration) Thereafter, a new NAIP which aims at achieving country goals in the context of the ECOWAP and MALABO declaration is expected to be produced with lessons learnt from the evaluation of the first NAIP incorporated into it. Implementation of the new NAIP with government commitment (evidenced by its inclusion in the government budget) is expected to commence. An M&E system is needed to monitor performance of the NAIP and support the production of a NAIP implementation report.

In this manner the country is expected to plan, implement and review performance in the area of achieving food and nutrition security objectives in the context of the MALABO declaration. CAADP process completion index is the indicator which is used to measure the extent of completion of the process. The target for it is 100% by 2018 i.e. all African countries are expected to have developed, implemented and reviewed MALABO compliant NAIPs by 2018. The results show that Nigeria is short on four of the seven criteria (Table 3).

Table 3: Achievements on completing CAADP Process in Nigeria

Progress item	**2016 Progress (p_i) *"Yes"* = 100 percent| *"No"* = 0**	**Malabo Targets (percent)**
1. Existence of communication on internalizing CAADP	100	100
2. Existence of National CAADP Roadmap for implementing Malabo	0	100
3. Existence of NAIP Appraisal Report	100	100
4. Existence of the New NAIP	0	100
5. NAIP implementation reflected in national budget	0	100
6. Existence of NAIP M&E System	100	100
7. Existence of NAIP implementation progress report	0	100
CAADP process completion Index CAADPPro = Average (p_i)	42.86	100

Source: Federal Ministry of Agriculture and Rural Development (FMARD), Abuja. Nigeria.

With the recent re-adoption of the CAADP at a national council on agriculture meeting, it is clear that CAADP has been internalized with the memo on this authorizing support for CAADP related initiatives. A number of efforts have been made to review the previous sector strategies and an M&E system exists for tracking the performance of the NAIP (via the Key Performance Indicators) although it requires further strengthening. However, a national CAADP roadmap for implementing Malabo is non-existent. There is no new NAIP thus NAIP implementation progress report is not available. Finally, NAIP implementation is not reflected in the national budget. However, progress on the new NAIP is moving rapidly with a draft plan virtually ready for validation by stakeholders in the last quarter of 2017.

2.5.2 Improved Effectiveness and Accountability of Institutions

The focus of attention in assessing effectiveness and accountability of institutions is improved monitoring and evaluation of policies and political commitment to development outcomes in the sector. With regard to the political commitment to reducing hunger and malnutrition, the performance indicator employed in the assessment is the Hunger and Nutrition Commitment Index (HANCI Africa) which measures political commitment to reducing hunger and undernutrition, among countries in Africa. Basically, HANCI Africa compares and ranks the performance of 45 African countries based on 22 indicators of political commitment[1]. The indicators are split between indicators of commitment to hunger reduction (10 indicators) and indicators relating to commitment to addressing undernutrition (12 indicators). In both sets they are grouped under three themes namely; legal frameworks (for example the level of constitutional protection of the right to food), policies and programmes (for example the extent to which nutrition features in national development policies and strategies) and public expenditures (for example the percentage of government budgets spent on agriculture). The result shows that political commitment is low and no remarkable progress has been made in this regard since 2015 (Table 4).

Table 4: Achievements on improving political commitment to reducing hunger and malnutrition

Indicators	2010 (Baseline)	Malabo Target	2015	2016	2011-2013	2014-2016
Hunger and Nutrition political commitment index (HANCI)	n.a.	n.a.	37	37	40	37

Source: FMARD based on HANCI website (http://africa.hancindex.org/); 2015 and 2016 data was based on the last reported data (2014) on the HANCI website.

Note : n.a. means not available

[1] Civil registration of live births, Status of safety nets, Vitamin A coverage, Governments' promotion of complementary feeding, Access to drinking water, Access to sanitation, Skilled birth attendance, Extent of nutrition features in national development policies/strategies, National nutrition policy, plan or strategy, Multi-sectoral and multi-stakeholder coordination mechanism, Time bound nutrition targets, National nutrition survey, Constitutional right to food, Women's access to agricultural land, Women's Economic rights, Constitutional right to social security and Enshrining of the International Code for Marketing of Breast milk Substitutes (ICMBS) in domestic law.

2.5.3 Country capacity for evidence-based planning, implementation and M&E

The capacity for regular planning, execution, monitoring and evaluation of projects in the agricultural sector has to be adequate if development targets are to be realized. This includes the availability of hard data to drive the planning process. The indicator employed to assess this capacity is the Agricultural Statistics Capacity Indicator (ASCI) which measures the capacity to generate and use agricultural statistical data and information. The Malabo target is to reach at least 63 for this index by 2025. The value of this index so far reached by Nigeria is 17. Due to paucity of data it is not feasible to fully appreciate the progress made regarding capacity for evidence-based planning since the Malabo declaration. Perhaps it is not necessary to even look for further evidence therefore, to conclude that the existing capacity is weak; and that it will be a tall order to reach the target set for 2025.

2.5.4 Peer Review and Mutual Accountability – Inclusive Institutional Platforms

Inclusive institutional platforms are encouraged under the Malabo declaration to promote harmonization and coordination among multi-sectoral efforts for mutual learning and accountability. The existence of inclusive institutionalized mechanisms for mutual accountability and peer review is the indicator for assessing performance in this regard. The acronym for this indicator is ECI. The target is to reach 100 percent ECI by 2018.

Nigeria is making reasonable progress in adhering to mutual accountability principles and in satisfying best practices in this regard. Progress is also being made in establishing mutual accountability mechanisms and platforms. However, the overall achievements on inclusive and platforms for mutual accountability as at 2016 show that the progress towards meeting the Malabo target is rather slow judging by the ECI of 44.4 percent attained compared with the 2018 target of 100 percent (Table 5). The country can gain momentum if efforts are geared towards preparing agricultural review reports as and when due and there is strict adherence to the number of areas to be covered in such reports under the Malabo declaration.

Table 5: Achievements on inclusive institutionalized mechanisms and platforms for mutual accountability

Item	2016 Progress	Malabo Declaration	
		Target	Milestone
1. Number of mutual accountability principles satisfied by the country, MAPS	4	6	2018
2. Adherence to mutual accountability principles (percent) AMAP = (MAPS/6)*100 (%)	66.7	100	2018
3. Number of best practices satisfied by the country, BPS	8	12	2018
4. Existence of mutual accountability mechanism and platform (percent), EMAP = BPS/12 (%)	66.7	100	2018
5. Number of key areas covered by the country's review report, NKAA	0	6	2018
6. Coverage of agricultural review report, CARR = (NKAA/6)*100 (%)	0	100	2018
Existence of inclusive institutionalized mechanisms for mutual accountability and peer review ECI = (AMAP + EMAP + CARR) /3 (%)	44.4	100	2018

Source: Author's computation using data from FMARD

2.5.5 Biennial Agricultural Review Process

In addition to in-country accountability mechanisms another useful measure of the level of accountability in the country is its ability to provide a progress report on the MALABO declaration's implementation. This report is so important that it was highlighted as part of the MALABO commitments. An indicator, the country biennial report submission (BR), was therefore produced to monitor this commitment. The agreed target is for each African country to conduct a biennial Agriculture Review Process that involves tracking, monitoring and reporting progress made in implementing the Malabo Declaration, by availing the regular country Biennial Report to the AU Assembly every two years starting from 2018. The country biennial report submission (BR) is a composite measure of four equally weighted activities. In all areas excepting one, Nigeria was able to achieve the target for 2016. This was in the area of extent of coverage of the biennial review's indicators. Of the 40 indicators, Nigeria was able to provide data on only 19 (Table 6). The draft Biennial report was produced, validated and eventually sent to ECOWAS/AU in September 2017.

Table 6: Achievements on availing the country Biennial Report to the AU Assembly

Progress item		2016 Progress (p_i) ***"Yes" = 1| "No" = 0***	Weight (w_i)	$BR_i = p_i$ x w_i	Malabo Targets (%)
1. Existence of Draft 1 Country Biennial Report that has been validated at country level, and has been reviewed with national stakeholders' amendments (eg. JSR process), BR_1		1	*25*	25	25
2. Quality of the Draft 1 of the Biennial Report measured with n (number of parameters reported by the country) against N (total number of parameters reflected in the country reporting format), BR_2		19	*19/40*25 %*	11.88	25
3. Draft 2 Country Biennial Report that has been validated at subregional level, and which has taken into account amendments on data harmonization and alignment, BR_3	Existence of Draft 2	1	*12.5*	12.5	*12.5*
	Did the Country participate in the validation	1	*12.5*	12.5	*12.5*
4. Submission of the Biennial Report by the country to the AUC/NPCA through RECs, BR_4		1	*25*	25	25
Country Biennial Report submission, $BR = \sum(w_i \times p_i)$				87	100

Source: FMARD

CHAPTER THREE

FUNDING, INPUTS AND SERVICES FOR AGRICULTURAL GROWTH

In addition to supportive policies and effective sector institutions, improvements in agriculture and food security require sufficient public funding, production factors and services. Where these are decreasing in quality/quantity it becomes more difficult to improve agriculture production and food security. In this chapter we shall review domestic and foreign public agriculture funding of agriculture. We shall also review access to land and improved seedlings. Finally we shall review access to services such as extension, irrigation and credit in the 2010 to 2016 period.

3.1 Public Agriculture Funding

Federal expenditure on agriculture decreased from 106 billion Naira in 2010 to 77 billion Naira in 2016. At the same time total federal expenditure increased from 4.2 trillion in 2010 to 5.2 trillion in 2016 implying a reduction in the share of agriculture in total federal expenditure. Table 7 below indicates public agriculture funding in Nigeria. Agriculture's share reduced from three percent in 2010 to one percent in 2016. At the state level, agriculture expenditure decreased from 133 billion in 2010 to 92 billion in 2015 although it averaged 151 billion in the 2011 to 2013 period. However, the negative trend is clear as the 2014 to 2016 average of 124 billion is lower than the 2010 level. These trends at the federal and state level are challenging as the impact of inflation has not yet been factored in. When this is done, agriculture expenditure would have reduced in both real and nominal terms.

It is interesting to note that state governments account for more than half of combined Federal and state agriculture expenditure. In the 2011 to 2013 period they accounted for about 60 percent but this decreased to about 57 percent in the 2014 – 2016 period. At the state level, the share of agriculture in total expenditure decreased from 4.1 percent in 2010 to 2.9 percent in 2016. Although, its share tends to be higher than that at the federal level, the decrease in it remains challenging. The share of agriculture in combined Federal and state expenditure equally decreased from 3.2 percent in 2010 to two percent in 2016. This means that Nigeria is performing poorer in terms of meeting the Maputo declaration of committing 10 percent budgetary resources to agriculture. Much more effort is needed in this area.

Table 7: Public funding of agriculture

Indicator	Targets	2010	2015	2016	2011 - 2013	2014 – 2016
Federal and state agriculture expenditure (N, Billions)		239.3	201.9	168.8	249.4	221.1
Federal agriculture expenditure (N, Billions)		106.2	115.2	77.0	98.9	96.9
State agriculture expenditure (N, Billions)		133.1	86.7	91.8	150.6	124.2
Federal agriculture share	ERGP: 10 percent	2.5	2.3	1.5	2.1	2.0
State agriculture Share		4.1	2.5	2.9	3.9	3.4
Public agriculture expenditure as share of total public expenditure	Malabo: 10 percent	3.2	2.4	2.0	2.9	2.6
Public Agriculture Expenditure as percent of agriculture value added	Malabo: 19 percent	1.8	1.0	0.8	1.6	1.1
Total expenditure/total GDP		13.7	9.0	8.2	12.2	9.0
Ratio of the Total/Agric ratios		7.4	8.7	10.5	7.6	8.4
ODA disbursed to agriculture as percent of commitment (ODA).	Malabo: 100 percent	120.1	325.8	0.0	106.1	179.4
Disbursed ODA current dollars (millions)		79.2	143.6	0.0	87.2	164.9
Disbursed ODA (N, Billions)		11.9	28.4	0.0	13.6	28.9

Source: Central Bank of Nigeria, National Bureau of Statistics and OECD Stat

Considering agriculture's contribution to the economy in terms of GDP, the expenditure on agriculture is relatively low. While the ratio of agriculture expenditure to agriculture GDP was 1.1 percent in the 2014 – 2016 period, that of total government (Federal and state) expenditure to Total GDP was nine percent in the same period. The ratio for the whole economy is eight times larger than that of agriculture. This is taken as a measure of the commitment of the government to the agriculture sector. While the figure for Nigeria is one percent, the target at the continental level is 19 percent which is the average figure of the African countries that have good agriculture sector performance.

In terms of international public funding of agriculture as captured by overseas development assistance (ODA), we note that disbursed funding increased from an average of N14 billion (US$ 87 million) in the 2011 to 2013 period to ₦29 billion (US$165 million) in the 2014 to 2016 period. Compared to commitments made, ODA expenditure has generally

exceeded commitments made with 106 percent and 179 percent of commitments achieved in the 2011 – 2013 and 2014 to 2016 periods respectively.

3.2 Access to Production Factors, Inputs and Services

The level of production and productivity of farmers is affected by the level of control they have over the farm lands they work on. Farm lands are bought, rented, given by family or community or used free of charge. Obviously, the last category is insecure as the land can more easily be taken from the farmer than the other ones. Table 8 indicates agriculture production factors, inputs and services in Nigeria. In 2011, 10.4 percent of farm plots were used free of charge. In 2013, 12.9 percent and 11.2 percent of male and female managed plots respectively were used free of charge. By 2016, the figure for male managed plots had reduced to 7.9 percent while those for female managed plots had increased to 11.8 percent. Over the period, the usage of land free of charge appears to range between about 8 percent and 13 percent which may not be considered high. While the use of land free of charge appears low, the ability of farmers to obtain documentation which allows them use farm land for collateral remains low. In that sense, the access to land is still limited. However, Nigeria may be rated as performing well when we compare performance to the Malabo target of reducing insecure land rights to zero percent by 2025.

