



Rice Industry Review

October 2019

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Table of contents

03

Introduction

04

**Nigerian
Agriculture
Sector - Overview**

05

**Nigerian Agriculture
Sector - Value Chain**

06

**Nigerian Agriculture
Sector - Key Trends**

07

**Global
Rice Industry**

13

**Nigerian Rice
Industry - Overview**

28

**Case Study of Rice
Production in Egypt
vs Nigeria**

30

**Nigerian
Rice Industry**

34

**Nigerian Rice
Industry - Outlook**

36

Glossary

38

Citations

Introduction

The Nigerian agricultural landscape is changing, with increased government policies aimed at stimulating private sector involvement and boosting local production of key products. In line with the diversification drive of the current administration as well as in fulfilment of one of its cardinal pillars of food security, it is expected that the government will continue to prioritise activities within the Agriculture sector through targeted policies to attract investments.

Globally, rice is a staple food to over 50% of people, providing over 19% of global human per capita energy. Human consumption accounts for about 78% of global production while the balance serves other uses such as feed.

Rice is one of the major staple foods in Nigeria, consumed across all geo-political zones and socio-economic classes in Nigeria. Only about 57% of the 6.7 million metric tonnes of rice consumed in Nigeria annually is locally produced, leading to a supply deficit of about 3 million metric tonnes.

With rapid growth in the country's population which is estimated to exceed 200 million by 2019, it is expected that the demand for rice will be sustained and increased in the foreseeable future.

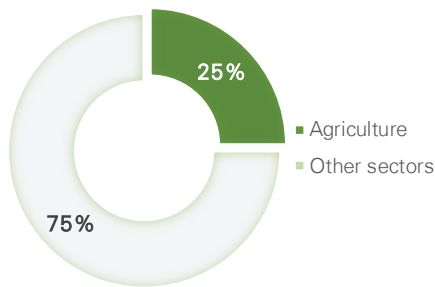
In this document we present an analysis of the rice industry and the tremendous opportunities across the various value chains.



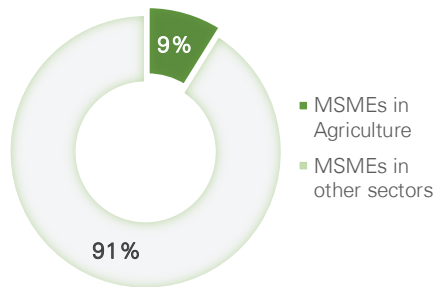
Nigerian Agriculture Sector - Overview

Snapshot of Agriculture in Nigeria

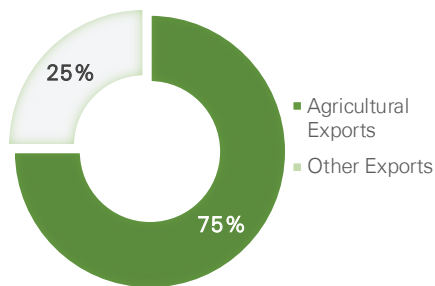
Agriculture contributed an average of 24% to Real GDP over the period of 2012 and 2018



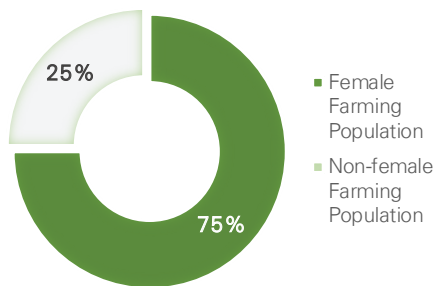
Agriculture contributed **25%** to Nigeria's Real GDP in 2018



8.9% of 37m micro-enterprises in Nigeria are in agriculture



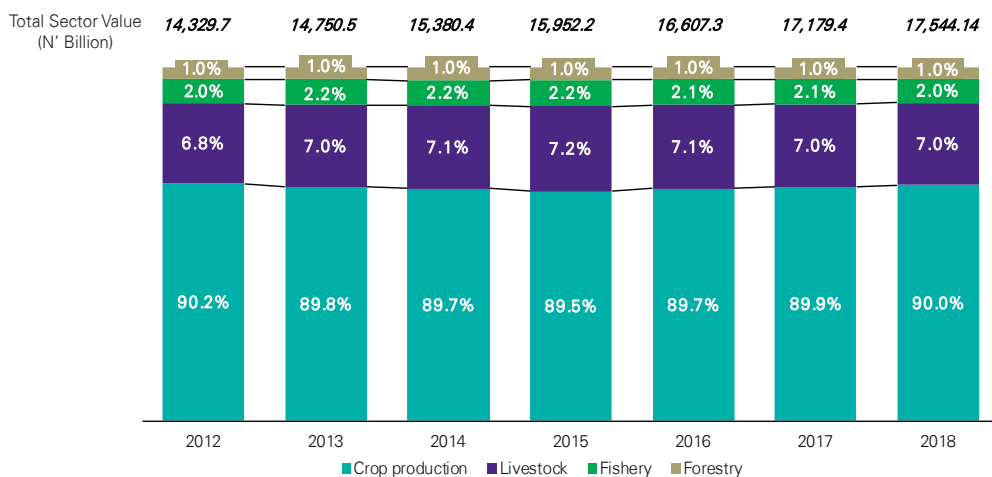
Agriculture contributes **75%** to non-oil exports



75% of the Nigerian farming population are women

Fragmenting the sector...

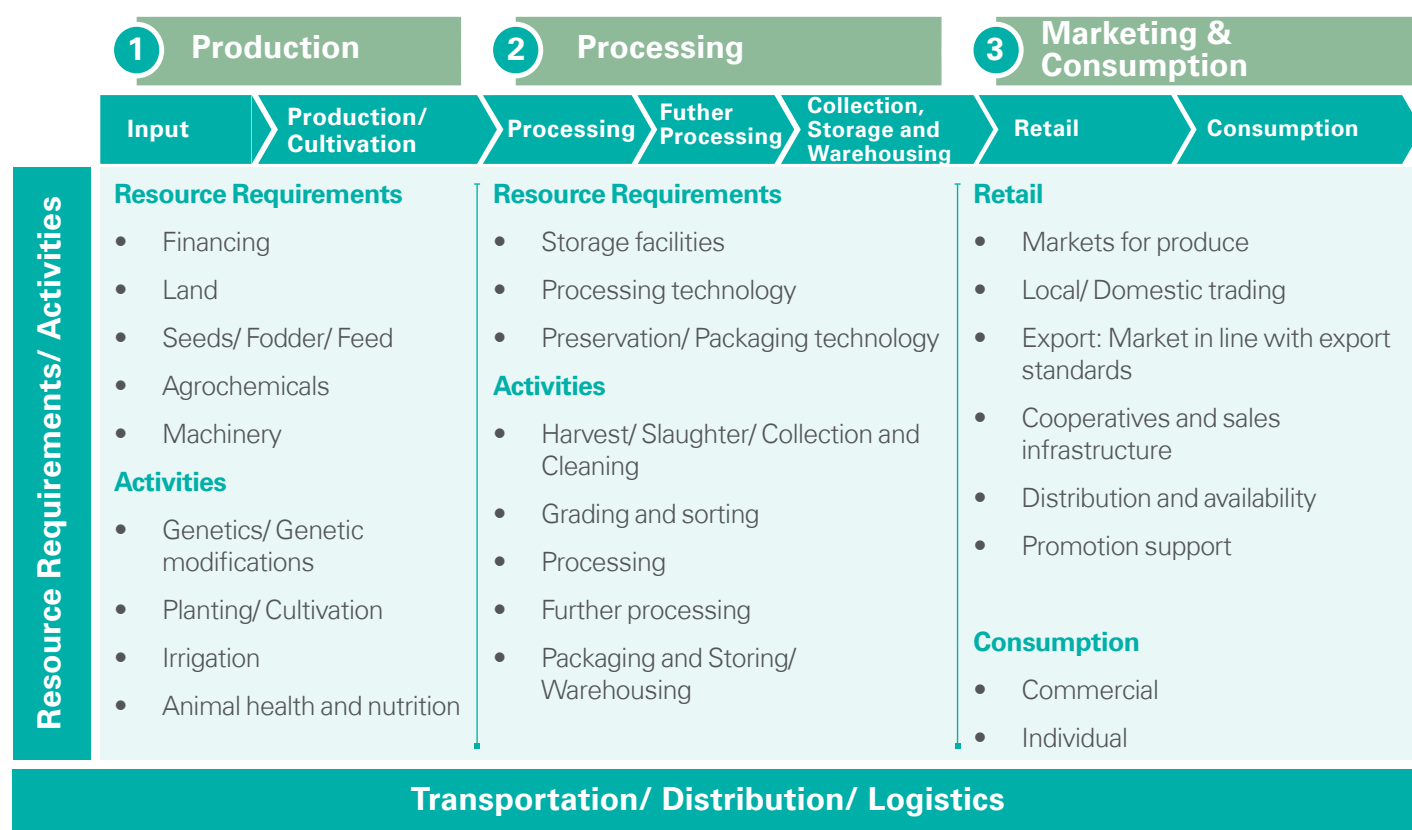
Agriculture sub-sector composition, 2012 – 2018



- **Crop production** covers the production of cash crops (Cocoa, Rubber, etc) as well as staple foods (Rice, Maize, Cassava, etc). This sub-sector is the major driver of agricultural sector output; contributing an average of 90% to the total agricultural sector output between 2012 and 2018, growing at a CAGR of 3.6% over the same period.
- **Livestock/ Animal production** covers the rearing and sale of animals and animal derivatives (animal products) for consumption. Over the past period 2012 – 2018, livestock production has grown at a CAGR of 4.4% and accounted for an average annual contribution of 7% to the entire agricultural sector output.
- **Fishery** includes activities aimed at rearing fish and other aquatic animals. The subsector accounted for an average of 2% of the annual agricultural sector output and grew at a CAGR of 4.4% between 2012 and 2018.
- **Forestry** entails the legal planting and felling of trees. This sub-sector has contributed an average of 1% to the entire sector output; and grown at a CAGR of 4.0% between 2012 and 2018.

Nigerian Agriculture Sector - Value Chain

High-level Industry Value Chain



Nigerian Agriculture Sector -

Key Trends



Growing Population

- Nigeria has a large population of about 191 million people with an average annual population growth of 2.4%. This provides a huge market for consumer goods such as agricultural products.
- Given that the food component of agricultural produce is a basic necessity of life, as the population continues to grow, there will be a rising demand for agricultural produce.



Improving Macro-economic Outlook

- Per capita income levels have been identified to be closely related to individual consumption of agriculture produce.
- Current rising income levels, increasing rate of urbanisation and widening middle class in Nigeria is expected to drive an increase in effective demand of several agricultural products which had previously been out of reach to most consumers.



Policies and Regulation

- Government's drive for economic diversification has given rise to policies such as: import substitution policies, the promotion of exportation of agricultural produce from Nigeria, state and federal agricultural initiatives such as lending schemes, grants, etc.
- These measures have created an enabling environment, increasing participation in the sector.



Availability of Arable Land

- Nigeria is estimated to have up to 84 million hectares of arable land, with only 40% of this under cultivation.
- Availability and access to arable land in the country continues to drive agricultural production and overall supply.
- Internal conflict within the North-Eastern and central regions has displaced farmers within the region, reducing production.



Technology and Infrastructure

- Adoption of improved agronomic practices as well as genetics for animal breeds have combined to shorten production cycles and reasonably increase agricultural yields of agribusinesses.
- Improving levels of production, storage and supply infrastructure, storage and modern processing systems, have combined to help minimise/eliminate losses and improve overall supply.

