



SMALLHOLDER  
AND AGRI-SME FINANCE  
AND INVESTMENT NETWORK



INVESTMENT PROSPECTUS  
WORKING PAPER  
3

# NIGERIA

MAIZE, SOYBEANS AND  
CASSAVA VALUE CHAINS

November 2019

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# Investment Prospectus

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## Maize, soybeans and cassava value chains in Nigeria

November 2019

SAFIN Nigeria Pilot Anchor





This investment prospectus was prepared by Kabir Lawal and commissioned by the SAFIN Secretariat. All views expressed in the document belong solely to the author.

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# Definitions and Acronyms

ABS	Anchor Borrowers Scheme
ACGS	Agricultural Credit Guarantee Scheme
ADP	Agriculture Development Programme
AGRA	Alliance for a Green Revolution in Africa
ASP	Agro-Service Provider
BOI	Bank of Industry
CACS	Commercial Agricultural Credit Scheme
CBN	Central Bank of Nigeria
CCI	Certificate of Capital Importation
CITA	Companies Income Tax Act
CNFA	Cultivating New Frontiers in Agriculture
DfID	Department for International Development (Government of the United Kingdom)
EA	Extension Agent
FAFIN	Fund for Agricultural Finance in Nigeria
FAO	Food and Agricultural Organization
FEMMA	Foreign Exchange (Monitoring and Miscellaneous Provisions) Act
FIRS	Federal Inland Revenue Service
FMARD	Federal Ministry of Agriculture and Rural Development
GAP	Good Agronomic Practices
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
ITC	International Trade Centre
LASACS	Large Scale Agricultural Credit Scheme
LFN	Laws of the Federation of Nigeria
MADE II	Market Development in the Niger Delta II
MSME	Micro, Small and Medium Enterprises
NIPC	Nigerian Investment Promotion Commission
NIRSAL	Nigeria Incentive-Based Risk Sharing System for Agricultural Lending
NPFS	National Programme for Food Security
RRF	Refinancing and Rediscounting Facility
PIND	Partnership Initiatives in the Niger Delta
SAFIN	Smallholder and Agri-SME Finance and Investment Network
SMEDAN	Small and Medium Enterprise Development Agency of Nigeria
TA	Technical Assistance
UNIDO	United Nations Industrial Development Organization
USAID	United States Agency for International Development
USSD	Unstructured Supplementary Service Data
WFP	World Food Programme

# Executive Summary

This Investment Prospectus (IP) focuses on the maize, soybeans and cassava value chains in Nigeria. Due to the vast nature of the Nigerian landscape, the gaps and opportunities in these value chains were analyzed using three major production states as proxies; Kaduna state (North West Nigeria) for maize, Benue state (North Central Nigeria) for soybean and Kogi state (North Central Nigeria) for cassava. The IP is aimed at identifying opportunities to enhance finance and investments that will improve the productivity, efficiency, profitability, resilience and viability of smallholder farmers and agri-SMEs by highlighting investment opportunities in or across these three value chains.

About 18 SAFIN local partners work at various entry points of the maize, cassava and soybeans value chains, not necessarily directly with smallholder farmers and agri-SMEs, to ultimately ensure smallholder farmers and agri-SMEs derive market benefits from their agricultural activities.

The value chains were mapped across the following segments: (a) Input Supply and Distribution, (b) On farm production, (c) On-farm post-harvest processing, (d) Storage and logistics and (e) Post-farm Processing.

After mapping challenges and gaps along all sections of the maize, soybeans and cassava value chains, the following investment opportunities have been identified:

## 1. Input Supply and Distribution

- a. Supply of improved seeds (Maize market gap – ₦85.6bn, soybean market gap – ₦14.6bn, cassava stem market gap – ₦163bn)
- b. Large Tractor lease/rental (Maize market gap – ₦155.7bn, soybean market gap – ₦17.9bn, cassava planter lease market gap – ₦56.6bn)
- c. Small tractor lease/rental (maize – ₦74.7bn, ₦8.6bn)

## 2. On farm production

- a. Agro-Support Provider

## 3. On-farm post-harvest processing

- a. Threshing lease/rental (Thresher market gap – ₦30.4bn)

## 4. Storage and logistics

- a. Warehousing (Maize storage market size – ₦6.2bn, soy storage market size – ₦438mn)

## 5. Post-farm Processing

- a. Maize flour processing (Market size – ₦240bn)
- b. Soycake production (Market size – ₦28.1bn)
- c. Garri production (Market gap – ₦430bn)



## Definition of SMEs applied

The definitions of small and medium enterprises (SME) globally differ from country to country. Based on the role of SME in the economy, policies and programs are designed by relevant agencies or institutions empowered to develop SME across respective countries. SME are defined largely based on criteria such as turnover, number of employees, profit, capital employed, available finance, market share and relative size within the industry.

In Nigeria, the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN), an agency established in 2003 to promote the development of the MSME sector of the Nigeria economy, in its 2015 National Policy on MSME established a standard definition in order to provide a common object of reference by stakeholders. It adopted a classification based on the dual criteria of employment and assets (excluding land and building) as shown below.

Table 1: Categorization of SMEs in Nigeria, SMEDAN National Policy on MSMEs 2015

Size Category	Employment	Assets (N million) (excluding land and buildings)
Micro enterprises	Less than 10	Less than N10 million
Small enterprises	10 – 49	10 million – less than 100 million
Medium enterprises	50 – 199	100 million – less than 1000 million

## Presentation of this Investment Prospectus

**Section 1** provides a country overview, an agribusiness overview and an overview of the business environment in Nigeria. It details the challenges facing agribusiness in Nigeria and also highlights the financial ecosystem around agribusinesses in Nigeria.

**Section 2** contains a mapping of SAFIN local partners carried out by direct interviews with partner representatives. It highlights what activities the SAFIN partners are conducting with smallholder farmers and agri-SMEs across the three focal commodities of this IP.

**Section 3** provides a sector overview of the three focal commodities of this IP, as well as a brief description of the value chains. It takes a value chain approach to highlight the various investment opportunities across the three focal value chains and provides a sense of the market sizes of these investment opportunities.

**Section 4** does a deep dive into the investment opportunities across each value chain with corresponding projected financials.

**Section 5** contains annexes from various sections within the main text of the document.

## Acknowledgements

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5. Private Sector Players (FCMB Limited – Kudzai Gumunyu, Salco Group – Dr. Dimeji Lawuyi, Thrive Agric – Ayo Arikawe, Babban Gona – Kola Masha).

## Limitations and challenges

1. Some potential respondents (SAFIN partners and private sector players) did not respond to mails to conduct interviews
2. Getting detailed information from private sector business people in Nigeria is always challenging as they are not obliged to reveal their financials to outsiders
3. The time to carry out the exercise was short and was worsened by the existence of four public holidays during the study period, reducing the time available to speak to respondents.

# Section 1: Nigeria

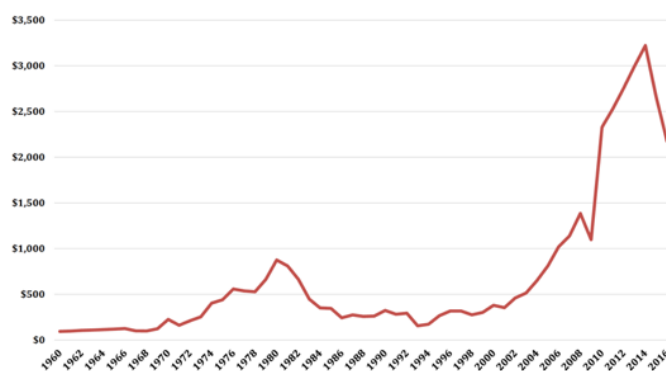
## 1.1 Country Overview: Nigeria

Nigeria has a population of over 200 million people as at 2019 (50.8% male and 49.2% female)<sup>1</sup> and has a population growth rate of 2.6%. 44% of the population is aged below 15 years of age making it one of the youngest populations in the world.

Nigeria, like the rest of West Africa and other tropical nations, has two seasons; the dry season (harmattan) and the rainy season. Nigeria covers 923,768 sq. km of land in West Africa with 76% of this being arable and less than 40% of the arable land currently in use<sup>2</sup>. It is divided into 36 states and a Federal Capital Territory. It has about 10,000 km of internal waterways with about 3,800km of these being navigable<sup>3</sup>. These waterways are sources of water for agricultural purposes. The topography of the country varies widely, from the mangrove swamps and forests in the South bordering the Atlantic Ocean to the dry Northern Sahel region at risk of desertification by the Sahara. Rainfall volume and frequency reduces as one moves inland from the South.

Nigeria as at 2018 had a real Gross Domestic Product (GDP) at 2010 constant prices of ₦69.8 trillion (\$228.9bn), with a growth rate of 1.93% from 2017. In the last 20 years of uninterrupted civilian rule, 2000 – 2014 was the longest stretch of continuous growth above 5% in Nigeria’s post-independence history. In 2014, GDP growth began to slow until a recession in 2016 with GDP today remaining below its pre-recession peak. In the period 2000 – 2014, per capita income increased by 749%. In 2017, per capita GDP stood at \$1968<sup>4</sup>. Despite the rise in income, Nigeria remains in the low human development category of the UN, ranking 157 out of 189 countries and territories in 2017.

Figure 1: GDP per capita in Nigeria (1960 – 2016)



Source: World Bank

Recent monetary policy stances have driven the debt to GDP ratio to 21.3% in 2017 from 9.6% in 2010. Debt to revenue ratio currently stands at over 50%.

<sup>1</sup> National Population Commission

<sup>2</sup> World Bank

<sup>3</sup> National Inland Waterways Authority

<sup>4</sup> National Bureau of Statistics Full 2018 GDP Report

## 1.2 Agriculture in Nigeria: Overview & challenges

As at 2018, Agriculture contributed 25.1% to GDP, while industries and services contributed 22.2% and 52.6% respectively. Non-oil GDP accounts for 91.4% of output. Agriculture employs 48% of the workforce with 73% of this workforce being male. The unemployment rate as at Q3 2018 stood at 23.1% with youth unemployment (15 – 34 years) at 29.7%<sup>5</sup>. While the contribution of agriculture to GDP has remained fairly constant since 2009, the per capita output of the agriculture sector has declined 31.5% from \$667.46 in 2009 to \$456.59 in 2018. This indicates that more people are doing less productive activities in the sector. This is also reflected in the declining output per worker. Between 2010 and 2017, output per worker in the agriculture sector declined 27% from ₦879,442.16 to ₦640,975.12. In dollar terms, the decline is worse – a 64% decline from \$5,820.72 to \$2,096.33 due to a devaluation of the currency from ₦199 to N305 in 2016.

Figure 2: Agriculture sector growth rate 2009 – 2018

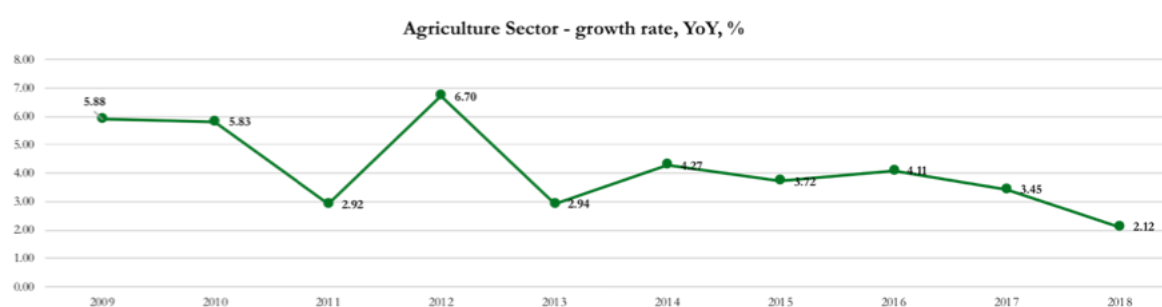
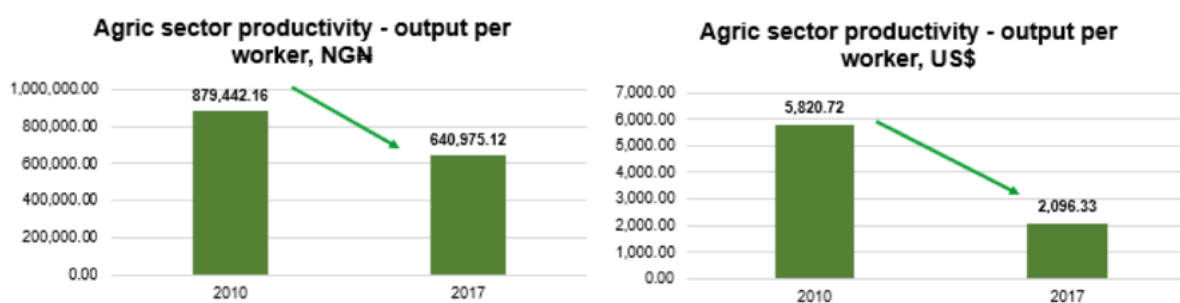


Figure 3: Agriculture sector productivity per worker 2010 – 2017



Crude oil is Nigeria's major export commodity accounting for 82% of exports in 2018 and 90% of government foreign exchange earnings. Agricultural commodities accounted for 1.6% of 2018 exports. Top agricultural commodities for export in Nigeria include sesame seeds, cocoa beans and cashew nuts. On the import side, agriculture's share of total imports stood at 6.5% in 2018. Top agricultural imports include durum wheat and fish.

Nigeria is the world's largest producer of commodities such as cassava, yams and shea nuts and is among the top 5 global producers of sorghum, cocoa and oil palm<sup>6</sup>. Despite this, Nigeria faces challenges in meeting demand of domestic food requirements, and has an inability to produce export quality commodities. This is

<sup>5</sup> Labor Force Statistics: Unemployment and Underemployment Report Q3 2018

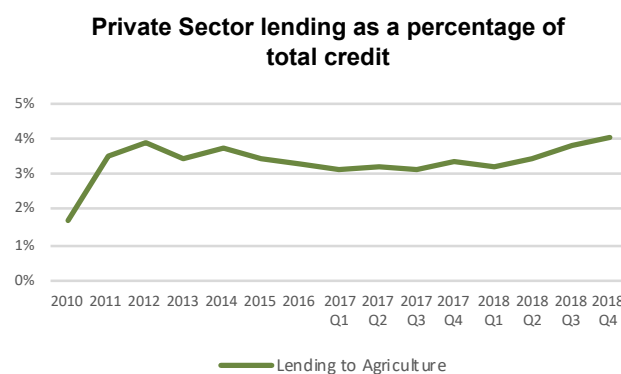
<sup>6</sup> FAOStat

partly attributed to the subsistence nature of most agricultural production in Nigeria. For instance, despite being Africa’s second leading producer of soybeans behind South Africa and 15<sup>th</sup> in the world, Nigeria imported 70,000 metric tons of the commodity (10% of local production) in 2016. The challenges to increasing production of commodities in Nigeria are provided in the next subsection.

The current agricultural policy of the Federal Government, the Agricultural Promotion Policy 2016-2020, aims to tackle these agricultural problems by improving productivity and standards on all domestic food production, thereby guaranteeing food security and opening access of the commodities to export markets. To achieve this, improved financing is a major requirement.

Private sector lending to the agriculture sector as at the end of 2018 stood at ₦610.1 billion (\$2 billion) which is 4% of banking sector credit to the private sector. In the same period, commercial bank loans to small scale enterprises stood at ₦44.8 billion (\$146.9 million), 0.29% of total loans from the commercial banks<sup>7</sup>. The low investment in agriculture in Nigeria is driven by its subsistence nature, low public sector funding for the sector and lack of innovation in the sector over time. Budgetary allocation from the public sector has also been low. Between 2014 and 2018, the percentage of total national annual budget allocated to the agriculture sector has risen from 1.44% to 2.01% with a low of 0.9% in 2015. This is well behind the 10% benchmark of the African Union Maputo declaration of 2003. This underfunding contributes to the long-term underdevelopment of the agriculture sector in Nigeria.

Figure 4: Private sector lending to agriculture



### 1.3 Challenges to increased cultivation in Nigeria

Various challenges that prevent the increase in production output of agricultural commodities in Nigeria have been identified. These are:

***Geographical location of farmers (non-contiguity)***

There are geographic locations in the country that are renowned for the cultivation of certain crops. Within these areas, however, there will be cultivation of other commodities. Traditional cropping systems in many places rely on crop and plot diversification. Crop diversification and intercropping systems are used to reduce the risk of crop failure due to adverse weather events, crop pests, or insect attacks. It also helps the farmers to hedge their potential revenue in the case that one crop fails, the revenue from the others will be substantial to cover the

<sup>7</sup> Central Bank of Nigeria 2018 Statistical Bulletin

loss. There is evidence to show that households whose consumption levels are close to subsistence (and which are therefore highly vulnerable to income shocks) devote a larger share of land to safer, traditional varieties which they know and understand, rather than to high-yielding varieties which are perceived as riskier. This explains why it is a challenge getting smallholder farmers in Nigeria to purchase improved, high-yielding varieties of seeds without them first witnessing a demonstration of their qualities. Also, near-subsistence households diversify their plots spatially to reduce the impact of weather shocks that vary by location.<sup>8</sup>

This lack of geographical contiguity in crop production creates a challenge for service providers to meet the demands of smallholder farmers as the cost of operations will increase and the increased cost may be unable to be passed on to the farmers.

### ***Social and economic factors***

There is a general perception in the country that agriculture is high risk, not profitable and cannot be approached as a business. The wider public policies of free distribution of inputs further help cement these views. Also, the average age of farmers in Nigeria is 60 years<sup>9</sup> indicating that the youth in the country are not attracted to this sector due to their non-profitability perception and the poverty levels observed amongst existing older farmers in the country. The issues of climate change which affects rainfall patterns and the farmer-herder conflicts go further to increase the risk levels in the industry.