The use of certified and improved seedlings has long been advised as a means of increasing yield and resistance to pests and diseases. The extent of usage of high quality seeds may be proxied with the incidence of purchasing seeds for cultivation. In 2011, 26 percent of farmers' plots used seeds that were purchased. By 2013, the level had reduced to 21percent. However by 2016, it had increased to 23 percent. During the period, the usage of purchased seeds did not exceed 30 percent and actually decreased between 2011 and 2013. This is not encouraging as a positive trend is needed in order to improve agriculture yields. Current performance also does not meet the vision 2020 target of 50 percent and 75 percent of farmers adopting improved varieties by 2015 and 2020 respectively. If the 2020 target is to be achieved, the 2016 level of usage should be about 50 percent.

Access to finance is a key constraint in the agriculture sector as with other sectors in the economy. This is an area which has seen an improvement in the level of funding by the formal banking sector with the share of loans advanced to the agriculture sector by deposit money banks

increasing from 1.7 percent in 2010 to 3.3 percent in 2016. The absolute level of funding also increased from N1.8 trillion to N5.9 trillion in 2016. However, it is not known what share of this went to small scale farmers compared to large scale farmers. With the issue of collateral requirement, it is likely that a substantial part of this went to large scale farmers. It is expected that the percentage would increase in the next few years as the APP targets a 10 percent share for agriculture. This will further aid the growth of the sector but will do so more if the share going to small scale farmers is increased.

Another measure of the extent of access to funding is the level of financial inclusion. This measures the percentage of the population that has access to both formal and informal banking and financial services including microfinance banks and informal 'esusu' savings. The level of financial inclusion increased from 54 percent in 2010 to 60.3 percent and 60.5 percent in 2012 and 2014 respectively. It however decreased to 58.4 percent by 2016. Obviously, the 2016 decrease is not a good development after some years that recorded increases. As can be expected, the level of inclusiveness is higher in the urban areas than in the rural areas – 76 percent and 48 percent respectively in 2016. Actually, the decrease in 2016 was as a result of a decrease in rural access as urban areas experienced a minor increase.

Crop yields also depend significantly on the usage of agro-chemicals like fertilizer, pesticides etc. The usage of fertilizer on farm lands is proxied here by the available supply per hectare. The estimated available supply has fluctuated over the years between about 7 and 14 kg/ha. This is far below the Vision 2020 and Malabo target of 50 Kg/ha. Although the average usage per hectare is much below the target, the percentage of farm lands using fertilizer has improved since 2011 from 38 percent to 47 percent in 2016. Although fertilizer was used in about half of the farmers' plots, the level of usage per hectare remains low. Both the spread and level of its usage will have to increase over time. Nonetheless, the increase in its spread is an indication that its availability/consciousness of its importance is increasing. Similarly, the use of pesticides and herbicides has also been increasing. The use of herbicides increased from 22

Table 8: Production Factors, Inputs and Services for Agriculture Sector Activities

Indicator	Vision 2020 Target	2010	2011	2012	2013	2014	2015	2016
Proportion of farm households with insecure land rights (used free of charge)	Malabo: 0 percent by 2025		10.4		12.9			7.9
percent of plots on which purchased seeds were planted	Vision: 50 percent (2015); 75 percent (2020) Malabo: 100 percent increase 2025/2015		26.1		21.3			22.9
Percentage of deposit money bank loans advanced to the agriculture sector	EGRP/APP: 10 percent by 2017/8	1.7	2.6	3.7	3.9	3.6	3.6	3.3
Loans by deposit money banks to agriculture (trillions)		1.8	2.3	3.4	4.1	4.8	5.6	5.9
Proportion of men and women with access to financial services	Vision: 80 percent by 2020 Malabo: 100 percent by 2025							
All Nigeria		54.0		60.3		60.5		58.4
Rural						52.2		47.8
Urban						75.2		75.6
Male				63.9		64.2		63.2
Female				56.5		57.3		53.4

Indicator	Vision 2020 Target	2010	2011	2012	2013	2014	2015	2016
Fertilizer consumption (kilogram of nutrients per hectare of arable land)	Vision and Malabo: 50 kg/ha by 2015 or 2025	12.76	6.78	11.99	14.32	9.38	8.89	13.55
percent of cultivated plots fertilizer was used on			38.00		38.00			47.30
percent of cultivated plots herbicides were used on			22.00		24.80			30.50
percent of cultivated plots pesticides were used on			14.00		15.40			20.70
percent of plots which were irrigated	V: 10 percent by 2015 and 25 percent by 2020 (of cultivated land); Malabo: 100 percent usage increase 2000 – 2025; ERGP: + 100,000 irrigable land by 2020		3		1.60			1.70
Percentage of households that participated in extension activities	Vision: 1: 500 by 2020; Malabo: 100 percent access by 2025; EGRP - 1:1000 by 2020		10		9.8			13.7

Source: Central Bank of Nigeria, National Bureau of Statistics (2011, 2013 and 2016) and EFINA

percent of plots in 2011 to 31 percent in 2016 while that of pesticides increased from 14 percent to 21 percent in the same period.

Access to irrigation has remained a challenge for decades in Nigeria whose agriculture has been excessively dependent on rainfall. Available data indicates that as at 2011 only three percent of farmers' plots were irrigated. The level decreased by 2012 to 1.6 percent and increased slightly to 1.7 percent in 2016. This level of access is negligible and creates a large opportunity for increased production and productivity. It is reasonable to expect huge increases in production if the level of irrigation were to increase to 20 percent and above for example. The vision 2020 targets 10 percent and 25 percent of cultivated land being irrigated by 2015 and 2020. At the rate of progress, this will not be achieved. With regard to extension services, the performance is better but still has much room for improvement. In 2011, 10 percent of households participated in extension services. The level was about the same in 2012 but increased to 14 percent by 2016. Again, much more work is needed to tap into the potential increase in productivity associated with increased extension as was observed for irrigation.

CHAPTER FOUR

REVIEW OF AGRICULTURAL PRODUCTION AND TRADE

The Nigerian economy is currently struggling with recession which set in since 2016 when the GDP grew negatively at -0.67, -1.49, -2.34 and -1. 73 percent during the first, second, third and fourth quarters of the year respectively. The country was afflicted with stagflation (simultaneous occurrence of rising inflation, rising unemployment and declining demand for goods and services) and started to face its worst economic crisis since three decades ago when it adopted the structural adjustment programme. It has been struggling with double-digit inflation which rose from 17.9 percent in September to 18.03 percent in October and to an all-time high of 18.55 percent by December 2016 occasioned by exchange rate depreciation as well as high and rising energy and transportation costs.

At 16.05 percent in August 2017 the inflation rate still remains double digit. Nonetheless, the government has taken several measures to revamp the economy focusing on agriculture and other priority sectors to provide a diversified economic base capable of creating wealth and generating employment. In this regard, the specific agricultural policies, projects and programmes are laid out in the new strategic policy document known as the Agriculture Promotion Policy (otherwise known as the Green Alternative) which was launched in June 2016. Details of the other priority sectors and various strategies for addressing the economic challenges are enshrined in the economic recovery and growth plan (ERGP) which was launched in April 2017.

The agricultural sector continues to earn priority attention in growing the economy in view of its previous contributions and huge potential that is worthy of being relied upon for sustained growth and industrialization of the country. Evidence suggests that despite the fact that the country derives about 90 percent of its revenue from oil, the non-oil sector has greater contribution to GDP and records faster growth than the oil sector in recent past. For instance, between 2011 and 2015, Nigeria's economy grew steadily, achieving average annual growth of 4.8 per cent[2]. The non-oil sector fuelled economic growth as it accounted for 112% of the actual growth experienced during the period – real non-oil GDP increased by N16.2 trillion but oil GDP decreased by N1.8 trillion resulting in an overall increase of N14.4 trillion during the period.

[2] Growth rates in this section are based on Central Bank of Nigeria GDP statistics (CBN 2018)

While non-oil GDP grew by 6.2% during this period, oil GDP grew negatively by 4.5% thus resulting in a lower overall GDP growth of 4.8%. In the non-oil sector, the largest sources of growth during the period were services (53% of growth; trade – 19% and other services – 44%), agriculture (20% with crop production accounting for 18% of overall national GDP growth) and manufacturing (21%).

Even before the recent past, agriculture had played a key role in driving growth thus further justifying the priority attention being given to it in the economic recovery process. In the 1999 – 2008 period, before the vision 2020 was formulated, agriculture accounted for over 30% of the growth that occurred in the economy. It is therefore, important to support agriculture to fully realize its growth potentials as way of shoring up the gains in the recent economic recovery efforts.

The ERGP has set a GDP growth target of 4.62 per cent average annual growth between 2017 and 2020. From the estimated negative growth of -1.54 per cent recorded in 2016, real GDP is projected to grow to 2.19 per cent in 2017 and 4.8 per cent in 2018 before peaking at 7.0 per cent in 2020. The ERGP was launched in April 2017 and with the implementation of the priority programmes the economy has been climbing through the rugged growth path and finally exiting recession by the second quarter of 2017. The economy grew negatively for five consecutive quarters still declining in the first quarter of 2017 (-1.90 percent) until it trended upwards at the end of the second quarter growing at slightly positive rate of 0.55 percent as shown by available record of the National Bureau of Statistics.

The record shows that agriculture is one of the main sectors driving the economic recovery process; others are oil and gas, manufacturing and trade. Of these four sectors, however, only agriculture has a persistently positive growth rate. Its growth rate stood at 4.53 percent in Q2 2016, 3.39 percent in Q1 2017 and 3.01 percent in Q2 2017. Although growth in agriculture was positive throughout the recession, the sector has been growing at a decreasing rate. Nonetheless, agriculture witnessed a relatively improved performance in terms of its contribution to GDP.

As expected, services continued to have the lion share; being 54.80 percent in Q2 2016; 55.67 percent in Q1 2017 and 53.73 percent in Q2 2017. It is followed by industries whose share rose gradually from 22.65 percent in Q2 2016; to 22.90 in Q1 2017 and 23.31 percent in Q2 2017; while agriculture's share is the lowest; fluctuating from 22.55 percent in Q2 2016 to 21.43

percent in Q1 2017 and 22.97 percent in Q2 2017. It remains to be seen whether the performance of these sectors will propel the economy to hit the targeted growth rate at the end of 2017. A lot will depend on the extent to which agriculture keeps its recent growth trajectory at the sector and sub-sector levels. This can be gleaned from a review of its performance focusing on three key areas ─ agricultural production and productivity, product prices and trade.

4.1 Trends in Agricultural Production Performance

The review of recent trends in agricultural production covers the period from 2010 when the implementation of the NV20: 2020 commenced to 2016. The launching of the NV20: 2020 heightened the awareness for the transformation of the agricultural sector with clear specification of its performance targets as indicated in Chapter 2. Key targets in the area of production are the expected increase in agricultural production and productivity and changes in external trade. From the MALABO declaration perspective there are also important targets in relation to production and trade.

The relevant questions to examine in the performance review are twofold: (i) What are the achievements in subsector and commodity production and productivity over the years? (ii) To what extent have the growth and productivity targets in the overall agricultural sector, as well as in the different subsectors and commodities, been achieved? In analyzing the achievements made in terms of agricultural production a graphical illustration of the trend in production of selected grains is presented in Figure 1 while changes in output, area under cultivation and yield in recent periods are compared as presented in Table 9.

In the case of rice, there is fairly steady upward output expansion from 4.5 to 6.3 million tonnes from 2010 to 2015. More of this growth occurred in the 2014/2015 period where output grew by 14% per annum compared to the earlier period (3.2% per annum). For maize, there was upward trend with annual fluctuations in output growth pattern as area cultivated increased. As with rice, output grew more in the 2014/2015 period (12% compared to 3.5% in the earlier period). Beans has wide annual fluctuations in growth pattern during the 2010 – 2015 period with 2015 production level being lower than that of 2010. Output growth averaged 50.6% in the 2011/2013 period but reduced to -23% in the 2014/2015 period.

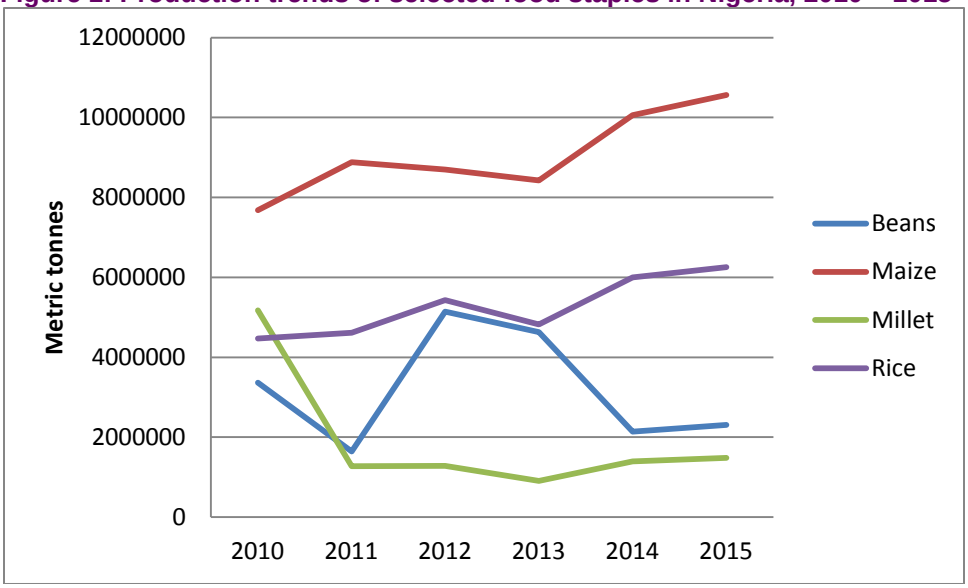
After a sharp decline in 2011, millet assumed an overall upward trend from 2012 to 2015 culminating in a declining growth which averaged -34.6 percent in 2011/2013 but resumed

positive growth in 2014/2015 at an average rate of 30 percent. Among these 4 staples, beans experienced the highest output expansion at about 25% growth per annum while millet experienced the lowest at – 6.5% growth per annum. Ironically, the output level of beans was higher in 2010 than in 2015 indicating the high volatility in beans output level. Millet also had a higher production level in 2010 compared to 2015.