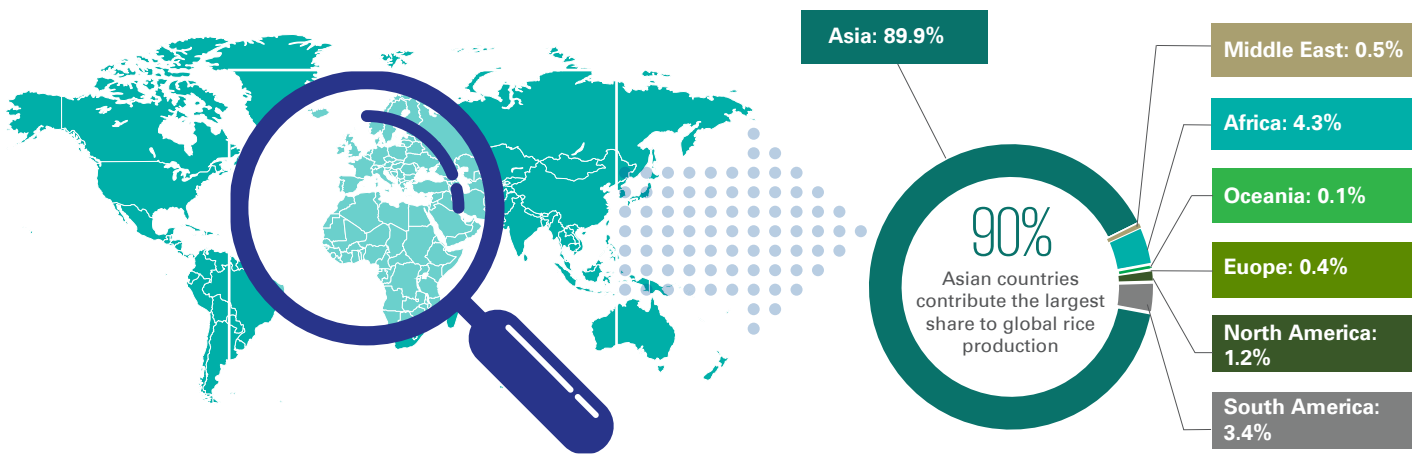


Significant Private Sector Investment

- Increased investment from the private sector has driven the growth of the sector.
- USAID, Bill & Melinda Gates foundation, invest in smallscale farmers with tools, seeds, farming practices to improve yield of crops and productivity of livestock
- Dangote Group and other investors have recently invested in rice mills in Nigeria, with the aim of increasing local production.

Global Rice Industry

Overview



485 million tonnes

Volume of rice produced globally, in 2018

3 tonnes

Global yield per hectare

482 million tonnes

Volume of rice consumed globally, in 2018

63 kg

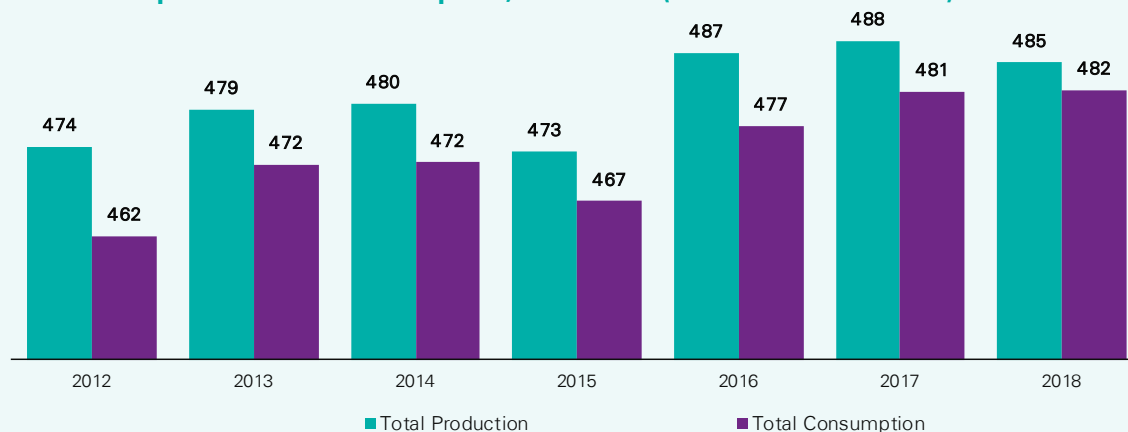
Consumption per capita

- Rice is the primary staple food for more than half of the world's population – over 3.5 billion individuals depend on rice for more than 20% of their daily calories – with Asia, South America and Sub-Saharan Africa the largest consuming regions.
- Rice is the second largest staple crop, behind corn (maize). It is produced over vast areas of the world, with the area of land totalling 161 million hectares harvested for rice in 2017.
- Four major types of rice are produced worldwide:
 - Indica (75% global production), the most common type, is majorly grown in the tropics and subtropics including India, Central and Southern China, and the Philippines.
 - Japanica (8% global production) is from Northern and Eastern China, and grown extensively in cooler zones of the subtropics and temperate zones.
 - Aromatic (Jasmine and Basmati) (15% global production) is mainly found in Northwestern India and Pakistan.
 - Glutinous rice (<2% global production) is grown mainly in Southeast and East Asia.
- About 729 million tonnes of rice paddy was produced in 2017 (488 million tonnes of milled rice), with 652 million (~90%) produced in Asian countries. Sub-Saharan Africa produced about 25 million tonnes (~3.5%); Northern Africa, about 6.2 million tonnes (~0.8%); and Latin and Central America, along with the Caribbean, about 27 million tonnes (~3.7%).
- Rice production recorded significant growth since the start of the 'Green Revolution' (between the 1930s and the late 1960s) due to advances in research and development, leading to the improvement of modern agricultural inputs and processes – irrigation, fertilisers, improved, high-yield, disease-resistant seeds, pesticides, and mechanisation.
- About 700 million tonnes of rice paddy was produced in 2018 (485 million tonnes of milled rice)³, with 90% (640 million) produced in Asian countries. Sub-Saharan Africa produced about 3.5% (19 million tonnes); Northern Africa, about 0.8% (6.2 million tonnes); and Latin and Central America, along with the Caribbean, about 3.7% (27 million tonnes).
- Through the years (and also in 2018), China and India alone have accounted for about 50% of the global rice production and consumption. However, strong economic growth has halted the upward trend in per capita rice consumption, due to diversification of consumers diets.
- Rice provides up to 50% of the dietary caloric supply for hundreds of millions in Asia and is, therefore, critical for food security. In Sub-Saharan Africa, rice is the fastest growing staple food, with annual per capita consumption of 27kg/year.

Global Rice Industry

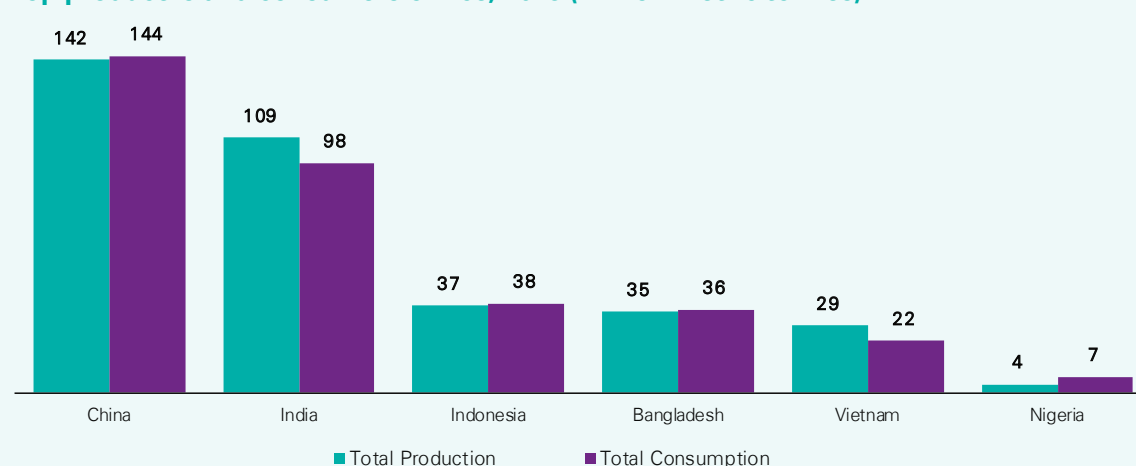
Production & Consumption

Global rice production & consumption, 2012 -2018 (million metric tonnes)



- Rice is grown in Irrigated, Rainfed lowland and upland as well as flood-prone environments.
- The irrigated rice ecosystem represents 54% of the world's harvested area of rice and provides 75% of the world's rice production. Irrigated rice is grown in banded fields or paddies, which are surrounded by a small embankment that keeps the water in.
- The rainfed lowland environment accounts for 30% of the world's harvested area of rice and produces 20% of the world's rice production.
- In the rainfed upland environment, rice is grown under aerobic conditions (soil is exposed to air) and represents 9% of the world's harvested area, contributing to only about 4% of the world's total rice production.
- Flood-prone environments include deepwater areas and mangrove swamps submerged under water and accounts for 7% (11 million hectares) of harvested area, and contributes 1% (16.5 million tonnes) to total global rice population.

Top producers and consumers of rice, 2018 (million metric tonnes)

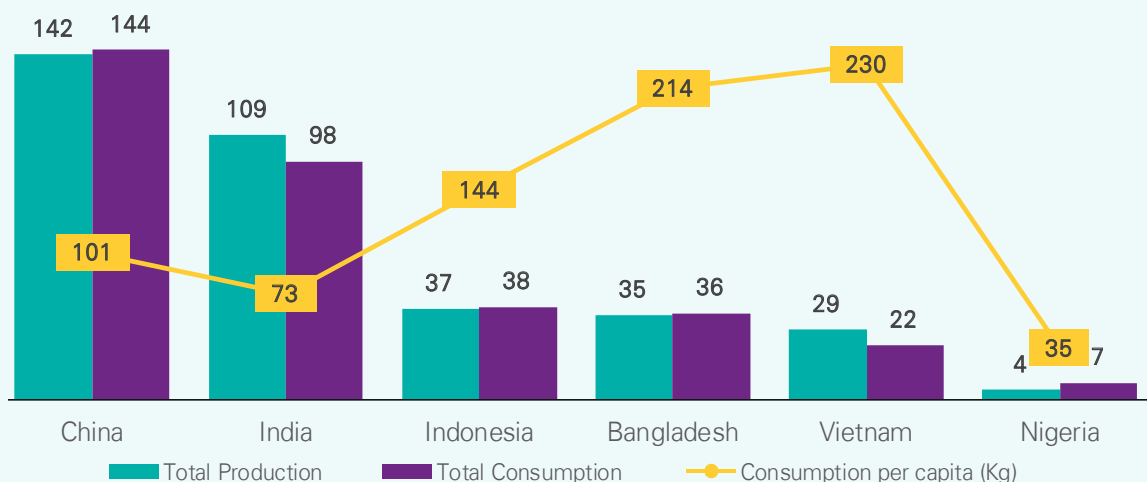


- Globally, rice production exceeds its consumption, with an average surplus of 7.8 million tonnes between 2012 and 2018.
- Rice production and consumption have grown at a CAGR of 0.6% and 1.1% respectively between 2012 and 2018.
- The rice industry experienced declined production and consumption in 2015 as a result of a strong El Niño (warming of the eastern equatorial Pacific Ocean) weather effect. This resulted in delayed rains in producing countries and subsequently, reduced yield.
- Production and consumption have however grown, from 2015 values, at a CAGR of 1.3% and 1.6% respectively, to close 2018 with values of 485 and 482 million metric tonnes respectively.
- "BIN" countries (Bangladesh, Indonesia and Nigeria) experience a local supply deficit and thus, rely on rice imports to meet demand. These countries have similarities characterised by multi-culture, multi-ethnic and high population.

