The Agriculture Promotion Policy (2016 – 2020)

Building on the Successes of the ATA, Closing Key Gaps

Policy and Strategy Document

FMARD
FEDERAL MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT

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1. Foreword

Starting in 2010 – 2011, the Government of Nigeria, after years of benign neglect, began to reform the agriculture sector. To refocus the sector, the Government implemented a new strategy, the Agricultural Transformation Agenda (ATA). In 2011-2016, the focus was on rebuilding a sector whose relevance had shrunk dramatically. That was reflected in the lack of lending to farmers by the financial system and the dramatic levels of food imports from across the world. That intervention, the ATA, served its core purpose of helping refocus Nigeria's attention on agriculture.

Today, as we evaluate the progress made under the ATA, it is apparent that additional work is still required in order to meet our objectives. Nigeria still imports a significant amount of food. Nigeria is also not earning significant foreign exchange from agriculture, meaning we are losing on both ends. Therefore, it became paramount to "refresh our strategy" to tackle these 2 issues head on. The Agricultural Promotion Policy (APP) is that refreshed strategy.

The purpose therefore of this policy document is to provide a disciplined approach to building an agribusiness ecosystem that will solve these 2 gaps. The private sector will remain in the lead while government facilitates, as well as provides supporting infrastructure, systems, control processes, and oversight. The key federal MDAs will take on more of a regulator's role to ensure a nuanced commercial development of the market necessary to close these two gaps.

The success of the new policy will be driven by the levels of engagement of market place participants, farmers, states, investors, financial institutions, and communities. Other stakeholders from research laboratories to the Nigeria Customs Service to donors will also play vital roles. Performance will be tracked and published periodically to help inform smart decision making, but also to reinforce our fundamental goal of leveraging the capabilities of Nigeria to ensure food and income security.

The Ministry and its partners believe that the APP will be a platform for generating enduring results, and we look forward to delivering on its promise.

Chief Audu Ogbeh
Honourable Minister, Federal Ministry of Agriculture & Rural Development
June 21, 2016
Abuja FCT, Nigeria

2. Acknowledgement of Stakeholders

This policy document is the outcome of an intensive consultative process starting in November 2015 through April 2016, and involving multiple stakeholders. From farmer groups to investors to processors to lenders to civil servants to academics, many stakeholders provided detailed input, commentary, and support. We are grateful for the resources, energy and intellect put at the disposal of the Federal Ministry of Agriculture & Rural Development by parties too numerous to mention. Thank you for your continued dedication and resolve to build a next generation agribusiness economy in Nigeria.

3. Executive Summary

Nigeria is facing two key gaps in agriculture today: an inability to meet domestic food requirements, and an inability to export at quality levels required for market success. The former problem is a productivity challenge driven by an input system and farming model that is largely inefficient. As a result, an aging population of farmers do not have enough seeds, fertilizers, irrigation, crop protection and related support to be successful. The latter challenge is driven by an equally inefficient system for setting and enforcing food quality standards, as well as poor knowledge of target markets. Insufficient food testing facilities, a weak inspectorate system in FMARD, and poor coordination among relevant federal agencies serve to compound early stage problems such as poor knowledge of permissible contaminant levels.

Putting Nigeria's agriculture sector on a path to growth will require actions to solve these two gaps: produce enough fresh, high quality foods for the Nigerian market; and serve the export market successfully and earn foreign exchange. The new federal Agricultural Promotion Policy (APP) is a strategy that focuses on solving the core issues at the heart of limited food production and delivery of quality standards. As productivity improves domestically and standards are raised for all Nigerian food production, export markets will also benefit impacting positively on Nigeria's balance of payments. Given limited resources and the importance of delivering sustainable results, the Federal Ministry of Agriculture & Rural Development (FMARD) in consultation with partners has identified an initial pool of crops and related activities that will be Nigeria's path to tackling the aforementioned gaps.

First, FMARD will prioritize improving productivity into a number of domestically focused crops and activities. These are rice, wheat, maize, fish (aquaculture), dairy milk, soya beans, poultry, horticulture (fruits and vegetables), and sugar. Nigeria believes that the gap can be closed by partnering closely with private investors across farmer groups and companies to develop end to end value chain solutions. These chains will receive facilitated government support as they make deep commitments to engaging a new generation of farmers, improving supply of specialized fertilizers and protection chemicals, as well as wider scale use of high yielding seeds. In addition, Nigeria expects to work with investors to sharply improve the distribution system for fresh foods so as to reduce time to table, reduce post-harvest losses, and overall improve nutritional outcomes e.g. lowering of diabetic risk, stunting risk, etc.

Second, FMARD will prioritize for export markets the production of the following crops and activities: cowpeas, cocoa, cashew, cassava (starch, chips and ethanol), ginger, sesame, oil palm, yams, horticulture (fruits and vegetables), beef and cotton. FMARD will also work 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. That will involve adding more testing laboratories, improving traceability of crops, disseminating intelligence on export markets and consumer preferences, etc. Our goal is to build a high quality brand for Nigerian foods based on rigorous data and processes that protect food safety for both domestic and export market consumers.

To ensure that the strategy is executed as intended, FMARD is working closely with states and other federal MDAs e.g. Power, Transportation and Trade. FMARD will also evolve itself to become a more focused policy maker and regulator to ensure accountability for results. FMARD will use its convening and related powers to ensure that the enabling system is in place to support agribusiness. From investments in rural roads to reduce transport time to improved security of farming communities to reduce incidence of criminality to reduction in intra-state taxes and levies, FMARD will intensify

oversight. That oversight will ensure that farmers and investors are working in a market that is safe, competitive, and capable of enabling wealth creation in the coming years and decades.

Finally, FMARD will periodically publish metrics to track performance against the strategy e.g. tonnage of rice paddy produced, or yields/milking cow. The systems to repeatedly collect accurate data and integrate these into policy making, as well as investor planning will be refined over the next few months as part of this next wave of reform. We anticipate that if successful, key gaps such as Nigeria's continued imports of rice will disappear, while Nigerian produce e.g. beans and cocoa will once again become a quality benchmark across the globe. Reaching that point will require significant investments in people, processes and systems. Nigeria is committed to taking the necessary steps in order to move Nigerian agriculture from "a business" to a commercial ecosystem that can produce the capabilities necessary to create sustainable jobs and wealth.

4. Introduction to the Agricultural Promotion Policy (APP)

4.1 Building on the ATA Legacy

Starting in 2010 – 2011, the Government of Nigeria, after years of benign neglect, began to reform the agriculture sector. To refocus the sector, the Government implemented a new strategy (the **Agricultural Transformation Agenda**, ATA) built on the principle that agriculture is a business and therefore policy should be about supporting it. The main priority of policy was to **"restart the clock"** and reintroduce the Nigerian economy to sustainable agriculture centered on business-like attitude driven by the private sector. That strategy was in place from 2011 – 2015.

The ATA was a good platform to re-engage key stakeholders in Nigerian agriculture to shift focus towards how a self-sustaining agribusiness focused economy could be built. The ATA focused on how to make Nigeria's agriculture more productive, efficient and effective. It set a target of creating 3.5 million jobs by 2015; generating foreign exchange, and reducing spending on food imports. Among its key achievements was a restructuring of the federal fertilizer procurement system. Below is a brief summary of some of the key successes of the ATA:

Table 1: Select ATA Achievements (2011 – 2015) by Value Chain Stage

Area	Illustrative Achievements

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 (data integrity not verifiable)
	  ○ Targeted means-based subsidies provided to an ~12 to 14 million farmers between 2011 – 2014
	• Farmers gained improved access to inputs i.e. access to fertilizer and of seeds

Financing	• In partnership with Central Bank and Bankers Committee, set up of Nirsal credit guarantees • Revival and partial N15 billion recapitalization of Bank of Agriculture • Engagement with commercial banks to finance GES and boost lending to agriculture from ~1% to 6% of all formal credit by 2015 • Creation of special funds to support farmers e.g. N10B Cassava Fund and FAFIN/KfW Facility of $35M
Infrastructure & Logistics	• Designation of staple crop processing zones; 1st site in Kogi for cassava production remains under development • Concession of Federal warehouses and storage assets
Production	• Introduction of new higher yielding crop varieties e.g. Cocoa, Rice (Faro 42 and 44) • Domestic food production rose by an incremental 20.1M tons (claims not evidence based) ○ Rice paddy production rose an estimated 2.0 – 2.5 million tons • Creation of a Federal Dept. of Agricultural Extension
Market Access	• Re-establishment of select commodity marketing boards e.g. Cocoa Marketing Corporation
Others	• Reform of the Agricultural Research Network (ARCN)

ATA however also faced challenges and did not deliver on all the targets identified. For example, Nigeria still imports about $3 to $5 billion worth of food annually, especially wheat, rice, fish and sundry items, including fresh fruits. As a result, Nigeria is not food secure. Wastage levels remain high in production areas, reducing supply of feedstock to processing factories, requiring them to keep importing supplies. The net effect is limited job growth across the agricultural value chain from input production to market systems, and continued use of limited foreign currency earnings to import vast quantities of food.

Below are summarized some of the ATA's shortcomings which have to be tackled in the APP:

Table 2: Select ATA Challenges (2011 – 2015) and Production Gaps by Value Chain Stage

Area	Illustrative Shortcomings
Input Supply	• 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	• 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 N39B) has slowed down bank lending • Of ~$8 billion in domestic and foreign investor commitments often cited, only limited volumes actually moved from idea to reality
Infrastructure & Logistics	• Investment inflows into infrastructure and midstream logistics e.g. warehouses, storage, processing systems remains rudimentary • Staple crop processing zone (SCPZ) strategy has not yield results. For example, Kogi SCPZ has not taken off due to withdrawal of Cargill, the anchor investor from the project
Production	• 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[1]" 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	• Post-harvest losses still an issue but improving moderately • Illegal food imports remain an issue, depriving farmers of market opportunities
Others	• 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

[1] Based on data drawn from FMARD, NBS, NIRSAL, CNBC Africa, commercial bank project analysis, FAO, USDA GAIN. NDPI Foundation, and private estimates

Table 3: Gaps in Nigeria Demand and Supply Across Key Crops and Activities (2016 Estimate)

Crop	Demand (tons)	Supply (tons)	Observations
Rice	6.3 million	2.3 million	Insufficient supply chain integration remains issue
Wheat	4.7 million	0.06 million	Driven by demand for various types of wheat (white, hard, durum), etc. for bread, biscuits and semovita
Maize/Corn	7.5 million	7.0 million	Limited imports required but can shift due to feed demand
Soya Beans	0.75 million	0.6 million	Animal feed and protein cost alt. driving demand
Chickens	200 million birds	140 million	Gap filled by illegal imports that enter market at lower price point than domestic producers; gap also a moving target based on fast food/QSR demand
Fish	2.7 million	0.8 million	Fall off in ocean catch and weakness in aquaculture yields due to cost of fish feed a constraint on growth
Milk / Dairy	2.0 million	0.6 million	Driven by insufficient milking cows and low yields (~15-25 liters/day versus norm of 35 – 40 liters NZ/US)
Tomato	2.2 million	0.8 million	Actual production is 1.5 million tons but 0.7M ton is lost post-harvest
Yams	39 million	37 million	Limited gap today but volumes expected to rise in planning period
Oil Palm	8.0 million	4.5 million	Refers to fresh fruit bunch (FFB) from which oil is extracted at a 10% - 15% efficiency rate
Cocoa	3.6 million	0.25 million	Demand is global demand which will rise to 4.5M by 2020
Cotton	0.7 million	0.2 million	Demand is for seed cotton and could rise to 1.0 – 1.5 million tons subject to textile sector revival
Sorghum	7.0 million	6.2 million	Demand will rise further as use in feed grows in 2016 – 2020. Import of malt extracts and glucose syrup is currently used to manage gap, hence a commercial threat for Nigerian farmers

On balance, the ATA was an important first step towards rediscovering agriculture. As a result, many companies, individuals and donors are now keen to invest in Nigerian agriculture once again. Agriculture is viewed as a business that can provide a reasonable basis for further wealth and job growth in Nigeria.

With that in mind, the policy and strategic focus is now on how to build on the initial progress made, and transition Nigeria to a new plane In terms of agribusiness performance. That will be the focus of the proposed new policy regime. That new policy's primary focus will be on closing the demand – supply gaps between crop and livestock production. Gap closing will also include tackling related input, financing, storage, transport and market access issues present in key value chains.

4.2 The Buhari Administration's Vision and Approach

Building on the successes and lessons from the ATA, the vision of the Buhari Administration for agriculture is to work with key stakeholders to build an agribusiness economy capable of delivering **sustained prosperity** by meeting domestic food security goals, generating exports, and supporting sustainable income and job growth. In this regard, a number of specific objectives for the period 2016 – 2020 emerge:

- Grow the integrated agriculture sector at 1x to 2x the average Nigerian GDP for 2016 – 2020; sector's historical growth was between 3% - 6% per annum in 2011 – 2015, hence the need to raise performance. Assuming GDP growth of 6% in 2017, agriculture would aim to achieve 6% - 12% , allowing agricultural household income to double in 6 – 12 years, holding all else equal
    - Agriculture's Share of GDP: 23% (Q1 2016)
    - Agriculture's Share of the Labor Force: 70%
    - Agricultural Activity Mix: Crop Production: 85%; Livestock and other non-crop: 15%
- Integrate agricultural commodity value chains into the broader supply chain of Nigerian and global industry, driving job growth, increasing the contribution of agriculture to wealth creation, and enhancing the capacity of the country to earn foreign exchange from agricultural exports;
    - Agriculture's Share of Non-Oil Exports Earnings: 75%
- Promote the responsible use of land, water and other natural resources to create a vibrant agricultural sector offering employment and livelihood for a growing population;
- Facilitate the government's capacity to meet its obligations to Nigerians on food security, food safety and quality nutrition
    - Agriculture's Share of Federal Budget: ~2.0%
- Create a mechanism for improved governance of agriculture by the supervising institutions, and improving quality of engagement between the Federal and State Governments.