### ***Poor access to certified seeds and other agrochemicals***

As at 2017, a total of 3,033 MT of hybrid maize (8 seed companies), 28,795MT of open pollinated variety of maize (69 seed companies), 968 MT of soybean seeds (24 seed companies) and 117,722 bundles of certified cassava seeds were produced locally in Nigeria<sup>10</sup>. The World Bank says that about 5 – 10% of cultivated land is planted with certified seeds and 10% of farmers use certified seeds. The informal sector is the primary source of seeds for farmers. Quite often, over 90% of the seeds that farmers plant is either their own saved seed or seeds obtained from the informal sector. Smallholder farmers in Nigeria are much aware of improved varieties and dominance of the informal system is largely attributable to the high prices charged for the improved formal seed varieties.

It has been estimated that about 125,000 - 130,000 metric tons of pesticides are applied every year in Nigeria. Traditionally, Nigerian farmers have been relying heavily on pesticides for the control of various weeds, insect pests and diseases<sup>11</sup>. Overuse of the agrochemicals is common due to poor knowledge of the proper way to use the agrochemicals on the part of the farmers and the input retailer. Farmers have also complained of using agrochemicals that have little to no effect on the crops. This raises the issues of substandard and counterfeited products in the market.

### ***Poor access to mechanization***

In terms of crop production, agricultural mechanization is recognized as the pivot to agricultural revolution, contributing greatly to increased output. According to official data, in 2018, only ten out of the 36 states and the Federal Capital Territory had private sector run tractors in operation, with 552 tractors cultivating a total of 231,880 hectares of land.<sup>12</sup> Nigeria's mechanization rate of 0.27 horsepower per hectare is well below the FAO's recommended rate of 1.5 horsepower per hectare. This reduces the level of efficiency the farmers can attain when carrying out their farming activities. This dependency on human power has not only contributed to low agricultural productivity but also fostered the importation of food from countries like Thailand which have an

<sup>8</sup> Managing Agricultural Production Risk: Innovations in Developing Countries; World Bank, 2005

<sup>9</sup> <https://businessday.ng/agriculture/article/aging-farmers-trees-hurt-nigerias-crop-output/> Accessed August 2019

<sup>10</sup> National Agricultural Seed Council Annual Report 2017

<sup>11</sup> Farmers Perception of the Quality and Accessibility of Agrochemicals in Kaduna and Ondo States of Nigeria: Implications for Policy; Issa 2016

<sup>12</sup> National Agricultural Extension and Research Liaison Services (NAERLS) Agricultural Performance Survey of 2018 Wet Season in Nigeria

average of 281 tractors per 10,000 hectares of arable land<sup>13</sup>. For the suppliers of equipment, large contiguous pieces of land where they can work without having to take long breaks to transport equipment to another location are more attractive than the current mode of cultivation of the smallholder farmers. The low mechanization in the post-harvest operations - i.e. the use of mechanized harvesters and threshers - also contributes to grain losses of about 20 – 30% of output and root and tuber losses of 30 – 50%.<sup>14</sup>

#### ***Poor access to knowledge (new techniques) & extension services***

With some states in Nigeria having an extension agent to farmer ratio as high as 1:15,000, the access smallholder farmers have to improved knowledge of modern techniques is highly limited. Therefore, farmers use ancient farming techniques for their cultivation. Though more farmers are becoming aware of the existence of improved inputs, they do not have access to these inputs and have no knowledge of where these inputs can be obtained and how they are to be used. Extension has always been a service provided by the state Agriculture Development Programmes (ADPs). However, poor funding for the ADPs and the limited recruitment of new extension agents have resulted in a sustained gap in these services over many years.

Modern technologies have enabled farmers determine the best crops for cultivation on their farmland soil types based on soil tests using Global Positioning Systems, thereby ensuring maximum productivity from the land. Smallholder farmers are not aware of such technologies and plant blindly based on historical cultivation trends or in reaction to policies and private sector agreements. This limits the farmers' abilities to maximize their fields' potentials.

The subsistence nature of many smallholder farmers i.e. production for consumption purposes rather than for business and profitability purposes further contributes to low output.

#### ***Poor access to finance***

Financial institutions are well aware of the financing gap in agriculture in Nigeria. They also know that smallholder farmers dominate the landscape and as such, come with their challenges. Smallholder farmers being dispersed, increase the cost of operations of the financial institutions. With the farmers being mostly uneducated and therefore not understanding the meaning and implications of contractual agreements, the risk of loan default is high. Being mostly poor rural farmers, they do not have sufficient collateral to put forward in case they intend to apply for loans. Poor land titling across many states in Nigeria limits the ability of smallholder farmers to use the land upon which they intend to farm as collateral for a loan from financial institutions. Financial institutions are aware that most farmers do not produce for commercial purposes and also do not produce competitively, therefore the sales of the low yielding commodities are unlikely to generate the revenues required for loan repayment. The resulting low level of financial inclusion is perpetuated through lack of personal identification related to the absence of a bank account and limited credit history.

#### ***Poor road infrastructure***

The World Development Indicators of 2015 stated that Nigeria has 81% of its roads unpaved. Most of these lie in the rural areas where most of the farm cultivation occurs. This situation reduces the attractiveness of the rural farmers to suppliers and offtakers as the infrastructure gap increases the cost of doing business, thereby limiting farmers' access to market.

#### ***Poor funding for research and research misalignment with market needs***

Agricultural research institutions in Nigeria are traditionally funded by the federal government and have the mandates, amongst other things, to develop inputs and techniques that can be used by farmers, small and commercial, to increase their outputs and prevent crop losses. Poor funding for these institutions over time has limited their abilities to maximize their potentials. The limited funding also prevents the research institutions

<sup>13</sup> Nigeria's mechanization landscape; Sahel Capital 2017

<sup>14</sup> Post-Harvest Losses: A Dilemma in Ensuring Food Security in Nigeria – Bolarin et al, 2015

from conducting adaptive research that address new and everyday challenges of the farmers. Rather, research tends to be more basic and misaligned with the happenings on the fields at the present time.

#### ***Policy & regulatory constraints***

There are also policy and regulatory challenges that prevent investments in agriculture which can increase the number and range of technologies smallholder farmers can access. For seeds, the challenge of adulteration and counterfeiting is rife, mostly due to the absence of post market surveillance activity by the Nigerian Agricultural Seed Council. Given the huge market opportunity, adulterators continue in their act as the Council is unable to monitor the markets and punish offenders when necessary. In July 2019, the National Agricultural Seeds Bill was signed into law, thereby repealing the National Agricultural Seeds Act of 2004. The new bill empowers the Nigerian Agricultural Seed Council to address some of the above listed challenges in the seed sector.

The absence of a Plant Variety Protection Law prevents the needed investment by the private sector in the seed breeding space. The law would help prevent the theft of intellectual property of these private investors thus providing an opportunity to recoup research investments while increasing the amount of locally bred varieties available in the country.

The safe handling of agrochemicals requires a specialized chain – adequate trainings and the use of personal protective equipment during spraying – without which it becomes a hazard to the handler, the food and the environment. So far, there is no regulation mandating companies to ensure the handling of their agrochemicals is done by a trained spray service provider. The absence of this regulation has led to the under-development of the spray service delivery chain; leading to several long-term health hazards, which may have been overlooked within the Nigerian environment given the weak diagnostic structures.

### 1.4 Financial ecosystem around agri-SMEs in Nigeria

SMEs make up over 90% of businesses in Nigeria and employ over 80% of the workforce. In the agribusiness space, there are various gaps across most sectors of the value chain in which agri-SMEs can take advantage. Below is a brief on the demand and supply of financing for agri-SMEs in Nigeria.

#### **Demand**

The rapid growth in Nigeria's GDP since 1999 has brought opportunities for SMEs to tap into in the agribusiness space. The growth in population further enhances these opportunities as the middle class expands and demands more food, goods and services. For instance, the increased demand for poultry and fish feed in Nigeria since 2000 owing to the expansion of the local poultry and aquaculture sectors (which are both responding to the population increase and middle class rise) puts SME processors in a position to fill the demand for the feed. The number of cassava processors has also increased stemming from the increase in demand for local cassava derivatives, ethanol and high-quality cassava flour. This therefore requires the availability of capital for the purchase of land, building and equipment, working capital requirements, regulatory approvals and marketing and distribution. Besides the macroeconomic challenges highlighted earlier in the IP, SMEs including agri-SMEs present challenges to commercial lenders.

**Structure:** Most SMEs are unregistered one-man businesses in which the owner wears many strategic caps within the organization. The owner could be the Chief Executive Officer, Chief Accountant (with very limited knowledge of bookkeeping) and Chief Operations Officer. The individual could also have very blurred lines between personal and business finances thereby making it difficult to ascertain the profitability of the business.



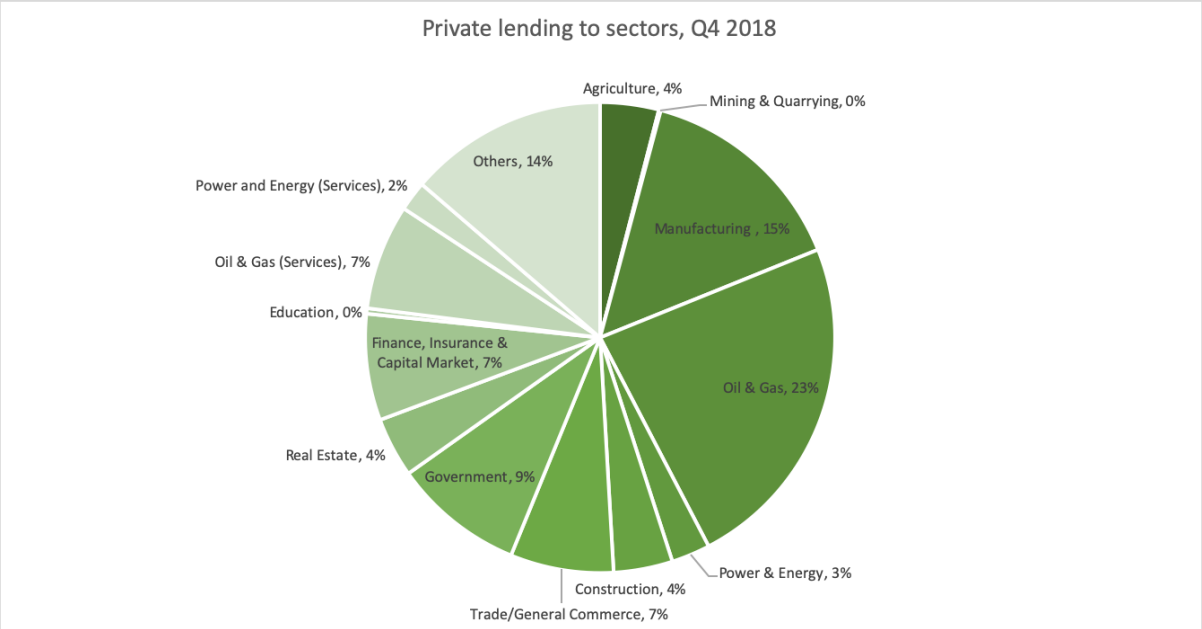
**Business acumen:** SMEs get into business lines not necessarily because they have or have access to experience or a large pool of knowledge on the industry. This weak managerial capability in business management coupled with the challenge of getting skilled manpower for the business contributes to the early demise of most SMEs in the country (20% survival rate according to UNIDO). Such SMEs will have difficulties accessing commercial capital for startup, working capital or expansion operations. This limited understanding of business management affects cashflows, which are needed for loan repayment.

**Lack of collateral:** Most agri-SMEs lack sufficient collateral to serve as an asset in case of loan default. The high-risk levels of the agri-SMEs makes commercial lenders shy away from offering loans without the existence of an asset, usually a real estate property, with a worth at least double the equivalent to the value of the loan facility.

**Supply**

The supply of financing in Nigeria has evolved over the years from a pure debt market to allow for various options of financing led by the private, public and development finance sectors. Commercial debt lending rates on the average, are today above 22%. While it is not impossible to work with interest rates of this sort in agriculture, the rates make agribusiness more challenging. Financial institutions regard agribusiness as being risky and this further reflects in the high interest rates. The financial institutions therefore find better comfort in lending to lower risk, more developed sectors of the economy.

Figure 5: Sectoral distribution of private sector lending, Q4 2018



<p><b>Central Bank of Nigeria (CBN) Development Finance Interventions</b></p> <p><i>The CBN through its Development Finance department has developed various initiatives designed to stimulate the financial ecosystem for the agri-SMEs operating in the various value chains in the country. Given the low level of development across value chains in the country, intervention funds tend to be multi-commodity and multi-sectoral. Being the apex bank in the country, these initiatives are implemented through the commercial banks.</i></p>
<p><b><i>Agricultural Credit Support Scheme (ACSS)</i></b></p> <p>The initial ACSS fund of N50 billion was established with contributions mostly from the CBN and deposit money from banks for the financing of large agricultural projects such as establishment or management of plantations, cultivation or production of crops, livestock, and fisheries and farm machinery and hire services. The borrowing rate is 14%, with the CBN absorbing 6% while the borrower pays 8% at full repayment. The purpose of ACSS is to facilitate the development of the agricultural sector by advancing credit to farmers at low interest rates. By pursuing this strategy, the government hopes to exert downward pressure on prices of agricultural produce, especially food, leading to reduced inflation, increased exports, diversification of government revenue base, and increased foreign exchange earnings.</p>
<p><b><i>Agricultural Credit Guarantee Scheme Fund (ACGSF)</i></b></p> <p>The ACGSF offers a 75% guarantee backed by the CBN on agricultural credit in default, net the amount realized from the disposal of security for such credit. Financing is at market-determined interest rates. The CBN offers a rebate equivalent to 40% of the loan interest when loans are duly repaid. This scheme deals with small scale farmers who need small loans to operate.</p>
<p><b><i>Anchor Borrowers Scheme (ABS)</i></b></p> <p>The ABS of the CBN was developed to create a linkage between anchor companies involved in the processing of commodities including soybeans and smallholder farmers with a view to increasing agricultural output and significantly improving capacity utilization of processors. It was also designed as a means of deepening financial inclusion in the rural areas which are predominantly farming communities, reduce the level of poverty among smallholder farmers and assist rural smallholder farmers to grow from subsistence to commercial production levels. The funding and interest rates are guided by the Micro, Small and Medium Enterprises Development Fund (MSMSDF) which sits at 9%. Since its inception in November 2015, the ABS has financed about N200 billion worth of loans to smallholder farmers and agri-SMEs across 19 commodities, including ₦40.554 billion to 170,621 soybeans, maize and cassava farmers cultivating 251,915 hectares of land across the country. (See Figure 6)</p>
<p><b><i>Agri-Business/Small and Medium Enterprises Investment Scheme (AGSMEIS)</i></b></p> <p>The Agri-Business/Small and Medium Enterprises Investment Scheme (AGSMEIS) is an initiative of the Nigeria's Bankers Committee guided by the CBN, to support the Federal Government of Nigeria's efforts and policy measures for the promotion of agricultural businesses and SMEs as a vehicle for sustainable economic development and job creation. The scheme requires all banks in the country to set aside 5% of the profit after tax annually for the scheme.</p>
<p><b><i>Commercial Agricultural Credit Scheme (CACS)</i></b></p> <p>In 2009, the CBN in collaboration with FMARD established CACS to enhance the development of the agricultural sector by providing credit facilities at a single digit interest rate to farmers. Under the CACS, ₦200 billion was earmarked for lending at 9% to the following agricultural value chain segments: production, processing, storage and inputs. CACS was originally intended to end in 2015; however, it was extended by 10 years to September 2025.</p>
<p><b><i>Large Scale Agricultural Credit Scheme (LASACS)</i></b></p> <p>A ₦200 billion fund established by the Federal Government in the wake of the last global economic crisis to</p>

finance large integrated commercial farm projects with an asset base of at least ₦350 million (excluding land) with prospects of increasing this to ₦500 million, and medium-sized agricultural enterprises with an asset base of ₦200 million. The terms of borrowing include a long tenor and single digit lending rate.

#### ***Micro, Small and Medium Enterprise (MSME) Fund***

The ₦220 billion MSME fund was launched in 2013 by CBN to provide capital to entrepreneurs in various sectors of the economy. Specific to agriculture, the fund aims to address post-harvest losses among small-scale farmers. Accordingly, ₦132 billion (60%) of the fund has been assigned specifically for women entrepreneurs. As at May 2014, the MSME funds were yet to be disbursed to their target group as a result of the CBN's plan to establish a Special Purpose Vehicle to manage it.

#### ***Refinancing and Rediscounting Facility (RRF)***

Banks that lend long-term to agriculture and need liquidity are availed an amount which is a certain percentage of the outstanding asset portfolio to long-term agriculture by the CBN at reduced rates at the discount window.

#### **State Government Financing Initiatives**

##### ***Supervised Agricultural Loans Board***

Most state governments set up these boards to dispense finance in form of credit to farmers. It should be added that aside from this boards, the state Agricultural Development Programmes (ADP) have recently been working in conjunction with the National Programme for Food Security (NPFS) in the provision of credit to farmers.