Considering the growth pattern of output and yield, there seems to be an inverse relationship between output expansion and productivity growth. This is particularly true in the case of maize and millet where the results show that output growth is positive at a time when the growth rate of yield is negative and even vice versa in the case of millet. This result tends to suggest that output expansion in the case of cereals and grain legumes is driven largely by expansion in area of land under cultivation rather than productivity growth.

The performance of the tree crop sub-sector is worse than that of the arable crops. For instance, oil palm production grew at an average rate of 3.02 percent in 2014/2015 whereas the growth rate of yield is negative -1 percent even at a time when area under cultivation grew at 4 percent. This also tends to buttress the fact that output expansion in the tree crop sub-sector is due more to expansion in area under cultivation than productivity growth.

Figure 1: Production trends of selected food staples in Nigeria, 2010 – 2015



Source: Author's graph using data from FAO

The performance of the livestock and fishery sub-sector is worse than that of crop sub-sector. Although the production of cattle and chicken witnessed an increase, growth is much slower; averaging 3.6 and 5.2 respectively in the 2010 to 2015 period. The fishery sector did not witness much better performance either. Growth hit an all-time high of 11.89 percent in 2013 falling sharply to 3.64 percent in 2014 and turned negative (-8.54 percent) in 2015. However, growth was higher in 2011-2013 (8.50 percent) than 2014-2015 (-2.4). The overall growth rate in the 2010 – 2015 period was 4.9 percent which is lower than that for most of the staple crops considered.

Table 9: Agricultural Production and Yield 2010 – 2015

				Average growth rate (%)		
	Production performance					
	2009	2010	2015	2011-2013	2014 - 2015	2010 - 2015
Beans						
Area harvested	2.3	2.9	3.6	8.0	0.6	8.1
Output	2.4	3.4	2.3	50.6	-23.0	24.6
Yield	1.0	1.2	0.6	35.0	-22.7	12.5
Maize						
Area harvested	3.4	4.1	6.8	12.4	8.4	13.0
Output	7.4	7.7	10.6	3.5	12.2	6.5
Yield	2.2	1.9	1.6	-7.5	3.4	-5.2
Millet						
Area harvested	3.8	4.4	1.6	-25.5	3.5	-9.0
Output	4.9	5.2	1.5	-34.6	30.0	-6.5
Yield	1.3	1.2	0.9	5.3	26.0	9.8
Rice, paddy						
Area harvested	1.8	2.4	3.1	7.3	3.2	10.1
Output	3.5	4.5	6.3	3.2	14.3	10.7
Yield	1.9	1.8	2.0	-3.1	10.6	1.2
Oil palm						
Output		1.3 (2013)	1.4		3.0	
Area harvested		1.7 (2013)	1.7		4.0	
Yield		.8 (2013)	0.8		-1.0	
Cattle						
Output	16.4	16.6	20.2	5.5	2.1	3.6
Chicken						
Output		116.7	142.9	7.5	3.0	5.2

		(2011)				
Fisheries						
Output	0.8	0.8	1.0	8.5	-2.4	4.9

Source: Author's computation using data from FAO (2017)
Note: Area and output are in millions of hectares and tonnes respectively while yields are in tonnes/hectare.

4.1.1 Comparing Achievement in Agricultural Growth with Target

With regard to growth in the sector and sub-sectors, the performance is generally below target. In the NV20: 2020, the targeted agriculture growth under the 2010 – 2013 implementation plan was 6.6% (2010), 6.7% (2011) and 6.8% (2012 and 2013) with a targeted average growth rate of 6.7% in the 2010 – 2013 period. As indicated in Figure 2, these targets were not achieved although the sector came very close to achieving the 2012 target of 6.8%. Similarly, the 6 percent growth under the CAADP and Malabo declaration has generally not been met excepting for 2010 and 2012 when it was almost achieved and surpassed at 5.8 and 6.7 percent growth rates respectively. Overall, agriculture growth rate declined from 4.19 percent in 2011-2013 to 4.03 percent between 2014 and 2016 (Table 10) and the 6.7% vision 2020 target for 2010 - 2013 was not achieved as average growth in the period was 4.6%.

Growth in the sector is driven by the performance in the crop sub-sector which witnessed steady increase in the last two years (2015 and 2016) compared to other sub-sectors which grew at a decreasing rate. With the exception of the livestock sub-sector, growth was better in the former sub-period compared to the latter. And in the former sub-period, the growth rate of the fishery sub-sector almost doubled the growth in each of the other sub-sectors. The target growth rate for agriculture under the 1st NIP has been reviewed downwards in the ERGP (2017-2020). The sector is expected to grow at 5.0 percent in 2017 rising to 8.4 percent by 2020, for an average growth rate of 6.9 percent during the period. Under the Malabo declaration, the target is to attain a growth rate of 6 percent. It is unlikely that the 2017 target will be attained judging by the 3.01 percent so far recorded as at Q2 2017.

Figure 2: Agriculture sector growth performance compared to targets

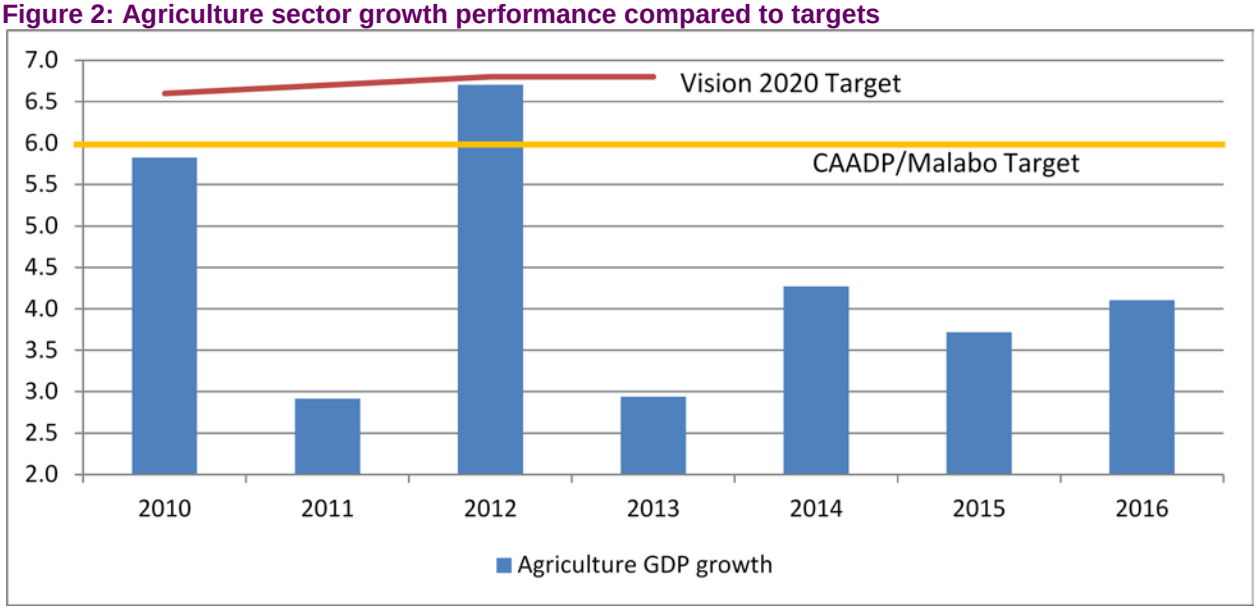


Table 10: Agricultural GDP (constant prices) 2010 – 2016

Indicators	2010 (Baseline)	2015	2016	2011-2013	2014-2016
Agricultural value added Total (₦million)	13,048,892.80	15,952,220.15	16,607,337.33	14,169,869.2	15,979,982.3
Growth rate (percent)	6.6	3.72	4.11	4.19	4.03
VA – Crop (NGN)	11,683,896.37	14,274,936.74	14,894,447.82	12,728,178.6	14,320,944.8
Growth rate (percent)		3.49	4.34	4.30	3.98
VA – Livestock(NGN)	979,564.05	1,151,323.39	1,185,118.44	1,001,034.72	1,141,096.28
Growth rate (percent)		5.90	2.94	1.78	4.76
VA – Fisheries (NGN)	249,711.48	358,701.61	356,128.42	293,033.32	351,194.717
Growth rate (percent)		5.89	-0.72	8.33	4.23
VA – Forestry (NGN)	135,720.90	167,258.41	171,642.65	147,622.54	166,746.42
Growth rate (percent)		3.67	2.62	4.38	3.61

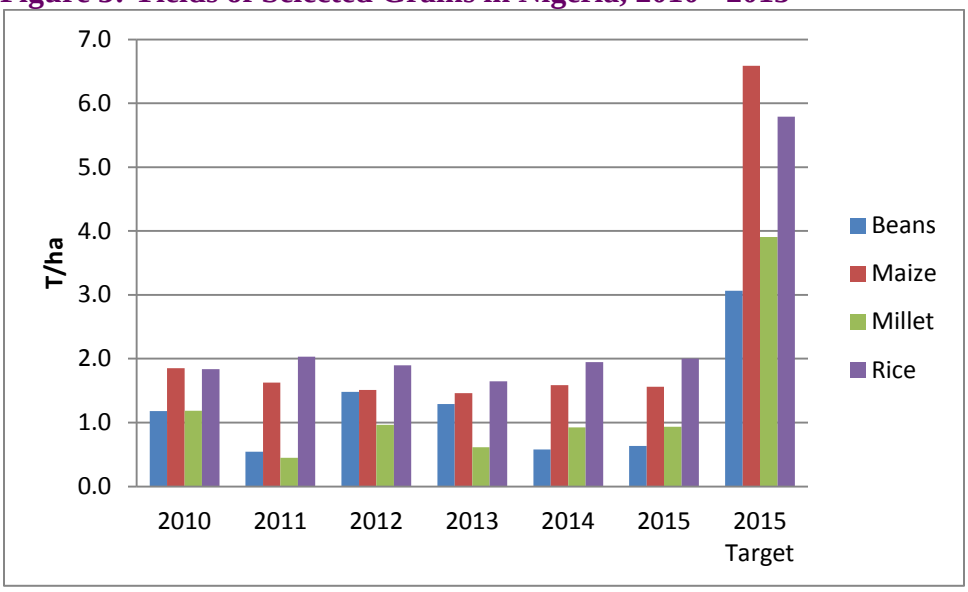
Source: Author's computation using data from CBN

4.1.2 Agricultural Productivity in Nigeria

It is generally known that low productivity especially in terms of yield is a major characteristic of the agricultural systems - crop, livestock and fishery - in Nigeria. Crop yields in the country are lower than those of most other countries, both in food and cash crop and animal husbandry; and for virtually all the crops, there is an inverse relationship between growth in land area under cultivation and yields. As shown in Figure 3, the yields of grains such as rice, maize, beans and millet remain very low during the period under review. Under the vision 2020, a 3 and 6 fold increase in productivity was targeted by 2015 and 2020 respectively compared to the level in 2009. Applying these to the key staples below, we observe that 2015 yields are far below levels required for overall productivity to have tripled by 2015 and further increase by 2020.

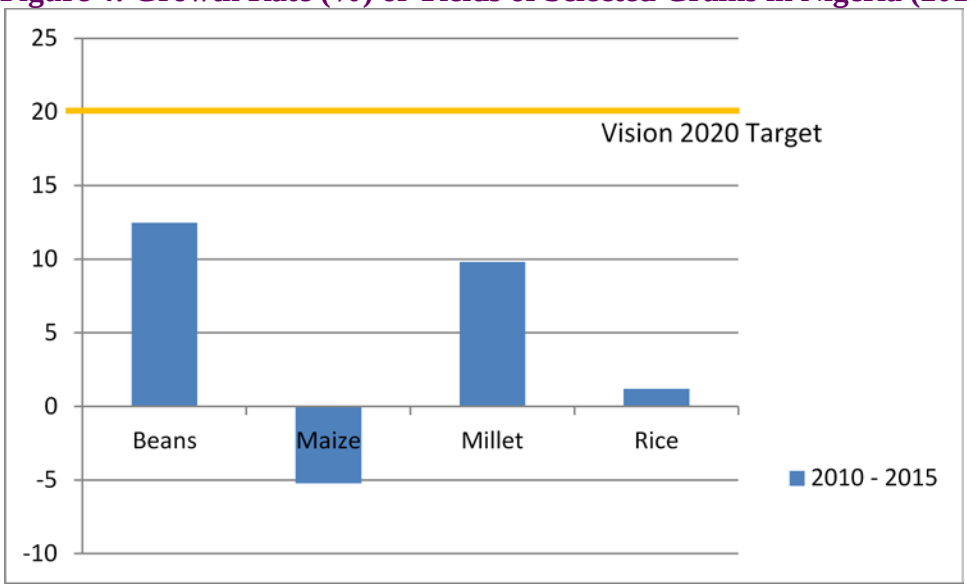
Growth in the yield of these crops has been volatile and generally not high enough to reach the target under the vision 2020. In order to double yields between 2009 and 2015 a 20% annual growth in yields would have been needed. Among the key staples here, beans had the highest average yield growth of 12% while maize had the lowest at -5% (Figure 4). The targeted yield/productivity growth for 2015 to 2025 under the Malabo declaration is 7% per annum in order to double productivity during the period which is a much less ambitious target. If the yield growth of beans and millet is sustained this would contribute to the achievement of the targeted yield increases. The problem of low productivity in the sector can be attributed to several factors including insufficient and inefficient extension services, low level of adoption of improved seeds, poor quality inputs and inefficient input distribution system, ineffective and inadequate mechanization and irrigation facilities, poor access to credit, poorly managed soil fertility profile and aging farm population.