Unlocking Nigeria's full agricultural potential requires that Nigeria solve the underlying challenges in its agricultural system, which includes the following:

- **Policy Framework:** Nigeria suffers from policy instability driven by high rate of turnover of programmes and personnel, which in turn has made the application of policy instruments unstable. The outcome is an uneven development pathway for agriculture; lack of policy accountability, transparency and due process of law, relating to willful violation of the constitution and subsidiary legislations governing the agriculture sector. That in turn has made the business environment unpredictable and discourages investors. To address this challenge, Nigeria needs to create a policy structure that matches evidence-driven coordination among decision-making authorities with common and public goals for an agricultural transformation of the country. Building that evidence base requires that Nigeria adopt a consistent fact base to drive decision making, as well as build on prior successes e.g. the Jonathan Administration's pioneering Agricultural Transformation Agenda (ATA).

- **Political Commitment:** This pertains to the non-implementation of international protocols or conventions agreed to with other members of the comity of nations. For example, Nigeria has failed to achieve the targets in the Maputo Declaration that prescribes a minimum of 10% budgetary allocation to the agricultural sector. Political commitment at both the Federal and State levels will be required to enforce reforms.
- **Agricultural Technology:** Persistent shortcomings of the National Agricultural Research System (NARS) to generate and commercialize new agricultural technologies that meet local

market needs. NARS's challenges have been relatively severe particularly around improved varieties of seed or other planting materials and breeds of livestock and aquatic species. The failure to also deliver already proven technologies available on the shelf to farmers' fields where they are needed is a challenge. Addressing these will require better coordination among extension delivery system, the national agricultural research system, as well as public and private sector suppliers of agricultural inputs.

- **Infrastructure Deficit:** Nigeria's agricultural sector suffers from an infrastructure challenge. Infrastructure such as motor roads, railroads or irrigation dams are either insufficient, or when available, not cost competitive. They are thus unable to operate to support scale-driven agriculture. That imposes an added cost (up to 50% - 100%) on the delivered price of agricultural produce in Nigeria, making it uncompetitive compared to global peers. In order to boost farm productivity, raise the level of marketable surplus and expand value chain participants' access to low cost infrastructure, Nigeria will need to rethink the business and operating model for agricultural infrastructure

- **Finance and Risk Management**: Nigeria's agriculture sector continues to have poor access to financial services that enable farmers and other agricultural producers to adopt new technologies, improve market linkages, and increase their resilience to economic shocks. Poor access to financial services that enable input suppliers, processors, traders and others in agribusiness to address liquidity and encourage targeted private sector engagement in agriculture remains a challenge. Lending rates still routinely range from 10% to 30% subject to whether the borrower is considered prime, has access to low cost, government-provided financing (BoA, CBN, BOI), or is offered a NIRSAL Plc. -financed interest rate subsidy and credit guarantee. To improve financing options and de-risk value chains further, Nigeria will need to intensify innovation in financing ecosystems,

- **Institutional Reform and Realignment:** Today, many federal and state agricultural institutions only exist on paper. In fact, the system even ignores local government areas which is actually where a majority of activity takes place. There is a need to streamline, clarify mandates and ensure continued accountability for results. Unless these issues are tackled, Nigeria will continue to struggle with the capacity of its agricultural institutions to deliver on their public mandates. A turnaround will mean, for example, adding more resources such as adding up to 15,000 extension workers, setting up more operational coordination mechanisms between the Federal Government and States in between the National Council of Agriculture, and linking rewards to performance.

In addressing these constraints, the government will apply prudent, market based policy measures to grow the sector, with a clear recognition that widespread poverty reduction through the transformation of the agriculture sector is integral to the country's long run economic growth trajectory and prosperity. Accordingly, this policy statement is anchored on **three** main pillars in line with the constitutional provision for the role of Federal Government in agricultural development:

- Promotion of agricultural investment;
- Financing agricultural development programmes and
- Research for agricultural innovation and productivity.

5. Policy Thrust and Objectives

Therefore in **2016 to 2020**, Nigeria's policy now needs to be readjusted to solve the aforementioned challenges. The go forward federal priorities (in partnership with State Governments) will be the following four: food security; import substitution; job creation; and economic diversification.



The new policy regime, tagged the **Agriculture Promotion Policy** (APP) Policy is founded on the following guiding principles, a number of which are carryovers from the ATA reflecting the strong desire for policy stability. New elements added reflect the lessons from the ATA, as well as priorities emerging from the aspirations of the Buhari Administration:

1. **Agriculture as a business** – focusing the policy instruments on a government-enabled, private sector-led engagement as the main growth driver of the sector. This essential principle was established in the ATA and will remain a cardinal design principle of Nigeria's agriculture policies going forward.

2. **Agriculture as key to long-term economic growth and security—**focusing policy instruments to ensure that the commercialization of agriculture includes technologies, financial services, inputs supply chains, and market linkages that directly engage rural poor farmers because rural economic growth will play a critical role in the country's successful job creation, economic diversity, improved security and sustainable economic growth.

3. **Food as a human right** – focusing the policy instruments for agricultural development on the social responsibility of government with respect to food security, social security and equity in the Nigerian society; and compelling the government to recognize, protect and fulfill the irreducible minimum degree of freedom of the people from hunger and malnutrition.

4. **Value chain approach** – focusing the policy instruments for enterprise development across successive stages of the commodity value chains for the development of crop, livestock and fisheries sub-sectors, namely input supply, production, storage, processing/utilization, marketing and consumption. Building complex linkages between value chain stages will be an important part of the ecosystem that will drive sustained prosperity for all Nigerians.

5. **Prioritizing crop**s – focusing policy on achieving improved domestic food security and boosting export earnings requires a measure of prioritization. Therefore, for domestic crops, the initial focus in 2016 – 2018 will be expanding the production of rice, wheat, maize, soya beans and tomatoes. For export crops, the initial focus will be on cocoa, cassava, oil palm, sesame and gum Arabic. In 2018 onwards, the export focus will add on bananas, avocado, mango, fish and cashew nuts. Investments in closing infrastructure gaps to accelerate productivity and investment in these crops will also be sequenced to reflect capital availability and management attention.

6. **Market orientation** – focusing policy instruments on stimulating agricultural production on a sustainable basis, and stimulating supply and demand for agricultural produce by facilitating linkages between producers and off takers, while stabilizing prices or reducing price volatility for agricultural produce through market-led price stabilization mechanisms (commodity exchanges, negotiated off-take agreements, extended farm-gate price under value chains coordination mechanisms, agricultural insurance, etc.)

7. **Factoring Climate change and Environmental sustainability** – focusing policy instruments on the sustainability of the use of natural resources (land and soil, water and ecosystems) with the future generation in mind while increasing agricultural production, marketing and other human activities in the agricultural sector.

8. **Participation and inclusiveness** – focusing instruments on measures to maximize the full participation of stakeholders including farmer's associations, cooperatives and other groups, as well as NGOs, CBOs, CSOs, development partners and the private sector. This places a premium on the role of these organizations or groups as agents of economic change in general and agricultural economy in particular, thereby drawing benefits from their policy advocacy roles as partners to and watchdog of government.

9. **Policy integrity** – focusing policy instruments on measures for sanitizing the business environment for agriculture, in terms of accountability, transparency and due process of law, ensuring efficient allocation and use of public funding and fighting corruption on all programmes involving public resources. This also applies to compliance with international commitments, protocols and conventions that Nigeria is a signatory to.

10. **Nutrition sensitive agriculture** – focusing policy instruments on addressing the issues of stunting, wasting, underweight and other manifestations of hunger and malnutrition with particular reference to the vulnerable groups, which include children under 5, nursing mothers and persons with chronic illness and disabilities

11. **Agriculture's Linkages with Other Sectors** – focusing policy instruments on the connected relationship between agriculture and other sectors at federal and state levels, particularly industry, environment, power, energy, works and water sectors.

Within this overall set of policy principles, the Federal Government will concentrate on providing an enabling environment for stakeholders at federal and state level to play their distinctive roles. The policy emphasis will be on providing a conducive legislative and agricultural knowledge framework, macro policies, security enhancing physical infrastructure and institutional mechanisms for coordination and enhancing access to adequate inputs, finance, information on innovation, agricultural services and markets.

6. Approach and Process

With the APP framework outlined, the next step was to create a Roadmap to guide development and execution. The process of developing the Agriculture Sector Roadmap was as follows: following the endorsement of the draft communique at the 2016 National Council of Agriculture, ten (10) thematic working groups were established by FMARD. Each working group was asked to conduct brainstorming and analysis to identify their sub-sector specific constraints, policy initiatives and suggested programmes. The

development of the Roadmap as the guiding policy framework for the agricultural sector had the following set-up and outputs:

a) Policy Plan
   - Preparation of reports by the ten multi-stakeholder working groups on key policy areas
   - Harmonization of the inputs into one policy document
   - Approval

b) Programme plan for identified policy areas with activities and budgets

c) Investment plan based on weighted priorities across possible intervention areas

7. Thematic Interventions to Unlock Full Potential Under APP

For the APP to move Nigeria closer to unlocking its full economic potential, constraints have to be identified, mapped and prioritized. As noted above, the teams' set-up by FMARD conducted a high level brainstorming and analysis to map key constraints in the agricultural value chain from production to consumption. Emerging from that effort, a matrix of constraints were identified that broadly group into productivity, financing and regulatory constraints. Each team then developed policies and interventions to act as guidelines for resolving a number of these constraints. These interventions and their originating policy choices have been organized into 3 themes as summarised below:

Table 3: Three Organizing Themes for APP

Productivity Enhancements	Crowding in Private Sector Investment	FMARD Institutional Realignment
1. Access to Land 2. Soil Fertility 3. Access to Information and knowledge 4. Access to Inputs 5. Production Management 6. Storage 7. Processing 8. Marketing & Trade	9. Access to Finance 10. Agribusiness Investment Development	11. Institutional Setting and Roles 12. Youth and Women 13. Infrastructure 14. Climate Smart Agriculture 15. Research & Innovation 16. Food, Consumption and Nutrition Security

The discussions, which follow, provide additional detail on the levers within each theme.

4.1. Theme 1: Productivity Enhancements

The discussions that follow are designed to boost system productivity, reduce post-harvest losses and expand market access related activities. The **target outcome** is a blend of metrics including but not limited to rises in **farm productivity** versus base year (% yield increases), reductions in post-harvest losses, share of agricultural input used in Nigeria by consumer goods companies, and **share of Nigerians fresh goods** sold in formal markets e.g. Shoprite**.**

4.1.1. Access to Land and Land Management

Background/ constraints:

Land is a vital input for agricultural production and regulated access to it is critical. A key issue is land title and tenure, which defines the conditions and rules guiding the right to hold a piece of land for one purpose or another. About 95% of agricultural lands are not titled, effectively nullifying their capacity to be treated as collateral for financial transactions. In recent years, the Mabogunje Committee's work began to pilot mechanisms for improving land titling with trial programmes in select states. Other challenges abound, including the doctrine in the law and the reality of community control. For example, the Land Use Act stipulates that State Governors hold land in trust for the people. Yet communities where land is situated can, in practice, throw up road blocks to land access, which contributes to difficulties investors face in acquiring land for agricultural investment. In other cases, the bureaucracy and approving authorities can also be an obstacle to land allocation even when the community's support is not in question. A number of states have made strong progress in this area regarding simplifying the process of land allocation, and issuance of Certificates of Occupancy.

The key constraints are:

- Current Land Use Act is not conducive for agricultural activities (e.g. short-term lease does not allow for agricultural loans, particularly small holder farmers)
- Process of securing and perfecting title is cumbersome, time-consuming and often expensive
- Implementation of policies does not do enough to ensure inclusion of women in agriculture i.e. gender biases in access to land, with women facing more difficulty accessing land than men
- Land grabbing with communities being dispossessed of large parcels of land
- Unclear rules and governance regarding management of land for use in farming versus grazing for nomadic cattle populations

Policy Thrust

Policy to pursue amendment of current Land Use Act:

- Facilitating the recognition and entitlement of land ownership by formal or customary means to assist collateralization;
- Farmer/land registration (identity, location, landholding and soil mapping), and low cost, web-based and digital mechanisms for verifying the existence of such titles
- Land rights that incentivize small farmers to invest in their land and raise their productivity;
- Policies that reduce implicit and explicit gender biases in land allocation and titling processes
- Policies that create a transparent, liquid market for agricultural land, improving likelihood of land being used as collateral
- Policies that allow the farmers who are commercializing to use other land (aggregate) rental markets or land markets;
- Policies that enable migration of farmers who have better opportunities elsewhere in the economy;
- Policies that facilitate establishment of commercial ranches for cattle and reduces risk of clashes between nomads and farmers

- Policies that ensure a balance between economic growth of larger agribusinesses with the economic cost of displacing small farmers, or creating land shortages over time as the rural population grows.

This policy should be firmly rooted in spatial predictions of demographic changes in rural areas.

4.1.2. Soil Fertility

Background

Soil fertility requires attention in view of the need to maintain adequate levels of macro and micro soil nutrients under intensive production systems that remove nutrients from agriculture areas. Soil erosion in Southeastern Nigeria and desertification in the North due to deforestation wash away topsoil with the nutrient layers and pose a threat to soil fertility. Climate change, with temperature increase, speeds up the breakdown of soil organic matter which is essential for water retention and root development.