#### **Other Development Finance Interventions**

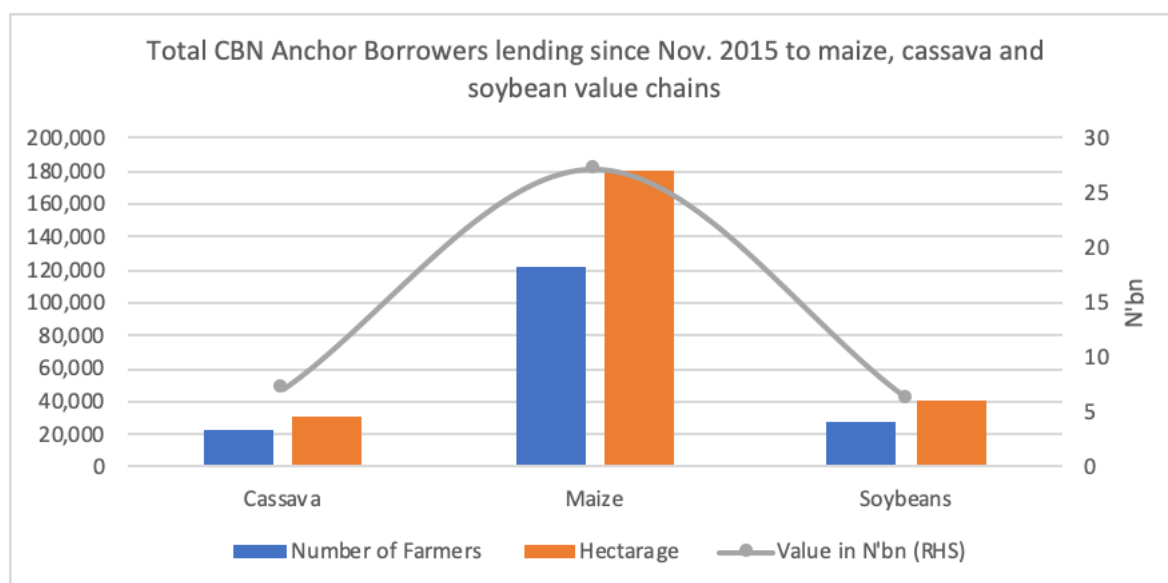
##### ***Bank of Agriculture***

The BOA is a development bank set up by the Federal Government to provide agricultural credit to support all agricultural value chain activities. The bank has developed various products for different value chains and value chain sections and offers loans from ₦250,000 to ₦N1 billion at interest rates from 9% with a tenor not exceeding five years.

##### ***Bank of Industry***

The BOI is a development financial institution established by the Federal Government to provide access to funds for startups, SMEs, and large enterprises. It is owned by the Ministry of Finance Incorporated (MOFI) Nigeria, the Central Bank of Nigeria and private shareholders. It has various intervention funds focused on MSMEs and the agriculture sector including a Federal Government Special Intervention Fund for MSMEs at 9%, and the ₦13.6 billion rice and cassava fund aimed at the development of rice mills and high quality cassava flour mills across the country.

Figure 6: CBN Anchor Borrowers Scheme lending by value chain (Nov 2015 – Jun 2019)



Private Sector Involvement
<p><b>Traditional Banking Institutions:</b> The commercial banks and micro-finance institutions are natural lenders to the private sector and still play this role. Private sector lending to agriculture is low compared to other sectors of the Nigerian economy (Figure 5). This is driven by the banks’ perception of the riskiness of agriculture, high interest rates (over 25% per annum or 3% monthly), inability of SMEs to meet bank lending requirements and interest in the sector.</p>
<p><b>Non-traditional Finance</b></p> <p>Besides the federal and state government’s development finance initiatives, there are a number of private sector organizations filling the gaps for SME financing in Nigeria. The increased popularity of fintech in the country has enabled new firms to offer more SME packages within an ecosystem where large commercial banks tend to shy away from financing this class of businesses. Below is a list of such private organizations:</p>
<p><b>GroFin:</b> Headquartered in Mauritius, GroFIN operates in 14 countries including Nigeria. They are a venture capital company that delivers an integrated solution of finance and support to base-of-the-pyramid SMEs and to transform them into formalised and sustainable businesses that support employment and thus create lasting impact. With GroFin, businesses can access business loans between US\$100,000 and US\$1.5 million.</p>
<p><b>Lidya:</b> Lidya is a financial services platform to improve access to credit and finance. Businesses seeking \$500 USD to \$50,000 in working capital are able to apply online or via their mobile phone and get a decision in 24 hours. To assess credit risk, Lidya uses close to 100 data points to evaluate businesses, build a credit score unique to each business, and disburse loans in 24 hours or less.</p>
<p><b>Renmoney:</b> Renmoney is a fintech company that offers non-collaterised short term loans of up to ₦4 million with a maximum tenor of 12 months. Their loans can be disbursed within 24 hours of application. These loans can serve as working capital requirement buffers for SMEs.</p>
<p><b>Zedvance:</b> Zedvance is a consumer finance company that offers SME loans to a maximum amount of ₦5 million and a maximum tenor of 18 months.</p>

Funding farmers poses more challenges than funding agri-SMEs. While development finance interventions seek ways to improve smallholder farmers access to finance, the reality on ground is that these smallholder

farmers are difficult to finance directly due to the high cost of reaching them and the low financial inclusion rates. Funders today also have various motivations to invest - i.e. seeking social impact or financial return or both.

The concept of blended finance provides a means of balancing these motivations. Blended finance combines public and development funding on one hand, and private sector money on the other to achieve a specific social impact, as well as a financial return for the private investors. The idea is that the public and development financiers shoulder more of the fund's total risk for no or low returns, so private investors are encouraged to fund an area that is high risk and would normally be unattractive for moderate to high profit rewards. The public and development funds could be used to fund the technical assistance needed to catalyze the market and could serve as a first loss buffer in the fund. In many cases, blended finance is introduced as a bridge solution aimed at catalyzing private sector investment into a given sector. One such example in Nigeria is addressed below:

Local Blended Solutions
<p><b><i>Fund for Agricultural Finance in Nigeria (FAFIN):</i></b></p> <p>FAFIN, which was initiated in January 2014 has a target fund size of US\$100 million, with a First Close of US\$34 million from three fund sponsors: FMARD, the German government via KfW Development Bank, and the Nigeria Sovereign Investment Authority (NSIA). FAFIN is the only Nigerian private equity fund focused exclusively on agriculture. The Fund's vision is to catalyze agriculture-led inclusive economic growth in Nigeria by increasing the amount of private capital available for agriculture. FAFIN is focused on providing long-term, tailored finance and associated technical assistance to high-growth agricultural SMEs, and prefers investment opportunities that enable import substitution, increase food security, or bridge gaps and fix inefficiencies along supply chains. FAFIN has an associated US\$2 million Technical Assistance Facility that supports the success and sustainability of the Fund by providing technical services to investees in order to promote their growth and development. Sahel Capital is the fund manager for FAFIN.</p>

### 1.5 Policies and regulations on maize, soybeans and cassava

The Federal Ministry of Agriculture and Rural Development (FMARD), in its promotion of local production of agricultural commodities, seeks to implement an increased tariff policy on any commodity that Nigeria can produce including maize, soybeans and cassava. However, the ministry has been unable to achieve this target across all commodities over the years. Currently there is a 5% import duty on the importation of maize and a 5% import duty and value added tax each on the importation of soybeans seeds. Cassava importation is deterred by a 20% import duty charge as well as a 15% levy. There is also a prohibition on the export of maize in Nigeria.

## Section 2: Mapping of SAFIN local partners

### 2.1 Smallholder and agri-SME benefits from SAFIN partners activities

SAFIN local partners work at various entry points of the maize, cassava and soybeans value chains to ultimately ensure smallholder farmers and agri-SMEs derive market benefits from their agricultural activities. Working at various entry points thus means that not all partners will interact directly with the smallholder farmers and agri-SMEs while carrying out their activities.

Table 2: Local SAFIN Partners portfolio interventions

SAFIN Partner	Portfolio interventions benefitting smallholder farmers and agri-SMEs	Focal Area	Intervention
AFEX	<ul style="list-style-type: none"> <li>• “Agribooster”, an innovative product that provides complete package of inputs to farmers with the required financing.</li> <li>• Grain4fertilizer (G4F) helps farmers increase their productivity/yield by making fertilizer available to those with old grain stock to exchange for inputs, via a swap contract approach.</li> <li>• Input financing provides access to quality inputs, in a timely manner to smallholder farmers through financing from retail and institutional sources.</li> </ul>	Market/Value Chain Development	
AGRA	<p>Current activities focus on enhancing:</p> <ul style="list-style-type: none"> <li>• operational capacity of local input market systems,</li> <li>• access to agricultural value chain knowledge/information,</li> <li>• use of inputs and other improved technologies,</li> <li>• access to appropriate fertilizer blends and other soil management technologies/practices,</li> <li>• use of improved post-harvest technologies and practices by small holder actors,</li> <li>• commercialization and availability of improved seed and other technologies,</li> <li>• linkages to structured markets for smallholder farmers</li> <li>• quality of produce by smallholder farmers,</li> <li>• operational capacity of local output market systems, and</li> <li>• access to business development and affordable financial services by smallholder farmers and small and medium enterprises.</li> </ul>	Policy	
CBN	<ul style="list-style-type: none"> <li>• See CBN Development Finance Interventions in Section 1.4 above</li> </ul>	Finance	

FAO	<ul style="list-style-type: none"> <li>In helping the national government to meet its agricultural objectives and address priority needs, the FAO has been working with the FMARD and the maize farmers association in the control of fall army worm in maize cultivation.</li> <li>The FAO is also promoting the use of cassava as an ingredient for the manufacture of livestock and aquaculture feed.</li> </ul>	Policy
IFAD	<ul style="list-style-type: none"> <li>Value Chain Development Programme (VCDP), covering market development, productivity/production enhancement, and institutional capacity building and enhancement.</li> </ul>	Market/Value Chain Development
NIRSAL	<ul style="list-style-type: none"> <li>In 2019, NIRSAL secured ₦4.9 billion from various sources for credit risk guarantee of up to 75% for maize and soybeans value chain actors. This is being carried out through the organization's Mapping to Market (M2M) project which is a sustainable smallholder inclusive approach towards agricultural transformation in Nigeria.</li> </ul>	Finance
Palladium	<p>Under the DfID funded PrOpCom Maikarfi project, Palladium leverages private sector capacity, community-based organizations &amp; NGOs</p> <ul style="list-style-type: none"> <li>to raise awareness on new products and services beneficial to smallholder farmers and agri-SMEs</li> <li>for commodity aggregation</li> <li>to recruit last mile delivery agents for commercial partners</li> <li>for capacity building of smallholder farmers</li> </ul>	Post Conflict
PIND	<ul style="list-style-type: none"> <li>PIND addresses deep-rooted socio-economic problems in the Niger Delta, rather than symptoms, by growing networks of international and local partners to collaborate in developing and implementing new solutions and reducing dependence on oil in the region. Improving cassava cultivation and processing are major intervention initiatives. Funders include the Chevron Corporation</li> </ul>	Market/Value Chain Development
Sterling Bank	<ul style="list-style-type: none"> <li>Sterling Bank is a participating bank in the CBN Development Finance Initiatives. The bank also has bespoke products for the agriculture sector such as the Sterling Tractor Acquisition Scheme and the Sterling Agricultural Input Scheme.</li> </ul>	Finance
Technoserve	<ul style="list-style-type: none"> <li>Under the Diageo Cassava Supply Chain Development Project, smallholder farmers are provided with GAP training, linkage to quality input suppliers and access to markets.</li> </ul>	Market/Value Chain Development

USAID	<ul style="list-style-type: none"> <li>• Under the Partnership for Inclusive Agricultural Transformation in Africa (PIATA) in Kaduna and Niger States, activities for smallholder farmers and agri-SME actors focus on input and market facilitation and technical assistance.</li> <li>• Through the USAID Feed the Future Nigeria Agribusiness Investment Activity, Cultivating New Frontiers in Agriculture (CNFA) aims to integrate thousands of MSMEs and producer organizations as high-performing commercial actors in various value chains including maize and soybeans.</li> <li>• Through the Maize Quality Improvement Partnership, CNFA is also working to enhance the quality and safety of maize and soybeans available to Nestlé’s food processing factories while supporting USAID’s goals of revitalizing Nigeria’s agriculture sector and improving nutrition along these cereal value chains</li> <li>• The Feed the Future Integrated Agriculture Activity is working to enhance economic development of post-conflict areas in the Nigerian North East by developing the value chains of seven commodities, including maize and soybeans</li> </ul>	Market/Value Chain Development
WFP	<ul style="list-style-type: none"> <li>• WFP runs a handout system for internally displaced people in North Eastern Nigeria. It plans to switch to a more sustainable market development approach working with commercial partners to provide inputs and markets for the smallholder farmers in liberated communities in North Eastern Nigeria</li> </ul>	Post Conflict



# Section 3: Value chain summaries and investment opportunities

## 3.1 Introduction

The value chain analyses for the focal commodities were carried out with the intention of understanding the contribution of the key value chain actors to the sector. The analyses were carried out in states where cultivation of the crops is prevalent. Activities of the value chain actors in these states can be used as proxies for that of the country. The study states with their focal value chains were:

Kaduna state - Maize

Benue state - Soybeans

Kogi state - Cassava

## 3.2 State briefs

**Kaduna state:** Kaduna state lies in the North Western geopolitical zone of Nigeria. It has a tropical savannah climate with an average rainfall of 1194mm over an average of 172 days per annum in the period 2014 – 2018. The state is the top producer of maize in Nigeria with 937,000 metric tons produced in 2018.

**Benue state:** Benue state lies in the North Central geopolitical zone of Nigeria. It has a tropical savannah climate with an average rainfall of 1095mm over an average of 206 days per annum in the period 2014 – 2018. The state is the top producer of soybeans in Nigeria with 241,000 metric tons produced in 2018. The area lies at the lower Benue trough with a lot of alluvial deposits that support the growth of most arable food crop.

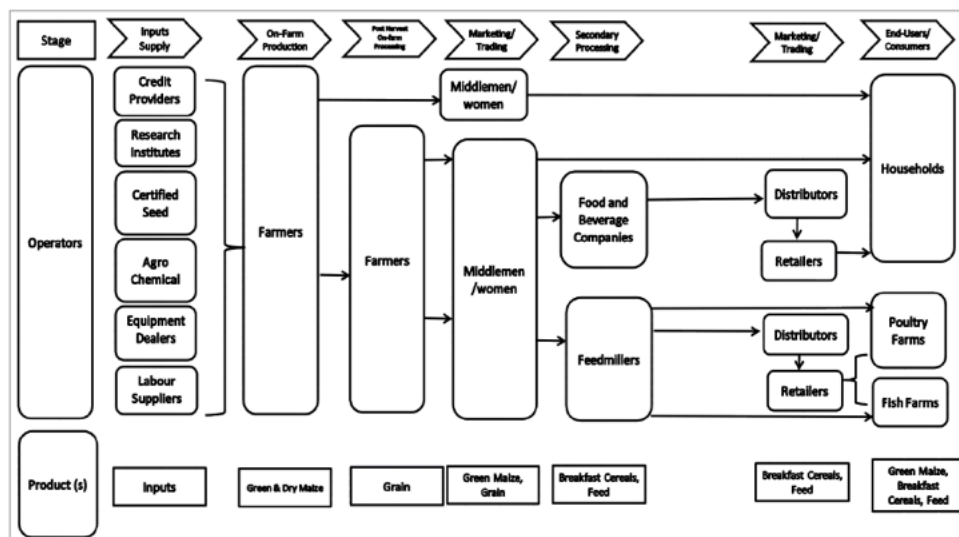
**Kogi state:** Kogi state lies in the North Central geopolitical zone of Nigeria. It has a tropical savannah climate with an average rainfall of 1106mm over an average of 211 days per annum in the period 2014 – 2018. The state is the third highest producer of cassava in Nigeria, behind Benue and Rivers states with 3.66 million metric tons produced in 2018.

## 3.3 Sector Overview: Maize value chain

Maize or corn is a cereal crop that is grown widely throughout the world in a range of agro-ecological environments. It is cultivated in the forest, derived Savannah and southern Guinea Savannah zones of Nigeria. Maize is typically intercropped with other food crops such as yam, cassava, guinea corn, rice, cowpea, groundnut, soybeans etc., with the predominant combinations varying by production zones.

Figure 7: Maize Value Chain map<sup>15</sup>

<sup>15</sup> Food losses in cassava and maize value chains in Nigeria: GIZ 2013



Maize is a multipurpose crop, providing food and fuel for humans and feed for animals (poultry and livestock). Its grain has great nutritional value and it is used as raw materials in flour mills, breweries, confectionaries and animal feed manufacturing firm. It is a very versatile crop since it is used for domestic consumption in addition to its industrial uses. Maize represents the third most important crop after cassava and yams among the top 17 food crops in Nigeria in terms of volume of production and area cultivated.<sup>16</sup>

In Nigeria, there are 2 planting seasons: Early planting season begins in March or April in the forest ecology, depending on whether rainfall is early or delayed. Late planting season starts from late June to August. Late season maize is recommended only for areas where rainfall is likely to be adequate. In Nigeria, the southwest, south-south and south-east geo-political zones are included in this ecological zone suitable for the two planting seasons.

Nigeria is the 14th largest producer of maize globally and the 2<sup>nd</sup> largest in Africa behind South Africa with 10,420,000 metric tons cultivated in 2017 according to the FAO. The average yield in Nigeria is about 1.6 tons per hectare, which is low when compared to the global average of 5.76 tons per hectare in 2017. This is despite having the sixth largest cultivation area for maize globally. Kaduna state is the largest maize producing state in Nigeria, harvesting 937,820 metric tons of the commodity in 2018 over 360,180 hectares of land.<sup>17</sup>

Maize cultivation, like the cultivation of other grains in Nigeria is typically a manual process carried out by smallholder farmers on less than two hectares of land with little use of modern technology. This contributes to the low yield numbers witnessed in the country. At no point in the FAO data since 1961 has the yield in Nigeria surpassed the global average. This makes maize cultivation, in its current form, uncompetitive in Nigeria when compared to other large producers globally.