Figure 3: Yields of Selected Grains in Nigeria, 2010 - 2015



Source: Author's graph using data from FMARD

Figure 4: Growth Rate (%) of Yields of Selected Grains in Nigeria (2010 – 2015 average)



Source: Author's graph using data from FMARD

As indicated earlier, the vision 20: 2020, agricultural productivity targets included: (i) achieve a 3-fold increase in domestic agricultural productivity by 2015 and 6-fold increase by 2020; in addition, the following were targeted (ii) expand dairy production and milk yield from less than 2,000 kg to 5,000kg per cow per lactation by 2015 and (iii) achieve an efficient agricultural extension system by increasing the Extension Agent to Farmer Ratio to 1:500 by

2013. In addition to crop yields, two other indicators of productivity (labour productivity and land productivity) are used to assess the performance of the sector in terms of productivity improvements. The target under the Malabo declaration is that labour productivity (defined as agricultural value added per worker) will grow by 100 percent between 2015 and 2025 and land productivity (defined as agricultural value added per hectare) will also grow by 100 percent by 2025.

As shown in Table 11, the growth rate of labour productivity averaged 4.05 percent in 2011/2013 dropping to 3.77 percent in 2014/2016. As regards land productivity the growth rate averaged 2.16 and 10.61 percent during the two sub-periods respectively. This means that the improvements in productivity in the two periods did not meet either of the Vision 2020 or Malabo benchmarks of 20 and 7 percent respectively for most of the years. It is also quite unlikely that the overall 2020 target would be met. Judging by the overall low level of productivity growth achieved since 2010 and the recent growth rates, achieving productivity growth rate of 100 percent by 2025 will require significant improvement in project implementation, massive investment and diversification of the sector.

Table 11: Agricultural Productivity 2010 – 2016

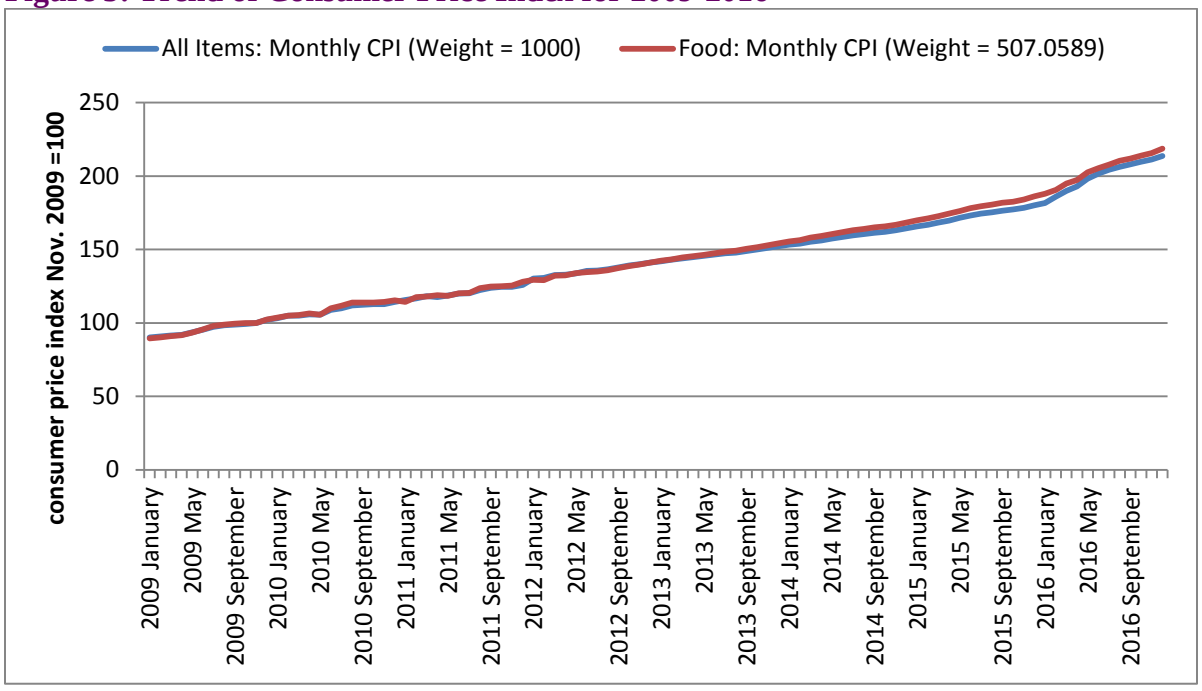
Indicators	2010 (Baseline)	2015	2016	2011-2013	2014-2016
LABOUR PRODUCTIVITY					
Agricultural value added per Worker (constant USD)	7077.54	8578.83	8906.66	15335.8	8592.53
Growth rate of agriculture VA per worker (percent)		3.50	3.80	4.05	3.77
LAND PRODUCTIVITY					
Agricultural VA (constant USD, excluding Fishery VA) per ha	1,216.54	1144.50	908..34	1246.14	1130.94
Growth rate of agriculture VA per hectare		-14.59	-20.63	2.16	10.61

Source: Author's computations using data from World Development Indicators and NBS

4.2 Agricultural Product Prices

The performance of the agricultural sector in terms of ensuring food security depends to a large extent on the prices of agricultural products. During the period under review, 2009-2016, overall food prices (indicated by the food price index) continued to rise steadily depicting a trend with imperceptible volatility. Moreover, there is virtually no significant divergence between the trend of general consumer prices and food prices (Figure 5). The persistent rise in food prices is not unexpected in view of the supply-demand imbalances, rising population and rising cost of production and marketing. Government programmes and policies have been targeted at reducing the cost production to stabilize price and make food affordable to consumers. However, the extent to which such policies have helped to tame food inflation varied over the years and has sometimes been influenced by some other policies (such as exchange rate, interest rate and trade policies) that are not specific to the agricultural sector.

Figure 5: Trend of Consumer Price Index for 2009-2016

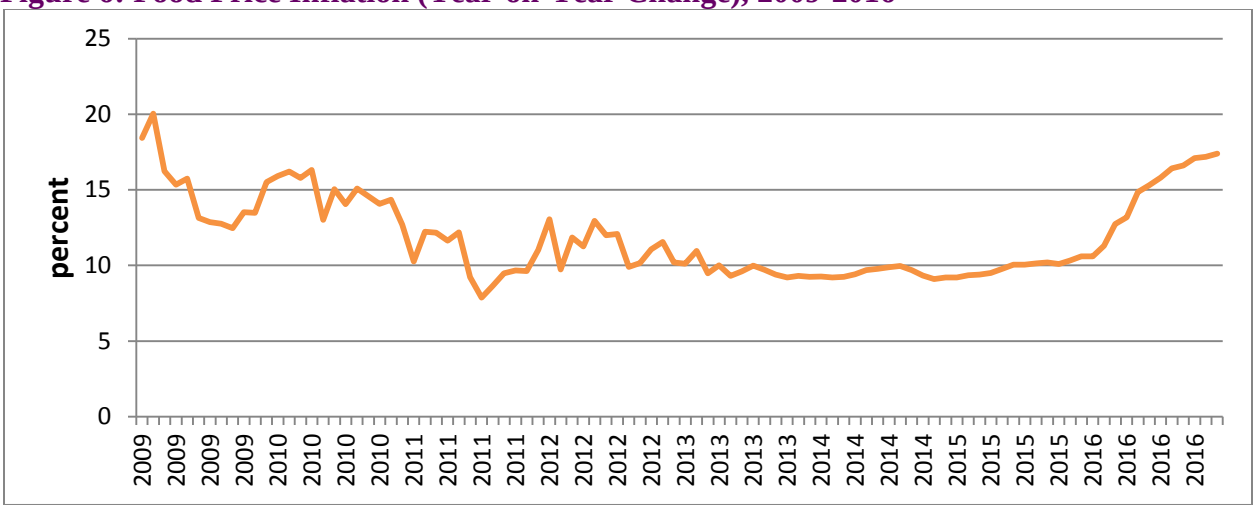


Source: Author's graph using data from the National Bureau of Statistics, Abuja

Food inflation which had been a major problem since 2009, stabilized at single digit as from second quarter of 2013 up to the second quarter of 2015. However, at the end of that quarter (June) it went back to double digit (10.05 percent) and by last quarter of 2016 it had risen to

17.19 percent a little below its 2009 level of 18.44 (Figure 6). Overall, food inflation followed a downward trend from the first quarter of 2009 to the last quarter of 2015. It is important to stress however, that the relevant prices to consider when examining the response of farmers and their decision to produce particular crops are the prices of agricultural products rather than the consumer price index which relates to a basket of different food items.

Figure 6: Food Price Inflation (Year-on-Year Change), 2009-2016



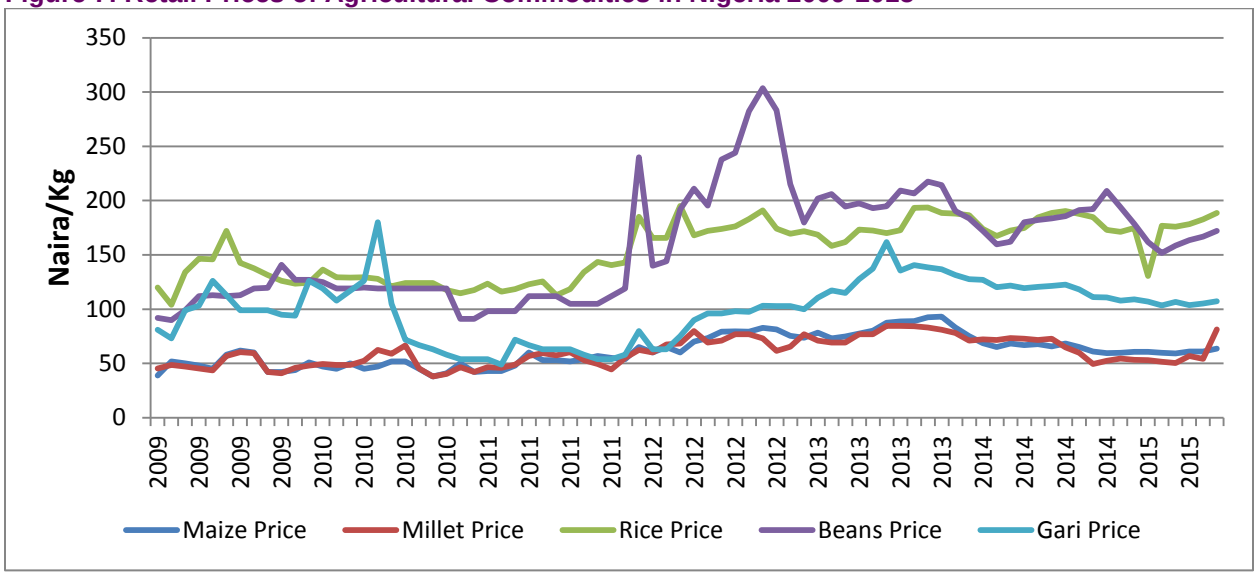
Source: Author's graph using data from National Bureau of Statistics, Abuja.

Variability in producer prices, will affect output growth and the effectiveness of policy incentives. Arguably, the implementation of the various policies and programmes as mentioned earlier has led to an increase in domestic food production and reduction in food import but without significant impact on stabilization of agricultural product prices. Individual agricultural product prices have risen considerably over the period under review leaving remarkable volatility in their path from a long term perspective – over the 7 year period of 2009 to 2015[3]. They followed an upward trend from 2009 to reach a peak in 2013 after which the prices trended downwards till 2015. Nonetheless, the price of each commodity was much higher in 2015 than 2010 in both nominal and real terms (Figures 7 and 8). However, average price in 2014-2015 was higher than that of the previous sub-period (2011-2013) only in respect of (local) rice and gari (cassava product). The rising trend between 2011 and 2013 (which reached a peak in 2012 in the case of beans) was partly a reflection of the inclement weather and flood disaster of 2012.