The key constraints are:

- Better targeting of fertilizers to communities where the use of fertilizer is profitable; and improved incentives for fertilizer supply
- Soil degradation due to inappropriate agricultural practices; soil erosion, deforestation and climate change
- Cost-effective fertilizer delivery by use of technology
- Insufficient mapping of soils by type as an input into designing fertilizer types
- Challenges of balancing fertilizer supply with market access and demand
- Potential for distortions in fertilizer markets due to the GES subsidy

Policy Thrust

Policy to maintain and enhance soil fertility through:

- soil mapping and testing
- crop rotation to improve nitrogen fixation
- soil fertility reconstruction and formal fallow periods
- fertilizer quality control
- use of organic fertilizer
- erosion control measures e.g. tree planting
- soil/crop specific fertilizer formulation
- improved conservation, reforestation and green belt policies
- review GES subsidy and align with overall fertilizer supply / demand strategy to focus efforts in regions requiring the most support

4.1.3. Access to Information and Knowledge

Background/ constraints

In order to increase agricultural productivity and improve agribusiness, the right information is required at the right time for planning and decision-making. This is relevant to all stakeholders in the

sector, including farmers, input suppliers, processors, traders, policy makers, development partners, and researchers. Appropriate information can sharpen opportunities, clarify market access, and enable participants to make choices regarding how to deploy scarce resources e.g. extension support services.

Major constraints are:

- Disjointed and non-accessible information for planning, decision making and innovation
- Limited awareness and capacity to manage information and knowledge at federal, state and local level
- Poor ICT infrastructure to serve many stakeholders
- Poor information exchange and delivery mechanism for farmers, research, private sector, policy makers
- Ineffective research to extension delivery system i.e. limited commercialization of knowledge created

Policy Thrust

- Policy to enhance availability of information and knowledge for farmers, agribusiness and policymakers through implementation of an ICT/KM Framework by
  - Developing agricultural information systems; standards and institutional mechanisms for content generation, policy support, stakeholder dialogue, innovation and learning
    - Focus on disseminating information designed to help farmers make best choices with respect to input costs, equipment leases, agronomic practices, crop prices, and weather
  - Experimenting with new devices to enhance ICT/KM capacity in the sector
  - Reviving regional farm radio broadcasts designed to provide farming communities with timely advice on planting, weeding, harvesting and key prices
  - Promoting the emergence of specialized agricultural information and knowledge from targeted research to address farmer priorities
  - Enhancing reach, effectiveness and efficiency of the extension delivery system (through use of various methods e.g. more extension workers and electronic extension services via SMS)

4.1.4. **Access to Inputs** (Seeds/ Seedlings, Fertilizer, Livestock/ Fish feeds etc.)

Access to inputs remains a challenge for achieving optimal productivity of agricultural outcomes. Attempts to address this issue in the previous government administration have resulted in subsidy programmes (e.g. GES) which have been characterized by late or non-delivery of inputs. Other problems encountered include delivery of sub-standard or counterfeit inputs, and exclusion of rightful beneficiaries. Therefore, the policy objective is to increase productivity by ensuring access to timely, high quality and price competitive inputs.

4.1.4.1. (Tree) Crop Production

Background/ constraints

Overall national availability of improved seed is an area of attention for enhancing productivity. Nigeria has a number of domestic and foreign seed companies whose activities partially rely on the

availability of seeds from the Nigerian research system. For example, oil palm seedlings rely on supply from NIFOR, the oil palm research institute in Benin City. Insufficient production of seedlings remains a challenge especially those that can mature faster e.g. cocoa and oil palm. This challenge is in turn worsened by a lack of fertilizer. While domestic companies such as Indorama and Notore produce fertilizer, about 40% - 60% of the volume used domestically is imported. The Dangote petrochemical plant targeted for commencement in 2018 is expected to help solve these challenges.

Major constraints are:

- Rapid commercialization of R&D findings into certified seeds
- Lack of access to sufficient and good quality inputs
- Ill-timed delivery of inputs
- Unreliable distribution and agro-dealer network
- Unsustainable budget commitment to the GES programme due to non-targeted distribution of subsidies
- Deficient farmer identification mechanisms for subsidized inputs i.e. insufficient means testing
- Government interference in the development of private-sector input production and supply companies
- Low level of commercialization, access to information/knowledge
- Tenure issues in long term land ownership/lease

Policy Thrust

- Policy to ensure the availability of timely and high quality inputs by
    - Stimulating domestic production of good quality inputs, especially seeds and fertilizer, by paying attention to early generation of foundation seeds and speeding up the certification process
    - Improving the functioning of the Seed Council
    - Financing for small seed companies as well as engaging with larger seed companies to buy down risks of small holder farmers markets e.g. Nirsal Plc's rice seed financing proposal
    - Engaging standards and quality control mechanisms at various points in the relevant supply chains (e.g. existing fertilizer testing centres)
    - Rechanneling subsidy programmes to ensure accountability, monitoring and evaluation
- Policy to drive emergence of a dense private sector agro-dealer network with capacity to also support near farm storage
- Policy to encourage effective fertilizer use (see *soil mapping* in policy thrust for **Soil Fertility**)
- Policy to encourage:
    - Amendment of current Land Use Act (see *policy thrust* for **Access to Land)**
    - Access to market information on markets and innovations (see policy thrust for **Access to Information and Knowledge**
    - Development of processing and storage facilities (see *policy thrust* on **Storage)**
- Review and facilitate the passage of pending fertliser and seed bills in the National Assembly

4.1.4.2. Animal Production incl. Apiculture

Background/ constraints

Nigeria has made significant progress in in the production of animal protein. Based on baseline work conducted by the in the early 1990s, it is estimated that Nigeria has 13 million cattle, 35 million goats, 22 million sheep and 80 – 120 million chickens. This has helped transform Nigeria's poultry industry into one of Africa's largest. Today, Nigeria has two broad challenges with livestock. First, the country lacks updated census data based on physical surveys and aerial overflights (systematic reconnaissance flights). Second, within specific animal categories e.g. special challenges remain that are not being addressed. For example, the rapid growth in commercial poultry has created its own difficulties that do need to be addressed with respect to waste disposal.

Third, the cattle value chain has become a security problem. Today, the cattle value chain relies on a network of nomadic herdsmen with cattle entering a brief fattening system before slaughter and processing. That supply chain however is both inefficient and a high security risk as roaming cattle increasingly is a source of friction between land owners and herdsmen. In order to protect all parties, a key shift is necessary i.e. retain cattle in ranches. Thus, what is required is for the creation of a more formal ranching system that will use better processes and inputs to extract higher value from in the form of dairy, meat, and leather. The less lean meats will in principle provide a wider range of options for sellers, as well as. Nigeria will actively support investors seeking to set-up modern ranches to raise livestock rather than infringe on the property rights of land owners and users.

Main constraints are:

- Limited knowledge of the Nigeria's livestock assets by size and location
- Conflicts with nomadic pastoral/transhumance system due to feed and fodder insecurity
- Low productive breeds of livestock
- Income loss and human health effects due to pest and disease
- Low incomes to limited access to markets hinged on lack of quality and standards as well as poor transport infrastructure
- Low income from apiculture due to low productivity of honeybees, and low demand from farmers due to lack of knowledge of the benefits of pollination for (tree)crops

Policy Thrust

- Policy to conduct regular, methodology driven livestock surveys and census in order to drive evidence based decision making
- Policy to enhance availability of improved breeds, access to finance and information about improved production methods, markets and prices
- Policy to enhance resistance breeding; promote availably of pest and disease control services, and enhance Livestock identification and traceability; zoning and compartmentalization of livestock; disease surveillance system; quarantine services; Facilitation of nationwide livestock census
- Policies to incentivize set-up of modern ranching, abattoir and processing system
- Policy to stimulate beekeeping by raising awareness about benefits of beekeeping e.g. via dedicated FMARD and State ADP experts working with farmers to install and monitor top-bar hives; use of radio and TV campaign, school programs, etc. would be a backup awareness building process.

4.1.4.3. Fish and Aquaculture Systems

Background/ constraints

This sector caters for small, medium and large scale marine and fresh water fishing, including aquaculture, with its distinctive constraints. Nigeria has built a large domestic fishery economy but still relies heavily on imported fish and specialized feed for its protein consumption. Data from Customs indicate that Nigeria imports between $400 and $600 million worth of fish and fish products each year, creating an opportunity for further gains by domestic market participants.

Main constraints are:

- Low productive fish breeds in aquaculture
- low production due to lack of inputs (e.g. fingerlings, feed)
- poor water quality (e.g. pollution)
- security constraints in fisheries areas
- low yields due to overfishing

Policy Thrust

- Policy to enhance fish breeding; promote availability of pest and disease control services, and enhance traceability
- Policy to make fishery/aquaculture inputs available by promoting hatchery development, Standardization of hatchery and fish breeding processes
- Policy to reduce insecurity in fisheries areas
- Policy to re-inforce the regulatory framework for fishing activities

4.1.5. Production Management

4.1.5.1. Water/ Irrigation Systems

Background/ constraints

Water is a relative scarce commodity for production and hence requires attention. Increased productivity of crops will require a prudent use of additional water through irrigation. Optimizing the use of available water resources is important and can be achieved by the choice of crops with limited water requirement, use of water conservation techniques as well as efficient irrigation methods. Intensification of crop production, combined with effects of climate change such as desertification and increased evaporation, result in surface water reduction. Further along the value chain, water is essential for processing and hence requires ample attention. The quantity and the quality (clean water) are important factors for food processing and human health. At present, Nigeria uses a system built around River Basin Authorities to allocate water in specified tracts of the country. Unfortunately, that system is yet to provide the right level of water supply across the country; it still has great potential if appropriate investments are made in irrigation systems as has been the case recently in the Hadejia River Basin Authority.

Major constraints are:

- Under-utilization of large dams due to decline in water dispersion systems e.g. pipes, pump stations and related supporting infrastructure
- insufficient water for full year agricultural production
- insufficient investment in irrigation systems and equipment whether drip or otherwise
- reducing water availability and increasing drought due to climate change and deforestation
- substandard quality of water (e.g. due to overuse of agrochemicals and dumping of wastes)

Policy Thrust

Policy to promote optimize use of water for agricultural production through:

- Revitalizing existing, and development of new, small (earth) dams, tube wells and wash bores.
- Facilitating optimization of the utilization of existing large dams for irrigation.
- private sector investment in irrigation and irrigation systems, including fee for service providers
- Promoting water conservation by harvesting run-off water and reducing desertification by tree planting etc.
- Revitalizing the River Basin Authorities and transforming their role in water availability and pricing

4.1.5.2. Pest & Disease

Background/ constraints

Pest and disease control is critical for incomes in the crops (including tree crop), livestock and fisheries subsectors and important for human health. In specialized systems with a limited genetic base, rapid spread of pests and diseases can occur and attention is required for preventive as well as curative measures. Pesticide overuse may occur during the production or storage process which affects food quality and human health. Overuse has spill-over effects on soil and water bodies with indirect effects on human health. FMARD in addition to promoting safe use of pesticides and other crop protection chemicals intends to also explore integrated pest management control programmes, as well as explore the use of organic control mechanisms.

Major constraints:

- Indiscriminate use of agricultural inputs such as fertilizers, herbicides, pesticides, and veterinary medicines, often leads to contamination of food with chemical hazards;
- Poor disease containment and control mechanisms

Policy Thrust

Policy for safe use of agro-chemicals and pesticides by:

- enhancing regulation, inspection and enforcement of safe use of agrochemicals
- enhancing access to information about safe use of agrochemicals
- quality assurance and testing for residues
- promoting safe alternatives where available e.g. organic pesticides
- integrated pest management and control mechanisms
- facilitate inter-ministerial co-ordination for disease control

4.1.5.3. Mechanization

Background/ constraints

Mechanization of the various steps in the production system for various value systems and commodities is required to enhance productivity and scale up production of the agricultural sector. It has an investment component, which requires review of the modalities of ownership and use for small, medium and large-scale producers. Based on estimates developed by FMARD, Nirsal and Propcom/DFID, Nigeria needs to add over 100,000 - 120,000 tractors and related equipment over the coming 5 to 8 years in order to achieve its production target. Production, maintenance and access to

effective equipment are other aspects that require attention. FMARD intends to work with private sector partners to expand supply of spare parts, ensure compliance with scheduled maintenance, and train mechanics, in addition to boosting the network of entrepreneurial service centers.

Major constraints are:

- Insufficient network of entrepreneurial service centers to provide fee for service mechanization
- Homogenous selection of technology
- Lack of access to machines, equipment and spare parts at affordable rates
- Underdevelopment and poor funding of mechanization research and development
- Poor resource base and poor technical skills leading to low patronage of fabricators
- Pool of trained mechanics and technicians to support equipment maintenance

Policy Thrust

Policy to promote information, finance and availability of relevant equipment along the value chain of key commodities by:

- promoting private-sector-led mechanization services as well as cooperative solutions for private sector-led tractor hiring system
- stimulating domestic production of equipment linked with complementary targeted import and standardization of agro-technology

4.1.6. Storage

Background/ constraints

Given the current post-harvest loss rates of up to 60% for perishable crops, Nigeria needs to rapidly introduce new storage solutions across its agricultural system. At the national level, Nigeria has recently invested ₦66 billion to establish 33 silo complexes, 25 grain aggregation centres, and 9 units of Blumberg warehouses, which have now been privatized by way of concession. The project, which is at varying degrees of completion or deliverables, aims to keep 5% of national output in storage. In addition, if successful, the project will help sustain national food security in terms of food price stabilization, market and macroeconomic stability. It also aims at delivering food in periods of national disaster as well as food aid to regional markets.

Constraints:

- Finance is critical to storage; for instance, farmers who need cash quickly are reluctant to store. They thus sell products at the point when poor pricing prevails.
- Poor management of storage facilities, including silos
- Poor food quality, with pesticide residues, moulds and aflatoxin
- Health effects due to unsafe use of pesticide and agrochemicals (inter-ministerial approach);
- Post-harvest losses due to rodents and pests
- Fluctuating and non-accessibility of affordable food during times of emergency, drought etc.
- Underproduction that leads to undersupply of grain and pulses in the market, tightening government competition with private sector buyers while filling the national reserve.