Depending on the expected end use, the crop will need to attain a given level of dryness before harvesting commences. Maize can be harvested green or as dry grains when the crop is fully mature. The cobs could be removed from the stem and dehusked or the stems could be cut and heaped at specific locations for dehusking

<sup>16</sup> Nigeria Non-Lending Technical Assistance Trade in Agricultural Market: Market Studies- Value Chain Analysis Maize, Sorghum, Cocoa, Sesame

<sup>17</sup> National Agricultural Extension and Research Liaison Services (NAERLS) Agricultural Performance Survey of 2018 Wet Season in Nigeria

later. They should be allowed to dry to a moisture content of about 14% for easy shelling. After shelling, the grains can be further dried before bagging and stored in a weevil-free store until used for consumption or for sale.

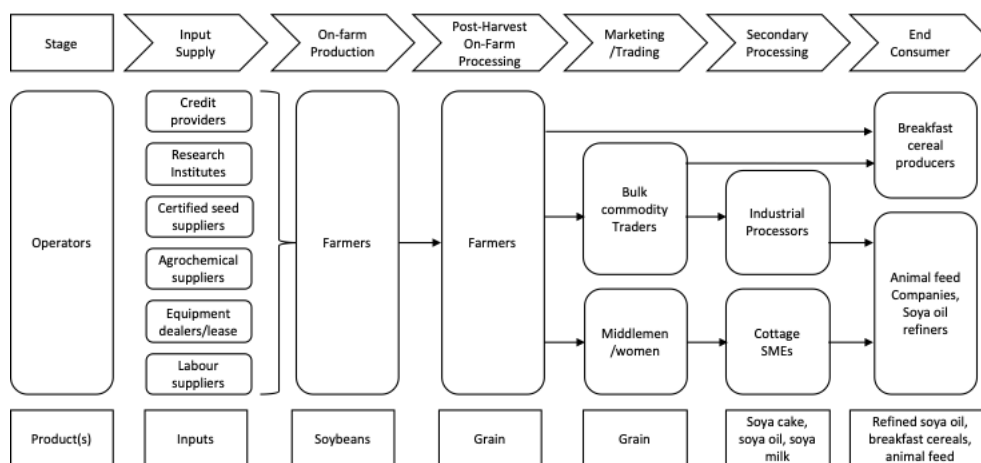
Nigeria’s maize processing enterprises are generally engaged in primary processing and are limited by the backward technology and small-scale nature of the enterprise. The future of maize production lies not only on output increase but also on the development of processing industries. Maize grains can be processed into different products for a variety of uses at both the traditional and industrial levels. Two methods are utilized to process maize industrially - wet and dry milling. The objective of the wet milling of maize is to obtain starch, oil and other components, which are useful in other areas such as livestock feeds. The dry milling process involves physical breaking of maize grains into various fractions and the size of the product determines its use. The main objectives of dry milling are:

- i. To obtain maximum yield of grits with the least contamination with fat and black specks of the tip cap, to recover as much as possible the endosperm as meal,
- ii. To produce the maximum amount of flour and
- iii. To obtain the maximum amount of oil.

Products from dry milling are maize meal, flour and maize grits<sup>18</sup>.

### 3.4 Sector Overview: Soybeans value chain


Figure 8: Soybeans Value Chain Map



In Nigeria, the consumption of soybean has increased over the years driven by the poultry, fishery and edible oil industries. Soybean meal is a vital and preferred source of protein in compound feed and accounts for 20%-30% in poultry feed and 20% of fish feed composition. Furthermore, soybean oil is currently recognized as alternative to palm oil by various industries. There is a growing trend in soybean consumption as it is the second most consumed and produced vegetable oil in the world, accounting for 28% of oils produced after palm oil at 37%<sup>19</sup>.

<sup>18</sup> Competitive Commercial Agriculture in Africa Study: Nigeria Case Study 2007

<sup>19</sup> Soybean: On Becoming a Highly Coveted Crop; Sahel Capital, 2017



Nigeria is the 14th largest soybeans producer globally and the 2nd largest in Africa behind South Africa. In 2017, Nigeria produced 730,000 metric tons of the commodity, 163 times less than the world's top producer, the United States (FAOStat). In terms of yield, Nigeria at 0.97 tones per hectare lags well behind the global average of 2.85 tons per hectare. As at 2018, Benue State, Nigeria's highest production state, produced about 22.8% of the national output down from 44% in 2007<sup>20</sup>.

The input supplies market for soybean production is not a well-regulated market. The distribution of farm inputs to the farmers is usually through the established links with the extension agents from the State Agricultural and Rural Development Authority, the government agriculture development body in each of the states. These agents can serve as the link between the traders and the farmers. The dealers or traders are both medium and small-scale operators who engage in both wholesale and retail sales. Some dealers establish direct contact with farmers, cutting out the middle men. This is also required due to the low number of extension agents available across the country. Field studies revealed that herbicides were the most demanded inputs in the soybean endemic region due to high weed occurrence. It should be noted here that the low number of extension agents limits the chances of the farmers knowing the proper use of herbicides thereby causing agrochemical overuse and wastage. This increases farmers' cultivation costs and has negative environmental effects.

The use of mechanization in cultivation is very low so most smallholder farmers use manual means of cultivation, harvesting, threshing and bagging. These traditional practices are responsible for the high post-harvest losses experienced in the soybeans grain value chains, as well as other grain value chains.

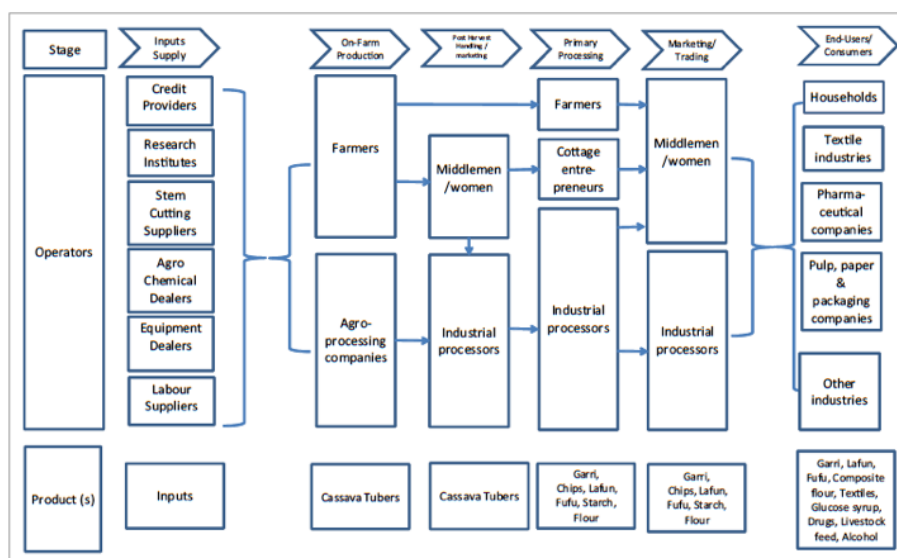
Processors, most of which are agri-SMEs, obtain their inputs through agents or from the open market. Commodity seasonality and price volatility is a major impediment to all-year-round production by processors. Industrial processors constitute the main demand drivers for soybean in Nigeria. Amongst these processors, livestock feed mills supplying the poultry and aquaculture industries are the highest drivers of demand. Other drivers of demand include oil mills and instant food industries.

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<sup>20</sup> Mapping of soybeans production areas in Nigeria: Propcom 2007; NAERLS 2018

### 3.5 Sector Overview: Cassava value chain

Figure 9: Cassava Value Chain Map<sup>21</sup>



Cassava, a starchy root crop, is a major source of food security in Africa because of its ability to grow in low-quality soil, its resistance to drought and disease, and its flexible cultivation cycle<sup>22</sup>. Cassava is one of the most important crops to Nigeria farmers; it is the most widely cultivated crop. It is the most important crop by production, and the second most important by consumption<sup>23</sup>, providing food and income to over 30 million farmers and large numbers of processors and traders.

Cassava is grown in almost all the states and thrives in all agro-ecological zones in Nigeria. The Nigerian cassava system, characterized by small-scale farmers/holdings cultivating less than 2 hectares of cassava (average of 0.5 ha), is subsistent in nature, primarily cultivated for the traditional food market, and not oriented to the industrial market. Any surplus cassava is either processed on the farm, or sold to local processors<sup>24</sup>.

Cassava is the third most important source of calories in the tropics, after rice and maize. Millions of people depend on cassava in Africa, Asia and Latin America. The broad agro-ecological adaptability of cassava and its ability to produce reasonable yields where most crops cannot, makes it the basis for food security at the household level and an important source of dietary energy. The crop is an essential part of the diet of more than half a billion people globally and provides a livelihood for millions of farmers, and many processors and traders worldwide. Almost 60% of world production is concentrated in five countries: Nigeria, Brazil, Thailand, Indonesia and the Democratic Republic of Congo<sup>25</sup>.

By volume, Nigeria is the world's largest producer of cassava. In 2017, Nigeria produced 59.5 million tons of cassava. Nigeria's yield of 8.76 tons per hectare as at 2017 is below the global average of 11.1 tons per hectare and the global leading yield of 32 tons per hectare by Laos.

<sup>21</sup> Food losses in cassava and maize value chains in Nigeria: GIZ 2013

<sup>22</sup> Meridian Institute 2013; Sanni et al. 2009)- HarvestPlus document

<sup>23</sup> FAO (2014)

<sup>24</sup> Cassava Masterplan: A Strategic Action Plan for the Development of the Nigerian Cassava Industry, March 2006

<sup>25</sup> Cassava: International Market Profile, FAO

The bulk of world trade in cassava is in the form of pellets and chips for feed (70%) and the balance mostly in starch and flour for food processing and industrial use. Very little is traded in the form of fresh root, given the product's bulkiness and perishable nature. Thailand is a dominant supplier to world markets, accounting for some 80% of global trade; Vietnam and Indonesia both have a share of about 8%; and a few countries in Asia, Africa and Latin America provide for the remainder.<sup>26</sup>

Cassava is propagated through stem cuttings, which are taken from plants that are: (a) free from disease; (b) at least 10 months old and (c) have borne tubers. Each cutting has at least 1-2 nodes and are approximately 20 cm (7.9 in) long. High quality cassava varieties with multiple pest and disease resistance, high and stable root yields and acceptable quality characteristics that meet end users' requirements for food and industrial raw material are required for propagation. However, these varieties are in short supply and cassava production in Nigeria has been characterized by dominant use of poor-quality planting materials of disease-prone local varieties with long maturation period and low yield potentials of 9-12 tons/ha.

In response to this, the International Institute for Tropical Agriculture (IITA) in collaboration with the National Root Crops Research Institute (NRCRI) in 2010 released 40 high-yielding, disease-resistant improved cassava varieties that have the potential to raise the low cassava productivity on farmers' farms by up to 30-40 MT/ha.

Cassava cultivation requires the use of labour in the performance of land clearing, bed preparation, planting, weeding and harvesting. Labour is essentially manual, involving the use of rudimentary equipment - mainly simple tools such as hoes and cutlasses. There is usually a clearly defined division of labour along gender lines, with women more involved in weeding and food processing of harvested cassava. Generally, the cultivation of cassava is thought to require less labour per unit of output than most crops grown by smallholder farmers. These smallholder farmers using rudimentary implements produce over 90% of the cassava grown annually in Nigeria. The crop is mostly grown on small farms, usually intercropped with vegetables, grains (such as maize), other roots (yam, sweet potato), legumes or in some cases as a sole crop. Wide variations exist between communities and households in the practice of these systems. However, cassava is usually the last crop in the rotation cycle.

Cassava is a highly perishable commodity, with a post-harvest life of less than 72 hours and has to be processed almost immediately. About 95% of cassava roots are processed into food products such as *garri*, *fufu*, edible starch, *kpokpo garri*, *lafun* and *abacha* which are mainly consumed domestically, and the remaining 5% is processed into products such as High-Quality Cassava Flour, cassava starch, cassava chips, ethanol and sweeteners (high fructose syrup and glucose) for industrial users. Because cassava is highly perishable, processors need to be set up close to their markets (storage/ transport), close to growers (access to raw materials) and close to good infrastructure (power, roads). The industrial market for cassava is nascent and largely uncompetitive due to the nature of demand and supply for cassava. However, demand for cassava in the industrial market is expected to increase primarily as a result of increased import substitution of raw materials and semi-finished products.

In the research space, the International Institute of Tropical Agriculture (IITA), Ibadan has the Africa mandate for Cassava development, including research for development. Its aim is to increase agricultural productivity through research and development of high yielding, pest and disease resistant/tolerant genotypes and post-

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<sup>26</sup> Cassava Masterplan: A Strategic Action Plan for the Development of the Nigerian Cassava Industry, March 2006

harvest development, including better cassava process technology for chips, foods, industrial, pellets and poultry feeds, process technology, cooperation in the fabrication of cassava chips/pellet, industrial starch, cassava bread and confectioneries, ethanol production, market development. The IITA has a research mandate, which requires collaboration with private and public sector organizations for scale up. This has however not achieved its desired potential.

The National Root Crops Research Institute (NRCRI) conducts research into genetic improvement of economically important root and tuber crops including cassava and the different forms of potatoes. It also researches subjects such as crop cultivation techniques, storage, processing and utilization of the crops, concentrating on requirements of farmers in the south-east zone of Nigeria. The institute provides training of middle level agricultural workers, awarding National Diplomas and Higher National Diplomas and providing specialized vocational training to farmers. The NRCRI and IITA have collaborated at several instances to develop new cassava varieties for the Nigerian cassava industry. Achieving scale remains the major challenge in this regard.

### 3.6 Investment opportunities in the three focal value chains

Investment opportunities will be identified based on the following broad value chain areas:

1. Input Supply and Distribution
2. On farm production
3. On-farm post-harvest processing
4. Storage and logistics
5. Post-farm Processing

Given the similarities in some sections of the maize and soybeans value chain, some sections of their investment opportunities identification have been covered collectively.

### 3.7 Investment opportunities in maize and soybeans

#### 3.7.1 Input supply and distribution

##### (a) Supply of improved seeds

In 2017, Nigeria locally produced 968 MT of soybean seeds from 24 seed companies. That covers about 19,360 hectares of farmland<sup>27</sup>. According to the FAO, 750,000 hectares of soybeans were cultivated in 2017. This leaves a gap of 36,532 mt of soybean seeds worth ₦14.6bn<sup>28</sup> that can be produced locally.

In the same year, Nigeria produced a combined total of 31,828 MT of maize seeds locally (3,033 MT of hybrid maize and 28,795MT of open pollinated variety). This volume should cover 20%<sup>29</sup> of the 6.54 million hectares cultivated in the same year. This leaves a gap of 131,672 mt of maize seeds worth ₦85.6bn<sup>30</sup> to be supplied locally.

<sup>27</sup> At 50kg of soybean seeds per hectare

<sup>28</sup> At ₦400 per kg

<sup>29</sup> Using 25kg of maize seeds per hectare

<sup>30</sup> At ₦650 per kg of maize

While seed importation takes place to help fill the gap (seed importation data is unavailable), majority of the cultivation of maize and soybeans occurs using farmers' saved seeds from the preceding harvest. Knowledge of and access to improved seeds by the farmers has been the major challenge. There is an investment opportunity in the local production/importation and distribution of certified maize and soybean seeds.

The challenge of access to the seeds and other farm inputs such as agrochemicals and fertilizers by the farmers results from poor last mile distribution of these farm inputs. This is in part due to the wide geographic area in which the farmers reside (and cultivate) and the poor road infrastructure leading to these areas thereby increasing the distribution costs. Despite these challenges, some companies still get their products to these farmers by creating new and/or using existing supply chains. There is an investment opportunity to improve access to these farmers by strengthening and expanding these supply chains by consolidating supply of various inputs to a single supply chain thereby reducing the distribution costs to suppliers and farmers and increasing the uptake of improved seeds and other inputs at the farmer level. Based on calculations to produce a hectare of soybeans and maize, a retailer can make ₦3,715 and ₦10,355 as profit respectively. This gives a total market size of ₦2.8bn for soybeans last-mile input distribution and ₦67.7bn for maize last-mile input distribution.

### Unlocking the potential

1. Increased awareness of the smallholder farmers on the detrimental effects of using saved seeds on yields and incomes
2. Increased knowledge of the farmers of the benefits of commercial farming versus the current trend of subsistence agriculture
3. Increased strengthening of the input supply chain to the rural farmers through collaboration with existing farmer groups.

### Investment areas

Increased investments in last mile distribution by input suppliers to create access to the inputs for the farmers. Using a 16km radius<sup>31</sup> per input dealer, over 8,000 inputs dealers will be required for maize and soybeans based on the current hectareage. A similar number will be required for cassava input distribution. The micro nature of these last mile distributors makes low interest rate, MSME focal funding as the preferred model for investment.

### (b) Tractor lease/rentals

According to official data, in 2018, only ten out of the 36 states and the Federal Capital Territory had private sector run tractors in operation, with 552 tractors cultivating a total of 231,880 hectares of land nationwide across several value chains. In the same year, there were 298 functional government tractors covering under 15,000 hectares of farm land. Using the private sector rate of 420 hectares per tractor per annum, soybean and maize cultivation will require 1,785 and 15,569 60 – 75 horsepower tractors respectively at 2017 hectareage levels. The main challenge to investing in this field is the unstructured, geographically dispersed and non-commercial nature of the clientele i.e. the smallholder farmers.

Alternatively, given the predominance of smallholder farmers with small parcels of land per farmer, mini farm

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<sup>31</sup> Originally from the establishment of the agro-input distribution centers of the 1960s and reintroduced in the Agriculture Transformation Agenda of 2012



equipment suitable for use by small to medium scale farmers (0.5 – 5 hectares of land) are more attractive. These pieces of equipment are cheaper than the much larger 60 – 75 horsepower tractors and offer the farmers the benefits of mechanization, albeit on a smaller scale. Farmers in cooperatives could pull funds together to purchase these tractors for use as a group. Market penetration of this type of equipment is still low and market data is unavailable. Given that these mini tractors work on about a quarter of the land size toiled by their large counterparts and 80% of the farmers in Nigeria have the land size that falls in the target market of these tractors, the soybean and maize value chains can, at 2017 hectareage levels, utilize 5,713 and 49,820 20 horsepower tractors respectively.