Global Rice Industry

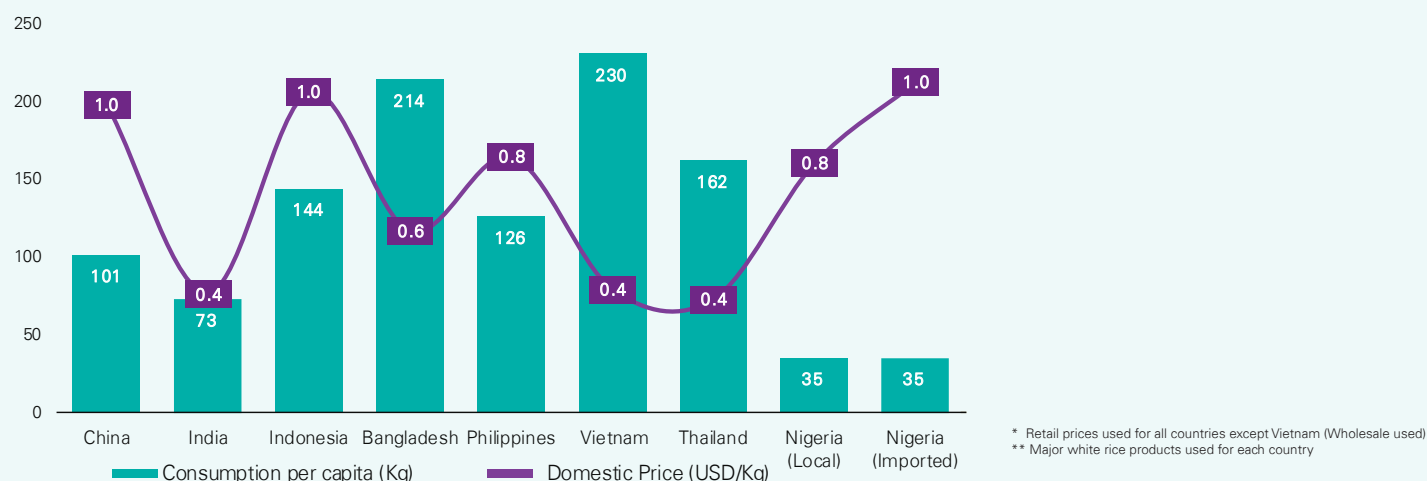
Consumption Per Capita among the highest-consuming countries

Top producers and consumers of rice, 2018 (million metric tonnes)



- China, India, Indonesia, Bangladesh and Vietnam account for 73% and 70% of global production and consumption respectively. All the five countries have consumption per capita values above the global average of 63kg.
- High production is due to the increasing land area available for cultivation, and adoption of innovative farming practices that improve yield; high consumption is due to large population especially in China and India.
- Consumption per capita in Nigeria is low, when compared with top producers with similar population:
- Bangladesh, a country of 166 million people has a per capita consumption about six times Nigeria's; and Vietnam, with a population of 97 million people has per capita consumption about seven times Nigeria's
- With Nigeria's growing population, total rice consumption is expected to increase

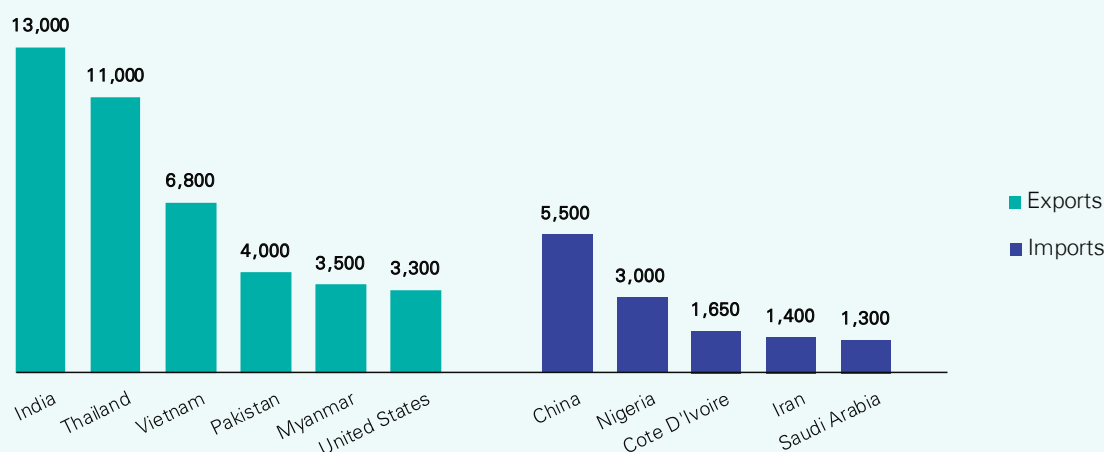
Comparison of consumption per capita (kg) and Domestic price (\$/kg)* for top consuming countries**, 2018



- Nigeria is the 11th largest consumer of rice globally and has the lowest annual consumption per capita of the top 11 consuming countries, with a value of 35 kg/year. It however, has one of the highest domestic price for a kilogram of rice, for both locally produced and imported variants in the market.
- High domestic prices for rice in Nigeria is mainly due to inflation, cost of importation (large excise tariffs have been imposed by the government in a bid to boost local production) and cost of production (for the locally produced variety). Countries with low cost of rice per kg are dominated by net export countries (India, Thailand, Vietnam, etc.) as production surplus and government interventions in rice farming usually encourage lower domestic prices.
- Consumers preference for well-milled rice in Nigeria as led to the price premium for imported rice over local rice. Imported rice costs up to 30% more than local rice. The main differentiating factors between the two include; appearance, cleanliness, swelling capacity, taste, ease of preparation and consistency of grain.

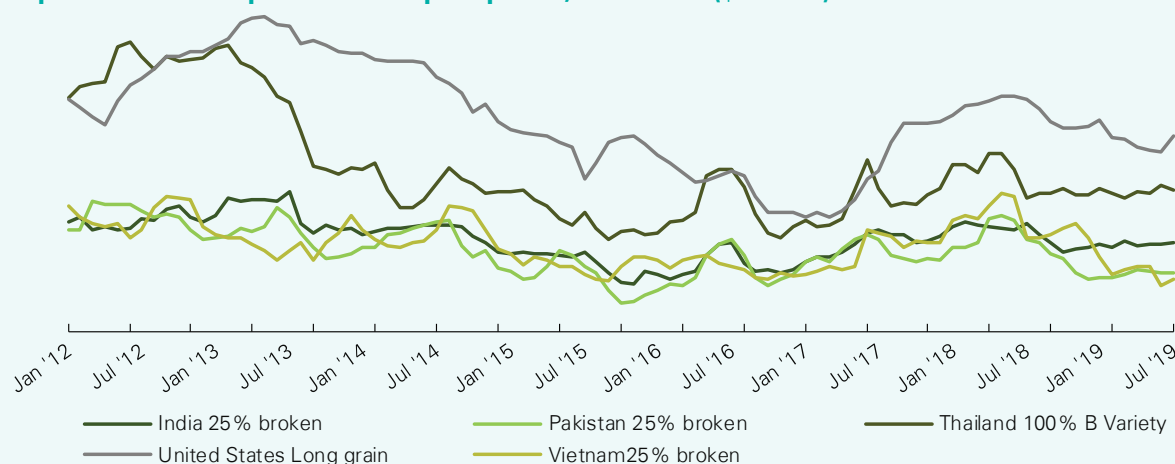
Global Rice Industry - Trade

Top rice export and import countries, 2018 (million metric tonnes)



- In most rice producing countries, it is a common practice for local rice production to meet its local demand. This leaves no room for exportation. However in certain countries, consumption levels exceed production.
- Rice trading increased significantly between 2007 and 2018 at a CAGR of 3.98% and 4.03% for imports and exports respectively, driven by the General Agreement on Tariffs and Trade in 1994.
- The current trade market accounts for nearly 10% of global production compared with 4% in the late 1990s.
- International rice trade is dominated by a small number of exporting countries – India, Thailand, Vietnam, Pakistan and the Myanmar – accounting for 85% of total exports in 2018. (The United States, after decades of appearance in the top 5, was overtaken by Myanmar).
- Due to the strength of the top exporters, global rice prices are heavily affected by changes in production/ yield in one or many of the countries.

Popular white rice products – Export prices, 2012-2019 (\$/tonne)

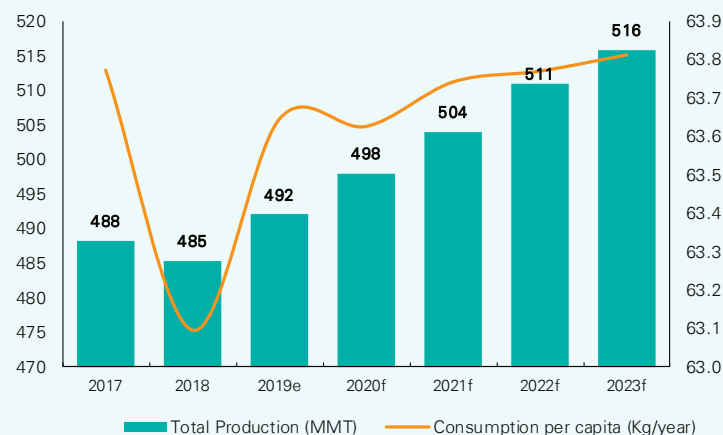


- The import market does not have the homogenous nature of the export market; there are more playing countries within it. The top 5 import markets (China, Nigeria, the EU, Bangladesh and Indonesia) make up only 30% of the export total in 2018.
- Prior to 2017, Bangladesh and Indonesia were not part of the top rice import list. However, this is no longer the case as a result of drought and flood in Bangladesh, and the government's drive to increase rice stocks in Indonesia.
- The significant decline in the price of Thailand 100% B white rice and US 2.4% long grain rice in 2013 is largely attributable to the sale of government-owned rice stocks to finance its Rice Paddy Pledging Program in Thailand, and a decrease in exports from the United States respectively.
- Asian rice is traded at 340 – 430 \$/tonne due to exportable availabilities that exist to meet demand from buyers while the growth in US long-grain rice is largely due to expectations of low yield and high demand for international sales.

Global Rice Industry

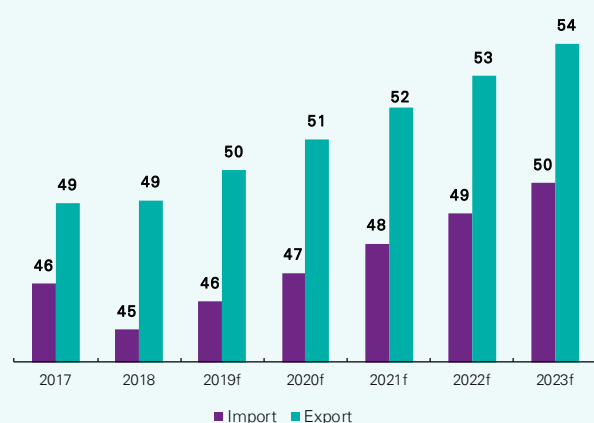
Outlook

Global rice production and consumption per capita, 2017 – 2023



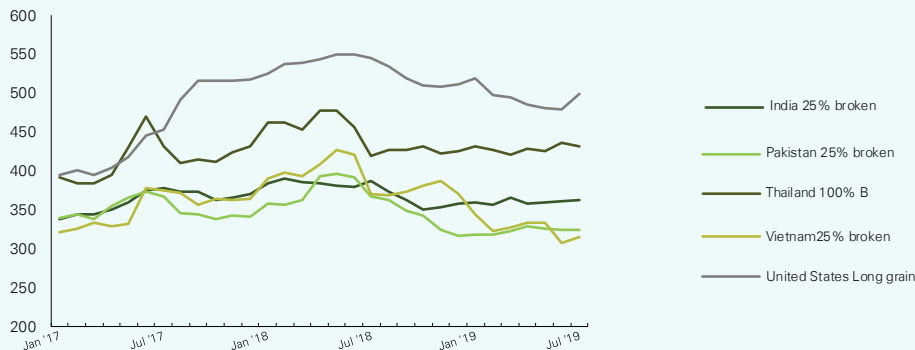
- Global production of milled rice is projected to increase to an all time high of 492 million metric tonnes at the end of the 2019 season, on the back of increased harvested areas in some of the top producing countries. In the long term, production is expected to grow sluggishly, at a CAGR of 0.9% between 2018 and 2023.
- Global consumption per capita is projected to remain stable with sluggish growth until 2023 (slight dips experienced in 2018 and expected in 2020). Growth is driven by increase in consumption in developing countries.
- Increased health and diet consciousness in Asia resulting from the changing consumption patterns of individuals remains a key driver of consumption per capita.