Policy Thrust

- Crowd in private investments into the sector to deepen overall logistics and infrastructure footprint, creating options for farmers and other value chain actors
- Policy to enhance finance, information and availability of proper methods for safe and effective storage (Blumberg large scale; local storage solutions etc.)
- Policy to facilitate public-private partnerships to rapidly expand storage and related logistics support infrastructure
- Policy to improve access to finance and information to expand use of safe and effective small, medium scale storage facilitate by targeting research (e.g. on irradiation) and stimulating private sector solutions; ensuring testing and quality control on agrochemical residues and aflatoxin
- Policy to enhance information about Good Agricultural Practices (GAP) and innovative methods of storage at community, state or federal level, on safe and responsible use of agrochemicals
- Policy to ensure that government maintains a safe storage that can guarantee national food security for a minimum of 1 year; review silos project and other forms of storage to ensure these will meet the goal of 5% grain in storage better and faster
- Policy to enforce standards in quality of storage facilities:
  - Enforcement of minimum Moisture Content for stored food
  - Promotion of the use of alternative pest control in storage

4.1.7. Processing

Background/ constraints:

In Nigeria today, there are broadly two types of food processing: cottage level and industrial processing. Due to insufficient food inspection and standards enforcement, food processing often involves output of uneven quality especially at the cottage level. The challenge sometimes emerges from a lack of standards or when these are present, insufficient enforcement or a lack of enabling systems. For example, while not a case of food processing, the processing of cotton suffers from a clear, industry wide standardization system. As a result, contaminants in cotton e.g. plastic threads in the cotton reduce the grading awarded and therefore the cash returns attributable to the farmer. For crops with export market potential, that imposes a quality penalty as well e.g. recent restrictions on Nigerian beans exports to the European Union due to the presence of contaminants. Rectification of the challenge will require changes to processing standards, training, equipment, and inspection protocols. Such a preventive strategy alongside other investment decisions such as improvements to local infrastructure (roads, power, water, land), will improve economic outcomes for sector participants.

Constraints are:

- Inadequate infrastructure provision around high agricultural produce areas
- Lack of extension services and poor capacity for post-harvest handling
- Lack of quality standards for produce inspection, grading, food safety and traceability, customized to Nigerian conditions for both large and small-scale growers
- Cultural restrictions to modern processing practices and technology (e.g. in the sub-sector of livestock processing/ abattoirs)
- Lack of efficient coordinated government efforts to monitor the inflow of agricultural produce at the land borders, seaport and airports and to follow developments in the international trade arena closely to the benefit of market actors in Nigerian agriculture

- Improper linkage between upstream farm practices e.g. pesticide/fertilizer use, and downstream food quality requirements in domestic and export markets

Policy Thrust

FMARD will promote policies to:

- Crowd in private investments into the sector to deepen value addition and reduce waste
- Enhance access to finance and information about innovative processing methods
- Facilitate out-grower schemes to secure supply of quality inputs from high production areas and improving access to value chain finance
- Enforce quality standards, food safety for markets that ensure emergence of modernized, safe processing zones.
- Enhance capacity of the NAQS of FMARD and Produce Inspection Department of FMITI as well foster policy synergy between FMARD and FMITI on agricultural commodity trade.
- Intensify awareness of public and farmer understanding of food safety protocols

4.1.8. Marketing & Trade

Background/ constraints

Marketing and trade in agriculture have common constraints across rural markets as well as those serving larger urban markets, but there are also differential impacts. Consumption by Nigeria's growing population (~180 million) requires foresight in terms of the types of food demanded and therefore the implications for production, processing, marketing, and trade. These implications are relatively well known (models of demography, geo-located, with clear understanding of how food preferences shift with increased income or urbanization). In general, this roadmap focuses more on the production side, and does not include the derivative needs of a rapidly growing urban market for food. Market access issues will be dealt with in partnership with private sector actors. Finally, Nigeria has not exploited global markets for its key foods e.g. cassava for a variety of reasons including quality, market knowledge and financing issues. While tariff regimes are an issue, the bigger barrier is overcoming the phytosanitary requirements set by importing countries. In order to do that, the entire value chain of stakeholders need to be involved in preparing crops for export.

Major constraints are:

- Infrastructure (road, power, farmer data, etc.)
- Lack of quality market information to enable identification of market opportunities, coordination among market actors and transparency
- Inadequate linkage within multiple agricultural supply chains
- Lack of coordination of efforts to improve efficiency between concerned government agencies
- Marketing constraints due to poor infrastructure and transportation (roads, railways etc.)
- Limited awareness and understanding of key export markets e.g. US, UK and EU
- Poor understanding of the lifecycle of contamination of crops from early stage soil preparation to post-harvest handling

Policy Thrust

Policy to enhance access to domestic and international markets by:

- Crowd in private investments into the sector to deepen private service provision required to enable markets function effective e.g. expand work on Lakaji corridor started by USAID/MARKETS II
- Enhancing access to market information (process, opportunities etc.) by facilitating the establishment of national agricultural information system that provides easy access to information on markets, regulations, price discovery etc.
- Establishment of inter-ministerial working group to address the challenges of agricultural business
- Quality assurance and disease control via traceability
- Policy around quality control and standardization on crops, livestock, fisheries including apiculture
- Policy to improve infrastructure to reach markets
- Create export market support teams to work with other key agencies in MITI to provide seminars, guidance and support to Nigerian exporters to win in select markets e.g. China, US, EU and UK

4.2. Theme 2: Crowding in Private Investment

The discussions which follow are designed to deepen the financial sector's engagement with the agribusiness value chain. The **target outcome** is a lower cost of financing and a greater availability of such financing as measured by **cost of capital (%) paid, number of loans issued versus overall credit provision, levels of private capital formation, and the number of participants in the sector.** Note that while they are not explicitly listed here, there are a number of APP priorities for which crowding in of private investment is a key goal. These include Storage, Processing, Marketing & Trade, and Infrastructure. While FMARD will continue to make selective interventions in these areas, encouraging private capital to take the lead on driving projects into these spaces is a key shift.

4.2.1. Access to Finance

Background

Agricultural finance is critical for producers of all sizes (from smallholder farmers, medium size farmer and larger commercial farms) as well as to properly-functioning input supply markets, processors and traders. Beyond the access to capital – defined as volume and price of capital, a related issue includes competition. It is vital that finance and risk management tools be available from multiple sources (channels), other than the conventional banking system; examples are public capital markets, private equity and other non-bank channels. However, the current policy efforts to mitigate these issues while partially successful (e.g. raising lending from 1% in 2011 to ~6% in 2015) can do even more. Based on prior discussions between CBN, the Bankers Committee, FMARD and NIRSAL Plc, a 10% of all formal credit provided should go to agriculture by 2017 – 2018. Access to insurance contracts also remains a challenge. While new providers have been licensed by the Insurance Commission to retail agricultural insurance (e.g. IGI), NAIC remains the dominant supplier. However agricultural insurance penetration remains below 3% (measured by farmers enrolled and cropping area covered) versus 10% target (using India and China as proxies) which would be a reasonable target by 2021.

Constraints

- insufficient access to credit and insurance products
- inadequate mechanism and channels for agricultural financing

- prohibitive interest rates for the agricultural lending
- non-recognition of cooperative and other farming-based organizations by financial institutions
- Inadequate capacity of financial institutions to lend to the agricultural sector, and inadequate capacity of FMARD to facilitate agribusiness investment.

Policy Thrust

- Policy to enhance availability of credit for all farmers and agribusiness through:
  - stimulating cooperative banking and affordable loans through commercial banks
  - increase in capacity and size of market-driven guarantee and risk schemes (e.g. NIRSAL)
  - legislation recognizing alternative finance mechanisms e.g. warehouse-receipt financing, commodity-trade financing, crowdsourcing, private equity, etc.
  - deepening of FMARD's capacity to facilitate agribusiness investment agreements
- Engagement with legislature to increase public sector funding to the minimum recommended 10% of the national budget
- Access to savings
- Improved financing for agro-dealers to offer trade credit
- Policies that support quasi-equity financing for growth of agribusiness companies, etc.
- Access to multi-year finance as well as seasonal shorter-term capital.
- Review structure of agricultural insurance markets in partnership with the Insurance Commission to intensify competition and product innovation
  - Partner with Nirsal Plc to expand access and grant making to support actuarial training
  - Drive for mass market access to insurance contracts including multi-peril insurance, improvement of leasing, lowered transaction costs for financial services
- Improved use of existing collateral (and asset-based lending)
- Revision to existing subsidies regimes e.g. GES to more pareto optimal targeting and structure e.g. ATM cards pre-loaded with cash and redeemable only at inputs suppliers

4.2.2. Agribusiness Development

Background/ constraints

One of the policy thrust components of the present Government is prioritization of private sector as an engine to drive growth of Agricultural sector. This has required the development of some effective institutional frameworks to facilitate and coordinate the delivery of Agribusiness and Investment Services.

The post-harvest handling of agricultural produce is an important component of value chain development, and a catalyst for progressive and sustainable expansion of agribusiness, investment and agro-processing activities, thereby eradicating waste and ensuring import substitution, food security, wealth creation, employment generation, human capital development and security of human life and property.

Lack of government coordination (100%), inconsistencies in policy, regulatory, laws, taxes and administrative practices (94%), lack of security of raw material supplies to food processors (75%), lack of human capital (50%), were identified as top constraints facing agribusiness investors in Nigeria from two recent surveys commissioned by FMARD in 2013.

Major Constraints:

- Absence of appropriate and adaptive processing technology at small scale level
- Absence of rural infrastructure to support rural primary processing
- Inadequate capacity for processing or crude processing methods
- Lack of quality control and standard
- Low private sector investment in agriculture/agro-processing
- Absence of low cost, market-oriented research prototyping
- Inaccessibility and high cost of fund for agro-processing
- Low level of capacity of local fabricators
- Poor quality of information and irregular dissemination impedes investors' abilities to properly plan investments
- No single point of contact: Investors do not know how to find available services and are compelled to interact with resources across multiple MDAs to achieve their objectives
- Ill-timed service delivery: Delivery of Government service are frequently delayed, while contracts and MoUs with MDAs and State Governments can go unfulfilled

Policy Thrust

- Promotion of access to agro-processing through both public intervention and facilitation of private sector investment.
- Revitalization of Staple Crops Processing Zones, Agribusiness Incubation Centres and Agro-industrial parks
- Partnership with State Governments to incentivize agribusiness development including safeguards for small holders, rapid collateralization of land, and focused infrastructure access
    - Provision of rural infrastructure, roads, water, electricity and others
- Harmonization of standards, quality and other food safety measures for food security, market and trade
- Facilitation of provision of modern paddy handling equipment in key clusters
- Establishment of price discovery mechanisms and selective use of supports
- Establishment and leverage in a consultative capacity of a National Agribusiness Consultative and Advisory Forum.

4.3. Theme 3: FMARD's Institutional Realignment

The discussions which follow are designed to deepen the capacity of the Ministry and its key partners to regulate the sector, engage previously excluded stakeholders, lead policy dialogue and broker the necessary agreements to improve the ease of doing business in Nigeria's agriculture space. The **target outcome** is a more engaged agribusiness market space and ecosystem as measured by **ease of doing business in the sector.**

4.3.1. Institutional Setting and Roles (Federal vs. State Government vs. Local Governments)

Though the two tiers of government – Federal and State – have authority over agriculture, collaboration has not always been smooth, nor desirable results generated. Therefore, in order to ensure full potential henceforth, both parties have to focus on greater collaboration, implementing policies jointly approved at the National Council on Agriculture. Both parties have to set-up mechanisms to remove conflict and focus squarely on implementation. Beyond the obvious, at the farm level, delivering results is truly about local government areas (LGAs). LGAs are truly the field operators with whom investors often deal with, and therefore cannot be a footnote in economic reform discussions. Important that ALGON be consulted and actively engaged to improve operational effectiveness of agriculture.

Constraint:

- Apathy in states for key programmes driven by federal government
- History of non-involvement of LGAs in policy execution due to implicit control issues between States and LGAs
- Disturbance by government intervention of market processes and hampering development of the private sector
- Scattered, incompatible or inefficient policy processes and programmes of the various stakeholders at federal and state levels

Policy Thrust

- Identify ways of boosting cooperation and accountability at the State level to ensure reform is carried out consistently
- Create explicit partnership with LGAs with a focus on operational and investment execution issues from infrastructure to community relations to access to high quality talent
- Leverage improved federal-state dialogue to engage other investors and improve levels of communication in the agribusiness economy further

4.3.2. Youth and Women

The joint issue here is the need to maximize the contributions of women and youth to agricultural production and elimination of discriminatory practices in the employment of women and youth in the sector. In a number of cases such discrimination is explicit (e.g. via cultural inheritance practices), or inadvertent. A key goal of policy should be to shift behaviors that result in negative outcomes for youth and women, and reinforce such shifts by expanding wealth creation opportunities for youths and women.

Constraints:

- Poor enforcement of gender based policies, as well as institutional bias
- Lack of capacity and employment opportunities for internship and mentoring
- Limited access to finance
- Lack of mechanization serves as disincentive to women and youths
- Lack of synergy between and among MDAs and other non-state actors in respect of implementation of women and youth programmes

Policy Thrust

- Develop and launch entrepreneurship platforms that create a pathway for youth and women to enter agribusiness economy
    - Expand cooperation with CBN's intervention funds targeted at women and youth e.g. MSME
    - Facilitate investment advisory support for potential entrepreneurs
- Review the subsisting gender policy document with a view to improving the implementation activities
- Expand training of key leaders and influencers across FMARD to ensure gender / youth considerations integrated into decision making
- Expand capacity building for women and youth for entrepreneurship, including technical training and access to financial services
- Facilitate dialogue with farmer groups and service providers (for women and youth) to expand pool of ideas FMARD can pursue to institutionalize change

4.3.3. Infrastructure

The policy recognition for rural development relates to the need, as a responsibility of the government, to reduce poverty in rural areas, alleviating the suffering of rural dwellers and creating enablers for economic take-off in the rural areas. These will be achieved through the systematic provision of individual infrastructural facilities and also through the integrated approach to rural development.