### Unlocking the potential

1. Promote commercial farming of single grain commodities in communities with contiguous farm land
2. Promote the benefits of mechanization to the smallholder farmers
3. Improve the access of equipment owners to maintenance services to help prolong the equipment life

### Investment areas

Investment in the purchase of tractors and their attachments (ploughs, harrows, boom sprayers). 100 75 horsepower tractors, for instance, will cost about ₦1 billion. A thousand 20 horsepower tractors will cost about ₦1.5 billion. Given the expected slow growth in sales (due to low but growing availability of commercial farms), the short-term commercial funds are not appropriate for such an investment. Longer term venture capital investments will be required for this investment.

## 3.7.2 On-farm production

### (a) Agro-Service Provider Model

Solving the challenges directly related to increasing cultivation by farmers requires a solution that make smallholder farmers take advantage of the economies of scale of their large numbers while also reducing the level of risk of each individual farmer. To do this requires the establishment of a separate organizational entity outside the farmers sphere of influence which will take over the governance, coordination, risk management and stakeholder engagement of the farmers' operations. This entity, the Agro-Service Provider (ASP) is an SME that provides the resources to train the farmers on the appropriate farming techniques and provides access to finance to the farmers in the way of inputs, equipment and other services such as insurance rather than direct cash handouts for input purchase. This direct supply of inputs reduces the risk of farmers using cash for other purposes or purchasing substandard inputs that would affect the eventual yield at harvest. Also, the low financial inclusion levels of rural farmers make cash disbursement a burden and an expensive activity for ASPs and financiers. Farmers are usually required to make an equity contribution of between 5 – 10% of the total loan during registration to show commitment to the ASP programme.

The ASP is in charge of monitoring the farmer activities during the period from cultivation to harvest, and sets systems in place for feedback and enquiries from farmers. These are important to ensure that any adverse event that may occur during cultivation can be addressed before it scales to a level beyond control. These monitoring and feedback systems usually involve the use of IT technologies.

The ASP model is mainly a kind for kind model so the farmers repay loans in form of grains. The repayment model varies depending on the preference of the ASP, size of operations and relationship with the farmers.

Some ASPs take the entire harvest while others take back the loan amount at the minimum with the farmer given the right to sell the rest to the ASP or to another buyer. Cash transfers are used when the ASPs purchase the grains from the farmers. The ASP is in charge of marketing the harvested commodities to bulk buyers such as feed millers, breweries and cereal manufacturers. The commodities, pre-delivery, need to be stored in standard warehouses which will guarantee the quality of the commodities for the storage period. Access to warehouse facilities is a major factor to the success of the ASP model.

Warehousing brings about the possibility of starting a Warehouse Receipt Scheme for smallholder farmers who intend to store their grains. Smallholder farmers can access microloans by using these receipts as collateral, which are backed by their produce in the warehouses. Given the added costs involved in running an ASP operation, the number of farmers aggregated typically run in the tens of thousands. This therefore requires the ASP to have a wide coverage of agents that can operate under the model.

The operations of the ASP are geared towards the reduction of risk at the level of the farmers to a level that reduces the risk of loss of investor capital. According to the FMARD, as at 2016, the supply gap for soybeans and maize stood at 150,000MT and 500,000MT respectively. These gaps can be linked to the low yield of farmers which in turn, are caused by poor access to quality inputs, poor knowledge of GAP and the subsistence nature of most farming activities across most value chains including maize and soybeans. The predominance of smallholder farmers in the value chain greatly increases the risk and cost of production to potential investors. The ASP model which aggregates farmers over a large production area helps in reducing these risks thereby making the funding of the production side of the value chain more attractive to investors.

At ₦100,000 per annum investment per farmer per hectare, the soybeans and maize value chains will require about ₦75bn and ₦654bn respectively if all cultivation occurred under an ASP model. At present, the major organizations running an ASP model have less than 200,000 hectares under direct ASP cultivation across maize, soybeans and a few other grain commodities.

### Unlocking the potential

1. Increase the capacity of existing ASPs to take on and properly manage larger volumes of farmers
2. Improve the capacity of new ASPs to manage operations
3. Improve access to markets for the ASPs to ensure continuous supply of commodities
4. Increase the understanding of the smallholder farmers on the ASP concept, the benefits to them and the reasons to adhere to contractual agreements (to reduce default rates)

### Investment areas

1. Investments in the capacity building of ASPs requires grant funding from development partners. Field officers that engage directly with the farmers require capacity building on farmer & outgrower management, information technology use, GAP and value chain management. This is required on a continuous basis because field officer turnover rate is high and the existing ASPs raised the issue of the inability to get skilled workers that require little to no training.
2. Investments in the operations of the ASPs with a focus on the primary production of maize and soybeans. Existing ASPs have indicated that they have a three to five-year goal of direct engagement with 500,000 farmers (each cultivating one hectare) each across their focal value chains. This will result in a ₦500 billion investment per organization (covering field operations and IT development and

support). Given the risks associated with agricultural cultivation, the difficulty to attract large private capital as a result of these risks and the social impact of the ASP model, a blended finance model which allows investors seeking social returns and those seeking financial returns to invest alongside each other is a suitable model for investment.

#### Case Study 1: Babban Gona

Babban Gona Farmers' Services Limited is a wholly indigenous firm offering end to end support to farmers with the objective of improving their yields and their incomes. They are currently the single largest producer of maize in Nigeria and represent a major source of maize for local off takers.

Since the firm started in 2011, they have provided four key services required for smallholder farmers to be successful: (i) Financial Services (ii) Agricultural Input Services (iii) Training & Development and (iv) Marketing Services. The company helps reduce the risk of working with smallholder farmers thereby making them more attractive to financing. Besides increasing each farmer's yield and income to at least, 2.3 times the national average, the Babban Gona franchise works to demonstrate that the smallholder segment is a viable model for investment and to attract massive new capital to the sector. Babban Gona has succeeded in getting a 99% repayment rate from its farmers.

Currently they run two models; an innovative franchise model to set up farmer groups within endemic areas where all four above listed services are offered; and an agro-dealer model where agro-input dealers are financed to reach smallholder farmers thereby increasing the number of smallholder farmers that can be reached in one planting season. Babban Gona currently works with 20,000 farmers directly, 100,000 farmers indirectly through the agro-dealers model and targets working with 1,000,000 farmers by 2025.

On commencement, Babban Gona raised \$20,000 proof-of-concept funding from Kiva, a crowd funding fintech. In 2013, Babban Gona launched a private placement social impact bond, a ROPO (Raise Out of Poverty) bond that enabled social investors make a debt investment. The Department for International Development (DfID) invested \$400,000 in subordinated debt in the bond and their presence in the investment helped crowd-in other debt. To date, Babban Gona has used this medium to raise close to \$30 million from both social and commercial lenders with about \$9 million of subordinated debt and \$15 million of senior debt from development finance institutions.

### 3.7.3 Post-harvest on-farm processing

#### (a) Thresher leasing

Value chain adoption of post-harvest equipment such as threshers is very low. While official statistics are unavailable, industry practitioners suggest that market penetration of threshers is less than 3%. The low mechanization in the post-harvest operations contributes to grain losses of about 20 – 30% of output. This low market penetration is fueled by the limited knowledge of and access to the equipment by farmers, the subsistence nature of smallholder farming and poor access to finance. There is an opportunity to lease threshers to farmers, preferably ones that cultivate in clusters. This provides the farmers access to the equipment without the need for the capital cost of purchase. At ₦6,000 per hectare for threshing services, market potential for soybeans and maize is ₦4.5bn and ₦39.2bn respectively. At the current output levels, over 43,000 one ton per hour threshers will be required for maize production costing ₦30.39bn.

## Unlocking the potential

1. Increased awareness amongst farmers on the uses and benefits of the threshers over conventional methods and grain specifications for threshing (moisture content)
2. Increasing the farmers' ability to grow grains for two seasons per year through irrigation fed agriculture promotion to reduce thresher idle time and increase revenue potential
3. Increased access to thresher lease operators to maintenance services
4. Improved capacity of thresher lease operators to expand operations to provide more farmers with the service.
5. Improved knowledge of thresher lease operators on business management operations to provide better internal structure in order to attract funding.

## Investment areas

The size of threshers to be used in farm clusters will depend on the size of the cluster and farms within the cluster. Investments are required in the purchase of threshers (500kg per hour and 1000kg per hour capacities). There are currently no large, structured organizations dedicated to thresher leasing that can take on large investments in the value chain. New entrants or existing organizations will require medium term low interest rate facilities to fund equipment purchase at the outset. This can be in the form of debt facilities or equity from venture capital organizations. This will help to show their capacity in the operations and ascertain their preparedness for expansion and injection of new capital. A venture capital or blended finance structure can then be considered for this phase.

### 3.7.4 Storage & logistics

#### Storage Warehouse leasing

In 2017, Nigeria produced 730,000 MT and 10.4 MMT of soybeans and maize respectively. Private companies involved in the aggregation and distribution of grain commodities affirmed the practice of selling 60% of their commodity volumes directly to offtakers (food processors and animal feed manufacturers). 40% of these volumes are stored. The FMARD with its 33 Silo Complexes and 48 Warehouses with a combined storage capacity of 1.3 million MT is the single largest owner of grain storage capacity in the country. On the private sector side, the development of proper storage warehouse capable of long-term grain storage is limited. Local, state and federal governments have over time been the major providers of grain warehouse space, albeit, inadequate in number and structure. Poor storage practices on the part of farmers contribute to the 20 – 30% post-harvest losses experienced in grains in Nigeria. The awareness among farmers of proper storage techniques that keep out moisture and pests are poor. Using the 40% storage estimate, about 4.46 million MT of maize and soybeans require storage, a gap of 3.16 million MT of storage i.e. 1,580 2000MT storage warehouses. This has a potential market size for soybeans and maize storage are ₦438 million and ₦6.25 billion respectively.

## Unlocking the potential

1. Increasing the awareness amongst farmers of the benefits of storage, proper storage techniques and the advantages of using commercial storage facilities
2. Increasing the supply of standardized warehouse facilities around farming clusters
3. Promoting the use of warehouse receipts which farmers can use as loan collateral as an incentive for farmers to use storage facilities

## Investment areas

Commercial warehouse operators are more disposed to leasing government-built warehouses for their operations. Based on negotiations with the warehouse owners, these commercial operators may renovate the warehouses or allow the owners to do so. The former is more prevalent and quicker to execute. These repair costs are then factored into the annual lease cost as a deduction from the overall lease payment. Leases can extend to five years at once. Investments costing between ₦2 million to ₦5 million per facility depending on the size of warehouse and magnitude of renovation needed, are required for the setting up of the warehouses. The largest private warehouse operator runs about 50 warehouses across the country. More companies are required in the space to expand the private sector offering. Storage can be carried out as a service within a suite of products which include farmer financing via input provision and equipment leasing. Provision of this suite of products mimics the operations of the ASPs. Low interest medium to long term debt facilities, venture capital, blended finance or a combination of these financing options is recommended for this section of the value chain.

### 3.7.5 Post-farm processing

#### (a) Animal Feed Production

According to the Alltech Global Feed Survey 2019, Nigeria produces 5.66 million MT of animal feed annually with layer feed commanding the highest production percentage at 46%, followed by broiler feed at 20%, pig feed at 16% and fish feed at 12%. Maize is a major component of all these feeds. Soybean use in the form of soycake is more predominant in the production of fish feed. Using FAO ingredients for feed production estimates, the soybean and maize components of animal feed are estimated to be worth ₦22.5bn and ₦302.3bn respectively. The soycake industry is worth ₦28.1bn.

#### (b) Corn Flour Production

The national demand for corn flour in Nigeria is estimated at about 800,000 tons per annum (₦240 billion) while the current national supply is estimated at 350,000 tons per annum. The low levels of processing can be linked to the low industrial use of the product as a replacement for the wheat flour which is mainly imported to Nigeria. The maize flour demand is mainly driven by local household consumption.

#### Unlocking the potential

1. Improving linkages between farmers and processors to improve the access to markets for the farmers to reduce their post-harvest losses
2. Improving the knowledge of the farmers to GAP to increase the production of aflatoxin free maize for the industrial use.
3. Increase the number of commercially oriented farmers to increase overall national output and sustain supply to processors.

#### Investment areas

1. Investment is needed in the raw material production (maize and soybeans) to meet local processors demand for grains. Large scale commercial farming or cultivation using the ASP model will receive such investments.
2. Investment in small to medium scale processors for animal feed with close proximity to feed users to

create access to and a sustainable market with the feed users. Medium to long term low interest rate debt and/or venture capital financing is recommended.

### 3.8 Investment opportunities in cassava

#### 3.8.1 Input supply and distribution

##### Supply of improved cassava stems

Nigeria produced 117,722 bundles of certified cassava stems in 2017, a 35% increase from the previous year. This covers a mere 1,962 hectares of cassava farm (0.03% of national hectareage). Majority of farmers use low yielding cassava stems thereby leading to the low national yield average in Nigeria. There is a gap of 407.4 million bundles of cassava stems worth N163 billion. There is no commercial import of cassava stems in Nigeria. The local research institutes IITA and NRCRI, which produce the stems do less commercial market distribution of the inputs, and more free distribution through state ADPs, a deterrent to commercial investments. These ADPs are limited in funding and personnel, therefore, restricting the level of access the farmers can have to the inputs. Most farmers, in turn have no idea of the benefits of the high yielding varieties, and those that do are skeptical of its usage because it will lead to increased output across several states which will crash the market price for the harvested cassava.

Private companies, also see the stems as a low value product because of its low price but bulky nature. The low industrial usage of cassava makes commercial sales unattractive to investors.

##### Unlocking the potential

1. Increased industrial demand for cassava roots to drive up demand
2. Increased propagation of certified cassava stems by seed companies
3. Increased access to certified stems by farmers via improved last mile distribution of the stems
4. Increase awareness of farmers on the benefits and assured sources of certified stems in their geographic areas
5. Increased access of the farmers to industrial offtakers of cassava

##### Investment areas

Increased investments in last mile distribution by input suppliers to create access to the inputs for the farmers. Using a 16km radius<sup>32</sup> per input dealer, over 8,000 inputs dealers for cassava input distribution. The micro nature of these last mile distributors makes low interest rate, MSME focal funding as the preferred model for investment.

##### Cassava Planters and Harvesters lease/rentals

There is no official documented evidence of the presence of commercially available cassava planters and harvesters in Nigeria. This essentially is virgin territory for commercial investments. The major constraint is the non-commercial nature of most of the cassava cultivation in Nigeria thereby making mechanization in the sector challenging and the low industrial use of cassava, which can drive the demand for commercial cassava

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<sup>32</sup> Originally from the establishment of the agro-input distribution centers of the 1960s and reintroduced in the Agriculture Transformation Agenda of 2012

farming. While the potential market size for planters and harvesters' sales is estimated at ₦56.6bn each, the space for large scale commercial investment is very limited.

### Unlocking the potential

1. Increase the number of commercial cassava farms or large-scale contiguous cassava farms
2. Increased awareness amongst farmers on the uses and benefits of the planters and harvesters over manual methods
3. Promote the leasing of cassava planters and harvesters as a part of the equipment suite of tractor lease operators

### Investment areas

An increase in the number of commercial farms increases the attractiveness of investors to finance the purchase of the equipment. Currently, there are no large, well-organized firms that offer this service therefore, new entrants into the value chain will be required. Investments will be required in the areas of capacity building to marketing and business management. This could be derived from development partners assisting in the capacity development and access to market initiatives. Investment in equipment financing is also required. Long term venture capital investments are recommended.

## 3.8.2 On-farm production

### Agro-Support Provider Model

The ASP model for cassava production is untested to date. A few existing ASPs have stated that they intend to test the market in the next few cropping cycles. This may be because unlike grains, cassava takes close to a year until harvest, therefore the investors may deem it a riskier commodity and require a higher payout. In spite of this, the demand for cassava products is still on the rise and there is a need to transit into commercial farming to meet the demand locally and internationally.

### Unlocking the potential

1. Increase the capacity of existing ASPs to take on value chains such as cassava with longer growth cycles
2. Increase the ASPs capacity to develop innovative financing products that can attract investors to crops with longer growth cycles
3. Improve access to markets for the ASPs to ensure continuous and rapid offtaking of commodities
4. Increase the understanding of the smallholder farmers on the ASP concept, the benefits to them and the reasons to adhere to contractual agreements (to reduce default rates)

### Investment areas

1. Investments in the operations of the ASPs with a focus on the primary production of cassava. This could be in collaboration with development partners that can also provide a linkage to existing markets for off taking. It is expected that ASPs working on cassava will start with a relatively small number of farmers (<1,000). Having gained experience over 2-3 years, an expansion can be anticipated. Given the inherent challenges associated with agricultural cultivation, the longer production cycle of cassava, the difficulty to attract large private sector funding and the social impact associated with the ASP model, a blended finance model is a suitable model for investment. A set of

1,000 farmers will require about ₦100 million in investments through the ASPs.

- Investments in the capacity building of ASPs requires grant funding from development partners. Field officers that engage directly with the farmers require capacity building on farmer & outgrower management, information technology use, GAP and value chain management. This is required on a continuous basis because field information reveals that field officer turnover rate is high and the existing ASPs raised the issue of the inability to get skilled workers that require little to no training thus a constant need for employee training.

### 3.8.3 Primary processing

#### Garri Production

The estimated annual consumption of garri in Nigeria stands at about 7.7 million metric tons equivalent to approximately 30.7 million metric tons of cassava<sup>33</sup>. Whereas the demand for garri is estimated at some 12 million metric tons; this demand has not been met due to low productivity and the inefficient traditional garri processing methods. The gap is estimated at ₦430bn.