Global rice trade , 2017 – 2023 (million metric tonnes)

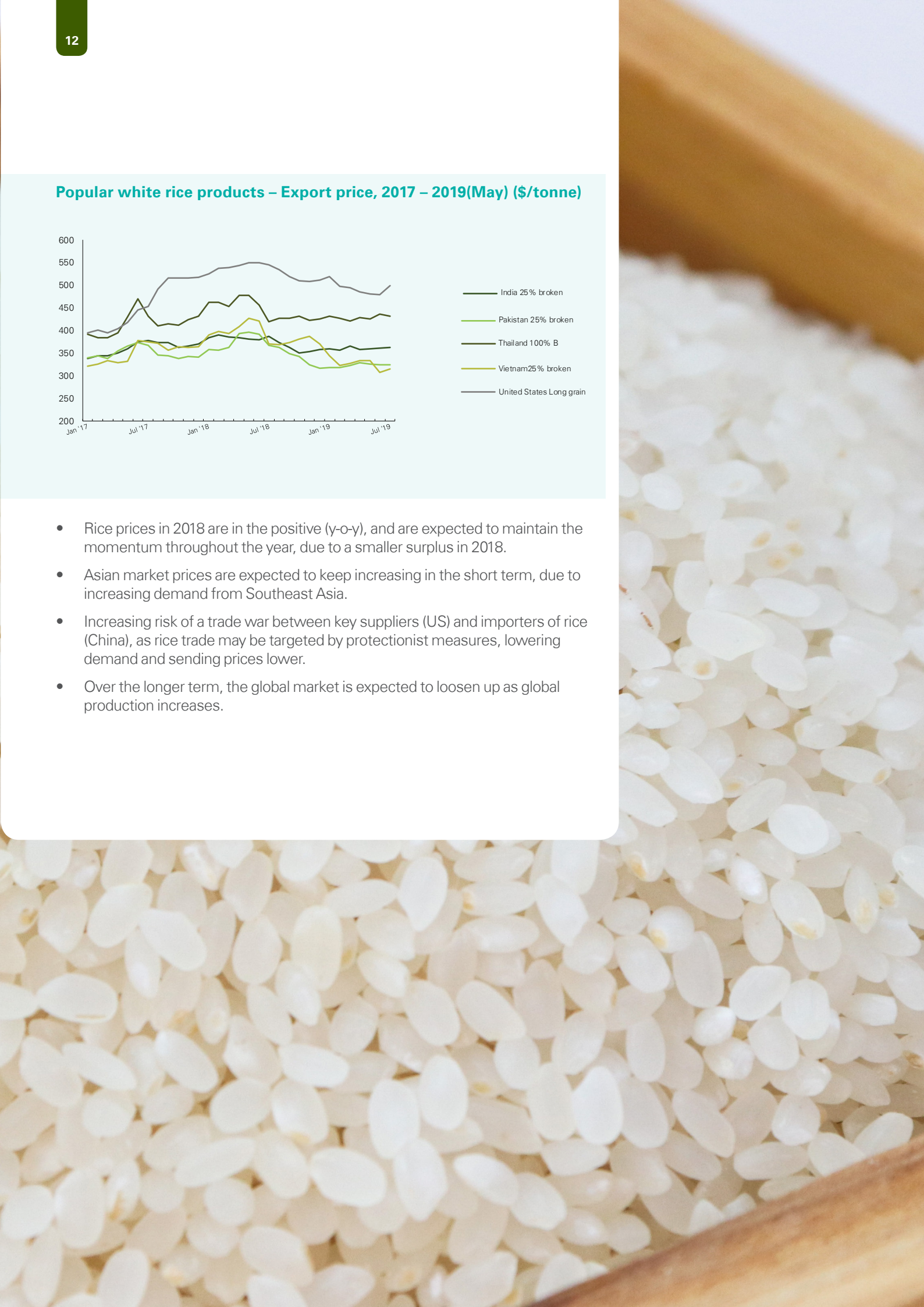


- Global rice trade is expected to experience long term growth with majority of the demand coming from China, the Middle East and Sub-Saharan African countries such as Nigeria, Côte d'Ivoire, Guinea, Mozambique and Kenya.
- Exports are projected to rise by 5 million metric tonnes from 49 million metric tons in 2018 to 54 million metric tonnes in 2023.
- Trade growth for the forecast period is projected to be lower than the rate observed between 2012 and 2017.

Popular white rice products – Export price, 2017 – 2019(May) (\$/tonne)



- Rice prices in 2018 are in the positive (y-o-y), and are expected to maintain the momentum throughout the year, due to a smaller surplus in 2018.
- Asian market prices are expected to keep increasing in the short term, due to increasing demand from Southeast Asia.
- Increasing risk of a trade war between key suppliers (US) and importers of rice (China), as rice trade may be targeted by protectionist measures, lowering demand and sending prices lower.
- Over the longer term, the global market is expected to loosen up as global production increases.



Nigerian Rice Industry - Overview

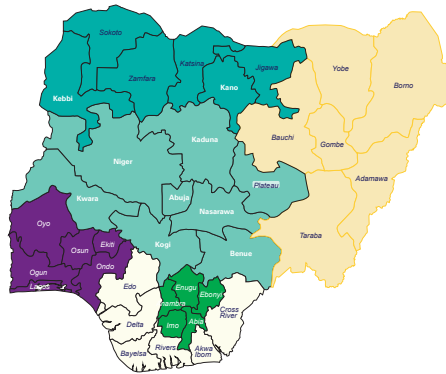
Background

- Rice is the third-most consumed staple food in Nigeria (after maize and cassava) and has become a food security crop due to its increased significance in the country.
- There is a growing market for rice in Nigeria. This is as a result of a population of about 195 million people (estimated) and an average annual growth projection of 2.6% over the last 10 years.
- With rapid population growth expected to exceed 200 million by 2019, it is expected that the demand for rice will be sustained and increased in the foreseeable future.
- Rice is cultivated in all Nigeria's agro-ecological zones, from the mangrove swamps of the Niger Delta to the dry zones of the Sahel in the North. However, the North West accounts for 72% of total rice production.
- A total land area of 3.2 million hectares was harvested by 1.43 million farmers in the 2018/2019 season.
- Rainfed lowland is the most predominant rice production environment covering 47% of cultivated area and accounting for over 50% of the total rice produced in Nigeria, while rainfed upland rice (30% cultivated area, 17% domestic production), irrigated systems (17% cultivated area, 27% domestic production), deep water and mangrove swamp environments (6% cultivated area, 4% domestic production) are the other rice production environments in Nigeria.
- As well as being an important food security crop, it is an essential cash crop for small-scale farmers who commonly sell 80% of total production and consume only 20%. Rice generates more income for Nigerian farmers than any other cash crop in the country.
- The two types of rice mainly cultivated in Nigeria are the African Rice (*Oryza glaberrima*) and the Asian rice (*Oryza sativa*). In recent times however, new hybrid varieties have been introduced such as NERICA.

North West Zone

- Rainfed uplands and irrigated land systems
- Deepwater floating areas are also found around River Rima in Kebbi
- Kano is the principal trading hub of the zone
- Staple Crop Processing Zones ("SCPZ") for rice processing are proposed to be located in Kano, Kebbi and Sokoto

Rice Production Systems in Nigeria



North East Zone

- Rainfed lowlands and irrigated land systems
- Maiduguri is the principal trading hub of the zone
- SCPZ for rice processing is proposed to be located in Taraba

South East Zone

- Rainfed uplands, irrigated land systems and rainfed lowlands
- Aba and Onitsha are the principal trading hubs of the zone
- SCPZ for rice processing is proposed to be located in Enugu and Anambra

North Central Zone

- Rainfed upland and irrigated land systems
- Zaria is the principal trading hub of the zone
- SCPZ for rice processing is proposed to be located in Niger

South South Zone

- Rainfed lowlands & uplands, and mangrove swamps
- There are also irrigated land systems and deep water floating areas
- Port Harcourt and Warri are the principal trading hubs of the zone

South West Zone

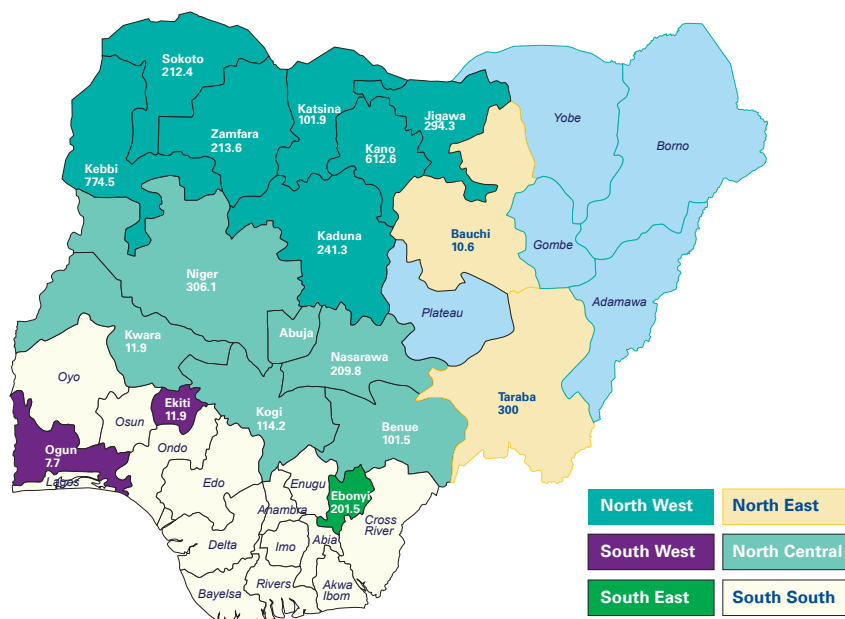
- Rainfed uplands & lowlands and irrigated land systems
- Lagos is the principal trading hub of the zone

Nigerian Rice Industry -

Overview

Rice Production in Nigeria by states (2017)

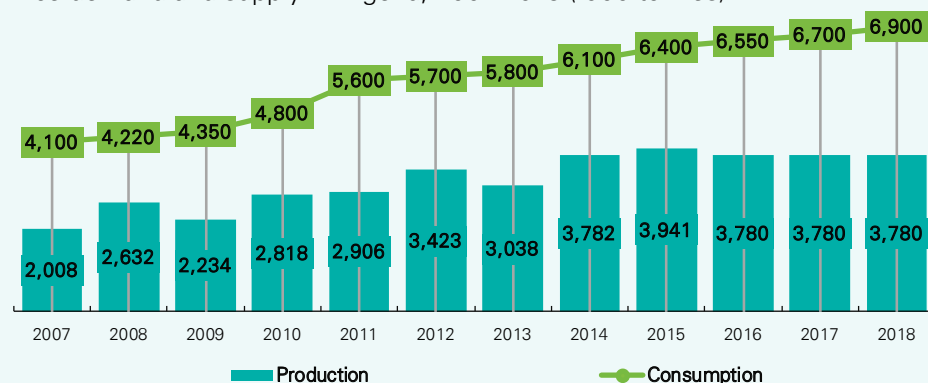
Estimated production volume of top rice producing states in Nigeria ('000 tonnes)



- Almost all states in Nigeria produce rice. However, the North-Western region of the country produces the highest volumes, followed by the North Central region
- In the southern region, Ebonyi, Ogun and Ekiti States produce the most rice

Demand and supply of rice in Nigeria

Rice demand and supply in Nigeria, 2007-2018 ('000 tonnes)