Constraints:

- High mobility of rural population to the urban area in search of better life
- Implicit urban-biased of development policy authorities that ignore the rural areas
- Sluggish growth and development of rural economy to support rural development efforts
- Poor state of rural infrastructure to attract investment in rural areas
- Absence of database for rural infrastructure planning and perpetual reliance of government on old database

Policy Thrust

- Government will ensure that all stakeholders play their roles in the provision of rural infrastructure.
- As approved by NCA already, government will resuscitate and review the Rural Infrastructure Survey project of FMARD, with a view re-establishing the old database for rural infrastructure planning;
- Aggressive promotion of rural infrastructure buildup will be embarked upon
- Economic activities will be promoted in rural areas.
- Aggressive promotion of rural infrastructure will be undertaken
- Improve the enabling environment for investment opportunities

4.3.4. Climate Smart Agriculture

The notion of climate smart agriculture was sponsored by FAO, as an approach to developing the technical, policy and investment conditions to achieve sustainable agricultural development for food security under climate change. This entails (i) sustainably increasing agricultural productivity and

incomes; (ii) adapting and building resilience to climate change; and (iii) reducing and/or removing greenhouse gases emissions, where possible. At the COP21 Summit, Nigeria presented its preexisting position on climate smart agriculture, the Nigeria Agriculture Resilience Framework (NARF). NARF has not been implemented and that will be a key focus area going forward.

Constraint:

- Limited awareness of climate issues, and therefore key changes required to protect agriculture
- Poor management of land, water, soil nutrients and genetic resources;
- Inconsistency of the governance regimes, policies, legislations and financial mechanisms with the requirements for climate friendly agricultural practices
- Inefficient and unsustainable management of agriculture and natural resources e.g. soil, water, etc.
- Lack of awareness of soil management practices
- Limited availability of drought resistant variety of crops
- Lack of research into climate smart agriculture
- Lack of cooperation and synergy among the key MDAs and other stakeholders
- Absence of comprehensive soil map for Nigeria
- Lack of awareness on climate change and its effects on agricultural practices
- Lack of access to alternative energy use
- Poor infrastructure to support climate smart agriculture

Policy Thrust

- Boosting public awareness through advertising of importance of climate smart agriculture
- The management of land, water, soil and other natural resources will be improved
- Institutional linkages and partnerships will be strengthened for ensuring climate smart agricultural governance, policies, legislations and financial mechanisms
- Environmental impact assessment will be carried out on major agricultural projects
- The use of renewable energy will be promoted with the involvement of private sector
- Broad public and stakeholder awareness on Climate Smart Agriculture will be created
- Government will facilitate soil map to improve land use and management practices
- Government will increase the adoption of global best practices on climate change, including the aspects of adaptation, mitigation and carbon credit

4.3.5. Research & Innovation

Agricultural research is recognized as a critical enabler of economic growth. It is therefore prioritized by the constitution and explicitly assigned as the primary responsibility of the Federal Government on the Concurrent Legislative List. Thus, the importance of agricultural research on the policy agenda of the Federal Government, towards national food security, import substitution and job creation cannot be overemphasized. To this end, the Federal Government will engage its institutions and bodies at different locations in the country, to conduct research for increased agricultural productivity and to make the research results available to farmers and other actors in the agricultural development of the states.

In this regard, institutions and organizations owned by the Federal Government that make up the National Agricultural Research System (NARS) comprise **15** Commodity-based Research Institutes, 11

Federal Colleges of Agriculture, a specialized National Agricultural Extension Institute, over 50 Faculties of Agriculture in regular Federal Universities; and 3 specialized Universities of Agriculture. The activities of these institutions come under the purview of Agricultural Research Council of Nigeria (ARCN), which oversees their operations. In addition, Nigeria hosts a number of relevant international research institutions e.g. the International Agricultural Research Centre (IARC), and the International Institute of Tropical Agriculture (IITA). However, despite the existing institutional capacity, the NARS has not been able to engineer a significant and sustainable agricultural growth that would ensure national and household food security, create wealth and employment and make Nigeria a competitor in the global food markets. Part of that is the result of a weak mechanism for translating research into field usage. The well documented weaknesses in the extension system as well as a failure to properly incentivize innovation at the inventor level are contributing factors.

Going forward, Nigerian agricultural research also has to contend with the need to become climate smart. That shift will require different research priorities, development of new varieties, and a more rapid co-creation cycle with industry and operators.

Constraints:

- Poor and irregular funding for agricultural research and extension,
- Research outputs not demand-driven
- The research-extension linkage system is weak; so the technologies or innovations generated are not effectively delivered to farmers or commercialized for the benefit of end users.
- Departure in the programmes of the universities of agriculture from their statutory mandate in relation to the programmes of FMARD

Policy Thrust

Policies that will drive improvements here include:

- incentives for NARS to improve its ability to attract talent, maintain productive partnerships (domestic and foreign)
- expand research community's capacity to leverage digital innovations to lower costs of field work
- incentivize NARSs to engage with farmers more broadly and at lower price point / cost as a step for ultimately improving extension services to farmers.
- reform and reposition the ARCN to strengthen it for more effective delivery of its mandate activities, with particular emphasis on the following aspects:
    - review process for granting intellectual property and upside to researchers at ARCN institutions
    - encourage set-up of start-ups and venture companies to license and commercialize existing and future intellectual property emerging from the ARCN
- Empower and strengthen ARCN to set and drive the national intellectual agenda for agricultural research;
    - Resuscitate the Competitive Agricultural Research Grant Scheme;
    - Reactivate the process of establishment of the Center for Crop and Animal Improvement for training of breeders;
    - Pursue, vigorously, the establishment of spin-off companies in Research Institutes & Colleges;
    - Support FMARD in negotiations with the World Bank towards securing funding for WAAPP-2 Nigeria that is expected to commence in 2017;

- Strengthen existing Adopted Villages, Agricultural Research Outreach Centers (AROC) and Agricultural Research Technology Transfer Centres (ARTTC) and the establishment of new ones.
- Establish select commercial farms to demonstrate research results in managing large-scale agriculture.

4.3.6. Food, Consumption and Nutrition Security

Background/ constraints

Food consumption is closely linked to nutrition. Adequate food is required of the right composition and quality for sustaining good health. Food can be obtained from personal production or purchased on the market. The quality of food relates to the composition of macro and micronutrients as well as safety aspects, e.g. residues of agrochemicals. Furthermore, diseases and other factors determine the nutritional quality and status of food. Intake of micronutrients can be enhanced by fortification, either by direct addition post-harvest or systemically through breeding. As Nigeria's work and eating habits evolve, a striking rise in levels of obesity and diabetes is emerging in urban areas; co-morbidities including kidney disease and cardiac complications are also emerging. It is critical that in the short to medium term, government intensify its work to help evolve eating habits in Nigeria towards a more balanced regimen in order to reduce overconsumption of certain classes of foods e.g. carbohydrates.

Major constraints:

- Low income resulting in low purchasing power for adequate food
- Lack of access to nutritious foods
- Lack of awareness about proper nutrition and importance of balanced diets e.g. food pyramid
- Poor quality of food due to contamination with agrochemicals (pesticide), bio-chemicals (e.g. aflatoxins), or pests and diseases.

Policy Thrust

- Policy to ensure national food security by
  - expanding strategic food reserves to make food available at short notice during periods of unexpected scarcity and for stabilizing food prices
  - provide food during periods of emergency due to civil strife or natural disasters
- Policy to make nutritious foods available at local level through school feeding programmes, and fortification of foods through breeding and at post-harvest handling
- Policy to raise awareness about nutritious foods including publishing of the food pyramid in schools and via social media to improve awareness about balance (see discussions on **access to Information & Knowledge)**
- Policy to enhance the quality of foods by proper use of agrochemicals, quality control and testing (see chapter on **Pest & Disease)**
- Policies to encourage continued expansion of organic farming and sale of the freshest foods domestically and internationally
- Policies to create a standard system for food safety inspections, origin tracking and nutrition labeling e.g. caloric content
- Policies to encourage tighter linkages in the supply chain policies of supermarkets and regional farm centres

8. Next Steps: Prioritization, Costing and Implementation

A preliminary prioritization of the policy priorities is presented below. In summary, FMARD's strategy is to initially prioritize investing in systems and markets, and then shift focus to boosting productivity so that farmers and other investors can earn the highest possible return on their increased output.

Note that while activity will occur across the 16 key areas, what will be different will be the intensity of activity. For example, improvements to input productivity will have a lighter touch in 2016 – 2017, while emphasis on improving market access and storage will have a heavier touch in the same planning period. That way, existing gains in productivity will have commercial outlets, setting up the right context for further productivity gains in 2017 – 2018.

Table 4: Preliminary Prioritization and Timelines for APP Implementation

Thematic Category	Policy Themes	2H 2016	1H 2017	2H 2017	1H 2018	2H 2018	1H 2019	2H 2020
Productivity Enhancements	17. Access to Land							
	18. Soil Fertility							
	19. Access to Information and knowledge							
	20. Access to Inputs							
	21. Production Management							
	22. Storage							
	23. Processing							
	24. Marketing & Trade							
Crowding in Private Sector Investment	25. Access to Finance							
	26. Agribusiness Investment Development							
FMARD Institutional Realignment	27. Institutional Setting and Roles							
	28. Youth and Women							
	29. Infrastructure							
	30. Climate Smart Agriculture							
	31. Research & Innovation							
	32. Food, Consumption and Nutrition Security							

Legend	**Light Touch**	**Moderate Support**	**Heavy Support**
Definition	Limited Naira and persons allocated; maintenance mode	50% of budgeted investment, persons and political support	100% of budgeted investment, persons and political support
Colour Code			

Holding the above initial prioritization as a starting point, the next step are as follows:

1. **Develop a preliminary analysis on the decision process, cost and administrative impact of each policy**
    a. Action item required to implement the proposed reform in terms of decision i.e. executive action, or legislative action e.g. proclamation in Official Gazette
    b. Anticipated cost of implementing the decision e.g. capital expenditure, personnel cost, or administrative costs, and over what time frame e.g. cost of opening cattle ranches by the private sector
    c. Key administrative systems that will be impacted by decision e.g. impact on Federal Extension Department of adding 15,000 new extension workers

2. **Create an implementation plan and timeline for the policy**
    a. What should be done in 2016 versus 2017?
    b. What are the key dependencies in the system to ensure full impact from related policies e.g. impact of financial access on storage

3. **Convene key stakeholders to share emerging cost, decision and implementation plan**
    a. Integrate feedback and refine policy prioritization as appropriate
    b. Commence implementation of the APP

4. **Set up a dedicated implementation support team that will act as an analytical engine as well as project management office for tracking the APP**
    a. Staff team with primarily mix of senior and junior civil servants, with some outside technical and commercial advisory support
    b. Assign responsibilities for executing the APP across key departments and agencies of the Ministry; where appropriate e.g. coordination with State Governments and other Federal MDAs, create a cross-departmental and agency team
    c. Commence execution of the policy and on a quarterly basis, review progress against plan; when necessary course correct as needed
    d. Periodically publish progress updates on key parameters within the Ministry and share with other 3rd party stakeholders

FMARD anticipates that by **August 30, 2016,** all the above steps would be completed, and the first progress review session will occur on October 2, 2016.

9. Appendix: Policy Matrix Summary

The tables below summarize the key policy choices encapsulated in the APP. The matrix is organized along the 3 thematic categories: boosting productivity, intensifying role of private investors, and rebuilding the Ministry's capacity to conduct its core regulatory roles.

Productivity Enhancements	Crowding in Private Sector Investment	FMARD Institutional Realignment
1. Access to Land 2. Soil Fertility 3. Access to Information and knowledge 4. Access to Inputs 5. Production Management 6. Storage 7. Processing 8. Marketing & Trade	9. Access to Finance 10. Agribusiness Investment Development	11. Institutional Setting and Roles 12. Youth and Women 13. Infrastructure 14. Climate Smart Agriculture 15. Research & Innovation 16. Food, Consumption & Nutrition Security
Target: Blend of metrics including but not limited to rises in **farm productivity** versus base year (% yield increases), reductions in post-harvest losses, share of agricultural input used in Nigeria by CPG companies, and **share of fresh goods** sold in formal markets e.g. Shoprite**.**	Target: lower cost of financing and a greater availability of such financing as measured by **cost of capital (%) paid, number of loans issued versus overall credit provision, levels of private capital formation, and the number of participants in the sector.**	Target: The **target outcome** is a more engaged agribusiness market space and ecosystem as measured by **ease of doing business in the sector.**