#### Other Cassava Derivatives for Industrial Use

Cassava roots also have industrial uses, which has not been widely explored in Nigeria. The manufacturing of these products locally will have a positive impact on the smallholder and commercial farmers as the processors provide a ready market for the cassava. The table below shows the products, estimated demand, market size in Naira and the fresh cassava root requirements to meet the demand.

Table 3: Estimated demand, market size and the cassava root requirements for cassava products

Value Added Product <sup>34</sup>	Estimated Demand (tons)	Market Size (N' million)	Fresh root requirement (tons)
Starch	230,000	24,840	1,150,000
Flour	250,000	20,000	1,000,000
Sweeteners	190,000	820,800	950,000
Dried chips for export and animal feed	900,000	648,000	3,360,000
Fuel Ethanol	500,000,000 litres	66,600	3,571,428
<b>Total</b>			<b>10,031,428</b>

Fully harnessing the potential of the value-added products will require the additional cultivation of over 10 million tons of cassava roots annually.

#### Unlocking the potential

- Improved linkages between processors and value-added products users e.g. starch in the pharmaceutical sector, sweeteners in the food industry, ethanol in the beverage industry; to initially understand supply requirements and to develop and maintain a steady cassava supply channel.
- Increase in the cultivation of cassava varieties preferred by processors e.g. TME 419.

<sup>33</sup> Action Plan for a Cassava Transformation in Nigeria

<sup>34</sup> Action Plan for a Cassava Transformation in Nigeria



3. Increased investment in equipment and techniques that can produce the output desired by the target user industry.

#### **Investment areas**

1. Investment is needed in the production of cassava tubers to meet local processors raw materials demand. Large scale commercial farming or cultivation using the ASP model will receive such investments.
2. Investment in small to medium scale garri processors with access to farmers as a source of raw materials. Garri is the largest market segment and remains a growth area due to the growing population. Medium to long term low interest rate debt and/or venture capital financing is recommended.

## Section 4: Selected investment deep dives

### 4.1 Processing of soybeans to soya cake and crude soya oil

#### Description

Soybeans serves as the raw material for various industrial and consumer products. Some of these products include poultry feed, fish feed, breakfast cereal and edible oils. The growing middle class in Nigeria will expand the demand for these products and as such, will cause a rise in the demand for the derivatives of soybeans that are required for their production. Given the rise in poultry and aquaculture output in Nigeria and the increased health consciousness of the Nigerian upper and middle class, the demand for soya cake (for the manufacture of animal feed) and crude soya oil (for further refinement into edible soya oil) is set to increase. Therefore, an opportunity to process the soybeans into soya cake and crude soya oil exists in the soybean value chain in Nigeria.

#### Activities

For a one-ton per hour processing facility, an agri-SME can conveniently operate on a 600 sqm piece of land which will need to be purchased. The land will hold the facility for production and will have a warehouse section to store raw materials, packaging materials and the finished products before they are transported to the clients. The soybeans for processing can be purchased from the open market for ease of aggregation. The required equipment can be sourced from China. European and American equipment suppliers exist; however, cost considerations may make them out of reach for most agri-SMEs.

#### Financing needs

In order to start a soybean cake and oil processing facility, the agri-SMEs will require the following fixed assets

1. Land (600 sqm)
2. Building facility
3. Water borehole & treatment
4. Power generator (two 250 Kva capacity)
5. Destoner
6. Hammer Mill Surge Bin
7. Extruder & Bin
8. Oil Press
9. Two Storage Tanks of 33,000 litres each for the soya oil

The cost of each equipment is provided below:

Figure 10: Capital expenditure costing for processing facility

<i>Equipment</i>	Naira
Destoner	3,600,000
Hammer Mill Surge Bin	7,200,000
Extruder & Bin	18,000,000
Oil Press	18,000,000
Storage Tanks (litres)	3,600,000
Land (sqm)	1,000,000
Building Construction (per sqm)	40,000,000
Water borehole & treatment	1,000,000
Power generator (Kva)	30,000,000
	122,400,000

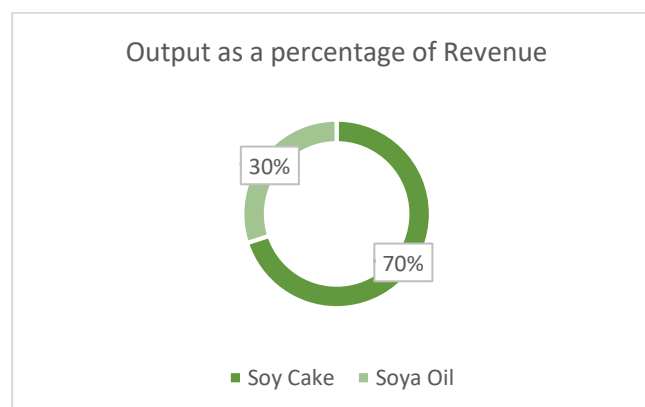
The following assumptions were made:

### General Assumptions

1. The facility is assumed to have no debt i.e. Debt to Capital Ratio of 0 percent
2. Company income tax is set at 23%
3. Inflation of 9% being the inflation target of the Federal Government and the CBN
4. United States dollar exchange rate is \$1 to ₦360
5. The cost to process a kilogram of soybeans is N10 (based on market actor interviews)

### Revenue assumptions

Figure 11: Percentage output per processed soybean product



## Cost assumptions

Figure 12: Cost assumptions per annum for a one-ton per hour soybeans processing facility

	Units	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Soya	Naira		320,112,000	348,922,080	380,325,067	414,554,323	451,864,212
Bags	Naira		2,655,800	2,894,822	3,155,356	3,439,338	3,748,878
<b>Total Cost of Sales/Inventory</b>	<b>Naira</b>		<b>322,767,800</b>	<b>351,816,902</b>	<b>383,480,423</b>	<b>417,993,661</b>	<b>455,613,091</b>
<b>Operating Expenses</b>							
Fuel Expense			11,856,000.00	12,923,040.00	14,086,113.60	15,353,863.82	16,735,711.57
Machinery servicing			474,240.00	516,921.60	563,444.54	614,154.55	669,428.46
Generator - servicing & repairs			474,240.00	516,921.60	563,444.54	614,154.55	669,428.46
Safety Equipment			118,560.00	129,230.40	140,861.14	153,538.64	167,357.12
Insurance			237,120.00	258,460.80	281,722.27	307,077.28	334,714.23
Salaries (Gross)			9,603,360.00	10,467,662.40	11,409,752.02	12,436,629.70	13,555,926.37
Distribution			948,480.00	1,033,843.20	1,126,889.09	1,228,309.11	1,338,856.93
<b>Total Operating Expense</b>			<b>23,712,000</b>	<b>25,846,080</b>	<b>28,172,227</b>	<b>30,707,728</b>	<b>33,471,423</b>

## Potential risks

Major risks to the processing of the soybeans into soy cake and soya oil are:

**Macroeconomic risks:** Nigeria being a major crude oil exporter has government revenue and foreign exchange reserves dependent on the international crude oil price. Points of low crude oil prices lead to a scarcity of foreign exchange and a rise in the exchange rate, which will hamper the ability of agri-SMEs to obtain the much-needed foreign exchange for the purchase of equipment. The inflationary pressures of such a period may lead to interest rate increases from the CBN to check the rising inflation. This will further crowd out investments to the private sector and will reduce the attractiveness of lending from commercial sources.

**Soybeans seasonality:** The current seasonality of soybeans in Nigeria could force months of downtime during the processing cycle. Processors will have to purchase at higher prices thus squeezing margins or will purchase grains during peak season for storage and use in the off-season which could have a cashflow implication as funds are tied down.

## Intended or desired outcomes / impacts

The Return on Investment for a one ton per hour soya cake and soya oil processing facility are shown in the table below:

Table 4: Return on Investment on soybean processing facility

	Net Present Value (Naira)	Internal Rate of Return (%)	Payback period (years)
One ton per hour soya cake and soya oil processing facility	78,915,965.76	44%	2.72

The proforma profit and loss, balance sheet and cashflow statements are provided below:

Figure 13: Five-year Income Statement for a one ton per hour soya cake and soya oil processing facility

Statement of Comprehensive Income:	Units	Projected					
		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
<b>Revenue from Continuing Operations:</b>	<i>Naira</i>		<b>406,897,920</b>	<b>443,518,733</b>	<b>483,435,419</b>	<b>526,944,606</b>	<b>574,369,621</b>
<i>Revenue Growth:</i>	%			9%	9%	9%	9%
Cost of Sales:	<i>Naira</i>		322,767,800	351,816,902	383,480,423	417,993,661	455,613,091
<b>Gross Profit:</b>	<i>Naira</i>		<b>84,130,120</b>	<b>91,701,831</b>	<b>99,954,996</b>	<b>108,950,945</b>	<b>118,756,530</b>
<i>Gross Margin:</i>	%		21%	21%	21%	21%	21%
<b>Operating Expenses:</b>							
Operating Expenses	<i>Naira</i>		23,712,000	25,846,080	28,172,227	30,707,728	33,471,423
Interest Expense	<i>Naira</i>						
Depreciation	<i>Naira</i>		6,640,000	6,640,000	6,640,000	6,640,000	6,640,000
<b>Total Operating Expenses:</b>	<i>Naira</i>		<b>30,352,000</b>	<b>32,486,080</b>	<b>34,812,227</b>	<b>37,347,728</b>	<b>40,111,423</b>
<b>Results from Continuing Activities (EBIT):</b>	<i>Naira</i>		<b>53,778,120</b>	<b>59,215,751</b>	<b>65,142,768</b>	<b>71,603,218</b>	<b>78,645,107</b>
<i>Operating (EBIT) Margin:</i>	%		13%	13%	13%	14%	14%
Profit Before Income Tax:	<i>Naira</i>		53,778,120	59,215,751	65,142,768	71,603,218	78,645,107
Tax Expense	<i>Naira</i>		12,368,968	13,619,623	14,982,837	16,468,740	18,088,375
<b>Profit / (Loss) for the Period:</b>	<i>Naira</i>		<b>41,409,152</b>	<b>45,596,128</b>	<b>50,159,932</b>	<b>55,134,477</b>	<b>60,556,732</b>

Figure 14: Five-year Balance Sheet Statement for a one ton per hour soya cake and soya oil processing facility

Statement of Financial Position:	Units	Projected					
		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Inventories:	<i>Naira</i>		16,138,390	17,590,845	19,174,021	20,899,683	22,780,655
<b>Total Current Assets:</b>	<i>Naira</i>		<b>48,049,152</b>	<b>100,285,281</b>	<b>157,085,212</b>	<b>218,859,690</b>	<b>286,056,422</b>
<b>Non-Current Assets:</b>							
Property, Plant & Equipment, Net:	<i>Naira</i>	122,400,000	115,760,000	109,120,000	102,480,000	95,840,000	89,200,000
<b>Total Non-Current Assets:</b>	<i>Naira</i>	<b>122,400,000</b>	<b>115,760,000</b>	<b>109,120,000</b>	<b>102,480,000</b>	<b>95,840,000</b>	<b>89,200,000</b>
<b>Total Assets:</b>	<i>Naira</i>		<b>163,809,152</b>	<b>209,405,281</b>	<b>259,565,212</b>	<b>314,699,690</b>	<b>375,256,422</b>
<b>LIABILITIES AND EQUITY:</b>							
<b>Current Liabilities:</b>							
Trade and Other Payables:	<i>Naira</i>		-	-	-	-	-
<b>Total Current Liabilities:</b>	<i>Naira</i>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total Liabilities:</b>	<i>Naira</i>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Equity:</b>							
Issued Capital & Share Premium:	<i>Naira</i>	122,400,000	122,400,000	122,400,000	122,400,000	122,400,000	122,400,000
Retained earnings			41,409,152	87,005,281	137,165,212	192,299,690	252,856,422
<b>Total Equity:</b>	<i>Naira</i>		<b>163,809,152</b>	<b>209,405,281</b>	<b>259,565,212</b>	<b>314,699,690</b>	<b>375,256,422</b>
<b>Total Liabilities and Equity:</b>	<i>Naira</i>		<b>163,809,152</b>	<b>209,405,281</b>	<b>259,565,212</b>	<b>314,699,690</b>	<b>375,256,422</b>

Figure 15: Five-year Cashflow Statement for a one ton per hour soya cake and soya oil processing facility

Statement of Cash Flows:	Projected					
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>						
Net Profit / (Loss) After Income Tax:	Naira	41,409,152	45,596,128	50,159,932	55,134,477	60,556,732
Adjustments for Non-Cash Changes:						
Depreciation and Amortization:	Naira	6,640,000	6,640,000	6,640,000	6,640,000	6,640,000
Deferred Income Taxes:	Naira					
Changes in Operating Assets and Liabilities:						
Trade and Other Receivables:	Naira					
Inventories:	Naira	(16,138,390)	(1,452,455)	(1,583,176)	(1,725,662)	(1,880,971)
Trade and Other Payables:	Naira					
Deferred Revenues:	Naira					
Other Changes, Net:	Naira					
Net Cash Provided by Operating Activities:	Naira	<b>31,910,762</b>	<b>50,783,673</b>	<b>55,216,756</b>	<b>60,048,816</b>	<b>65,315,761</b>
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>						
Purchases of Property, Plant, & Equipment (CapEx):	Naira	(122,400,000)				
Other Investing Activities:	Naira					
Net Cash Used in Investing Activities:	Naira	<b>(122,400,000)</b>	-	-	-	-
<b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>						
New Equity Issued by Company:	Naira	122,400,000				
Net Debt:	Naira					
Net Cash Provided by Financing Activities:	Naira	<b>122,400,000</b>				
Change in Cash and Cash Equivalents:	Naira	-	31,910,762	50,783,673	55,216,756	60,048,816
Beginning Cash:	Naira	-	31,910,762	82,694,435	137,911,191	197,960,007
Ending Cash:	Naira	-	<b>31,910,762</b>	<b>82,694,435</b>	<b>137,911,191</b>	<b>197,960,007</b>

## 4.2 Investing opportunities in ASP operations (using maize as an example)

### Financing needs

In order to start an ASP operation on maize, the following assumptions were made:

### General Assumptions

1. Inflation rate of 9%, corporate tax rate of 23% and USD to Naira exchange rate of \$1 to ₦360.
2. Each field officer has 500 farmers under his/her watch while senior field officers have 10 field officers under his/her watch.
3. All capital inflows are equity

### Revenue Assumptions

1. 50% of the farmers sell half of their remaining grains post-loan repayment to the ASP and the other 50% of the farmers sell all their remaining grains to the ASP.
2. 60% of the commodities collected by the ASP are sold immediately to the offtakers thus will not require storage.
3. Number of farmers engaged per annum increases from year 1 to year 5 thus: 2,000 farmers, 10,000 farmers, 20,000 farmers, 25,000 farmers and 50,000 farmers.
4. Yield per hectare of maize is 4 tons.
5. All grains are sold annually

### Cost Assumptions

1. Android devices for data capture and motorcycles for logistics are provided to every field officer.
2. Weighing scales are provided in every warehouse
3. Each field officer conducts three training sessions with every group of 50 farmers per season

Other cost assumptions for the operations of the ASPs are provided in the table below:

Figure 16: Cost Assumptions per annum for ASP Operations

	Units	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
<b>Cost of grain purchase</b>							
50% grain purchase			116,805,000	636,587,250	1,387,760,205	1,890,823,279	4,121,994,748.90
100% grain purchase			233,610,000	1,273,174,500	2,775,520,410	3,781,646,559	8,243,989,498
Handling			1,227,240	6,688,458	14,580,838	19,866,392	43,308,735
Transportation (to warehouse)			1,227,240	6,688,458	14,580,838	19,866,392	43,308,735
<b>Total Costs of grain purchase</b>	Naira		<b>352,869,480</b>	<b>1,923,138,666</b>	<b>4,192,442,292</b>	<b>5,712,202,623</b>	<b>12,452,601,717</b>
<b>Opex</b>							
Field officer farm visits			480,000	2,616,000	5,702,880	7,770,174	16,938,979
Field staff communications			60,000	497,040	912,461	1,010,123	2,710,237
HQ Rents			2,000,000	2,180,000	2,376,200	2,590,058	2,823,163
Warehouse lease (+security)			2,000,000	7,630,000	15,445,300	20,720,464	43,759,030
Monthly power consumption charge (HQ)			1,200,000	1,308,000	1,425,720	1,554,035	1,693,898
Internet subscription			600,000	654,000	712,860	777,017	846,949
Software Licence			2,000,000	2,180,000	2,376,200	2,590,058	2,823,163
Marketing & Advertising			494,556	2,695,330	5,875,820	8,005,805	17,452,654
HQ Field Travel			2,500,000	2,725,000	2,970,250	3,237,573	3,528,954
	Naira		<b>11,334,556</b>	<b>22,485,370</b>	<b>37,797,691</b>	<b>48,255,306</b>	<b>92,577,027</b>
<b>Training</b>							
Field officer training			2,000,000	2,180,000	2,376,200	2,590,058	8,469,490
Farmer training			1,200,000	6,540,000	14,257,200	19,425,435	42,347,448
	Naira		<b>3,200,000</b>	<b>8,720,000</b>	<b>16,633,400</b>	<b>22,015,493</b>	<b>50,816,938</b>
<b>Salaries &amp; Stipends</b>							
Field officers (total per annum)			1,440,000	7,848,000	17,108,640	23,310,522	50,816,938
Senior field officers			600,000	1,308,000	2,851,440	3,885,087	8,469,490
State supervisors			960,000	1,046,400	1,140,576	1,243,228	4,065,355
Software & App Developers			12,000,000	13,080,000	14,257,200	15,540,348	33,877,959
Finance staff			10,800,000	11,772,000	12,831,480	23,310,522	25,408,469
Operations			3,600,000	3,924,000	4,277,160	4,662,104	15,245,081
Data Analytics			7,200,000	7,848,000	8,554,320	9,324,209	30,490,163
<b>Total Salaries &amp; Stipends</b>	Naira		<b>36,600,000</b>	<b>46,826,400</b>	<b>61,020,816</b>	<b>81,276,020</b>	<b>168,373,454</b>
<b>Depreciation</b>	Naira		<b>(3,194,000)</b>	<b>(13,536,687)</b>	<b>(26,162,494)</b>	<b>(29,855,681)</b>	<b>(69,194,077)</b>