[3] Given the general upward trend in prices, long term volatility rates would normally be higher than within the year volatility rates

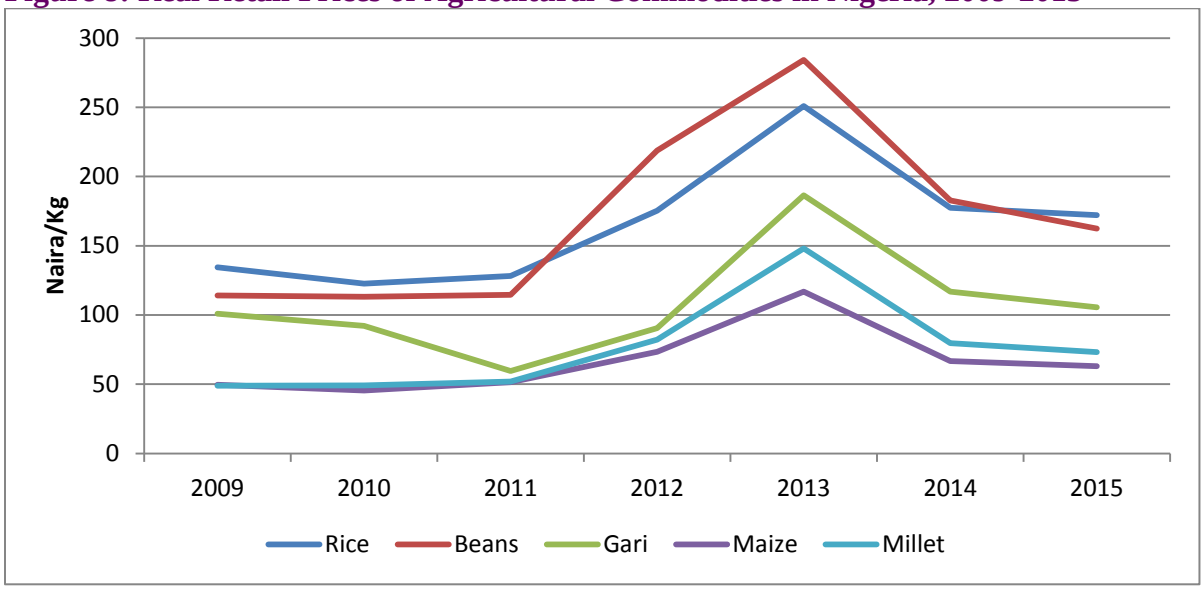
The other factor that built up inflationary pressure during the period was the price of fuel (petrol) which increased from ₦65 per litre in 2011 to ₦97 per litre in 2012.

Figure 7: Retail Prices of Agricultural Commodities in Nigeria 2009-2015



Source: Author's graph using data from FEWSNET. Abuja

Figure 8: Real Retail Prices of Agricultural Commodities in Nigeria, 2009-2015



Source: Authors' graph using data from FEWSNET, Abuja.

The Growth Enhancement Support Scheme (GESS) and the value chain development programme of FMARD provided incentives for farmers to remain in business resulting in a rising trend of production of food staples. As shown earlier (Figure 1), the grain legumes which were not accorded priority under the GESS experienced haphazard production trend compared with the cereals such as rice, maize and millet which were the crops targeted for increased production during the rainy season and under irrigation during the dry season. It is therefore, not surprising that the price of bean was much higher and witnessed more pronounced variability over the period than cereal prices. The price of beans witnessed the highest volatility, followed by that of gari, maize, millet, and rice (Table 12).

Table 12: Volatility of Agricultural Commodity Prices in Nigeria, 2010-2015

Commodity	2010 Price (₦/Kg)	2015 Price (₦/Kg)	2011-2013 Price (₦/Kg)	2014-2015 Price (₦/Kg)	Price Volatility (CV) 2009-2015
Rice	124.58	172.13	161.58	174.6	17.28
Maize	46.17	62.92	69.77	64.78	22.91
Beans	114.92	162.46	179.27	172.46	31.67
Millet	49.96	73.08	80.11	76.30	21.16
Gari	93.58	105.61	94.54	111.20	28.15

Source: Author's computation using data from FEWSNET

The government has made attempts to implement a programme of guaranteed minimum price (GMP) to support farmers in the face of market imperfections, policy distortions and price instability which may dampen their interest in expanding the scale of production. The performance of this policy has been weak on account of paucity of funds to buy products from farmers, inadequate storage facilities and inability to pay remunerative prices for the targeted products due to rising cost of production.

4.3 Agricultural Trade

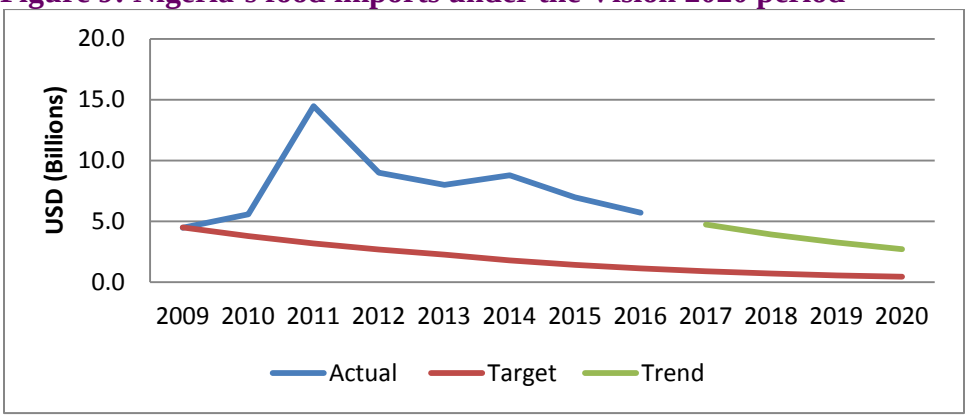
The performance of the agricultural sector is analyzed using indicators agreed under the Malabo declaration with due regard to the trade strategies and targets enshrined in the 1st NIP of the NV20: 2020. The ECOWAP/Malabo targets deal primarily with three core areas: intra-African

trade in agricultural commodities and services, intra-ECOWAS agricultural trade and progress on increasing agricultural exports while the vision 2020 especially highlighted a desired decrease in overall importation of food.

In accordance with the drive towards modernization and industrialization of the sector, the import strategies include: review trade related protocols sighed by Nigeria to ensure that the national interest is primarily served, aggressive pursuit of import substitution to reduce import of raw materials and food through import tariffs and tax holidays for local industries to thrive, review of import levies and local subsidy on food agricultural raw materials and maintenance of zero level of tariffs on imported agro-processing machineries in the short and medium terms. Essentially the trade policies and strategies were targeted at deriving over 50 per cent of the nation's foreign exchange earnings through agro-industrial exports by the end of the plan period in 2013 and reducing the level of food import of 2009 by 50 per cent in 2013 and by 90 per cent in 2020.

With a food import level of 4.5 billion dollars in 2009, achieving the vision 2020 targets would mean having food imports of 2.3, 1.1 and .5 billion dollars by 2013, 2016 and 2020 respectively. However, actual food import levels have gone very far from the targeted trajectory as indicated in figure 9 below. Still, after a sharp increase in 2011, the overall trend of food imports has been negative. Unfortunately, if the rate of decrease between 2011 and 2016 is maintained up till 2020, Nigeria would not achieve the vision 2020 target as food imports would be about 2.4 billion dollars larger than the targeted .5 billion. Thus the 2013 target was not met and the 2020 target is unlikely to be met at the current rate of progress.

Figure 9: Nigeria's food imports under the Vision 2020 period



Source: Authors based on UNCTAD data and trend analysis

4.3.1 Intra-African Trade for agriculture commodities and services

Intra-Africa agricultural trade has remained at a very low level; depicting the low level of economic integration in the continent over the years in spite of the huge potentials and opportunities. The generally low level of intra-Africa trade in agricultural commodities corroborates the high level of food import dependency and the fact that agricultural commodity exports respond more to foreign market forces while regional potentials and opportunities remain largely untapped. Intra-African trade is particularly badly affected by a number of market access constraints (natural barriers, man-made barriers and non-tariff or technical barriers).

Natural barriers to trade such as social and political conflicts and infrastructure constraints constitute an important contributor to low intra-Africa trade (Daya et al, 2006). Man-made constraints and non-tariff barriers such as import and export restrictions, customs formalities, export procedures such as custom valuation and SPS measures contribute significantly to the contraction in regional trade. There are also technical barriers to intra-African trade in the form of technical regulations and standards that set out specific characteristics of a product including its size, shape design or labeling and packaging of the product (Ajakaiye and Olomola, 2011).

Four indicators are employed to measure progress on intra-African trade in agricultural commodities. These are the value of intra-African imports for agricultural goods, value of intra-African exports for agricultural goods, value of intra-African agricultural trade (imports and exports) for agricultural goods and services and the growth of the value of agricultural trade. The Malabo target is that the value of intra-African trade in agricultural commodities and services in 2015 must triple by the year 2025. To achieve this target, average annual growth rate of trade needs to be 11.6% or above.

Two years after this MALABO target was set, progress towards achieving it is beginning to manifest in Nigeria judging by the increase in the values of this indicator in 2015 and 2016. However, only imports were increasing while exports witnessed a decline in 2016. Moreover, the recent trend is not an improvement over the immediate past trend; the average volume of trade in real terms in 2014/2016 fell below the value in 2011/2013. The value of agricultural trade grew less in 2016 than 2015; and while the growth rate averaged 29.57 percent in 2011/2013 it turned negative (-4.19 percent) in 2014/2016 (Table 13). However, the country's 2016 performance

(13.3% growth) is above the needed annual growth in intra-African trade in order to achieve the 2025 target of tripling trade.

Table 13: Achievements on Intra-African Trade for agriculture commodities and services

Indicators	2010 (Baseline)	2015	2016	2011-2013	2014-2016
Value of intra- African imports for agriculture goods, (current USD'000)	595,774	774,040	820,630	756835.3	741806.7
Value of intra- African exports for agriculture goods, (current USD'000)	186,473	224,811	197,129	293897.3	226769.7
Value of intra- African trade (imports and exports) for agriculture goods and services, in constant US dollars 2010	782,247	936,251	1,061,050	988409.3	925129.3
Growth rate of the value of trade of agricultural commodities and services within Africa, in constant US dollars (percent)		20.33	13.33	29.57	-4.19

Source: Author's computations using data from UNCTAD

4.3.2 Intra-ECOWAS Agricultural Trade

Performance in agricultural trade within ECOWAS is assessed based on three indicators as shown in Table 14. The Malabo target is to realize increased overall intra-African regional trade and better functioning of national and regional markets. In the first two years after the Malabo declaration, Nigeria has recorded improved performance in intra-ECOWAS trade in agricultural goods and services. During the period, the share of intra-ECOWAS agricultural trade in total agricultural trade increased from 5.46 to 7.6 percent. The share is also higher in 2014/2016 (5.42 percent) compared with 4.65 percent during the 2011/2013 sub-period.

Table 14: Achievements on increasing trade between ECOWAS countries

Indicators	2010 (Baseline)	2015	2016	2011-2013	2014-2016
Value of intra- ECOWAS trade -(imports and exports) for agriculture goods and services (USD'000)	356,004	405,890	466,739	454,410.7	388,608
Value of total agricultural trade - imports and exports for all agricultural goods and services (USD'000)	5,867,790	7,440,529	6,140,591	11,279,293	7,579,958
Share of intra-ECOWAS agricultural trade in total agricultural trade	6.07	5.46	7.60	4.65	5.42

Source: Author's computation using data from UNCTAD

4.3.3 Progress on Increasing Agricultural Exports

Assessment of progress on increasing agricultural exports is based on three indicators namely; agricultural exports, agricultural GDP and the ratio of agricultural exports to GDP. The Malabo target is simply to have increased intra-African regional trade and better functioning of national and regional markets. However, the recently launched ERGP contains quantitative targets on export expansion. The ERGP accords priority attention to non-oil exports; the major component of which will be derived from the agricultural sector in view of the policy stance on economic diversification and export promotion. Specifically, exports of goods and services are projected to grow by 29.95 per cent in 2017 following an initial recovery in oil exports and growth in non-oil exports (mainly agriculture and agro-processing).

The ERGP targets an average 16.5 per cent growth in total exports from 2017 to 2020 from oil and non-oil exports. Over the same period, imports are projected to rise by 4.0 per cent per annum; the higher growth in exports results in a positive trade balance for Nigeria by 2020. Export of goods and services as percent of GDP in the ERGP from 2016 to 2020 is estimated at 9.01, 10.82, 11.52, 11.39 and 11.66 percent for each year respectively (ERGP, 2017). Evidence suggests that agricultural exports have grown since 2010; but growth seems to be reducing during the two years of the post-Malabo era. Agricultural exports as a ratio of agricultural GDP fell from 3.23 percent in 2015 to 3.01 percent in 2016; and from an average of 4.46 percent in 2011/2013 to 2.89 percent in 2014/2016 (Table 15). This performance is far below the target set

for 2016 in the ERGP (9% for all exports); and the possibility of meeting the target set annually up to 2020 is even more difficult to guarantee.

Table 15: Achievements on increasing agriculture exports

Indicators	2010 (Baseline)	2015	2016	2011-2013	2014-2016
Agriculture Exports (₦ million)	345,796	515,257	499,881	631,976	461,821
Agriculture GDP (₦ million)	13,048,892.80	15,952,220.15	16,607,337.33	14,169,869	15,979,982
Ratio of Agriculture exports to Agriculture GDP (percent)	2.65	3.23	3.01	4.46	2.89

Source: Author's computation using data from UNCTAD and CBN

The slow progress in meeting the agricultural export target is not due to lack of awareness of export potential or lack of available institutions to champion the cause. What is lacking is the capacity to sustain innovative measures, encourage investors and ensure consistency of policy for effective implementation of the export promotion strategies.

CHAPTER FIVE

POVERTY AND FOOD SECURITY IN NIGERIA

A key goal of managing the agricultural sector is to achieve appreciable improvements in overall household welfare as indicated by the level of poverty and food security. This goal's importance has been made more known globally by the MDG1 which was one of the most popular MDG targets. This chapter reviews performance in this area in the 2010 to 2016 period. It considers indicators such as the overall level of unemployment, the poverty rate and the income per capita. Following this review of income changes, we then examine food security outcomes as indicated by the level of undernourishment and child nutrition.