9.1 Policy Matrix: Productivity Enhancements

Lever	Value Chain Constraint	Policy Objective	Proposed Policy Reform	Enabling Program	Supporting Program
1. Access to Land	Limited investment and low productivity of small-medium scale producers and the private sector/ investors due to 1. Absence of investment in land due to insecurity of longer –term rights of land use for small, medium and large scale farmers 2. Cultural practices on land use unfavorable to women 3. Land grabbing: communities dispossessed of large parcels of land 4. lack of access to finance since land can't be used as a collateral (Current Land Use Act is not conducive for agricultural activities (e.g. short-term lease doesn't allow for agricultural loans, difficult process in acquiring title to land)	Policy to ensure conducive access to land in order to attract investments by small, medium and large farmers and processors	Policy to: 1) Amend current Land Use Act especially facilitating the recognition & entitlement of land ownership by formal or customary means to assist collateralization	Programs to address: Ad 1-4 - Map, inventory and log ownership / titles of all land in Nigeria using GSP and related low cost technologies - Support reforms to land titling (in States) - support farmer/ land registration (identity, location, landholding; farm size) - improve ease of access to land title information e.g. via low cost web databases - Provide financial institutions link to land title databases and fund collaterization initiatives	1. Enhanced access to Finance (Policy thrust 10) 2. Enhanced access to Information & knowledge (Policy thrust 3); info on land title procedures
2. Soil Fertility	Soil fertility is related to availability of macro and micro nutrients for crops which need to be replenished when harvesting and removal of nutrients with crops. In addition, soil fertility is related to the structure and level or organic matter which determines	Policy to maintain and enhance soil fertility and promote soil erosion control	Refine GES support by expanding access to soil tailored fertilizer e.g. NPK formula adapted to soil fertility, crops and agro-ecological zones	Programs to address: Ad 1: *ineffective use of fertilizer* - make soil map information accessible	Complementary measures: - Enhance Access to land (Policy Thrust 1) - Enhanced access to Finance (Policy thrust 10)

	the capacity to storage water, air and nutrients. Low Productivity due to low soil fertility is due to 1. Non-availability and lack of access and ineffective use of fertilizers especially in high intensity systems 2. soil erosion from inappropriate agricultural practices, deforestation and climate change and cultivation with top-soil run-off in sloping areas			- enhance soil testing and mapping - provide information and enhance awareness of farmers on effective fertilizer use and soil fertility management (See 4. Access to Info & Knowledge - fertilizer quality control and provision - encourage targeted soil/ crop specific fertilizer formulation by agribusiness Ad 2: *soil degradation and soil erosion* - enhance investment in long-term soil improvement as tree planting and use of organic fertilizer (see 1 Land use) - dedicated erosion control and reforestation programs	- Enhanced access to Information & knowledge (Policy thrust 3); info on fertilizer use; identification of erosion-prone slopes, degradation areas; advisories to reduce soil degradation; scenarios on climate change effects - Access to inputs (Policy Thrust 5)
3. Access to Information and Knowledge	Access to information is an essential input along the production value chain. Small/ medium scale farmers and processors don't have access to timely relevant information with effects on productivity and related areas. Moreover information is not available for informed decision-making by stakeholders as agribusiness, government at federal and state level and development partners. This relates to coordination and planning. Constraints are due to: 1. Disjointed and non-accessible information on soil, inputs, weather, production/ processing methods, prices/markets.	Policy to enhance availability, accessibility and use of timely and relevant information and knowledge required by the various stakeholders especially farmers, agribusiness, policymakers, research and education, private sector and donors at local, state and federal level	Policy reform to: - Address the lack of availability, accessibility and use of information and knowledge amongst stakeholders in the sector through the implementation of an ICT/KM Framework - Streamline knowledge generated under FAMRD programs and Projects for systematic screening, messaging and dissemination under the FMARD Knowledge Management Platform	Programs to address: - Development of agricultural information systems, standards and institutional mechanisms for content generation, policy support, stakeholder dialogue, innovation & learning Ad 1. *Making information accessible* - develop a multi-stakeholder Datacenter and Knowledge system with a focus on weather, input costs and crop prices - Foster multi-stakeholder interaction for data and information processing	Complementary measures: - Youth and women (Policy Thrust 13) as special target groups - Research and innovation (Policy Thrust 16) for ensuring information flow to end-users

	2. Ineffective mechanisms for processing and exchange of information and knowledge and learning 3. Limited local capacity and infrastructure to connect and identify information and knowledge for productivity increase and innovation 4. Inefficiency in delivery of government and agribusiness services and implementation of policies and programs due to lack of coordination 5. Absence of plans for use of scarce natural resources (soil, water) and reaction to market opportunities for the agricultural sector and monitoring of the sector.		- Align with the Knowledge Management initiative of the Vice President - Develop new strategy for extension services, tightly linked to agricultural research, and promoting demand-driven and pluralistic extension services, involving qualified NGO and Private sector	- Target research to address short and longer-term priorities Ad 2. *Institutional mechanisms* - Set-up a multi-stakeholder mechanism to address constraints in Information & Knowledge flows - Enhance efficiency and effectiveness of the extension delivery system (through use of various methods e.g. e-extension, radio, SMS) and partners e.g. NGOs and private extension services - rebuild national extension services team and add private and NGO based extension workers also Ad 3: *Building capacity* - Raise awareness and build capacity to manage and use information and knowledge - enhance ICT infrastructure and capacity of stakeholders e.g. via SMS, radio and TV advertising Ad 4. *Enhance coordination and learning* - enhance information processing and use by stakeholders for learning and optimal program and service delivery Ad 5. *Planning of the sector* - build capacity in planning of the agricultural sector at federal and state level with use of production and economic models, spatial data	

				(GIS) in combination with satellite and other data for monitoring at sector level.	
4. Access to Inputs (various production systems)	**(Tree) Crop Production** incl. vegetables: Low productivity and related low incomes of small- medium scale farmers due to 1. Ill-timed availability and poor quality of fertilizer (adulterated) 2. Ill-timed availability and poor quality of seeds (adulterated) 3. Lack of access to finance; deficient farmer identification mechanisms for subsidized input	Policy to promote timely availability of good quality inputs for crop production via privately controlled agro-dealer network	Policy reforms to: Fertilizers - Ensure approval of the Fertilizer act; ensure inclusion of measures to stimulate domestic production of good quality fertilizer- import only trace micro elements - Promote private sector rural market penetration i.e. agro-dealer networks - Migrate GES to more targeted system and commence gradual withdrawal from subsidy by 2020 except for select poor farmers Seeds - Review Seed policy/act - Identify and leverage global expertise to improve technical know-how - Promote private sector rural market penetration; gradual withdrawal from subsidy Revision of the GES and submission of the revised NAGESS to NASS: - Sharpened and gender balanced targeting of beneficiaries;	Programs to address: Ad 1. Fertilizers: - Analyze and address constraints in private sector fertilizer production and distribution systems with the agribusiness sector - Enhance standards and quality control mechanisms at various points in the relevant supply chains (e.g. fertilizer testing centers) - Stimulate targeted fertilizer composition and distribution linked to soli maps Ad 2. Seeds: - Target the research system to produce relevant crops - increase the number of breeders for key commodities - review and address short term shortfalls in seed availability - Analysis and address constraints in private sector seed multiplication, testing and distribution system with the agribusiness sector - Enhance standards and quality control mechanisms at various points in the relevant supply chains (e.g. seed quality control testing centers) - Review and enhance partnerships with ICCO, World Cocoa Foundation and Cashew Alliance to integrate	Complementary measures for this production system 1. Enhanced access to land (Policy thrust 1) 2. Enhance soil fertility (Policy thrust 2) 3. Enhanced access to finance (Policy thrust 10) 4. Enhanced access to Information & knowledge (Policy thrust 3) 5. Improved Storage (Policy thrust 6) 6. Improved Processing (Policy thrust 7) 7. Enhanced Marketing (Policy Thrust 8)

			- Value chain and geographical focus - Key vehicle for mainstreaming climate change and nutrition	expertise into Nigeria's campaign/APP Ad 3. Input subsidy (GES) - Stimulate availability of good quality inputs for smallholders by rechanneling subsidy programs to ensure adequate targeting, accountability, monitoring and evaluation (subsidies to be sharply targeted to address market failures) - Agree and publish timetable for sun-setting subsidy except for most vulnerable farmer population - Negotiate timeline for paying down accumulated GES debt	
	Animal Production (incl. livestock, poultry, small animals) 1. Conflicts with nomadic pastoral/ transhumance system 2. Low productive breeds 3. Limited feed and fodder availability 4. Income loss and human health effects due to pest and diseases 5. Limited or costly access to markets (poor quality, lack of standards and poor transport infrastructure) 6. low income in apiculture and related suboptimal pollination of crops/ trees	Policy to enhance productivity and disease resistance of livestock Policy to stimulate beekeeping	Policy reforms to: Ad 1. - regulate grazing / sedentary livestock zones - Improve incentive for feed and fodder industry (including their establishment in Staple Crop processing Zones) -	Programs to address: Ad 1. - to stimulate sedentary livestock production by fostering access to land, feed, water and markets; settle nomadic/ pastoral groups and move towards intensified livestock production as a demo for upscaling Ad 2. - to enhance availability of improved livestock breeds with higher productivity (milk, meat) and resistance for cows and poultry especially by AI, crossbreeding programs - target research to productivity and resistance breeding	Complementary measures for this production system - Enhanced access to land (Policy thrust 1) - Enhance soil fertility (Policy thrust 2) in relation to organic fertilizer - Enhanced access to Finance (Policy thrust 10) - Enhanced access to Information & knowledge (Policy thrust 3) on productive breed, inputs, pest- and disease, markets incl. quality and standards, - Improved Storage (Policy thrust 6) - Improved Processing (Policy thrust 7) - Enhanced Marketing (Policy Thrust 8)

				Ad 3. - promote production and marketing of feed and fodder by review and addressing constraints in multi-stakeholder setting Ad 4. - to promote availably of pest and disease control services, and enhance Livestock identification & traceability; zoning & compartmentalization of livestock; disease surveillance system; quarantine services; Facilitation of nationwide livestock census Ad 5. - access to information & Knowledge Ad 6. - to stimulate beekeeping by making improved bee types available; raise awareness amongst farmers about benefits of beekeeping for (tree) crops; provide specialized FMARD and State ADP advisers to help farmers get started and manage honey production	
	Fisheries: 1. Low productivity of fish breeds in aquaculture 2. low production due to lack of inputs (e.g. fingerlings, feed) 3. poor water quality (e.g. pollution)	Policy to enhance sustainable fisheries and fish production	Policy reforms to: Ad 1. - Expand R&D into new breeds Ad 2.	Programs to address: Ad 1. To target research to enhance fish breeds Ad 2. - To monitor and analysis and resolve issues on the supply chain of aquaculture inputs (fingerlings, fish feeds)	Complementary measures for this production system - Enhance access to land (Policy thrust 1) - Enhance access to Finance (Policy thrust 10) - Enhance access to Information & knowledge (Policy thrust 3) with info on

	4. security constraints in fisheries areas (pirates) 5. low yields due to overfishing with risk of structural long-term damage to fish stocks		- Review and ensure enforcement of water act with regard to pollution Ad 3. - re-enforce the regulatory framework for fishing activities and avoid over fishing Ad 5. - partner with Navy to conduct enforcement operations in exclusive zone	- to make fishery/ aquaculture inputs available by promoting hatchery development Ad 3. - to promote availability of pest and disease control services - to enhance traceability; standardization of hatchery & fish breeding processes Ad 4. - to reduce insecurity in fisheries areas e.g. marine army patrols Ad 5. - Programs to re-enforce the regulatory framework for fishing activities	- Fisheries equipment, methods, inputs, market prices etc. - Improved Processing and storage (see Policy thrusts 6, 7) - Enhance Marketing (Policy Thrust 8)
5. Production Management	**5a: Water / irrigation:** Majority of small – medium scale farmers do not use irrigation or do so sub-optimally due to: 1. Lack of access to irrigation equipment 2. Poorly maintained, non-functioning or lack of dams/ reservoirs and large scale irrigation schemes 3. insufficient water for full-year agricultural production; reducing water availability and increasing drought due to climate change, deforestation 4. substandard quality of water (e.g. due to overuse of agrochemicals)	Policy to promote optimized and sustainable use of water resources for agricultural production	Policy reforms to: Ad 1. - Stimulate Private sector investment in irrigation through tax concessions for importation of efficient irrigation equipment Ad 2 and 4. - Ensure Water Bill is passed together with Min. of Water Resources to National Assemble (review the Bill beforehand especially with respect of introducing / strengthening water user associations (WUAs) and quality of water Ad 3. - Create pilot studies on commercial pricing of water and fee for service irrigation business models	Programs to address: Ad 1. - Target research to develop effective irrigation equipment - Access to Finance Ad 2. - Revitalize existing and development of new small (earth) dams, tube wells, wash bores. - Facilitate optimization of the utilization of existing large dams for irrigation. Ad 3. - Promote water conservation by harvesting run-off water and reducing desertification by tree planting etc. - Develop with States scenarios/ models and plans for sustainable use of water	Complementary measures: 1. Enhanced access to finance Policy (Thrust 10): investment in small-medium-large scale irrigation 2. Enhanced access to Information & Knowledge (Policy Thrust 3): on - Appropriate equipment purchase and maintenance - Finance options - health risks of irrigation 3. Improved Equipment (Policy Thrust 4) 4. Climate Smart Agriculture (Thrust 14)

			- Promote leasing as alternative option to medium to long term financing for access to irrigation equipment. -	for agriculture (include for production and processing) - Partner with States and River Basins to explore more efficient ways of off-season water pricing and supply (i.e. dry season farmer) Ad 4. - Raise awareness on water quality and disease prevention	
	5b: Pest- and disease control: Loss of income of farmers due to 1. wide spread pest- and disease that reduce produce (e.g. aflatoxin in groundnut; avian flu in poultry, tree diseases) due to limited prevention and lack of control measures 2. Indiscriminate use of agricultural inputs such as fertilizers, herbicides, pesticides, and veterinary medicines contaminating food with chemical hazards (ban of export of beans to EU due to pesticides)	Policy for • reducing pest and disease in crops, animal and fishery subsector • Safe and effective use of agro-chemicals & pesticides in agriculture	Policy reforms to: Ad 1 and 2. - Enhance regulation and enforce safe use of agrochemicals and fertilizers including organic options	Programs to address: Ad 1. *prevention and control measures* - targeting research and agribusiness to pest- and disease prevention - strengthen pest-and disease inspection - quality assurance and testing for residues - design and launch integrated pest management Ad 2. *lack of awareness and knowledge* • intensify regulation and inspection of pesticides • use extension workers to enhance access to information about safe use of agrochemicals • promoting safe alternatives where available e.g. organic pesticides • control of pesticide residues in food crops	Complementary measures: 1. Enhanced access to finance (Policy Thrust 10) 2. Enhanced access to Information & knowledge (Policy Thrust 3) on • Pest resistant crops/ breeds • Methods to prevent pest and disease • Safe use of agro-chemicals • regulations 3. Enhanced Marketing (Policy Thrust 8) on marketing opportunities organic food / tracing
	5c: Mechanization:	Policy to build on progress from Propcom/Nirsal Mechanization	Policy to:	Programs to:	Complementary measures:

	Government inefficiency, absence of private fee for service suppliers and presumption that each farmer needed to own equipment reduced overall mechanization levels to less than 10% - 15%. Underlying causes: 1. Insufficient number of private entrepreneurs providing equipment leasing services in a market historically dominated by governments 2. Inappropriate offer of technology for different locations and users (e.g. tractors versus light equipment for smallholders) 3. Poor resource base, poor technical skills leading to low patronage of fabricators. 4. Lack of access to machines, equipment and skilled technicians at affordable rates	work; promote availability of relevant equipment along the value chain of key commodities for small, medium and large scale farmers and processors	Ad 1 to 3. - stimulate domestic production of equipment linked with complementary targeted import and standardization of agro-technology - Promotion of bank funded leasing as an alternative option for access to agricultural equipment and machineries e.g. TOAN/FCMB/Sterling Bank partnerships	Ad 1 to 3. - stimulate domestic production of equipment - enhance standardization of agro-technology - target research to develop appropriate machines & equipment - promote private-sector lead mechanization services as well as cooperative solutions for e.g. private sector-led tractor hiring system. - expand entry of youth service providers as equipment leasing providers in rural areas - Enhance skill building for mechanization maintenance via partnership with private sector, vocational schools and Federal mechanization institute to train technicians to maintain equipment	- Enhanced access to finance (Policy Thrust 10) - Enhanced access to Information & knowledge (Policy Thrust 3) - Improved Storage (Policy Thrust 6) - Enhanced Marketing (Policy Thrust 8) - Target group Women and Youth (Policy thrust 13) for special attention
6. Storage	This relates to storage if food for small, medium and large scale producers and processors. Constraints in storage lead to low incomes of farmers/ processors and health effects of consumers due to: 1. Spoilage of products due to rodents & pests 2. inappropriate access to appropriate storage facilities/ technologies 3. unsafe use pesticide & agrochemicals (inter-ministerial approach); 4. moulds & aflatoxin	Policy to enhance availability of proper methods for safe and effective storage (small- medium large scale storage)	Policy reform: Ad 1 to 4. *to enforce standards in quality of storage facilities*: - Enforcement of minimum Moisture Content for stored food. - Promotion of the use of alternative pest control in storage and safe use pesticide & agrochemicals (inter-ministerial approach);	Programs to address: Ad 1-2, 4. - target research on key storage constraints moulds/ aflatoxin, rodents (e.g. on irradiation) - enhance access to improved storage facilities and measures via complementarity measures (access to Finance and Access Information & Knowledge) - complete concession of existing FMARD storage assets - develop PPP model to facilitate and fast track	Complementary measures: 1. Food Security, Consumption and Nutrition (Policy Thrust 16), Enhanced access to Finance (Policy Thrust 10), and Agribusiness Development (Policy 11): intensify presence of private investors in storage 2. Facilitate investment in small and large scale storage solutions e.g. Blumberg system) 3. Enhanced access to Information & Knowledge (Policy Thrust 3): on

				development of additional storage capacity Ad 3. - ensure testing and quality control on agrochemical residues and aflatoxin - Promotion of the use of alternative pest control in storage.	- proper methods for safe and effective storage; GAP and innovative methods of storage at community, state or federal level, - safe use of agrochemicals - management of storage facilities including silos - health effects of contained food and safe food use
7. Processing	Insufficient integration of agricultural production to the industry, resulting in low value addition, and limited spill over-effects, including in term of growth and job creation: 1. Limited private investments in agro-industries due to absence of enabling environment 2. inappropriate technology (e.g. due to unawareness or cultural restrictions to modern processing practices and technology (e.g. in the sub-sector of livestock processing/ abattoirs); Absence of appropriate and adaptive processing technology at small scale level 3. sub-standard processing methods (hygiene, use of additives etc.) 4. suboptimal power and water supply 5. unstable supply of raw materials	FMARD will promote policies to increase the quality and volume of food processing in Nigeria	Policy to: 1. Promote provision of adequate infrastructure (energy/ water/ roads) around high agricultural produce areas (SCPZ) and coordinate with MDAs and States on power supply and water access 2. Submission of the SCPZ Bill to NASS 3. Review policies on food quality and enforce quality standards, food safety for markets that ensure emergence of modernized, safe processing zones.	Programs to address: Ad 1. - stimulate research on key food processing and ensure access to Info & Knowledge Ad 2. - Introduce and enforce quality standards for inspection, grading, food safety and traceability, customized to Nigerian conditions for both large and small-scale growers. Related measures are to enhance capacity of the NAQS of FMARD and Produce Inspection Department of FMITI - Expand ranks of food quality inspectors at FMARD - Launch awareness campaigns on importance of contaminant free food processing e.g. publicize ppm levels required by crop Ad 3. - Coordinate with MDAs and States to catalyze measures for water access and power supply (use of water,	Complementary measures: - Enhanced access to Finance (Policy Thrust 10) and Agribusiness Development (Policy 11): facilitate expansion of processing facilities in close proximity to production to reduce transport costs - Enhanced access to Information & Knowledge for processors/post-harvest handling (Policy thrust 3) on processing technologies, quality standards, energy and water as well as supply security - Enhanced access to mechanization (Policy thrust 5c) - Improved Storage (Policy thrust 6) - Enhanced Marketing (Policy thrust 8)

				conservation and alternative energy sources for processing; promote provision of adequate infrastructure; focus on high agricultural production areas (SCPZ) Ad 4. - facilitate out-grower schemes to secure supply of quality raw material - see also Policy Thrust on Agribusiness	
8. Marketing & Trade	Low incomes of small-medium – large scale producers/ processors due to: 1. Low demand/ prices for locally-produced food products as compared to imported products 2. Substandard quality of products 3. Gluts due to lack of information for domestic and international markets- inadequate linkage within multiple agricultural supply chains 4. poor infrastructure (roads, railways etc.) – poor coordination between relevant agencies	Policy to enhance access for agricultural produce to domestic and international markets	Policy reforms to 1. Concession of FMARD silos with intention of catalyzing public warehousing and Warehouse Receipt System operations in Nigeria 2. finalize the privatization of Abuja Commodity Exchange and simultaneously set-up licensing regime that will open up the market for multiple viable and credible exchange operators to compete – in cooperation and with supervision and guidance from the Securities Exchange Commission (SEC) 3. Submission, in coordination with Ministry of Health, of the Food Safety Bill 4. policy to improve infrastructure especially in rural areas, to reach markets	Programs to address: Ad 1. - promote consumption of domestic produced food of good quality - promote export of Nigerian foods into key global markets - explore fiscal policies backing food exports to explore potential for new incentives - set-up FMARD export support team to provide market insight and technical coaching Ad 2. - enhance quality assurance via traceability, quality control & standardization crops, livestock, fisheries incl. apiculture Ad 2 and 3. - facilitate access to market information (prices, regulations etc.) by establishing the national agricultural Information & Knowledge System linked to enhanced access to Info & Knowledge)	

				- monitor the inflow of agricultural produce at the land borders, seaport and airports and to follow developments in the international trade arena closely to the benefit of market actors in Nigerian agriculture - Promote strengthening of marketing and trade organizations within and across value chain Ad 4. - promote development of low cost infrastructure to help open rural producers to new markets	

9.2 Policy Matrix: Crowding in Private Investment

Lever	Value Chain Constraint	Policy Objective	Proposed Policy Reform	Enabling Program	Supporting Program
10. Access to Finance	This relates to access to finance for short term credit for annual inputs as well as for longer-term investment in agriculture. Constraints in this area are due to: 1. Limited rural credit access points 2. insufficient access to credit and loans for small-medium scale producer/ processors due to need for collateral, risk for crop failure 3. high interest rates for agricultural lending	Policy to enhance availability of credit at reasonable conditions for farmers and agribusiness	Policy reforms to: Ad 1 to 3. - Facilitate and legislate alternative finance mechanisms e.g. warehouse-receipt financing, commodity-trade financing, equipment leasing, crowdsourcing, etc. - Promote incentives for commercial and microfinance banks to develop appropriate financial products relevant in rural areas for farmers, women and youth - Promote inclusive agribusiness development	Programs to address: Ad 1. Expand rural access points: Ad 2 and 3. reduce need for collateral: - intensify push to have lenders lend based on purchase order from downstream user - stimulating cooperative banking and affordable loans through commercial banks, microfinance banks and financial NGOs; - recognition of cooperatives and other farming- based organizations financial institutions	Complementary measures; • Work with commercial banks and large buyers of feedstock to deepen “anchor lender” supply chain based financing • Work with Central Bank of Nigeria (CBN) on ensuring utilization of MSME Fund and Non-Oil Export Fund • Work with Nirsal Plc on expanding innovative use of credit guarantee and interest rebate • Work with NSE and family owned enterprises to use capital markets to go public

	4. limited budget support for agriculture (1% of budget) and therefore limited public financing of inputs		to facilitate small farmers access to technology, services and financing; - Lobby to increase public sector funding to the minimum recommended 10% of the national budget (Maputo Declaration) - Continue reform in the agricultural insurance sector through developing new products (e.g.. micro-insurance, weather-index insurance) and allow private insurance companies to participate to government-sponsored insurance programs - Eliminate NAIC's monopoly on government agricultural insurance contracts -	- capacity development of financial institutions to lend to the agricultural sector - increase capacity and size of market-driven guarantee and risk schemes (e.g. NIRSAL) targeting rural areas - Capacity building of FMARD to facilitate agribusiness investment - Boost agric insurance penetration to 10% by 2021 Ad 4. expand targeted public financing: - intensify push to raise public budget to 10% of spend; refocus on enabling services e.g. extension, rural infrastructure and improving access to capital	
11. Agribusiness Investment Development	Suboptimal productivity and ineffective and costly investment in the agricultural sector by agribusiness due to: 1. Poor land acquisition and land use processes 2. Inability to access appropriate financing; Structurally deficient & inadequate lending to agriculture; high cost of credit 3. Weak infrastructure e.g. electricity, roads; poor rural infrastructure for rural primary processing 4. erratic supply of raw materials and agro-inputs; Low level of capacity of local fabricators; supply insecurity 5. Poor market access due to lack of organized market for agric. commodities in Nigeria	Policy to promote agribusiness sector to optimally play its' driving role for increasing productivity, generate growth and jobs in the agriculture and food systems in Nigeria	Policy reforms to - Reappraise the Commodity Marketing Corporations with a view of restructuring (unbundling & management by farmers / supply chain participants) - One Stop shop (physical and on-line) for investors to foster coordination of stakeholders incl. FMARD, other MDAs and States, and to provide access to information - Intensify private sector partnerships to drive innovative solutions	Programs to address: Ad 1, 3 - See Policy thrusts 1, 3 Ad 3 - See policy thrust on Infrastructure Ad 4-5 - Catalyze establishment of price support mechanisms and supply-security - Promote access to agro-processing through both public intervention and facilitation of private sector investment (widening the SCPZ concept)	Complementary measures: - Enhance access to Land (Policy thrust 1) - Enhance access to Finance (Policy Thrust 10) especially Continuing the support for NIRSAL of the CBN, and work towards the quick restructuring of BOA (through BPE; Creating long-term funding opportunities that will match the financial requirements of the long-term gestation agri-businesses - Enhance access to Information & Knowledge (Policy thrust 3)

	6. Lack of quality control and standards for production/ marketing 7. Poor access and quality of information (company profiles, policies, marketing systems) impeding investors' abilities to properly plan investments; Investors do not know how to find available services and are compelled to interact across multiple MDAs; On quality standards for export 8. Absence of research prototyping for products and equipment 9. Institutional issues: - Untimely service delivery: delayed delivery of Government services while contracts and MoUs with MDAs and State Governments can go unfulfilled - Government interference in the development of private-sector input production and supply - contradicting policies due to weak inter-ministerial collaboration/ coordination, double taxation etc.		- Submit the SCPZ bill in coordination with FMITI, Establishing the SCPZ agency to accelerate the implementation of the SCPZ Program and accelerate investment in processing; - Establish Private Investment Monitoring Committee and harness dialogue with partners such as NABG and GROW AFRICA. - Explore domestication of Principles of Responsible Investments from the World Food Security Committee	Ad 6. - Enhance introduction of quality standard and tracing e.g. leverage technical assistance from the World Food Security Committee Ad 7. - See Policy Thrust no 4 Access to Information & Knowledge - Catalyze provision of rural infrastructure, roads, water, electricity and others - Encourage investment in power including alternative energy - Revitalize Staple Crops Processing Zones, Agribusiness Incubation Centres and Agro-industrial parks Ad 8. - target research to address needs of the agribusiness sector in PPPs Ad 9. - facilitate an inter-ministerial National Agribusiness Consultative and Advisory Forum to address the challenges of agricultural business - set up Agribusiness platform to partner with States to drive innovation and results via PPP, special incentives, and technical advisory grants	especially… company profiles, market prices for various commodities, inputs, data on production trends - Enhance access to mechanization (Policy thrust 5c) - Improve Storage (Policy thrusts 6) - Improved Processing (Policy thrusts 7) - Enhance Marketing (Policy Thrust 8)