### Intended or desired outcomes / impacts

The Return on Investment for an ASP maize operation are shown in the table below:

Table 5: Return on Investment on ASP Maize Operations

	Net Present Value (Naira)	Internal Rate of Return (%)	Payback period (years)
ASP Maize Operations	769,603,879 (\$2,137,788.55)	213%	1.42

The proforma profit and loss, balance sheet and cashflow statements are provided below:



Figure 17: Five-year Income Statement for ASP Maize Operations

Statement of Comprehensive Income:	Units	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
<b>Revenue from Loan Repayment</b>	<i>Naira</i>		120,780,000	658,251,000	1,434,987,180	1,955,170,033	4,262,270,671
<b>Revenue from Grain Sales</b>	<i>Naira</i>		373,776,000	2,037,079,200	4,440,832,656	6,050,634,494	13,190,383,196
<b>Total Revenue</b>	<i>Naira</i>		<b>494,556,000</b>	<b>2,695,330,200</b>	<b>5,875,819,836</b>	<b>8,005,804,527</b>	<b>17,452,653,868</b>
	<i>USD</i>		1,373,767	7,487,028	16,321,722	22,238,346	48,479,594
<i>Revenue Growth:</i>	<i>%</i>			445%	118%	36%	118%
<b>Cost of Sales:</b>							
Cost of loan repayment	<i>Naira</i>		109,800,000	598,410,000	1,304,533,800	1,777,427,303	3,874,791,519
Cost of grain purchase	<i>Naira</i>		352,869,480	1,923,138,666	4,192,442,292	5,712,202,623	12,452,601,717
	<i>Naira</i>		<b>462,669,480</b>	<b>2,521,548,666</b>	<b>5,496,976,092</b>	<b>7,489,629,925</b>	<b>16,327,393,237</b>
	<i>USD</i>		1,285,193	7,004,302	15,269,378	20,804,528	45,353,870
<b>Gross Profit:</b>	<i>Naira</i>		<b>31,886,520</b>	<b>173,781,534</b>	<b>378,843,744</b>	<b>516,174,601</b>	<b>1,125,260,631</b>
	<i>USD</i>		88,574	482,726	1,052,344	1,433,818	3,125,724
<i>Gross Margin:</i>	<i>%</i>		6%	6%	6%	6%	6%
<b>Operating Expenses:</b>							
Opex	<i>Naira</i>		11,334,556	22,485,370	37,797,691	48,255,306	92,577,027
Salaries	<i>Naira</i>		36,600,000	46,826,400	61,020,816	81,276,020	168,373,454
Training	<i>Naira</i>		3,200,000	8,720,000	16,633,400	22,015,493	50,816,938
Depreciation	<i>Naira</i>		3,194,000	13,536,687	26,162,494	29,855,681	69,194,077
<b>Total Operating Expenses:</b>	<i>Naira</i>		<b>54,328,556</b>	<b>91,568,457</b>	<b>141,614,401</b>	<b>181,402,500</b>	<b>380,961,497</b>
	<i>USD</i>		150,913	254,357	393,373	503,896	1,058,226
<b>Results from Continuing Activities (EBIT):</b>	<i>Naira</i>		<b>(22,442,036)</b>	<b>82,213,077</b>	<b>237,229,343</b>	<b>334,772,102</b>	<b>744,299,134</b>
	<i>USD</i>		(62,339)	228,370	658,970	929,923	2,067,498
<i>Operating (EBIT) Margin:</i>	<i>%</i>		-5%	3%	4%	4%	4%
Profit Before Income Tax:	<i>Naira</i>		(22,442,036)	82,213,077	237,229,343	334,772,102	744,299,134
Tax Expense	<i>Naira</i>		(5,161,668)	18,909,008	54,562,749	76,997,583	171,188,801
<b>Profit / (Loss) for the Period:</b>	<i>Naira</i>		<b>(17,280,368)</b>	<b>63,304,069</b>	<b>182,666,594</b>	<b>257,774,518</b>	<b>573,110,333</b>
	<i>USD</i>		(48,001)	175,845	507,407	716,040	1,591,973
EBITDA:	<i>Naira</i>		(22,440,369)	82,214,744	237,231,010	334,773,768	744,300,801
<i>EBITDA Margin:</i>	<i>%</i>		-5%	3%	4%	4%	4%

Figure 18: Five-year Balance Sheet Statement for ASP Maize Operations

Statement of Financial Position:	Units	Projected					
		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
<b>ASSETS:</b>							
<b>Current Assets:</b>							
Cash and Cash Equivalents:	Naira	-	(14,086,368)	62,754,388	271,583,477	559,213,676	1,201,518,087
Trade and Other Receivables:	Naira						
Inventories:	Naira		-	-	-	-	-
<b>Total Current Assets:</b>	<b>Naira</b>		<b>(14,086,368)</b>	<b>62,754,388</b>	<b>271,583,477</b>	<b>559,213,676</b>	<b>1,201,518,087</b>
<b>Non-Current Assets:</b>							
Property, Plant & Equipment, Net:	Naira	18,480,000	15,286,000	66,964,013	130,004,067	148,504,769	344,546,876
<b>Total Non-Current Assets:</b>	<b>Naira</b>	<b>18,480,000</b>	<b>15,286,000</b>	<b>66,964,013</b>	<b>130,004,067</b>	<b>148,504,769</b>	<b>344,546,876</b>
<b>Total Assets:</b>	<b>Naira</b>		<b>1,199,632</b>	<b>129,718,402</b>	<b>401,587,544</b>	<b>707,718,445</b>	<b>1,546,064,963</b>
<b>LIABILITIES AND EQUITY:</b>							
<b>Current Liabilities:</b>							
Trade and Other Payables:	Naira		-	-	-	-	-
<b>Total Current Liabilities:</b>	<b>Naira</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total Liabilities:</b>	<b>Naira</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Equity:</b>							
Issued Capital & Share Premium:	Naira	18,480,000	18,480,000	83,694,700	172,897,248	221,253,631	486,489,815
Retained earnings			(17,280,368)	46,023,702	228,690,296	486,464,814	1,059,575,147
<b>Total Equity:</b>	<b>Naira</b>	<b>18,480,000</b>	<b>1,199,632</b>	<b>129,718,402</b>	<b>401,587,544</b>	<b>707,718,445</b>	<b>1,546,064,963</b>
<b>Total Liabilities and Equity:</b>	<b>Naira</b>		<b>1,199,632</b>	<b>129,718,402</b>	<b>401,587,544</b>	<b>707,718,445</b>	<b>1,546,064,963</b>

Figure 19: Five-year Cash Flow Statement for ASP Maize Operations

Statement of Cash Flows:		Projected					
		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>							
Net Profit / (Loss) After Income Tax:	Naira		(17,280,368)	63,304,069	182,666,594	257,774,518	573,110,333
Adjustments for Non-Cash Charges:							
Depreciation and Amortization:	Naira		3,194,000	13,536,687	26,162,494	29,855,681	69,194,077
<b>Changes in Operating Assets and Liabilities:</b>							
Trade and Other Receivables:	Naira		-	-	-	-	-
Inventories:	Naira		-	-	-	-	-
Trade and Other Payables:	Naira		-	-	-	-	-
<b>Net Cash Provided by Operating Activities:</b>	<b>Naira</b>		<b>(14,086,368)</b>	<b>76,840,756</b>	<b>208,829,089</b>	<b>287,630,199</b>	<b>642,304,411</b>
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>							
Purchases of Property, Plant, & Equipment (CapEx):	Naira	(18,480,000)	(15,286,000)	(66,964,013)	(130,004,067)	(148,504,769)	(344,546,876)
<b>Net Cash Used in Investing Activities:</b>	<b>Naira</b>	<b>(18,480,000)</b>	<b>(15,286,000)</b>	<b>(66,964,013)</b>	<b>(130,004,067)</b>	<b>(148,504,769)</b>	<b>(344,546,876)</b>
<b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>							
New Equity Issued by Company:	Naira	18,480,000	15,286,000	66,964,013	130,004,067	148,504,769	344,546,876
<b>Net Cash Provided by Financing Activities:</b>	<b>Naira</b>	<b>18,480,000</b>	<b>15,286,000</b>	<b>66,964,013</b>	<b>130,004,067</b>	<b>148,504,769</b>	<b>344,546,876</b>
Change in Cash and Cash Equivalents:	Naira		(14,086,368)	76,840,756	208,829,089	287,630,199	642,304,411
Beginning Cash:	Naira		-	(14,086,368)	62,754,388	271,583,477	559,213,676
<b>Ending Cash:</b>	<b>Naira</b>	<b>-</b>	<b>(14,086,368)</b>	<b>62,754,388</b>	<b>271,583,477</b>	<b>559,213,676</b>	<b>1,201,518,087</b>

### 4.3 Investing opportunities in packaged garri processing

#### Financing needs

In order to start a 25 tons per day packaged garri processing plant, the following fixed assets will be required:

1. Land (300 sqm)
2. Building facility
3. Water borehole & treatment
4. Power generator (one 30 Kva capacity)
5. Peeling Machines (five 5-ton per day capacity)
6. Grating Machine (one 2-ton per hour capacity)
7. Automatic pressers (one 2-ton per hour capacity)
8. Sifter (two 1-ton per hour capacity)
9. Automatic fryer (five 5-ton per day capacity)

The cost of each equipment is provided below:

Figure 20: Capital expenditure costing for 25T garri processing facility

<i>Equipment</i>	<i>Naira</i>
Peeling Machine	6,000,000
Grating Machine	600,000
Automatic Pressers	600,000
Sifter	400,000
Automatic Fryer	3,500,000
Land (sqm)	700,000
Building Construction (per sqm)	6,000,000
Water borehole & treatment	1,000,000
Power generator (Kva)	3,000,000
	21,800,000

The following assumptions were made:

#### General Assumptions

1. The facility is assumed to have no debt i.e. Debt to Capital Ratio of 0 percent
2. Company income tax is set at 23%
3. Inflation of 9% being the inflation target of the Federal Government and the CBN

#### Revenue Assumptions

1. Each 5kg bag of the packaged garri is sold at ₦1,100
2. All bags of garri are sold annually

## Cost Assumptions

1. A kilogram of cassava root costs ₦40

Other cost assumptions for the operations of the 25T garri processing plant are provided in the table below:

Figure 21: Cost Assumptions per annum for 25T Garri Processing Plant

	Units	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Cassava tubers	Naira		160,000,000	174,400,000	190,096,000	207,204,640	225,853,058
Bags for packaged garri (5kg)	Naira		2,000,000	2,180,000	2,376,200	2,590,058	2,823,163
Bags for Pressers (50kg)	Naira		3,000,000	3,270,000	3,564,300	3,885,087	4,234,745
<b>Total Cost of Sales/Inventory</b>	<b>Naira</b>		<b>165,000,000</b>	<b>179,850,000</b>	<b>196,036,500</b>	<b>213,679,785</b>	<b>232,910,966</b>
Inventory cover			250,000	272,500	297,025	323,757	352,895
<b>Operating Expenses</b>							
Fuel Expense			12,000,000.00	13,080,000.00	14,257,200.00	15,540,348.00	16,938,979.32
Machinery servicing			480,000.00	523,200.00	570,288.00	621,613.92	677,559.17
Generator - servicing & repairs			480,000.00	523,200.00	570,288.00	621,613.92	677,559.17
Safety Equipment			120,000.00	130,800.00	142,572.00	155,403.48	169,389.79
Insurance			240,000.00	261,600.00	285,144.00	310,806.96	338,779.59
Salaries (Gross)			9,720,000.00	10,594,800.00	11,548,332.00	12,587,681.88	13,720,573.25
Distribution			960,000.00	1,046,400.00	1,140,576.00	1,243,227.84	1,355,118.35
<b>Total Operating Expense</b>			<b>24,000,000</b>	<b>26,160,000</b>	<b>28,514,400</b>	<b>31,080,696</b>	<b>33,877,959</b>

## Potential risks

Major risks to the processing of the cassava into packaged garri are:

**sustained access to cassava tubers:** Cassava tubers by nature should be processed within 72 hours of harvest. To assure a steady root supply, the plant is best situated within or close to farming clusters. The cassava value chain is prone to supply gluts which lead to scarcity in the next farming season thereby increasing root prices.

## Intended or desired outcomes / impacts (financial and non-financial)

Each plant is expected to create 15 direct jobs within the factory. The Return on Investment for a 25T garri processing plant are shown in the table below:

Table 6: Return on Investment on 25 ton per day garri processing plant

	Net Present Value (Naira)	Internal Rate of Return (%)	Payback period (years)
Garri Processing Plant	90,957,407.08	127%	0.91

The proforma profit and loss, balance sheet and cashflow statements are provided below:

Figure 22: Five-year Income Statement for 25 ton per day garri processing plant

Statement of Comprehensive Income:	Units	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
<b>Revenue from Continuing Operations:</b>	<i>Naira</i>		<b>220,000,000</b>	<b>239,800,000</b>	<b>261,382,000</b>	<b>284,906,380</b>	<b>310,547,954</b>
<i>Revenue Growth:</i>	%			9%	9%	9%	9%
Cost of Sales:	<i>Naira</i>		165,000,000	179,850,000	196,036,500	213,679,785	232,910,966
<b>Gross Profit:</b>	<i>Naira</i>		<b>55,000,000</b>	<b>59,950,000</b>	<b>65,345,500</b>	<b>71,226,595</b>	<b>77,636,989</b>
<i>Gross Margin:</i>	%		25%	25%	25%	25%	25%
<b>Operating Expenses:</b>							
Operating Expenses	<i>Naira</i>		24,000,000	26,160,000	28,514,400	31,080,696	33,877,959
Interest Expense	<i>Naira</i>						
Depreciation	<i>Naira</i>		1,824,000	1,824,000	1,824,000	1,824,000	1,824,000
<b>Total Operating Expenses:</b>	<i>Naira</i>		<b>25,824,000</b>	<b>27,984,000</b>	<b>30,338,400</b>	<b>32,904,696</b>	<b>35,701,959</b>
<b>Results from Continuing Activities (EBIT):</b>	<i>Naira</i>		<b>29,176,000</b>	<b>31,966,000</b>	<b>35,007,100</b>	<b>38,321,899</b>	<b>41,935,030</b>
<i>Operating (EBIT) Margin:</i>	%		13%	13%	13%	13%	14%
Profit Before Income Tax:	<i>Naira</i>		29,176,000	31,966,000	35,007,100	38,321,899	41,935,030
Tax Expense	<i>Naira</i>		6,710,480	7,352,180	8,051,633	8,814,037	9,645,057
<b>Profit / (Loss) for the Period:</b>	<i>Naira</i>		<b>22,465,520</b>	<b>24,613,820</b>	<b>26,955,467</b>	<b>29,507,862</b>	<b>32,289,973</b>
<i>Net Income Margin:</i>	%		10%	10%	10%	10%	10%

Figure 23: Five-year Balance Sheet Statement for 25 ton per day garri processing plant

Statement of Financial Position:	Units	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
<b>ASSETS:</b>							
<b>Current Assets:</b>							
Cash and Cash Equivalents:	<i>Naira</i>		24,039,520	50,454,840	79,209,782	110,514,912	144,599,747
Trade and Other Receivables:	<i>Naira</i>						
Inventories:	<i>Naira</i>		250,000	272,500	297,025	323,757	352,895
<b>Total Current Assets:</b>	<i>Naira</i>		<b>24,289,520</b>	<b>50,727,340</b>	<b>79,506,807</b>	<b>110,838,669</b>	<b>144,952,642</b>
<b>Non-Current Assets:</b>							
Property, Plant & Equipment, Net:	<i>Naira</i>	21,800,000	19,976,000	18,152,000	16,328,000	14,504,000	12,680,000
<b>Total Non-Current Assets:</b>	<i>Naira</i>	<b>21,800,000</b>	<b>19,976,000</b>	<b>18,152,000</b>	<b>16,328,000</b>	<b>14,504,000</b>	<b>12,680,000</b>
<b>Total Assets:</b>	<i>Naira</i>		<b>44,265,520</b>	<b>68,879,340</b>	<b>95,834,807</b>	<b>125,342,669</b>	<b>157,632,642</b>
<b>LIABILITIES AND EQUITY:</b>							
<b>Current Liabilities:</b>							
Trade and Other Payables:	<i>Naira</i>		-	-	-	-	-
<b>Total Current Liabilities:</b>	<i>Naira</i>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total Liabilities:</b>	<i>Naira</i>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Equity:</b>							
Issued Capital & Share Premium:	<i>Naira</i>	21,800,000	21,800,000	21,800,000	21,800,000	21,800,000	21,800,000
Retained earnings			22,465,520	47,079,340	74,034,807	103,542,669	135,832,642
<b>Total Equity:</b>	<i>Naira</i>		<b>44,265,520</b>	<b>68,879,340</b>	<b>95,834,807</b>	<b>125,342,669</b>	<b>157,632,642</b>
<b>Total Liabilities and Equity:</b>	<i>Naira</i>		<b>44,265,520</b>	<b>68,879,340</b>	<b>95,834,807</b>	<b>125,342,669</b>	<b>157,632,642</b>