- Nigeria is the largest producer of rice in West Africa (2nd in Africa, after Egypt), with production increasing at a CAGR of 6.5% over the past decade, reaching 3.8 million metric tonnes in 2018. The average yield in the country is approximately 1.8 metric tonnes per hectare.
- In Nigeria, rice consumption far exceeds production with a yearly average production deficit of about 2.4 million tonnes recorded between 2007 and 2018. In order to meet the present deficit due to insufficient local production, Nigeria imports rice from several exporting countries to increase its total supply. In 2018, 3 million tonnes of rice was imported into Nigeria, via its shipping ports as well as informal cross-border channels (importation through land borders is prohibited). Nigeria imports most of its rice from Thailand, India and the USA, incurring a bill of about \$5 million daily.
- Total demand between 2007 and 2018 increased at a rate of 5.3%, while imports increased at a rate of 5.24% in the same period. These indicate that demand for rice is increasingly being met by local production – chief importers of milled rice, e.g., Stallion, now mill locally produced rice in the country

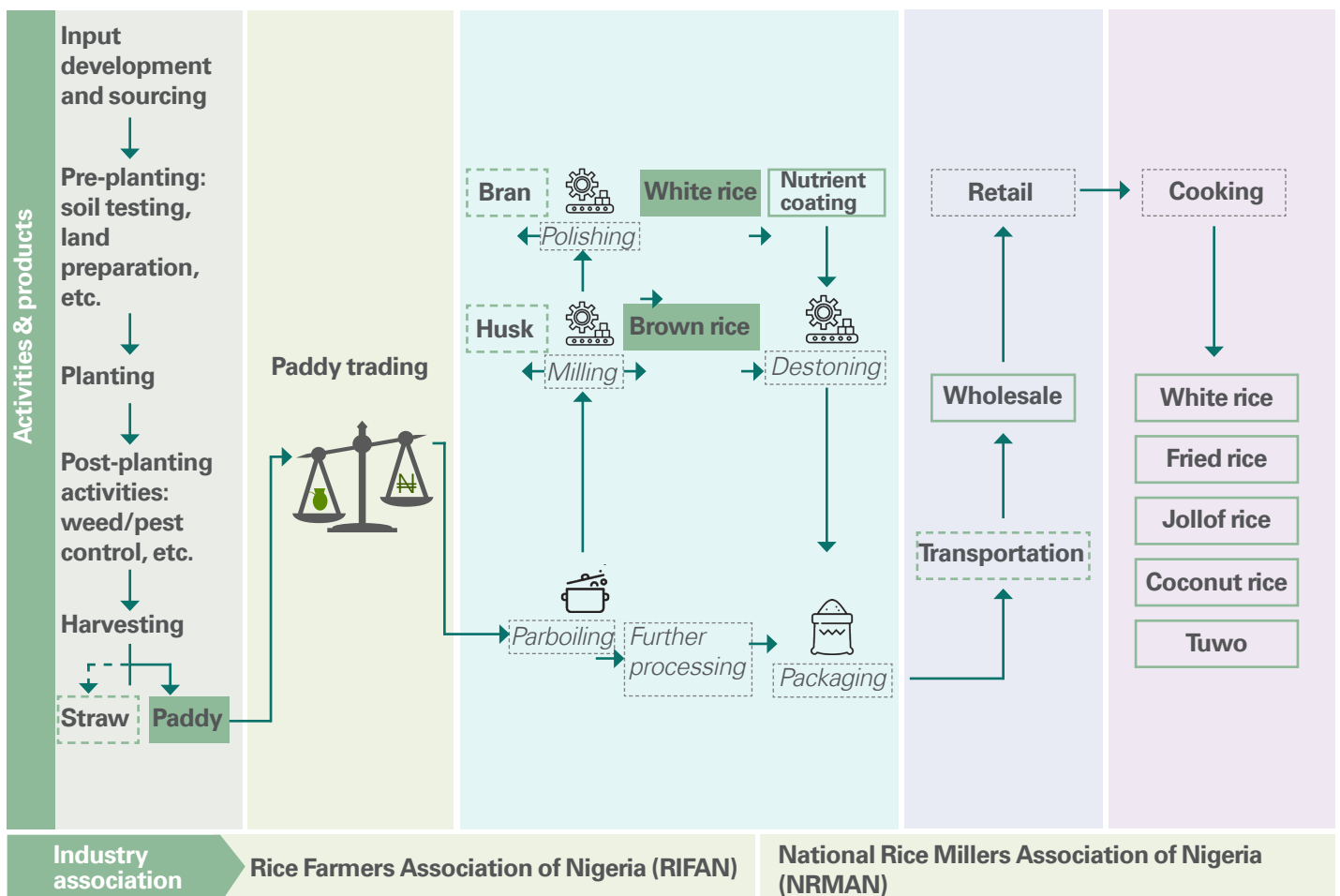
Nigerian Rice Industry -

Industry Value Chain

Industry Regulators









	Cultivation	Paddy trading/ aggregation	Processing	Distribution	Consumption
Players	Input developers and suppliers	Local buying agents/rural traders	Small-scale millers	Large-scale distributors	Household
	Small-scale farmers		Medium-scale millers	Commission agents	
	Large-scale farmers		Industrial-scale millers	Speculative middlemen	Institutional
				Wholesalers	
				Retailers	



Nigerian Rice Industry - Cultivation

Over 70% of rice production in Nigeria is from rainfed lowlands and irrigated land systems.

					
3.2 million ha Total cultivated land area, 2018	5.8 million ha Total paddy production, 2018	1.81 Tonnes Yield per hectare, 2018	1.43mn Total farming population	4.2tonnes Annual paddy production per rice farmer, 2018	0.3hp Mechanisation rate

Key Players	Location	Land area (ha)	Investment	Cultivation model
Dangote Group	Edo, Jigawa, Kebbi, Kwara and Niger	150,000	\$1bn	<ul style="list-style-type: none"> Self-cultivation Pure out-grower Contract tenants
Kereksuk Rice Farms	Nassarawa	45,000		<ul style="list-style-type: none"> Not Available
WEMS Agro	Ondo	25,000	\$13.4mn	<ul style="list-style-type: none"> Not Available
Olam Group	Nassarawa	16,000	>\$52mn	<ul style="list-style-type: none"> Self-cultivation Pure out-grower Contract tenants
JOSAN Integrated Rice Farms and Mills	Anambra	15,000	Not Available	<ul style="list-style-type: none"> Out-grower scheme with partnerships/alliances
Coscharis Farms	Anambra	10,000	Not Available	<ul style="list-style-type: none"> Out-grower scheme
Pearl Universal Impex Ltd	Niger	7,500	\$100mn	<ul style="list-style-type: none"> Pure out-grower scheme Self-cultivation
Haske and Williams	Adamawa	5,000	Not Available	<ul style="list-style-type: none"> Not Available
Labana Rice Farm	Kebbi	1,400	Not Available	<ul style="list-style-type: none"> Not Available

- There is increasing participation from the public sector (state governments), in partnership with the private sector:
- Lagos and Kebbi signed an MoU to invest in rice production. In December 2016, they commenced distribution at the rate of N13,000 per 50 kg bag
- Anambra has partnered with Coscharis Group to increase rice production from present 80,000 MT to 400,000 MT
- In 2016, Ebonyi state provided N1bn loan to commercial rice farmers in the form of seedlings, fertilisers, pesticides, etc. It also set aside 54,000ha for massive rice cultivation in 2016
- Edo state is partnering with Stallion Group for investment into rice production



Nigerian Rice Industry - Cultivation

The major seed varieties grown in Nigeria are the FARO varieties. Several seed development companies/organisations develop higher-quality, improved seeds

Major seed varieties grown in Nigeria

Name	Days to Maturity	Yield range (tonnes/ha)	Grain Shape	Amylose content*
Faro 44	115	4.0 – 6.0	Long	26
Faro 45	100	2.0 – 3.0	Medium	17.4
Faro 46	105	2.0 – 3.5	Medium	22.5
Faro 47	115	2.0 - 4.0	Long	10.5
Faro 48	128	2.5 – 4.0	Medium	16.4
Faro 49	120	2.0 – 4.5	Medium	16.2
Faro 50	125	4.0 – 6.0	Medium	28
Faro 60 (L19)	125	4.0 – 6.0	Long	-
Faro 61 (L34)	125	4.0 – 6.0	Long	-

*The amylose content influences the cooking and eating of the rice. Rice with a high amylose content (25-30%) tends to cook firm and dry, whilst rice with lower amylose content tend to be soft and sticky



National Cereals Research Institute (NCRI)

- Charged with national mandate for the genetic improvement of Rice, Sugarcane, Soybean, Acha, Beniseed, and Castor throughout the country
- Produces breeder and foundation seeds
- Carries out research on farming systems within the North Central zone.
- So far, has released 57 improved rice varieties which most farmers are using in Nigeria



Seed Production Companies

- Private organisations licensed by Federal Ministry of Agriculture and Rural Development (FMARD) to produce, for commercial purposes, seeds for Nigeria. They include:
 - ♦ Premier Seeds Nigeria, Kaduna
 - ♦ Nagari Seed Nigeria, Kaduna
 - ♦ The Seed Project Company, Kano
 - ♦ Maslaha Seeds Nigeria, Zamfara
 - ♦ Alheri Seeds Nigeria Limited, Kaduna



National Seed Service

- Unit of the National Agricultural Seed Council responsible for:
 - ♦ Development, certification, distribution and quality control of seeds
 - ♦ Seed technology development, technical support services, seed industry development and co-ordination of breeder and foundation seed
 - ♦ Publication of a list of registered, released or notified seed varieties approved for commercialisation in Nigeria



Institute for Agricultural Research (IAR)

- IAR has recommended seed varieties and practices for modern agricultural farming in Nigeria

Nigerian Rice Industry - Cultivation

Government Interventions and Incentives applicable to operators in the cultivation segment

①

Tax Incentives

Nigerian companies involved in the rice industry are entitled to the following incentives:

- ◆ Corporate income tax holiday of 3 (Three) to 5 (Five) years for any company involved in:
 - ◆ Rice milling: husked, milled, polished, glazed and /or parboiled rice.
 - ◆ Rice flour
- ◆ Accelerated claim of capital allowance on agricultural plant expenditure. Additional capital allowances are also available where the plant and equipment used in the production of rice is gas fired.
- ◆ Non-restriction of capital allowances claimable in a year of assessment
- ◆ Non-payment of minimum tax
- ◆ Reserves for research and development expenses are tax-deductible provided that they are less than 10% of the total profits of the company in the year under review.
- ◆ Value Added Tax (VAT) exemption on sale of basic food items. Rice is considered as basic food item in Nigeria
- ◆ VAT exemption for farming machinery and farming transportation equipment
- ◆ VAT exemption for tractors, ploughs, agricultural equipment and implements purchased for agricultural purposes.
- ◆ Certain agricultural and agro-industrial machines and equipment enjoy zero percent (0%) import duty
- ◆ Various export related incentives, where the rice produced is ultimately exported.

②

Nigerian Incentive Based Risk Sharing System for Agricultural Lending

- NIRSAL enables 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 utilisation and repayment.

③

Agricultural Implements and Mechanisation Services

- The minister of Agriculture and Development has recently announced that the federal government is to introduce a new programme called Agriculture Implement and Mechanisation scheme
- The programme will focus on improving agricultural mechanisation and the provision of farm implements based on Public Private Partnership (PPP) that will assist both big and smallholder farmers to easily access equipment leasehold and ownership

④

Presidential Fertiliser Initiative Programme (PFI)

- The PFI aims to revive Nigeria's under-utilised fertiliser blending industry.
- The Nigeria Sovereign Investment Authority (NSIA) has made several agreements to purchase inputs required for NPK fertiliser at discounted prices, which are then provided to blending companies and sold to agro dealers and state governments at discounted rates, making the locally blended output cheaper than the imported finished versions. The revenue from the sale is then remitted to the NSIA for reinvestment. 11 blending plants have signed on as contract blenders, they each receive a fee for blending.