9.3 Policy Matrix: FMARD's Institutional Realignment

Lever	Value Chain Constraint	Policy Objective	Proposed Policy Reform	Enabling Program	Supporting Program
12. Institutional setting and roles	1. Apathy in states for key programs driven by federal government 2. Absence of local governments from policy execution discussions / processes 3. Disturbance by government intervention of market processes and hampering development of the private sector 4. Scattered and incompatible or inefficient policy processes and programs of the various stakeholders at federal and state level	Enhance optimal fulfilment of roles of all multi-stakeholder mechanisms are in principle to include FMARD, other MDAs, private sector, agribusiness investors, States, LGAs, research/education and development partners	Policy reform to: - Improve accountability of states for growth in agribusiness - Explicit engagement with Association of Local Government of Nigeria (ALGON) to drive competitiveness of agriculture and removal of rural barriers	Programs to address: Ad 1- 3 - facilitate state level intervention through restructuring existing dialogue mechanisms with key stakeholders (FMARD, other MDAs, private sector, agribusiness, States, research/education and development partners) - create investment advisory forum to work with ALGON members to drive results at LGA level; focus on operations to separate from policy role of State Governments	
13. Youth and Women	Youth are an increasing portion of the population with 70% of the population under age 35. It is important to grow employment for this rapidly growing segment of the population. High mobility of rural population to the urban area in search of better life weakens the human resource base required for dynamic and productive agricultural production. Women are the main drivers of small and medium scale agricultural production though have less access to land, inputs and agricultural services than men and hence require special attention. Problems with youth and women in the areas of employment in rural areas and agriculture especially due to:	Policy to foster full inclusion of youth and women in the agricultural sector.	Policy reform to: - Review the gender policy document; implement related activities by shifting key behaviors at the institutional level - Promote a meritocratic entrepreneurial ecosystem designed to migrate youth and women into service provision roles e.g. fee for service mechanization, agro-dealerships, etc. - Transform rural quality of life to reduce urban drift	Programs to address: Ad 1. - partner with private companies to expand rural footprint of modern conveniences e.g. movie theater, shopping malls, etc. Ad 2. - foster building of capacity of women and youths in entrepreneurship, including support to start entrepreneurial ventures, technical training and access to financial services Ad 3	- Enhance access to Land (Policy thrust 1) with a focus on women and youth rights - Enhance Access to Finance (Policy Thrust 10) with a focus on women and youth rights - Enhance access to Information & Knowledge (Policy thrust 3) for women/ youth to enhance access to land, finance and production measures and making program accessible for coordination - Enhance access to mechanization (Policy thrust 65)

	1. High mobility of youth to urban areas 2. Poor skills sets; low literacy levels; Lack of capacity building opportunities 3. Limited access to finance 4. Lack of mechanization and innovation incentives for women and youths 5. Lack of synergy between/ among MDAs and others for implementation of women and youth programs. 6. Lack Access to land 7. perception of drudgery of the agriculture sector by young persons			- See Policy thrust on Access to Finance - Strengthen the capacity of relevant stakeholders Ad 4 - launch enterprise competition to find and empower new entrepreneurs with grants to launch mechanization service centers Ad 5 - foster multi-stakeholder mechanisms and system to enhance collaboration and synergies. - review and ensure institutionalization and effective implementation of women and youths programs Ad 6. - See Policy Thrust 1 Ad7 - expand edutainment program to change the narrative by promoting agriculture as a business	- Improve Storage (Policy thrusts 6) - Improved Processing (Policy thrusts 7) - Enhance Marketing (Policy Thrust 8)
14. Infrastructure	Main problems with rural infrastructure (energy, roads, railways, airport, water supply, ICT connection) are as following: 1. Poor state of rural infrastructure to attract investment in rural areas. 2. urban-bias in development policy 3. high costs of transport due to 'taxes', poor road maintenance, scarcity of transport in rural areas.	Policy to ensure that all stakeholders play their roles in the provision of rural infrastructures. Policy to leverage existing inter-ministerial coordination to problem solve in infrastructure	Policy reform is to: Ad 1. - Incentivize states and private investors to expand pool of rural infrastructure e.g. irrigation, roads, gas, ICT Ad 2. - Promote economic activities in rural areas; provide the enabling	Programs to address: Ad 1, 3 - Setup a multi-stakeholder mechanism to ensure that all stakeholders play their roles in the provision of rural infrastructure and barriers are reduced (energy, roads, railways, airport, water supply, ICT connection, banks);	

			environment for investment opportunities - Identify and address conflicting policies and synergies Ad 3. - Simplify and reduce cost of intra-state transport; consider creating legislation to solve issue - Publish data on cost structure of production by state to encourage competitiveness at state and LGA level	- resuscitate and review the Rural Infrastructure Survey project of FMARD, with a view of re-establishing the database for rural infrastructure planning. Ad 3 - Information & KM raise awareness of rural communities about prevalence or absence of road regulations - provide options for enhancing local transport - explore legislative solution to improve intra-state commerce	
15. Climate Smart Agriculture (CSA)- Climate change	Climate change effects relate to increasing temperatures, more droughts/ erratic rains effecting agricultural production patterns options. Low agricultural productivity and production failures as a result of climate change are due to: 1. limited availability of varieties /breeds adapted to higher temperatures, drought-resistant, new diseases 2. Inefficient and unsustainable practices to manage agriculture and natural resources e.g. soil, water genetic resources etc. 3. Limited synergy among the key MDAs and stakeholders (MDAs, including Ministry of Environment); Inconsistency of governance regimes, policies, legislations and financial mechanisms with the requirements for climate friendly agricultural practices;	Policy to mitigate effects of climate change in agriculture and reduce its negative impact on environment	Policy reform to: - Implementation of the Nigeria Agriculture Resilience Framework (NARF) - Adaption of the Climate Change policy framework for Nigeria 2015 (Review) - Promote adoption of global best practices on climate change, including the aspects of adaptation, mitigation and carbon credit - support policy to reduce deforestation and charcoal production and alternative energy	Programs to address: Ad 1. *Adapted varieties/ breeds* - Target research and agribusiness to make available adapted varieties/ breeds; increasing availability of drought tolerant and short maturing varieties/ breeds; breeding/ multiplication programs for drought-tolerant materials; Ad 2. *Lack of knowledge for adaptation* - Boost public awareness of key climate issues as well as Nigeria's strategy for tackling this; invest in radio, TV and social media campaign - Improve information on Good practices for management of land, water, soil and other natural resources	1. Enhanced access to Finance Policy (Thrust 10): 2. Enhanced access to Information & Knowledge (Policy Thrust 3) with - Information on causes of climates change - About solutions/ technologies of climate smart agriculture and related indicator of climate change - About scenarios and policy forecasts - Projects and initiatives for coordination and dialogue - Access to Finance- insurance - Reducing climate changing emission alternative energy sources

	4. Unclear policy measures and longer – term plans due to lack of adequate data on production and environment and climate changes; Lack of research into climate smart agriculture 5. Lack of awareness on climate change and its effects on agricultural practices e.g. changing production zones, desertification, water availability changes; rising temperatures and desertification, change of production systems 6. Soil degradation and increase of CO2 due to deforestation and charcoal production. Lack of access to alternative energy sources in agriculture (micro hydropower, solar, bioenergy)	.		- Provision of strategic information & Knowledge on effects and potentials; soil fertility mapping for agricultural purposes - enhance dissemination of CSA weather & climate information to farmers in partnership with State & other relevant stakeholders (NiMET, Survey General's Office, FMENV, Water Resources, Ministry of Information, NISHA, NASRDA); Ad 3. *Coordination* - Strengthen multi-stakeholder coordination to ensure climate smart agricultural governance, policies, legislations and financial mechanisms. - Asses environmental impact on major agricultural projects Ad 4. *Lack of evidence-based policy* - foster research and policy analysis for scenarios and planning of agriculture across Nigeria with the States in view of the various effects of climate change - Upscale & establish Agro-sensor stations in collaboration with NiMET across agro-ecological zones in the country; Ad 5. *Lack of awareness on causes-effects* - Raise awareness on Climate change effects and climate	

				Smart Agriculture via access to Information & Knowledge Ad 6. *Alternative energy/ soil degradation* - reduce CO2 emissions; promote use of renewable energy with the involvement of private sector; efficiency of emission by more efficient targeted fertilizer use - promote Tree planting, especially in drought-prone areas to reduce land degradation; Ad 7. *Compensation risk aversion* - expansion of agricultural insurance for climate change adaption (weather index crop insurance)	
15. Research and Innovation	Information and knowledge is not easily accessible to end-users due to: 1. Weak research-extension linkages so technologies or innovations generated are not effectively delivered to farmers or commercialized for the benefit of end users; Research results are not made accessible to end-users 2. Research outputs not demand-driven; Departure in the programs of the universities of agriculture from their statutory mandate in relation to the programs of FMARD. 3. Lack of investment in staff and equipment in research. Poor and irregular funding for agricultural research and extension	Policy to strengthen research and innovation on priority areas and disseminate outputs	Policy reforms to: - Enhance effectiveness and efficiency of the agricultural research system; shift focus partially to make output more climate smart - pursue the reform of ARCN to reposition the agency and strengthen delivery of its mandate activities	Programs to address: Ad 1. Access to information & knowledge - Implement the Information & KM Framework including a) strengthening capacity of stakeholders to access information, b) aggregate existing information on innovations (of research, projects) and c) enhance access through various means of delivery SMS, radio, extension services - to document and disseminate innovations and good practices - target research to address key priorities and ensure close interaction with end-users e.g. Climate Smart Agriculture	Complementary measures: - Enhance access to Finance (Policy Thrust 10) especially for equipment - Enhance access to Information & Knowledge (Policy thrust 3) especially on innovations and financing options - Enhance access to mechanization (Policy thrust 5c) - Improve Storage (Policy thrusts 6) - Improved Processing (Policy thrusts 7)

	4. Funding to introduce and apply innovations			Ad 2. - to prepare longer-term research programs on key priorities with aligned funding form government, development partners and private sector. Also ensure efficient M&E system on outputs and finance. Ad 3. Research system orientation - enhance efficiency and targeting of the national agricultural research system (ARCN and institutes) - Review need and relevance of measures and past initiatives as establishing a) a Competitive Agricultural Research Grant Scheme, b) a Center for Crop & Animal Improvement for training of breeders; c) spin-off companies in Research Institutes & Colleges; d) Strengthen existing Adopted Villages, Agricultural Research Outreach Centers (AROC) and Agricultural Research Technology Transfer Centers (ARTTC). Ad 4. - Access to Finance; Access to Mechanization - Drive formation of start-ups and venture funds to commercialize innovations; partner with private investors - Review and revise rules governing IP in ARCN system to ensure innovators are appropriately rewarded	- Enhance Marketing (Policy Thrust 8)

16. Food, Consumption and Nutrition Security	Food security at national level is achieved by a combination of domestic food production, imports and strategic storage. Shortages may arise due to structural or incidental low production (droughts, disasters) and in the absence of sufficient forex and proper infrastructure to import and distribute food across the country. Food shortages (real or anticipated) drive up prices and thereby jeopardize access to food for urban and rural population. At household level a similar combination of own production, purchase from the market and storage determine access to food and nutritional security. In addition to the quantity the quality of food (macro/micro) nutrients are important. Nigeria's food consumption needs to on balance become healthier and mindful of downstream implications e.g. diabetes due to starch levels in an increasingly sedentary population. Children and women of child-bearing age are particularly prone to the effects of under-or malnutrition requiring special attention. Problems and constraints in this area are due to: ***National food and food security*** ***1.*** Low production that leads to under supply of grains and pulses in the market, resulting in government competing with private off-takers for filling the national reserve. 2. Inappropriate food storage facilities to mitigate fluctuating production and poor accessibility of food during times of emergency, drought etc. 3. limited forex to finance food imports	Policy to ensure national food and nutrition security by ensuring adequate availability of safe and nutritious food at affordable prices for rural and urban population in Nigeria at national and household level	Policy reforms to: - promote sustainable agriculture and food systems to improve freshness and quality of Nigerian food intake - set nutrition standards to reduce increasing cases of diabetes and obesity - promote private management of the grain reserve silos	Programs to address: ***National food and nutrition security*** Ad 1. - measures under Policy Thrust 1-9) Ad 2. - review of the silos project and other levels of storage to meeting the goal of 5% grain in storage; - maintaining strategic reserves to food make available at short notice during period of strive and for stabilizing food prices; maintain a safe storage that can guarantee national food security for a minimum of 1 year? - provide food during periods of emergency due to civil strife or natural disaster - promote private sector led initiatives to enhance cooling and cold chain, processing and packaging of nutritious food Ad 3. - import substitution and export promotion ***Household level food – and nutrition security*** Ad 4 - To enhance productivity and incomes of small/medium producers through measure under Policy Thrusts 1- 9)	Complementary measures: - Enhance access to land (Policy thrust 1) - Enhanced access to Finance especially short term credit during off-season - Enhanced access to Information & Knowledge (Policy thrust 3). This includes food consumption and nutrition data as well as information on nutritious varieties/ breeds, nutritionally sound food consumption practices, storage methods, pest-and disease - Enhance access to inputs especially access to nutritious varieties (including use of (bio)fortification) - Reduce risk of contaminated of foods by proper use of agrochemicals and testing (see Policy 5b Thrust on Pest & Disease). This includes a comprehensive aflatoxin control strategy - Enhance access to mechanization (Policy Thrust 5c) - Improve Storage (Policy thrust 6): household food storage solutions; reducing post-harvest losses

	Household level food – and nutrition security (Under –and malnutrition) 4. high level of under/malnutrition 5. insufficient household food production and storage 6. insufficient purchasing power for adequate food throughout the year 7. suboptimal use of nutritious foods due to lack of awareness about proper nutrition 8. inaccessibility of nutritious food at local level/ market 9. Poor quality of food due to contamination with agrochemicals (pesticide) or pests & diseases (e.g. aflatoxin) 10. Rise in food related illnesses e.g. diabetes, renal failure and cardiac challenges particularly in urban areas			- To enhance household food storage solutions (Policy Thrust 6) Ad 5. - To stimulate short term credit at affordable rates access to Finance Ad 6. - Programs to raise awareness about and generate demand for nutritional foods (Policy thrust 5c on Pest-and Disease control and 4 Access to Information & Knowledge) e.g. Radio and TV advertising - Support the development of a national food consumption and nutrition monitoring system - Promote expansion of organic food production - Awareness raising on use for health effects of inappropriate use of agrochemicals and positive effects of use of nutritious foods (Policy thrust 4 Access to Information & Knowledge).via radio and TV advertising Ad 7. - promoting production, processing and consumption of nutritious foods incl. vegetables, poultry, dairy - fortification of foods through breeding (Vit. A in cassava, potatoes cereals etc.) and medium-large scale food fortification.	- Improved Processing (Policy thrust 7) incl. fortification options - Enhance Marketing (Policy Thrust 8) to enhance market access for producers

				Ad 8. - to make nutrition foods available at local level through to children via effective school feeding programs linked to local production - where relevant ensure (bio) fortification of food Ad 9. - see Policy thrust on Pest-and Disease 6b) Ad 10. - see Ad 7 - focused on publishing food pyramid and promotion of balanced diets	