5.1 Trends in Poverty

Overall, the unemployment rate reduced from 21 percent in 2010 to 14.2 percent in 2016. However, the trend in the last 3 years has been a positive one with a steady increase from 7.8 percent to 14.2 percent. With the increasing size of the labour force, this means the number of unemployed people has been increasing in the last 3 years. Table 16 below indicates recent trends in the income and poverty level of households. There is also the issue of under-employment which increases the magnitude of the problem. What the levels of unemployment and underemployment mean is that the opportunity to earn income is reducing relatively. This has negative implications for the level of household income.

While the agriculture sector alone cannot determine the poverty level, it is important to ascertain the overall impact it and other sectors' performance had on the poverty level. However, the agriculture sector's role is more important in developing countries like Nigeria given the percentage of people that work in the sector. Available estimates indicate that as 2010 the percentage of poor people living below the national and international poverty line was 63 percent and 62 percent respectively. This translates to about 100 million poor people in 2010. The poverty level in 2010 is slightly lower than the 64.2 percent recorded in 2004 - but indicates a decrease of three percent after six years which may not be regarded as appreciable progress. In addition, it means that the number of poor people increased from 80 to 100 million between 2004 and 2010. Obviously, this is not a positive development.

Table 16: Household Income and Poverty Trends in Nigeria

Indicator	Target	2010	2011	2012	2013	2014	2015	2016
Unemployment rate		21.1	6	10.6	10	7.8	10.4	14.2
Poverty headcount ratio at international poverty line (percent of population) (US$ 1.25)	Vision: MDG1	62						
Poverty headcount ratio at national poverty line (percent of population)	Malabo: -50 percent 2025/2015	62.6						
Population of poor people (millions)		102.2						
Household final consumption expenditure per capita (constant local prices, N)								
Annual		199,954	199,607	175,466	217,291	215,725	220,526	202,358
Monthly		16,663	16,634	14,622	18,108	17,977	18,377	16,863
Nominal								
Annual		228,387	251,445	247,512	330,913	354,652	397,278	432,156
Monthly		19,032	20,954	20,626	27,576	29,554	33,107	36,013
Income inequality level (gini index)		0.45						
Share of poorest quintile in income and food consumption	Vision: Reducing the pervasive high inequality in income	5.4						

Sources: NBS, United Nations Statistics Division, FAO and authors' calculations using data from these sources

While there are no poverty estimates for 2011 to 2016, the per capita household expenditure can give an idea of the level of household welfare. It measures the per person expenditure in a given year. In real terms, per capita expenditure increased from₦ 16,663 per month in 2010 to ₦16,863 in 2016. This however, represents a negligible increase by 1.2 percent after six years. The per capita expenditure fluctuated between 2010 and 2016 although it ended up slightly higher in 2016.

A key aspect of the vision 2020 was for Nigeria "to guarantee a high standard of living and quality of life to its citizens" NPC (2009). A goal in terms of this and a proxy/indicator for the extent to which this had been achieved was to increase the country's nominal per capita income from the 2009 level of US$1160 to US$4,000 by 2020. This would likely move Nigeria from a lower to an upper middle income country by 2020. Nigeria is close to being on track to achieving this as the 2016 per capita income needed to be on track by 2016 is US$2,550 while the actual level in 2016 was US$2,450 (World Bank, 2017). However, this apparent progress should be contrasted with the recent trends in real per capita GDP.

Due to the level of inequality in the country, per capita expenditure/GDP alone will not indicate the level of poverty properly as many will have much lower expenditures than indicated earlier. Nigeria's inequality level was 0.45 in 2010 which is relatively high and indicates that income is held in the hands of relatively few. This is worse than the level seen in 2004 where the figure was 0.43 and may be an indication that inequality is rising. Another indicator of the inequality level is the share of the poorest 20 percent of the population in national consumption. This was 5.6 percent and 5.4 percent in 2004 and 2010 respectively. As such, with the level of inequality in the country – which may have risen over time – it can be expected that real per person expenditure is lower than indicated above. Furthermore, if inequality increased, it means that per person expenditure decreased between 2010 and 2016.

5.2 Food and nutrition security in Nigeria

Table 17 below indicates recent trends in food security in Nigeria. The level of undernourishment in the country increased steadily from 6.1 percent of the population in 2010 to seven percent in 2016. This measures the percentage of the population that is unable to meet the minimum calorie requirements per day. This trend represents an increase in the number of undernourished people from 9.7 million in 2010 to 12.9 million in 2016. This estimate is based

on the level of food supply in the country. Aside from food availability, its affordability and price stability is important for food security. The variation of food prices in a given year (its volatility) ranged from about 2.6 percent around the average to about five percent. This meets the Malabo target of below 7.5 percent and means that wild fluctuation of food prices in a given year is not a challenge faced in Nigeria.

Rather than food price volatility in a given year, what is more of a challenge is that prices have almost doubled between 2010 and 2016 as indicated by the food price index. While nominal incomes have also increased at the same pace, what this means is that, on average, households buying power has not increased in the last 6 years. Furthermore, for households on fixed wage incomes and did not experience a doubling of incomes, food prices have doubled while incomes may not have increased commensurately or at all. In addition, households in non-wage or self-employment that have not been able to command higher prices face a doubling of food prices with slower growth in income as well.

Table 17: Food security trends in Nigeria

Indicator	Target	2010	2011	2012	2013	2014	2015	2016
Proportion of the population that is undernourished (percent of the country's population)	Malabo: 5 percent by 2025		6.1	6.2	6.3	6.5	6.7	7
Number of people undernourished (millions) (3-year average)			9.7	10.2	10.6	11.3	11.9	12.9
Prevalence of stunting (percent of children under 5 years old)	Vision: -50 percent (2015); -75 percent (2020) Malabo: 10 percent by 2025	40.6 (2008)	36		36.8	31.90	32.90	

Prevalence of underweight (percent of children under 5 years old)	Malabo: 5 percent by 2025	23.1 (2008)	24.4		28.7	20.6	19.4	
Prevalence of wasting (percent of children under 5 old)	Malabo: 5 percent by 2025	13.9 (2008)	10.2		18.1	8.7	7.2	
Food price index		115.4	128.1	141.2	154.3	168.4	186.2	218.6
Domestic Food Price Volatility Index (percent)	Malabo: 7.5 percent	4.03	3.35	2.89	2.56	2.57	2.96	4.95
Increase in food prices (index based) compared to 2010								89.4
Increase in nominal household income compared to 2010								89.2

Sources: NBS, DHS, CBN, FAO and authors' calculations using data from these sources

A key measure of food and nutrition security is the level of child malnutrition as captured through underweight, stunting and wasting measures. The incidence of underweight decreased from 23 percent in 2008 to 19 percent in 2015 although it fluctuated during this period. However, the overall positive trend is encouraging. Similarly, the incidence of stunting decreased from 40.6 percent in 2008 to 32.9 percent in 2015. The incidence of wasting also decreased from 13.9percent in 2008 to 7.2 percent in 2016. While these are welcome trends, they indicate that much more work has to be done in this area to meet Nigeria's targets. For stunting, Nigeria's target was to reduce it by 50 percent in 2015 and 75 percent in 2020. However, by 2015 only a 19 percent reduction in the 2008 level had been achieved. For underweight and wasting the Malabo targets are 5 percent by 2025. Efforts would have to be made to ensure that Nigeria is on track to achieve these targets by 2025. However, the improvements in child nutrition are encouraging given the changes in food availability and prices observed above.

CHAPTER SIX

SUMMARY, RECOMMENDATIONS AND CONCLUSIONS

The review of the agricultural sector from 2010 to 2016 characterizes the changes in policy directions, since the launching of the 1st NIP of the NV20: 2020 and examines the performance of the sector using mutually agreed indicators under the Malabo declaration and the ECOWAP. The performance review is also driven by the targets specified in NV20: 2020, the vision, mission and priorities of the ERGP, the APP priorities and the institutional performance indicators associated with the CAADP process. The review period witnessed the implementation of the agricultural transformation agenda during which considerable progress was made to achieve development objectives in the agricultural sector.

Despite the achievements under the ATA, there were areas where progress was slow and there were also a number of implementation challenges some of which are being addressed under the APP which was introduced in 2016. Since its inception, the APP has worked to reposition the sector for greater investment and increased diversification in order to accelerate economic recovery, reduce poverty and enhance food security. So far efforts have been intensified to secure legislative support for the sector's reform, to strengthen compliance with the CAADP process and to meet the agricultural targets of the ERGP. A new NAIP is being finalized to guide the implementation of the APP and the FMARD is working with stakeholders to expand investment, diversify the sector and enhance its capacity to generate employment, reduce poverty and ensure food security. In what follows, the main findings of the performance review are presented with emphasis on the institutional performance based on the CAADP framework and the sector performance predicated on the NV20: 2020 benchmarks as well as the targets under the Malabo declaration.

6.1 Main Findings

6.1.1 Institutional Performance

Institutional performance assessment is based on key criteria identified under the CAADP framework. These include the level of implementation of the CAADP process, effectiveness and accountability of institutions including improved monitoring and evaluation of policies and commitments, country capacity for evidence based planning, implementation, monitoring and

evaluation and mutual review and accountability (with emphasis on inclusive institutional platforms as well as effectiveness and accountability of institutions).

With regard to progress on the CAADP process, the results show that Nigeria is short on four of the seven criteria. The national CAADP roadmap for implementing Malabo is non-existent. There is no new NAIP thus NAIP implementation progress report is not available. Finally, NAIP implementation is not reflected in national budget. However, progress on the new NAIP is moving rapidly with a draft plan virtually ready for validation by stakeholders in the last quarter of 2017. The absence of a roadmap to domesticate the MALABO is a serious challenge as it means that the country has no high level support for implementing the declaration although progress in this regard will be monitored every 2 years.

As regards effectiveness and accountability of institutions which is measured by HANCI, the result shows that political commitment is low and no remarkable progress has been made in this regard since 2015. The capacity of the country for evidence-based planning and implementation is also found to be weak. Due to paucity of data it is not feasible to fully appreciate the progress made regarding capacity for evidence-based planning since the Malabo declaration. Perhaps it is not necessary to even look for further evidence therefore, to conclude that the existing capacity is weak; and that it will be a tall order to reach the target set for 2025.

The low availability of data is also seen in Nigeria's inability to provide a lot of the data required for reporting on the MALABO declaration – only 19 of the 40 needed data were available. Another dimension of institutional performance is inclusive institutional mechanisms involving peer review and mutual accountability. Nigeria is making reasonable progress in adhering to mutual accountability principles and in satisfying best practices in this regard. Progress is also being made in establishing mutual accountability mechanisms and platforms.

6.1.2 Funding of agriculture

Federal expenditure on agriculture decreased from 106 billion Naira in 2010 to 77 billion Naira in 2016. At the same time, total federal expenditure increased from 4.2 trillion in 2010 to 5.2 trillion in 2016 implying a reduction in the share of agriculture in total federal expenditure. The share of agriculture in combined Federal and state expenditure equally decreased from 3.2 percent in 2010 to 2 percent in 2016. This means that Nigeria is performing poorer in terms of meeting the Maputo declaration of committing 10 percent budgetary resources to agriculture.

Considering agriculture's contribution to the economy in terms of GDP, the expenditure on agriculture is relatively low. While the ratio of agriculture expenditure to agriculture GDP was 1.1 percent in the 2014 – 2016 period, that of total government (Federal and state) expenditure to Total GDP was nine percent in the same period. The ratio for the whole economy is 8 times larger than that of agriculture. This is taken as a measure of the commitment of the government to the agriculture sector. While the figure for Nigeria is one percent, the target at the continental level is 19 percent which is the average figure of the African countries that have good agriculture sector performance.

In terms of international public funding of agriculture as captured by overseas development assistance (ODA), we note that disbursed funding increased from an average of N14 billion (US$ 87 million) in the 2011 to 2013 period to N29 billion (US$165 million) in the 2014 to 2016 period. Compared to commitments made, ODA expenditure has generally exceeded commitments made with 106 percent and 179 percent of commitments achieved in the 2011 – 2013 and 2014 to 2016 periods respectively.

6.1.3 Access to production factors, inputs and services

It appears that access to production factors, inputs and services remains relatively low in 2016 and progress between 2010 and 2016 has been slow. In 2011, 10.4 percent of farm plots were used free of charge. In 2013, 12.9 percent and 11.2 percent of male and female managed plots respectively were used free of charge. By 2016, the figure for male managed plots had reduced to 7.9 percent while those for female managed plots had increased to 11.8 percent. Over the period, the usage of land free of charge appears to range between about eight percent and 13 percent which may not be considered high.

While the use of land free of charge appears low, the ability of farmers to obtain documentation which allows them use farm land for collateral remains low. In that sense, the access to land is still limited. However, Nigeria may be rated as performing well when we compare performance to the Malabo target of reducing insecure land rights to 0 percent by 2025. During the period, the usage of purchased seeds did not exceed 30 percent and actually decreased between 2011 and 2013. This performance also does not meet the vision 2020 target of 50 percent and 75 percent of farmers adopting improved varieties by 2015 and 2020 respectively.

With regard to access to finance there has been an improvement in the level of funding by the formal banking sector with the share of loans advanced to the agriculture sector by deposit money banks increasing from 1.7 percent in 2010 to 3.3 percent in 2016. It is expected that the percentage would increase in the next few years as the APP targets a 10 percent share for agriculture. Another measure of the extent of access to funding is the level of financial inclusion. This measures the percentage of the population that has access to both formal and informal banking and financial services including microfinance banks and informal 'esusu' savings. The level of financial inclusion increased from 54 percent in 2010 to 60.3 percent and 60.5 percent in 2012 and 2014 respectively. It however decreased to 58.4 percent by 2016.