Nigerian Rice Industry - Processing

Players in the processing value chain segment of the rice industry can be grouped into two broad categories

Small & medium scale millers

<3,000MT

Annual milled rice output of small-scale millers

<10,000MT

Annual milled rice output of medium-scale millers

~80%

Account for about 80% of processed rice in Nigeria

Large scale millers

~20%

Account for about 20% of processed rice in Nigeria

>10,000MT

Annual milled rice output of large-scale millers

23

Estimated number of large-scale millers in the country

Players	Location	Milling Model	Current Capacity (MT/Annum)	Target Capacity (MT/Annum)	Rice Brand
Stallion Group	Lagos, Kano	Milling only for ~9,000 farmers across 14 states	430,000	1,500,000	Royal Stallion, Caprice, etc.
Dangote	Jigawa	Integrated	240,000	960,000	Dangote Rice
Stine Rice	Anambra	Milling Only	141,000	Not Available	Anambra Rice, Stine Rice, Oyoyo Rice
Labana	Kebbi	Integrated	96,000	Not Available	Labana Rice
Mikap Nigeria	Benue	Milling Only	44,880	Not Available	Miva Rice
Tara Agro	Enugu	Milling Only	42,000	Not Available	
Olam	Nasarawa	Integrated	36,000	Not Available	Mama's Pride
Ebony Agro	Ebonyi	Milling Only	30,000	Not Available	Ebony Rice
Wicklow Group	Kwara	Milling Only	16,250	Not Available	Quarra Rice
Haske and Williams	Adamawa	Integrated	Not Available	26,000	
Coscharis Group	Adamawa	Integrated	Not Available	20,000	Cosrice

Nigerian Rice Industry - Processing

Government Interventions and Incentives applicable to operators in the processing segment

Staple Food Crop Processing Zones

1

- This idea focuses on attracting private sector agribusinesses to set up processing plants in zones of high food production, to process commodities into food products.
- This would be enabled by the government putting in place appropriate fiscal, investment and infrastructure policies for Staple Crops Processing Zones.
- The BOI's 5bn Naira Cottage Agro Processing (CAP) Fund finances the establishment of agro processing plants for industries within and outside the Staple Food Crop Processing Zones across Nigeria to minimise pre-processing loss

CACS - Commercial Agriculture Credit Scheme

2

- CBN approved the Paddy Aggregate Scheme (PAS) as a special window under the CACS in the third quarter of 2017.
- The Scheme is a working capital facility for integrated rice millers at 9 per cent interest rate and 6 months tenor.
- To further facilitate access by prospective beneficiaries, the single obligor limit under the CACS was also waived for beneficiaries under the Scheme.

ABP - Anchor Borrowers Programme

3

- The ABP is intended to create a linkage between anchor companies involved in processing and small holder farmers (SHFs) of the required key agricultural commodities.
- To achieve this, the ABP provides farm inputs in kind and cash (for farm labour) to small holder farmers to boost production of these commodities, stabilise inputs supply to agro processors and address the country's negative balance of payments on food.
- At harvest, the SHF supplies his/her produce to the Agro-processor (Anchor) who pays the cash equivalent to the farmer's loan account.



Nigerian Rice Industry -

Distribution & Consumption

Overview

6.9mn tonnes



Total consumption, 2018

35KG



Consumption per capita, 2018

N370/kg



Average price of rice in the market, 2018

\$5mn



Estimated daily spend on rice imports

68.3%



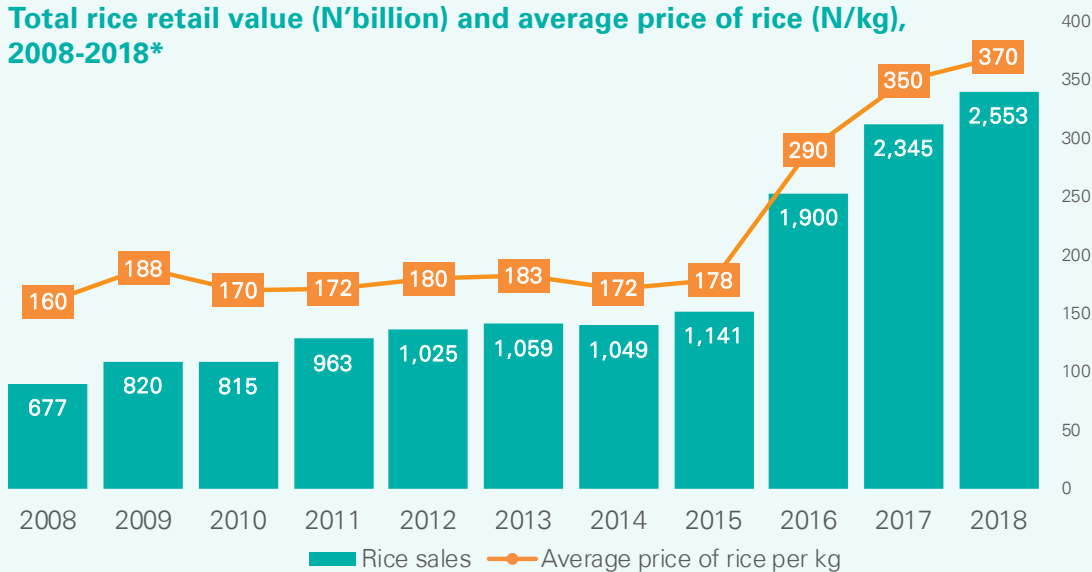
Increase in consumption between 2008 and 2018

12%



Average margin for wholesalers and retailers

Total rice retail value (N'billion) and average price of rice (N/kg), 2008-2018*



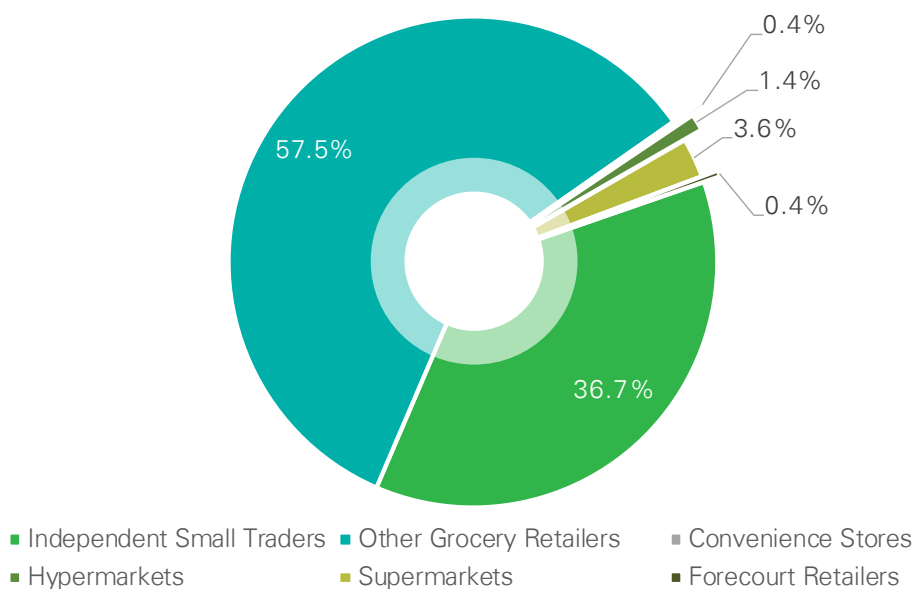
*Assuming all consumed rice is bought at retail value. Values derived from total consumption and average price of rice per kg

- Sales of rice has increased significantly over the past 10 years, with a CAGR of 19%. This has been largely driven by increased prices and consumption of rice in the market.
- Due to the economic recession, the average price of rice increased by 61.3% from an average of N178 per kg in 2015 to N290 per kg in 2016. The market was worth an estimated N2.5 trillion in 2018.
- Price is another key influencer of market size, as the 2016 recession-induced increase in the price of rice caused the market to grow y-o-y by 66.4%, from N1.1 to N1.9 trillion.
- Approximately 90% of rice sales, occurs in the informal market, being sold in loose form, via traditional retailers

Nigerian Rice Industry -

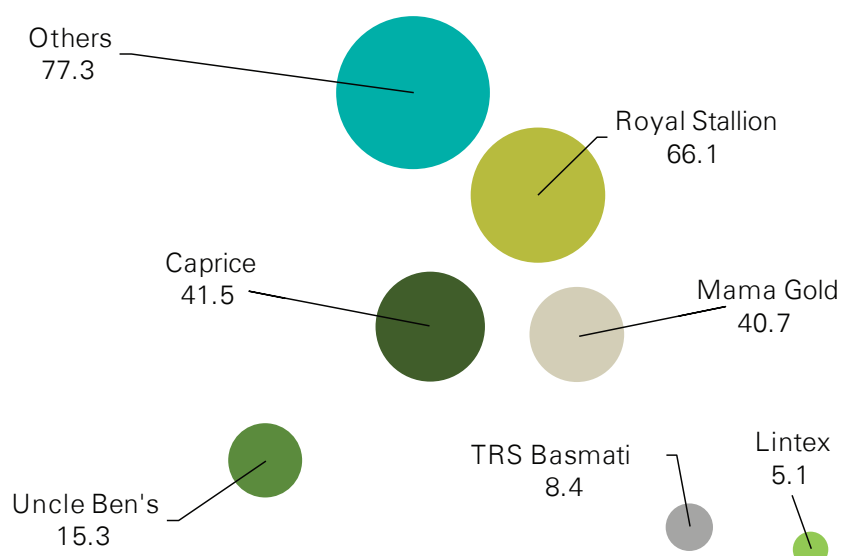
Value Chain Analysis

Channel distribution for rice, % breakdown



- Loose sales are usually by measure and not by weight (although there is a loose link). Measures are Moodu or Tia (both ~800g), Kongu (~1.5 kg), Rubber (~2.5 kg).
- Modern grocery retailers such as supermarkets, hypermarkets and convenience stores account for less than 0.5% of all rice sold in Nigeria; Nigerians still depend heavily on independent small traders to purchase rice.
- Most local rice brands are counted within 'others' which take up 30% of total sales through formal channels.

Competitive landscape: Top brands in formal retail market; value (N'billion) 2018**



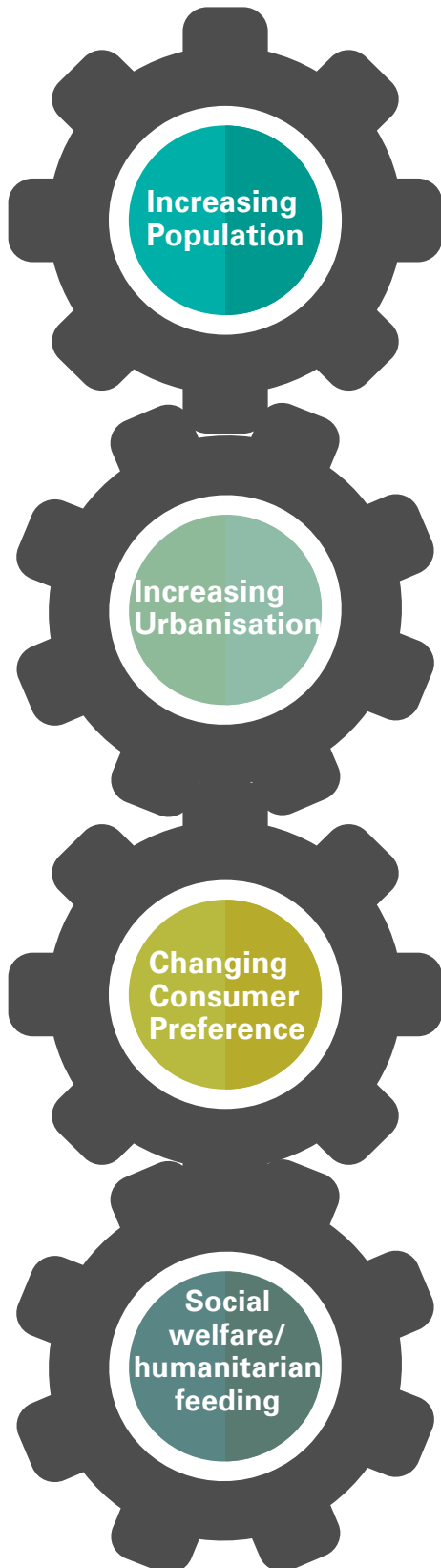
**Formal retail market applies to all rice sales from grocery stores. Bulk/loose/unpackaged rice is excluded from this analysis.