Figure 24: Five-year Cash Flow Statement for 25 ton per day garri processing plant

Statement of Cash Flows:		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>							
Net Profit / (Loss) After Income Tax:	Naira		22,465,520	24,613,820	26,955,467	29,507,862	32,289,973
Adjustments for Non-Cash Charges:							
Depreciation and Amortization:	Naira		1,824,000	1,824,000	1,824,000	1,824,000	1,824,000
Deferred Income Taxes:	Naira						
Changes in Operating Assets and Liabilities:							
Trade and Other Receivables:	Naira						
Inventories:	Naira		(250,000)	(22,500)	(24,525)	(26,732)	(29,138)
Trade and Other Payables:	Naira						
Deferred Revenues:	Naira						
Other Changes, Net:	Naira						
Net Cash Provided by Operating Activities:	Naira		24,039,520	26,415,320	28,754,942	31,305,130	34,084,835
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>							
Purchases of Property, Plant, & Equipment (CapEx):	Naira	(21,800,000)					
Other Investing Activities:	Naira						
Net Cash Used in Investing Activities:	Naira	(21,800,000)	-	-	-	-	-
<b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>							
New Equity Issued by Company:	Naira	21,800,000					
Net Debt	Naira						
Net Cash Provided by Financing Activities:	Naira	21,800,000					
Change in Cash and Cash Equivalents:	Naira	-	24,039,520	26,415,320	28,754,942	31,305,130	34,084,835
Beginning Cash:	Naira		-	24,039,520	50,454,840	79,209,782	110,514,912
Ending Cash:	Naira	-	24,039,520	50,454,840	79,209,782	110,514,912	144,599,747

## Section 5: Annexes

### 5.1 List of local SAFIN partners present or running programmatic activities in Nigeria

Partner Organization	Lead contact(s)	Contact details
AFEX	Ayodeji Balogun Akinyinka Akintunde	abalogun@afexnigeria.com aakintunde@afexnigeria.com
AGRA	Dr. K. Makinde	kmakinde@agra.org
Alluvial	Dimieari Von Kemedi	kemedi@alluvialtrade.com
BOI	Ayo Bajomo	abajomo@boi.ng
CBN	O. B. Oluwole	oboluwole@cbn.gov.ng
European Union	Inga Stefanowicz	inga.stefanowicz@eeas.europa.eu
FAO	Michael Clark	michael.clark@fao.org
IFAD	Ben Odoemena Nadine Mbossa	b.odoemena@ifad.org n.gbossa@ifad.org
IFC	Panos Varangis	pvarangis@ifc.org
ITC	Blessing Omoaghe	bomoaghe@intracen.org
NIRSAL	Omosede Imohe	o.imohe@nirsal.com
Olam	Reji George	reji.george@olamnet.com
Palladium	Ovo Ugbebor	ougbebor@propcommaikarfi.org
PIND	James Elekwachi Precious Agbunno	james@pindfoundation.org precious@pindfoundation.org
Sterling Bank	Bukola Awosanya	bukola.awosanya@sterlingbankng.com
Technoserve	Larry Umunna	lumunna@tns.org
USAID	Osagie Aimiuwu Jodi-Kaye Wade	oaimiuwu@usaid.gov jowade@usaid.gov
WFP	Gianluca Ferrera	gianluca.ferrera@wfp.org

### 5.2 Relevant sector or sub-sector contact points for maize & soybeans value chains

Organization	Contact Person	Contact Details
AFEX	Ayodeji Balogun Akinyinka Akintunde	abalogun@afexnigeria.com aakintunde@afexnigeria.com
FarmCrowdy	Tope Omotolani	tope.omotolani@farmcrowdy.com
Flour Mills of Nigeria PLC	Victor A. Oritedi	voritedi@fmnplc.com
Olam	Reji George	reji.george@olamnet.com
Babban Gona	Kola Masha	kola.masha@doreopartners.com
JMSF Agribusiness Nigeria	Richard Ogundele	richard.ogundele@jmsfagribusiness.com
Thrive Agric	Ayo Arikawe	ayoarikawe@thriveagric.com

### 5.3 Relevant sector or sub-sector contact points for cassava value chain

organization	contact person	contact details
PIND	James Elekwachi Precious Agbunno	james@pindfoundation.org precious@pindfoundation.org
MADE II	Ganiat Tijani	ganiat_tijani@dai.com

#### 5.4 Stakeholders: Descriptions and roles

Stakeholders in the Nigerian agriculture space are many and are all critical to the development of the sector. The Nigerian agriculture sector has over time remained stagnated in its adoption of new technologies capable of driving the sector to become a global competitor in agricultural production and exports. The major stakeholders in the Nigerian agriculture sector are:

**Primary production input suppliers:** These are the commercial suppliers of the major inputs required by the producers to cultivate their crops. These inputs include seeds, fertilizers, crop protection products (herbicides, pesticides) and providers of farm equipment (tractors, planters, harvesters, threshers). This group comprises the wholesale and retail supply chain of inputs as well as organizations in the business of providing input leasing services or service delivery to the farmers e.g. farm equipment leasing, herbicide and pesticide spraying.

**Smallholder farmers:** By international standards, a farm that is less than 10 hectares is classified as small scale. In Nigeria, smallholder farmers cultivate on less than 2 hectares of land. More than 80% of farmers in Nigeria are small holder farmers and they produce about 98% of the food consumed in Nigeria<sup>35</sup>. The challenges they face are similar regardless of the value chains i.e. poor access to inputs, finance, markets and information, infrastructural challenges. Some of the farmers organize themselves into farmer cooperatives which are designed to bring collective benefits to their members.

**Traders:** These are the aggregators of the farm produce. Some of these traders buy commodities on behalf of millers while others buy for resale in the open market. Due to the nature of the cassava tuber, purchase from the farmers is done for immediate processing, usually by agri-SMEs.

**Processors:** These can be micro, small, medium or large-scale organizations. They crush the raw farm produce, thus adding value to the product. This value-added product can then undergo further processing by the same or other processors into a final product for domestic or industrial consumption. Maize and soybeans are major raw materials for the animal feed industry (poultry and fish) therefore feed millers are major consumers of the grains. About 95% of cassava roots are processed into food products that are mainly consumed domestically, and the remaining 5% is processed into products for industrial users<sup>36</sup>.

**Research agencies:** These organizations have the mandate to increase agricultural productivity by conducting research and development activities on their focal commodities to develop high yielding, pest and disease resistant/tolerant genotypes, better farming techniques and better post-harvest storage and processing technologies.

<sup>35</sup> A review of smallholder farming in Nigeria: Need for transformation; Mgbenka and Mbah, 2016

<sup>36</sup> Market Development for the Niger Delta II (MADE II) Cassava Value Chain Report 2016



The government owned National Root Crops Research Institute (NRCRI), Umudike, Abia state and the donor-funded International Institute of Tropical Agriculture (IITA), Ibadan, Oyo state have mandates on cassava development. The government owned National Cereal Research Institute (NCRI), Badeggi, Niger state and the Institute for Agricultural Research (IAR), Samaru, Zaria, Kaduna state have mandates on soybeans and maize development respectively.

**Extension providers:** In Nigeria where farmers are predominantly smallholders, the extension service is the primary source of information for improved agronomic techniques as well as management of pests and diseases. These services have over the years been provided for free by the state Agriculture Development Programme (ADP) through extension agents (EA).

The recommended FAO extension agent to farmer ratio is 1:500-800. However, a ratio of 1:1,000 can be ideal for developing countries like Nigeria. In 2018, states had high EA: farmer ratios as has been seen for a number of years e.g. Benue (1:15,000), Kaduna (1:5,500) and Kogi (1:4,000)<sup>37</sup>. These ratios are further hampered by insufficient funds from the respective state governments, thus preventing proper information dissemination to the smallholder farmers.

**Development agencies:** These organizations are donor funded and usually engage in activities aimed at value chain development. They tend to focus on addressing systemic market constraints that affect the growth of the value chain by either intervening directly or working with market actors through facilitation to bring about the desired change.

**Finance institutions:** While most of the agricultural sector in Nigeria operates on a cash basis, these institutions provide credit funding for value chain activities. A large percentage of the facilities from commercial finance institutions e.g. deposit money banks are provided to large commercial entities with an operational track record and the clear ability to repay loans. Public sector organizations and development finance institutions tend to have facilities geared towards the smallholder farmers and agri-SMEs.

**Insurance firms:** These institutions de-risk agriculture value chain operations by providing insurance products to value chain actors in order to reduce the risk of capital losses as a result of business failure.

## 5.5 Description of relevant government institutions

Some of the government institutions and agencies germane to the development of the agricultural sector are:

**Federal Ministry of Agriculture and Rural Development:** The Federal Ministry of Agriculture and Rural Development (FMARD) is responsible for overall national agricultural policies, programmes and projects, as well as coordination of bilateral and all donor assisted interventions. At the states, we have the States Ministries of Agriculture which are the arms of the FMARD at the states.

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<sup>37</sup> National Agricultural Extension and Research Liaison Services (NAERLS) Agricultural Performance Survey of 2018 Wet Season in Nigeria

**Bank of Agriculture:** The Bank of Agriculture (BOA) is a federal government owned development bank with a mandate to provide low cost credit to small holder and commercial farmers, and small and medium rural enterprises. It also provides micro financing to small and medium scale non-agricultural enterprises. The aim is to ensure effective delivery of agricultural and rural finance services on a sustainable basis to support the national economic development agenda, including food security, poverty reduction, employment generation, reduction in rural to urban migration, less dependency on imported food items, and increase in foreign exchange earnings.

**Small and Medium Enterprises Development Agency of Nigerian (SMEDAN):** The SMEDAN was established in 2003, to facilitate the promotion and development of the Micro, Small and Medium Enterprises (MSMEs) sector in an efficient and sustainable manner. The overall objective is to reduce poverty through wealth and job creation and thus facilitate socio-economic transformation.

**The Central Bank of Nigeria:** This is the apex monetary authority of Nigeria. The major regulatory objectives of the bank are to maintain the external reserves of the country, promote monetary stability and a sound financial environment, and to act as a banker of last resort and financial adviser to the Federal Government. Specifically, the CBN Act of 2007 of the Federal Republic of Nigeria charges the Bank with the overall control and administration of the monetary and financial sector policies of the Federal Government.

In addition to its core functions, CBN has over the years performed some major developmental functions aimed at key economic sectors such as agriculture. The CBN development finance initiatives involve the formulation and implementation of various policies, innovation of appropriate products and creation of enabling environment for financial institutions to deliver services in an effective, efficient and sustainable manner. The initiatives are mainly targeted towards agriculture, rural development and micro, small and medium enterprises.

**Nigeria Incentive-Based Risk Sharing System for Agricultural Lending (NIRSAL):** NIRSAL was launched in 2011 and incorporated in 2013 by the CBN with total funding of USD500 Million. It was conceived as a dynamic, holistic public-private initiative to define, measure, price and share agribusiness related credit risk. NIRSAL is designed with the objective of enabling the flow of affordable financing to all players along entire agricultural value chains. It reduces the risks of financing institutions while granting agricultural loans by building the capacities of both banks and value chain actors on good practices in agricultural financing, loans utilization and repayment. Currently, NIRSAL adopts a 5-4-3-2-1 strategy for its focal commodities. The first division “5” of the strategy covering five industrial commodities includes the three focal value chains of this IP.

## 5.6 Relevant investment laws and regulations

The list of laws and regulations below provide an overview of the legal environment surrounding investments in Nigeria<sup>38</sup>:

**Companies and Allied Matters Act:** The legal and regulatory framework for doing business in Nigeria is enshrined in the Companies and Allied Matters Act (Chapter C20), LFN 2004 (CAMA). This is the principal statute regulating the establishment and operation of companies in Nigeria. The CAMA establishes the

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<sup>38</sup> Doing Business in Nigeria: Famsville Solicitors 2018 (<http://www.mondaq.com/Nigeria/x/754780/Trusts/Doing+Business+in+Nigeria>)

Corporate Affairs Commission (CAC) as Nigeria's companies' registry and the body responsible for the regulation and supervision of the formation, incorporation, registration, management and winding up of companies. The CAMA also makes provisions for the registration of business names and the incorporation of trustees.

Foreign companies that wish to do business in Nigeria are required to do so through a separate locally incorporated entity. Chapter 3 of the Act (Sections 54 – 60) are dedicated to the topic of foreign companies. Section 54(1) of the CAMA provides that every foreign company intending to carry on business in Nigeria must take steps necessary to incorporate as a separate legal entity with the CAC. Section 56 of CAMA empowers the Federal Executive Council to grant exemptions from the mandatory incorporation requirement to a limited category of foreign companies. It is an offence for a foreign company to carry on business in Nigeria without being formally incorporated.

**Certificate of Capital Importation (cci):** The Foreign Exchange (Monitoring and Miscellaneous Provisions) Act, Cap F34 LFN 2004 ("FEMMA") provides that any person may invest in a Nigerian enterprise with foreign currency imported into Nigeria through an Authorized Dealer by telegraphic transfer, cheques or other negotiable instruments converted into Naira.

Upon such importation of foreign investment capital, the Authorized Dealer is required to issue a CCI, evidencing receipt of the foreign investment capital, within 24 hours of receipt of the imported funds. A CCI assures the foreign investor of unhindered remittance of investment capital and yields<sup>1</sup> thereon, in any convertible currency.

**Foreign ownership of a Nigerian company:** By virtue of the provisions of the Nigerian Investment Promotion Commission Act, Cap N117, LFN 2004 (the "NIPC Act") it is possible for foreign investors to own 100% of the equity of a limited liability company. Accordingly, there is no requirement that the company to be established in Nigeria should have Nigerian shareholders and other than certain matters set out in the "negative list", and regulated sectors like the broadcasting and oil and gas sectors, a Nigerian company that is 100% foreign owned may engage in the same businesses as a Nigerian company that is wholly or partially owned by Nigerians. There are areas of business that are prohibited – "the negative list".

**Foreign investment approvals:** Business Registration (Certificate of Registration of Company with Foreign Participation) In order for a company registered in Nigeria with foreign shareholders to do business it must register its business. The NIPC Act provides that all companies with foreign participation in their capital structure should register with the NIPC after they are incorporated. Following the registration of the business at the NIPC, a company registered in Nigeria with foreign shareholders, must apply for a business permit in order to do business. A business permit is the authorization that must be obtained in order for the company to carry on business in Nigeria.

**Fiscal regime – administration of taxes:** A company incorporated in Nigeria is required to be registered with the relevant tax authorities for tax purposes. Following the incorporation of the company, an application is made to applicable tax office requesting the issuance of a tax clearance certificate and value added tax ("VAT") registration.

The administration of tax in Nigeria is vested in the three tiers of government. Taxes payable to the Federal Government are administered by the Federal Inland Revenue Service Board through its operational arm, the Federal Inland Revenue Service (FIRS), while those payable to the State Governments are administered by the Internal Revenue Boards of the thirty-six states of the Federation and the Federal Capital Territory of Abuja through their respective operational arms, known as the State Internal Revenue Service. Local Governments also administer taxes collectible by them through their various councils. State Boards apply uniform rules in respect of tax deductions and their activities are coordinated by the Joint Tax Board.

Several categories of tax are levied. Those that are likely to prove of most interest to a foreign investor are companies' income tax, personal income tax, capital gains tax, value-added tax, education tax, stamp duties and the various withholding taxes. Other categories of tax include local government rates and levies. Penalties may be imposed for failure to pay taxes when due.

Besides these regulations, there are a few agriculture/agro-allied incentives provided by the Nigerian government to drive investment in the sector<sup>39</sup>. These include:

**Enhanced capital allowance (tax depreciation) regime:** According to the CITA, a 95% capital allowance is enjoyed in the year a qualifying expenditure is incurred. Companies engaged in wholly agricultural activities are entitled to unrestricted capital allowances and companies engaged in wholly agricultural activities are entitled to carry forward unutilized capital allowances indefinitely.

**Agricultural credit guarantee scheme fund: loan guarantee of up to 75%:** This fund provides guarantees on the payment of interest and principal in respect of loans granted by any bank for certain agricultural purposes with the aim of increasing the level of bank credit to the agricultural sector. It is administered by Nigeria Incentive-Based Risk Sharing System for Agricultural Lending (NIRSAL) and commercial banks. To be eligible, applicants must apply for the loan for purposes connected with the following activities:

- a. Establishment or management of plantation for the production of rubber, oil palm, cocoa, coffee, tea and similar crops
- b. the cultivation or production of cereal crops, tubers and fruits of all kinds, cotton, beans, groundnuts, sheanuts, beniseed, vegetables, pineapples, bananas and plantains. All three focal commodities of this IP fall under this category for funding.
- c. Animal husbandry

**Exemption from minimum corporate income tax:** Section 33(3)a of CITA, exempts the income of a company carrying on agricultural trade from payment of minimum tax.

**Indefinite carry forward of losses:** Section 31(3) CITA allows companies engaged in agricultural trade or business to carry forward their losses indefinitely.

**Interest drawback program fund for cassava processing:** 60% repayment of interest paid by those who borrow from banks under ACGS for the purpose of cassava production and processing. It is administered by (i) Nigeria Incentive-Based Risk Sharing System for Agricultural Lending (NIRSAL), and (ii) Commercial banks. Eligibility

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<sup>39</sup> Compendium of Investment Incentives in Nigeria: Nigerian Investment Promotion Commission and Federal Inland Revenue Service 2017

include (i) Certified investor business plan by NIRSAL, and (ii) Ability to repay back the loan granted under ACGS.

**Agriculture, agro-allied and agro-processing:** Investors enjoy 0% import duty on agriculture equipment and machinery and 0% import duty rate on greenhouse equipment. This incentive is particularly important to agri-SMEs engaged in the processing of commodities because most equipment in Nigeria are imported. The local machinery fabrication industry is not well developed.







SMALLHOLDER  
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