As regards access to modern farm inputs the study found that the use of fertilizer varied between 7 and 14 kg/ha over the years. This is far below the Vision 2020 and Malabo target of 50 Kg/ha. Although the average usage per hectare is much below the target, the percentage of farm lands using fertilizer has improved since 2011 from 38 percent to 47 percent in 2016. Similarly, the use of pesticides and herbicides has also been increasing. The use of herbicides increased from 22 percent of plots in 2011 to 31 percent in 2016 while that of pesticides increased from 14 percent to 21 percent in the same period.

Access to irrigation has remained a challenge for decades in Nigeria whose agriculture has been excessively dependent on rainfall. Available data indicates that as at 2011 only 3 percent of farmers' plots were irrigated. The level decreased by 2012 to 1.6 percent and increased slightly to 1.7 percent in 2016. This level of access is negligible and creates a large opportunity for increased production and productivity. It is reasonable to expect huge increases in production if the level of irrigation were to increase to 20 percent and above for example. The vision 2020 targets 10 percent and 25 percent of cultivated land being irrigated by 2015 and 2020. At the rate of progress, this will not be achieved. With regard to extension services, the performance is better but still has much room for improvement. In 2011, 10 percent of households participated in extension services. The level was about the same in 2012 but increased to 14 percent by 2016. Much more work is needed to tap into the potential increase in productivity associated with increased extension.

6.1.4 Agricultural production performance

In reviewing the sector's performance, attention is focused on growth and productivity, agricultural product prices and trade. With regard to growth in the sector and sub-sectors, the performance is generally below target. The NV20: 2020 targeted a growth rate of 6.6 percent in 2010 and an average of 6.7 percent during the period 2010-2013. To date, however, these growth rates have not been achieved as actual results were 5.8 and 4.6 percent respectively; overall, growth actually declined from 4.19 percent in 2011-2013 to 4.03 percent between 2014 and 2016. The target of achieving a 3-fold increase in agricultural productivity by 2013 has not been met and it is quite unlikely also that the target of 6-fold increase by 2020 will be met. Judging by the low level of productivity growth achieved since 2010 and the recent average growth of 3.77 percent for labour productivity and 10.61 for land productivity achieving productivity growth rate of 100 percent in 2025 will require significant improvement in project implementation, massive investment and diversification of the sector.

6.1.4.1 Agricultural product prices

Overall, food inflation has followed a downward trend from the first quarter of 2009 to the last quarter of 2015. It is important to stress however, that the relevant prices to consider when examining the response of farmers and their decision to produce particular crops are the prices of agricultural products rather than the consumer price index which relates to a basket of different food items. Individual agricultural product prices have risen considerably over the period under review leaving remarkable volatility in their path over a 7 year period. The price of beans witnessed the highest volatility, followed by that of garri, maize, millet, and rice.

6.1.4.2 Agricultural Trade

One of the vision 2020 targets is to significantly reduce food imports dependence by halving the 2009 level by 2013 and further reducing it by 90% by 2020. The 2013 target was not at all met as food imports practically doubled instead of halving while at current trends the 2020 target is unlikely to be met. At the same time, intra-Africa agricultural trade has remained at a very low level; depicting the low level of economic integration in the continent over the years in spite of the huge potentials and opportunities. The Malabo target is that the value of intra-African trade in agricultural commodities and services in 2015 must triple by the year 2025.

Two years after this MALABO target was set, progress towards achieving it is beginning to manifest in Nigeria judging by the increase in the values of this indicator in 2015 and 2016. However, only imports were increasing while exports witnessed a decline in 2016. Moreover, the recent trend is not an improvement over the immediate past trend; as the average volume of trade in real terms in 2014/2016 fell below the value in 2011/2013. The value of agricultural trade grew less in 2016 than 2015; and while the growth rate averaged 29.57 percent in 2011/2013 it has turned negative (-4.19 percent) in 2014/2016. However, the country's 2016 performance (13.3% growth) is above the needed annual growth in intra-African trade in order to achieve the 2025 target of tripling trade.

As regards intra-ECOWAS agricultural trade, the Malabo target is to realize increased trade and better functioning of national and regional markets. In the first two years after the Malabo declaration, Nigeria has recorded improved performance in intra-ECOWAS trade in agricultural goods and services. During the period the share of intra-ECOWAS agricultural trade in total agricultural trade increased from 5.46 to 7.6 percent. The share is also higher in 2014/2016 (5.42 percent) compared with 4.65 percent during the 2011/2013 sub-period.

With regard to export trade, evidence suggests that agricultural exports have grown since 2010; but growth seems to be reducing during the two years of the post-Malabo era. Agricultural exports as a ratio of agricultural GDP fell from 3.23 percent in 2015 to 3.01 percent in 2016; and from an average of 4.46 percent in 2011/2013 to 2.89 percent in 2014/2016. This performance is far below the target set for 2016 in the ERGP (9% for all exports); and the possibility of meeting the target set annually up to 2020 is even more difficult to guarantee.

6.1.5 Poverty and food security

While there are no poverty estimates for 2011 to 2016, the per capita household expenditure can give an idea of the level of household welfare. It measures the per person expenditure in a given year. In real terms, per capita expenditure increased from N16, 663 per month in 2010 to ₦16,863 in 2016. This however, represents a negligible increase by 1.2 percent after 6 years. The per capita expenditure fluctuated between 2010 and 2016 although it ended up slightly higher in 2016. Due to the level of inequality in the country, per capita expenditure alone will not indicate the level of poverty properly as many will have much lower expenditures than indicated earlier.

Nigeria's inequality level was 0.45 in 2010 which is relatively high and indicates that income is held in the hands of relatively few. This is worse than the level seen in 2004 where the figure was 0.43 and may be an indication that inequality is rising. Another indicator of the inequality level is the share of the poorest 20 percent of the population in national consumption. This was 5.6 percent and 5.4 percent in 2004 and 2010 respectively. As such, with the level of inequality in the country it can be expected that real per capita expenditure is lower than indicated above. Furthermore, if inequality increased, it means that per capita expenditure decreased between 2010 and 2016.

6.1.6 Food and nutrition security in Nigeria

A key measure of food and nutrition security is the level of child malnutrition as captured through underweight, stunting and wasting measures. The incidence of underweight decreased from 23 percent in 2008 to 19 percent in 2015 although it fluctuated during this period. However, the overall positive trend is encouraging. Similarly, the incidence of stunting decreased from 40.6 percent in 2008 to 32.9 percent in 2015. The incidence of wasting also decreased from 13.9 percent in 2008 to 7.2 percent in 2016. While these are welcome trends, they indicate that much more work has to be done in this area to meet Nigeria's targets. For stunting, Nigeria's target was to reduce it by 50 percent in 2015 and 75 percent in 2020. However, by 2015 only a 19 percent reduction in the 2008 level had been achieved. For underweight and wasting the Malabo targets are 5 percent by 2025. Efforts would have to be made to ensure that Nigeria is on track to achieve these targets by 2025. However, the improvements in child nutrition are encouraging given the changes in food availability and prices observed above.

6.2 Recommendations

6.2.1 Realign Fiscal and Monetary Policies to Encourage Agriculture's Access to Credit.

While the share of commercial banks' loans to agriculture has increased recently from 1.7% in 2010 to 3.3% in 2016, it is clear that much more improvement is needed given the need to reduce food price inflation, poverty and dependence on oil as the main stay of the economy. Government is striving to promote monetary stability and maintain flexibility in the foreign exchange rate regime towards achieving macroeconomic stability in support of the vision and priorities of the ERGP.

Imbalances in the external sector are also being tackled through expenditure switching policies to promote exports, support domestic production and reduce reliance on imported foods. These macroeconomic policies must be pursued in a consistent manner to reduce food inflation, reduce variability in agricultural product prices, and meet some specific targets such as achieving self-sufficiency in rice by 2018 and wheat by 2020. The allocation of funds in the 2018 budget must reflect these national priorities and targets and thereafter, budget implementation must proceed to ensure a result-oriented funding cycle so that Nigeria can attain the target of becoming a net exporter of key agricultural products, such as rice, cashew nuts, groundnuts, cassava and vegetable oil as envisioned in the ERGP and APP.

Moreover, there is need for better alignment of fiscal and monetary policies in order to give impetus to the economic recovery process in the country. Such alignment is all the more important in the agricultural sector which needs a stable macroeconomic environment for it to respond positively to the numerous policies and sector-specific programmes being implemented and to attract investment for its transformation and development. For instance, deficit financing by the government has curtailed the flow of credit to the real sector and the situation is worsened by the monetary policy which has been tight in recent times with the monetary policy rate persistently maintaining an upward trend.

This misalignment of fiscal-monetary policies often results in very high lending interest rates for the private sector in general and agriculture in particular. The rates are sometimes in double digits and appear very unattractive to any investor in the agricultural sector. This has accounted for the low rate of participation of commercial banks in agricultural financing in recent times. Moreover, monetary policies provide a risk-free haven for commercial banks to invest.

The open market operations of the central banks which involve the mopping up of excess liquidity through the issuance of government securities in an attempt to control inflation have indirectly affected the flow of investment funds to the agricultural sector (Olomola, 2011). More often than not, the biggest buyers of such securities are commercial banks. In such cases, what should have been loaned out to private sector by banks is instead invested in risk-free government securities. This leads to the crowding out of bank lending to the private sector, making it even more difficult for highly risky sectors like agriculture. To reverse this trend government must begin to cut its coat according to its cloth; reducing deficit and supporting

financial institutions such as the BOA, BOI and NIRSAL to provide concessional interest rate to SMEs along the various agricultural commodity value chains.

6.2.2 Strengthen Institutional Linkage to Promote Agricultural Export

The APP places emphasis on generating export revenue through export promotion policies and development of value chains of agricultural export commodities. With the presently low level of agriculture exports noted in the study, much more concerted effort is needed in this area. This cannot be achieved without strong inter-Ministerial linkage in the agricultural export promotion strategy.

This underscores the advisability for FMARD and the Ministry of Industry, Trade and Investment to forge an alliance in fully realizing emerging trade potentials within the realm of agriculture. Nigeria has comparative advantage in the production of a number of exportable agricultural commodities such as cocoa, palm produce, rubber, ginger, spices, fruits and vegetables, flowers, shrimps and ornamental fish, cassava products, hides and skin, cashew and gum Arabic. In order to diversify the Nigerian economy, expand the productive base and widen the market for agricultural commodities to absorb the expected increase in production, there is a compelling need to promote the export of these agricultural and agro-industrial products.

To facilitate the acceptance of Nigerian agricultural commodities in the international market including taking full advantage of the US African Growth and Opportunity Act (AGOA), there will be need to develop appropriate capacities and institutional framework within the agricultural sector as well as in other relevant agencies to meet the Sanitary and Phytosanitary Standards (SPS) and comply with CODEX Alimentarius and Technical Barriers to Trade (TBT) agreements of the World Trade Organisation (WHO). The External Trade Department of Ministry of Commerce, the Export Promotion Council, the Commercial Division of the Nigerian Foreign Missions and the Nigerian Export Import Bank should be properly linked to promote export trade.

6.2.3 Emphasis must be given to the export of high value-added products

The ERGP seeks to derive a substantial share of non-oil export revenue from the agricultural sector in line with the policy thrust on economic diversification and export promotion. Progress is being made in this regard as Nigeria has gained entry into the yam export market. This should

open opportunities in developing the yam value chain to create jobs and maximize export revenues. In this regard a PPP arrangement is recommended. Public sector involvement should be at both the federal and state levels. Essentially, the trade policy must be synergized with the agro-industrial and value-chain development strategies including a syndicated value-chain financing mechanism in which CBN, BOA, BOI, NIRSAL, NEXIM will be key players.

6.2.4 Strengthen institutional framework for data collection on social protection, women empowerment and other key areas

Out of the 40 indicators required under the Biennial report on the Malabo declaration implementation, only 19 were provided by Nigeria. This gives the impression that the country is not working on the other 21 indicators which may not be the case. For example, a number of indicators under the Malabo declaration are provided for the assessment of progress on social protection. However, due to paucity of data such indicators are not captured in this review. Such indicators include budget allocation to social protection for programmes such as school feeding, cash transfers, emergency food supplies and budget lines on social protection as a percentage of the total resource requirements for coverage of the vulnerable social groups.

These programmes are currently being implemented under the federal government's social intervention programme with collaboration with state governments. Such programmes which require cross-tier partnerships must adopt collaborative mechanisms that allow all stakeholders to participate in designing appropriate strategies to achieve the targets and implement, monitor, and evaluate specific intervention projects. FMARD must forge appropriate partnerships with relevant MDAs to obtain necessary data that can be used to assess progress in future agricultural sector review exercises.

Similarly, the sector review requires assessment of progress on women empowerment especially the proportion of rural women that are empowered in agriculture, rural women access to productive assets, including land, credit, inputs and financial services and information. This study reveals that there is still a major gap in the coverage of indicators in this regard; yet many government empowerment programmes currently target women as key beneficiaries. For instance, under the social intervention programme of the Federal Government there is the women empowerment fund which is part of the Government Enterprise and Empowerment Program

(GEEP). The fund's strategy is to provide ₦1.6 billion (USD5.25 million) in micro-finance loans to women across the nation to assist in rehabilitating the economies of rural communities.