- Formal retail outlets account for c.10% of total rice sales (N245 billion)
- The top three brands bought through formal retail outlets include Caprice, Royal Stallion and Mama Gold (not imported into Nigeria since 2015), accounting for over 50% of the market. They are all Thai brands of rice.
- Lintex, is the only local brand with a sizeable market share (2%) of formal sales channels and is the fastest growing of the top brands between 2012 and 2018. It grew at a CAGR of 73% between 2013 and 2018.
- Consumers' preference for well milled, high quality rice, drives the sales of imported brands over local brands

Nigerian Rice Industry-

Demand Drivers

Trends and drivers for rice demand in Nigeria



- In countries where rice is a key component of the average diet (regardless of income, age, class, health status etc.), population growth generally leads to increased rice consumption.
- The population of Nigeria is currently estimated at 198 million, with an annual population growth rate of 2.4% and is expected to maintain a positive growth rate into the future.
- This creates a natural demand for rice products in the country across all demographics.

-
- There has been a downward trend in the rural:urban ratio over the past 25 years. As more regions within the country become increasingly urban, consumption and demand for rice, will increase.
 - Urban individuals prefer the ease that preparation of rice provides, when compared with other staple foods; this has seen consumption of traditional cereals dropping significantly, while the share of rice consumed has grown over the last 4 decades.

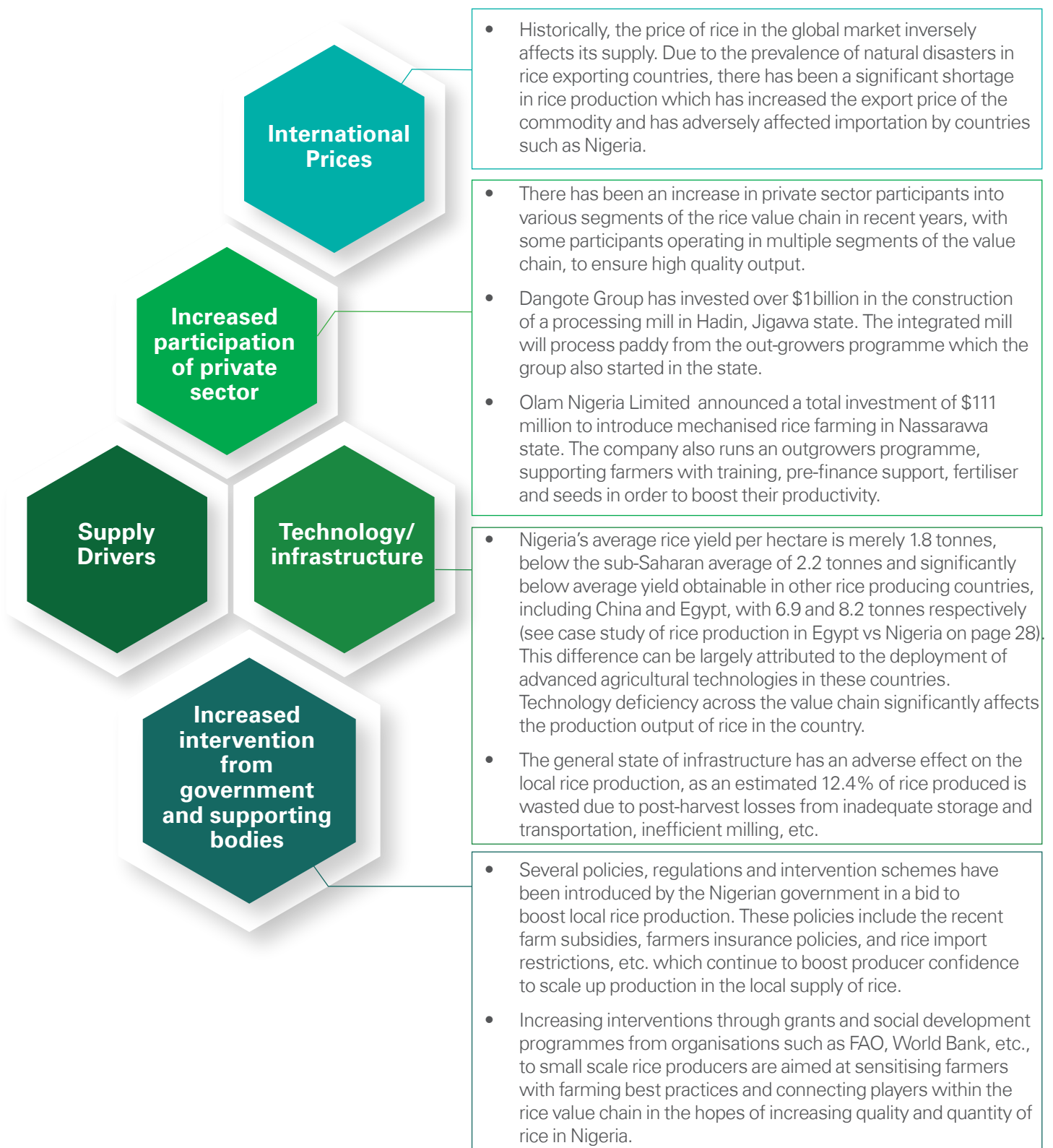
-
- With rising income levels and rapid urbanisation across the country, consumers are increasingly becoming more sophisticated.
 - Their lifestyle changes have made consumers shift from traditional staples (cassava, yams) to rice, with a preference for imported rice to locally produced rice on quality grounds.
 - Consumers are becoming more health conscious, preferring local and foreign rice varieties such as ofada and basmati, due to their high nutrient content.

-
- In Nigeria, free rice donations to rural inhabitants/ refugees as part of a CSR/ developmental scheme, or, the giving of rice as gifts to individuals during the festive/ holiday periods is increasingly becoming a trend.
 - Large volumes of rice are usually needed during these periods for give-away to individuals/ groups and/ or internally displaced citizens either as gifts or as a form of humanitarian outreach.