Under the GEEP, soft loans of between ₦10,000 (USD32.79) and ₦100,000 (USD327.87) will be granted without interest with a repayment period of three months to six months and administration cost of 5 percent by the Bank of Industry. Beneficiaries are expected to be organized in co-operatives and market associations to access this loan. Loan disbursement under the program started in November 2016 and by June 2017, the program had registered 3,162,451 people who are members of 26,924 registered cooperatives for purposes of the loans. The program has recorded good progress with the disbursement of 57,234 interest free loans amounting to ₦7.301 billion (USD23.94 million) representing 17.8 percent of the ₦41 billion (USD134.43 million) so far released for funding of its social intervention program under the 2016 budget.

Women participation in the GEEP program has been remarkable with 56 percent of loans disbursed to them in 28 States and the federal capital territory (FCT) (Kolawole, 2017). There is need for FMARD to identify the repository of information to the social protection programmes. FMARD must establish links to keep track of developments in this regard and design suitable reporting formats to capture relevant information for the review process in the agricultural sector.

With regard to the 10% Maputo declaration, the available data covers only Federal and state government expenditure. There is a need to extend data gathering to the local government level as governments at all levels are expected to follow the declaration and local governments are closest to the farmers. Overall, there is a need to invest more in the acquisition of data in order to accurately assess whether programs and policies are having the targeted impacts.

6.2.5 Establish budget line for nutrition in the relevant MDAs

Using the HANCI to measure political commitment to reducing hunger and malnutrition in Nigeria this study found that political commitment is low and no remarkable progress has been made since 2014 as far as resource allocation for food and nutrition security is concerned. Therefore, there is a need to change the existing practice of subsuming nutrition projects under different budget sub-heads in the allocation of treasury funds among MDAs. The government should establish a visible budget head for financing nutrition projects in the relevant MDAs, especially the Ministry of Budget and National Planning, Ministry of Agriculture and Rural

Development, Ministry of Health, and Ministry of Education to enable them to finance prioritized nutrition projects accordingly.

6.2.6 Improve high level political buy-in of the Maputo and Malabo declarations

In spite of being 14 years old, the Maputo declaration of allocating 10% of national budgetary resources to the agriculture sector is far from being achieved. The Malabo declaration which was made in 2014 does not yet have an implementation plan in Nigeria. There is a need to improve awareness and commitment of top level government officials to implementing these 2 declarations which will contribute significantly to improving food and nutrition security outcomes in the country.

Achieving the Maputo target would mean that more funding would be available for irrigation, extension, rural infrastructure and other inputs and services required for improved agriculture production and productivity. Achieving the targets in the Malabo declaration would mean that many key areas under food and nutrition security would have been addressed. In addition, creating awareness and support for the Malabo declaration and its implementation is important as Nigeria has committed to being evaluated every 2 years on the extent to which the declaration has been implemented. It is therefore important to have clear plans and programs mainstreamed into the country's annual budget to address the areas in the declaration.

6.2.7 Improve rural infrastructure to improve agricultural productivity

The APP identified the rudimentary nature of the investment inflows into infrastructure and midstream logistics e.g. warehouses, storage, processing system as one of the major challenges that militated against the performance of agriculture under the ATA. Therefore, under the APP private investment expansion is one of the approaches to be employed not only to remedy the situation but also to achieve food security, import substitution and economic diversification. There is also emphasis on infrastructure provision to achieve the development outcomes and improved service delivery. Under the 1st NIP of the NV20: 2020 there was the policy to provide roads and basic infrastructure for rural communities to facilitate access and product evacuation and improve the rural environment to attract young farmers. Nevertheless, the rural areas that constitute the domain of agriculture have been ignored in the provision of basic infrastructure such as roads, electricity, and water over the years.

A modern agro-industry, which should be the basis for diversifying the Nigerian economy for improved food and nutrition security, cannot thrive in an environment where infrastructure is non-existent or has woefully deteriorated. Input delivery for agro-industrial transformation will not proceed smoothly no matter how keenly interested the private sector is in commercializing the process unless the government provides the requisite infrastructure, such as a road network, electricity, storage facilities, and security network. Attention will also have to be paid to the negligible level of irrigation facilities in the country. An improved funding of rural infrastructure is highly recommended if the agricultural sector is to be globally competitive; otherwise the objective of boosting agricultural output and reducing food imports will be difficult to achieve.

6.3 Conclusions

About a decade ago, Nigeria set a clear vision about the state of its agriculture and its future up to 2020. Against the backdrop of the specified targets and milestones, the policies, strategies and institutional arrangements to drive development in the sector are reviewed in this study. The performance of the sector is assessed to determine the extent to which the targets are met using agreed indicators under the Malabo declaration and outcome indicators consistent with the role of the sector in promoting economic growth, poverty reduction and food security. It is clear that agriculture has played a dominant role in sustaining the development of the Nigerian thus far and the potential exists for it to continue to be the fulcrum around which sustainable growth, industrialization and food security will revolve. As the oil and gas industry is becoming increasingly unreliable for creating a prosperous and industrialized economy, the drive towards diversification of the economy must begin with the diversification of the agricultural sector itself as a basis for rapid industrialization, sustained growth and poverty reduction.

It appears that access to production factors, inputs and services remains relatively low in 2016 and progress between 2010 and 2016 has been slow. This creates a large potential for improvement in production and productivity. If, for example, access to inputs and services were doubled, it would have appreciable impacts on production, productivity and consequently agricultural incomes. One area where the average level of performance in the 2010 – 2016 is encouraging is the level of financial inclusion although it reduced recently. With an average of about 60 percent being financially included, it can be expected that more financial products will

be available to farmers in the coming years. It is however necessary to monitor the percentage of farmers that apply for loans and successfully obtain them. Overall, it is not encouraging for the levels of access to improved seedlings, fertilizer, extension and irrigation to remain very low for such a long period in the country's history. Much more work is required in these areas.

On the positive side, child under-nutrition appears to have reduced during the period under consideration. This is in spite of negative developments regarding household incomes and food prices and may be an indication that households have strong coping mechanisms especially with regard to child feeding. While volatility of prices in a given year is not a challenge in Nigeria, the steady upward trend in food prices to the extent of doubling in six years poses a challenge. This is especially a challenge for fixed income earners and households that are less able to command higher prices for goods and services they provide. On average, the fairly equal rate of increase in incomes and food prices at the same time implies that consumption per person has not improved appreciably between 2010 and 2016. There is therefore a strong and urgent need to manage macro-economic and agriculture policy and programs implementation in order to achieve appreciable increases in household incomes in order to promote food security in the coming years.

In line with the ERGP vision of inclusive growth, FMARD must collaborate actively with the private sector to deepen investments in all sub-sectors of agriculture to promote growth and rapid recovery of the economy. Providing enabling environment for expansion of investments in each sub-sector will not only support the drive towards food and nutrition security, it will also enhance transformation that will create jobs, boost foreign exchange earnings and contribute to the ultimate goal of realizing meaningful diversification of the economy. Moreover, the 2018 agricultural budget should have direct bearing with the established priorities of the ERGP and its vision of enhancing food and nutrition security in the country. Such linkage between plan and budget is required to keep track of implementation of the programmes in order to achieve the agricultural targets enshrined in the plan.

Achieving the desired progress in the agricultural sector requires mustering the support of stakeholders within and outside the sector. Agricultural MDAs at the federal and state levels must collaborate from time to time not only at the stage of articulating policies and strategies but also at stages of implementing, monitoring and evaluating projects. Such collaboration will apply to federal projects being implemented across the states as well as projects jointly financed by

federal, state and development partners which particularly call for joint actions and effective coordination. In the same vein, FMARD needs to secure the cooperation of key MDAs such as the CBN for improved agricultural financing, Ministry of Industry Trade and Investment (MITI) for improved performance in agricultural trade, NBS for proper documentation and collection of agricultural data and other MDAs that are connected one way or the other with investments in the agricultural sector to mitigate the influence of external factors on the realization of the potentials of the agricultural sector.

It should be easier for the country to record better results in terms of data availability from the next round of the JSR if the FMARD works more in concert with other stakeholders. This is important because the information required to derive the indicators for the sector review are not wholly agricultural-sector specific. For instance, information on social protection, food and nutrition security, school feeding, agricultural trade, women and youth empowerment, and so forth require inter-ministerial collaboration. This indicates the advisability of FMARD strengthening institutional platforms with MDAs associated with implementation of projects in these areas through which progress will be monitored and relevant data collected in addition to those typically available in the National Bureau of Statistics.

Finally, it is important to stress that FMARD should keep faith with the regularity of undertaking the agricultural joint sector review. An important lesson from this initial effort since the Malabo declaration is that the JSR process involves specific and sequential activities which require human and material resources. The funding of such activities should be recognized and prioritized in FMARD's budgetary process. By so doing it should be possible to sustain the review process and maintain effective participation of key stakeholders in raising the performance of the agricultural sector in the country.

References

Adesugba, M., and G. Mavrotas (2016). "Delving Deeper into the Agricultural Transformation and Youth Employment Nexus: The Nigerian Case", Nigeria Strategy Support Program Working Paper 31, Washington, DC: International Food Policy Research Institute.

Africa Lead-IFPRI (2012). Report on Assessment of Nigeria Agriculture Transformation Agenda (ATA) and Capacity Building Needs. Washington, DC: International Food Policy Research Institute.

Ajakaiye, O., and A.S. Olomola (2011). "Developing Agricultural Commodity Markets for Improved Regional Trade in Africa", In International Livestock Research Institute (ILRI), Towards Priority Actions for Market Development for African Farmers: Proceedings of an International Conference, 13-15 May 2009, Nairobi, Kenya. Nairobi: Alliance for a Green Revolution in Africa (AGRA) and International Livestock Research Institute (ILRI).

Babu, S.C., G. Mavrotas and N. Prasai (2017), "Integrating Environmental Considerations into the Agricultural Policy Process: Evidence from Nigeria", International Food Policy Research Institute Discussion Paper No. 01657, International Food Policy Research Institute, Washington DC.

Babu, Suresh Chandra; Gyimah-Brempong, Kwabena; Nwafor, Manson and Edeh, Hyacinth (2014). "Capacity assessment for achieving the Agricultural Transformation Agenda in Nigeria". NSSP Working Paper 26. Washington, D.C. and Abuja, Nigeria: International Food Policy Research Institute.

Bahiigwa, Godfrey, Greenwell Matchaya and Samuel Benin (2013) Mutual Accountability and Joint Sector Reviews in the Implementation of CAADP. Workshop Presentation. Dakar, Senegal

Central Bank of Nigeria (2017) Real sector statistics. http://statistics.cbn.gov.ng/cbn-onlinestats/DataBrowser.aspx

Daya, Y., Ranoto, T. R. and M. A. Lletsoalo (2006) "Intra-Africa Agricultural Trade: A Southern African Perspective" Department of Agriculture, Pretoria, South Africa, www.nda.agric.za

EFINA (Various years), Access to financial services in Nigeria survey http://www.efina.org.ng/our-work/research/access-to-financial-services-in-nigeria-survey/?phpMyAdmin=%2CWvBxPNpx0z2BcKe8h2UcHJI%2CXb.

FAO (2017) Crop production data. http://www.fao.org/faostat/en/#data/QC

FGN (2016) The Agriculture Promotion Policy (2016 – 2020). FMARD, Abuja

FRN (2001) New Agricultural Policy Thrust, Federal Republic of Nigeria, Federal Ministry of Agriculture and Rural Development (FMARD), October. Abuja. Nigeria

FRN (2017) Economic Recovery and Growth Plan (2017-2020), Federal Republic of Nigeria, Ministry of Budget and National Planning. Abuja. Nigeria.

Kolawole, Yinka (2017) "FG Disburses N7.3bn for Enterprise Empowerment", Vanguard Newspapers, May 25. https://www.vanguardngr.com/2017/05/fg-disburses-n7-3bn-enterprise-empowerment/ 2/27

National Bureau of Statistics (2011) LSMS-Integrated Surveys on Agriculture General Household Survey Panel 2010/2011

National Bureau of Statistics (2013) LSMS-Integrated Surveys on Agriculture General Household Survey Panel 2012/2013

National Bureau of Statistics (2016) LSMS-Integrated Surveys on Agriculture General Household Survey Panel 2015/2016

National Planning Commission (2009), NIGERIA Vision 20:2020 Economic Transformation Blueprint.

National Planning Commission (2010), The 1st NV20:2020 Medium Term Implementation Plan (2010 – 2013)

Olomola, Aderibigbe S. (2011) **"**Financing of Agricultural Transformation And Food Security In Africa", Commissioned Background Paper Submitted To The African Capacity Building Fund (ACBF), Harare, Zimbabwe.

Olomola, Aderibigbe S. (2013) "Policy Options for Agricultural Investments And Governance of Markets in Support of Small-Scale Agriculture in Nigeria", Published by Oxfam GB for Oxfam International under ISBN 978-1-78077-397-1 in August 2013. Oxfam GB, Oxfam House, John Smith Drive, Cowley, Oxford, OX4 2JY, UK.

Olomola, Aderibigbe (2015a) "Smoothing Food Price Trends in Nigeria: Political Economy Issues and Policy Vistas", WIDER Working Paper No. 2015/153. December, UNU World Institute for Development Economics Research (UNU-WIDER). Helsinki, Finland.

Olomola, Aderibigbe (2015b). "Understanding the Framework for Intergovernmental Interactions in the Implementation of Nigeria's Agricultural Transformation Agenda". Nigeria Strategy Support Program (NSSP) Working Paper No. 27, May. Washington, DC: International Food Policy Research Institute.

Olomola, Aderibigbe (2017) "Ending Rural Hunger in Nigeria: Mapping Needs and Actions for Food and Nutrition Security", Final Research Report Submitted to the Brookings Institution, Washington D. C., USA.

World Bank (2017) World Development Indicators. https://data.worldbank.org/products/wdi