Nigerian Rice Industry -

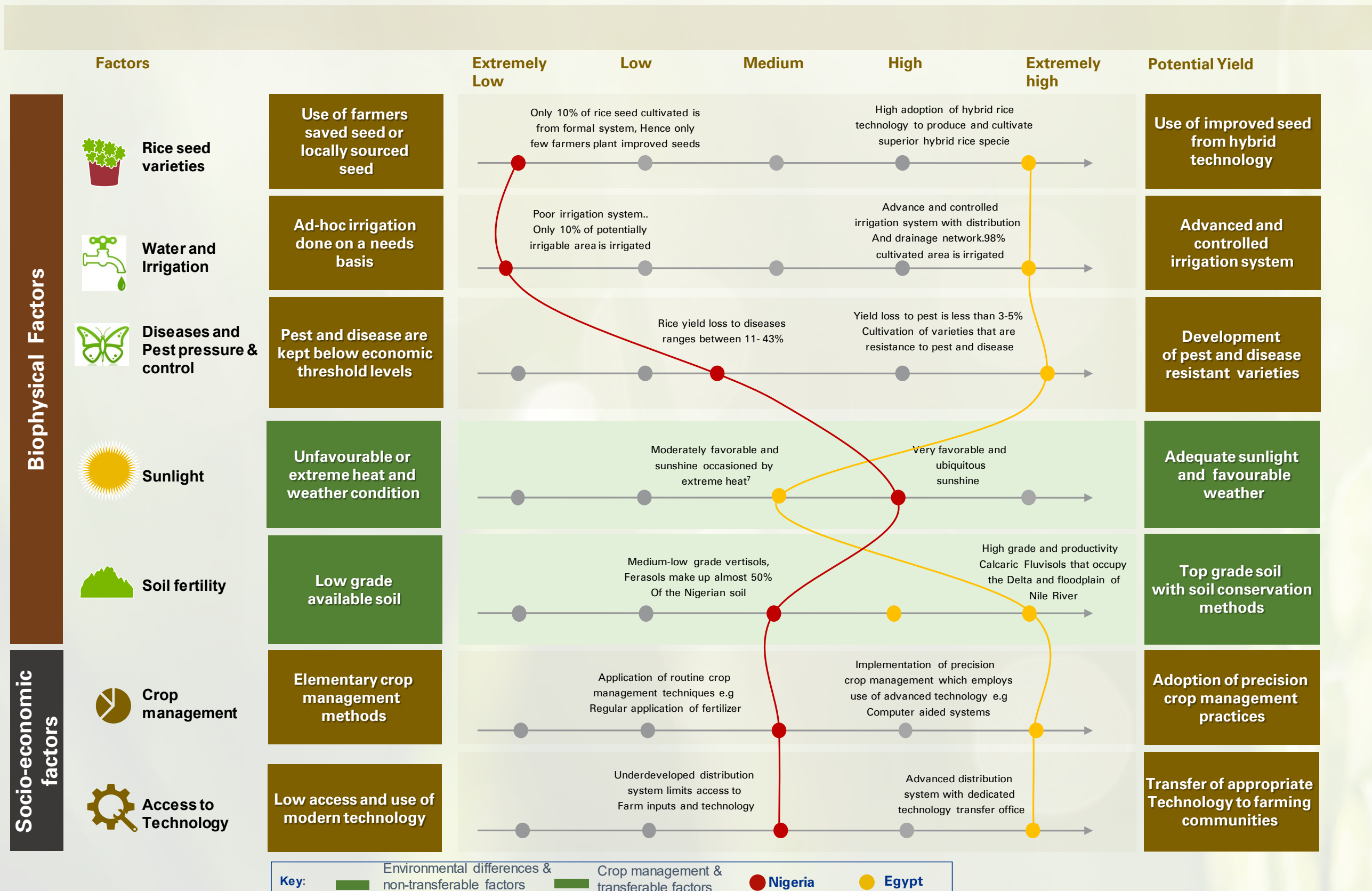
Supply Drivers

The key trends and drivers for the supply of rice in Nigeria



Case Study of Rice Production in Egypt vs Nigeria

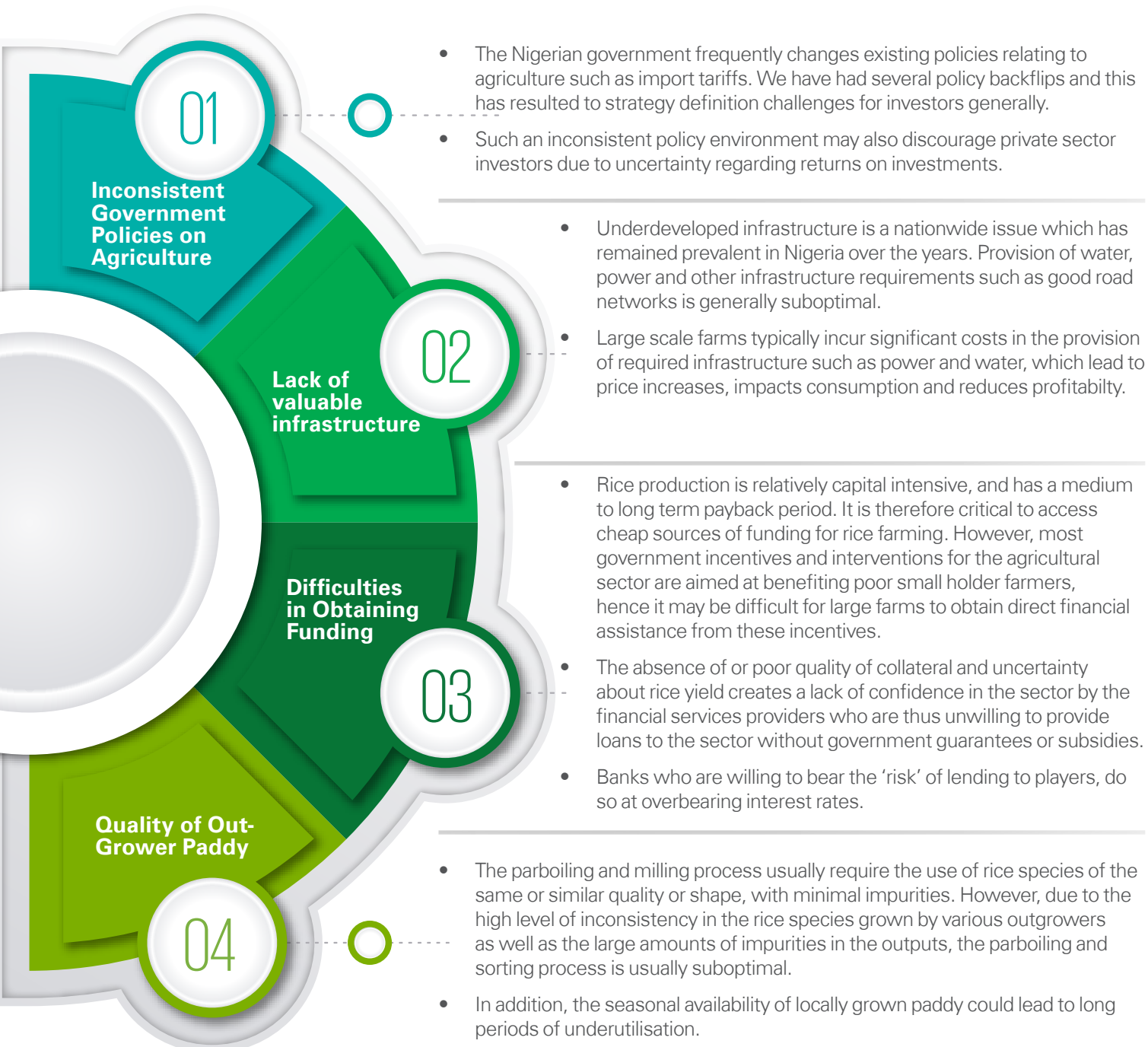
Egypt is one of the biggest rice producers in Africa. Average rice yield per hectare is 1.8 tonnes in Nigeria compared to 8.2 tonnes in Egypt. The difference is attributable to deployment of advanced agricultural technologies, use of better seedings and better farming practices in Egypt.



Nigerian Rice Industry-

Industry Challenges: Large Scale Players

These include the industrial scale integrated farms and mechanised processing plants, which account for only 20% of rice production in Nigeria



Nigerian Rice Industry -

Regulators and other stakeholders

The Nigerian rice industry regulators and other stakeholders is detailed below

Regulators



- **Federal Ministry of Agriculture and Rural Development** formulates agriculture-related policies; regulates activities related to agriculture and oversees agricultural research in the country.



- **The National Agency for Food and Drugs Administration and Control** publishes guidelines prescribing the minimum good manufacturing practice requirements and quality controls for manufacturing, processing and packaging of food products.



- **The Standards Organisation of Nigeria** ensures that locally manufactured products in Nigeria comply with government policies on standardisation and conformity assessment



- **The National Agricultural Seed Council** analyses and formulates programmes, policies and actions regarding seed development and the seed industry in general.



Rice Farmers Association of Nigeria - RIFAN

- **The Rice Farmers Association of Nigeria (RIFAN)** is the advocate for all segments of the Nigerian rice industry with a mission to promote and protect the interests of its members. RIFAN has over 12.2 million members who are involved in all range of activities across the value chain.



National Rice Millers Association of Nigeria - NRMAN

- Similar to RIFAN, the **National Rice Millers Association of Nigeria** promotes and protects the interests of its members; All of whom are involved in the milling of rice.

Industry Associations

Relevant research Institutes

Institute for Agricultural Research (IAR)

National Cereals Research Institute (NCRI)

National Seed Service

International Institute of Tropical Agriculture (IITA)

Source: Organisation websites

Nigerian Rice Industry-

Regulatory Environment

The key legislation/ policies and fiscal provisions applicable to the sector are summarised below.

Land Use Act (1978)

Subject to the provisions of the Act, all land comprised in the territory of each State in the Federation are vested in the Governor of that State and held in trust and administered for the use and common benefit of all Nigerians in accordance with the provisions of the Act. Thus, the act makes it lawful for the Governor in respect of land, to grant statutory rights of occupancy to any person for all purposes.

Water Resources Act (1993)

The Act allows any person to take water without charge for his domestic purpose or for watering his livestock from any watercourse to which the public has free access and to use water for the purpose of fishing or for navigation to a reasonable extent. The Act also allows any land owner to take and use water from the underground water source or if abutting on the bank of any watercourse, from that watercourse.

Agriculture Promotion Policy (2016)

APP seeks to partner closely with private investors across farmer groups and companies, to develop end-to-end value chain solutions. Operators will receive facilitated government support, as they make deep commitments to engaging a new generation of farmers; improving supply of specialised agro chemicals, as well as wider scale use of high yielding seeds. In addition, The government will work with investors, to sharply improve the distribution system, reduce post-harvest losses and overall, improve nutritional outcomes.



Environmental Impact Assessment Act (1992)

The EIA Act prevents the public or private sector of the economy from undertaking or embarking on public or authorised projects or activities without prior consideration, at an early stage of their environmental effects. Where the extent, nature or location of a proposed project or activity is such that is likely to significantly affect the environment, the Act mandates that its environmental impact assessment be undertaken in accordance with the provisions of the Act.

National Seed Policy (2014)

The policy charges the Federal Government, under the coordination of the NASC, with responsibility of maintaining public-service infrastructural and service support required to maintain efficient seed supply, enhancing farmer demand for improved seeds, and creating an enabling environment favourable for investment in seed business. The policy also stipulates the withdrawal of the public sector from commercial production of seeds.



Nigerian Rice Industry -

Public Sector Involvement in Rice Farming

Most state governments have huge interest in promoting agriculture and granting institutional farmers access to land at cheaper or no cost. Various State Governments in the country have embarked on various initiatives and public-private partnerships to increase rice cultivation in the country



Federal Government of Nigeria

Initiatives such as the Growth Enhancement Support Scheme (GESS) aimed at stimulating a thriving private sector fertiliser and seed industry and enhancing agricultural productivity.

Aimed at farmers & the fertiliser value chain



Lagos and Kebbi State

Lagos and Kebbi State have entered a partnership to produce and market rice on a large-scale basis to boost food security. The product, Lake rice is sold at a subsidised rate

LAKE Rice



Ondo State, in partnership with Africa Red Crest

Ondo state government has signed a memorandum with Agro-allied firm Africa Red Crest for the mass production of rice

Ondo Rice



Ebonyi State

To make the goal of economic diversification achievable, the Ebonyi State government launched a one-man, one-hectare scheme, with the target of capturing 80,000 farmers and providing them with soft loans

Ebonyi Rice



Anambra State

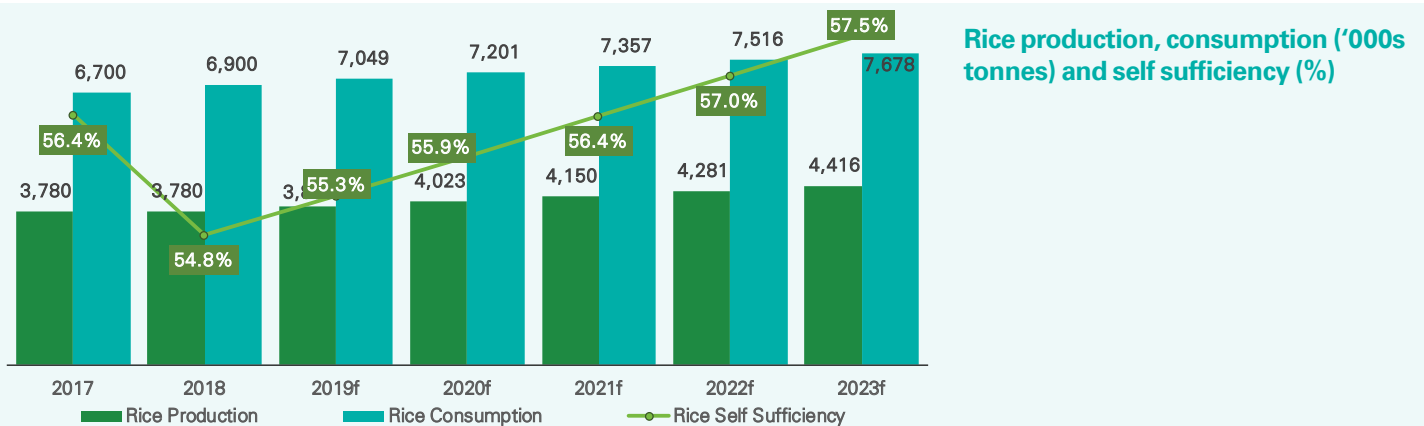
Anambra State aims to significantly boost rice production, and become one of the top 3 producers of rice in Nigeria through its Anambra Rice initiative

Anambra Rice

Nigerian Rice Industry-

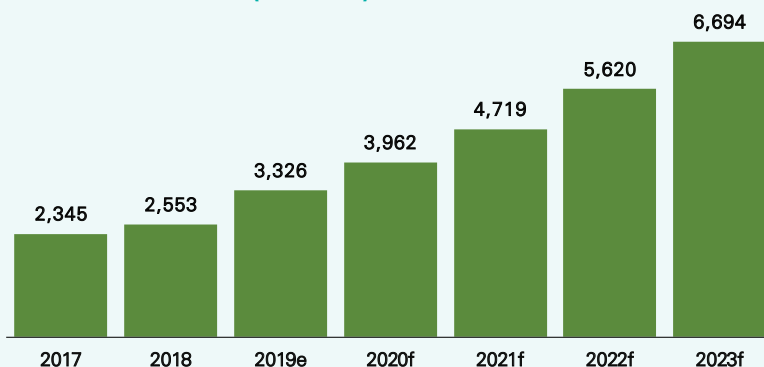
Outlook

Demand for rice in Nigeria is expected to grow in line with strong demand drivers. However, to achieve self-sustenance, the industry still requires significant investment



- Production is expected to grow annually between 2018 and 2023 at an average of 3.2%, driven by private sector investment and pro-production trade policies.
- Consumption is estimated to moderately grow at a CAGR of 2.16% between 2018 - 2023 driven primarily by population growth.
- There is likely to be greater demand for locally produced rice as imports become more expensive given the uncertainty of the foreign exchange market and probable ban of imported rice.
- Local players remain wary of the threats posed by rice imports and smuggling, however the government is making efforts at controlling smuggling.

Total rice retail value (N'billion)*



- Although it is more expensive, imported rice is preferred by most Nigerians on the basis of general perceptions of it being of high quality and better tasting. We expect more initiatives by the Government to drive demand for locally produced rice. We also expect investments in rice mills that bring locally produced rice to the standard of imported rice.
- Restrictions on forex allocation to rice traders and naira depreciation in the forex market will likely lead to reduction in imports and subsequently, an increase in the price of imported rice. This is expected to cause a shift in consumer demand and create a greater market for local rice.
- Total sales is expected to increase significantly, over 2.5 times of its 2018 value by 2023. This increase will be driven by increase in population and urbanization, and the attendant increase in consumption rates.

*Assuming all consumed rice is bought at retail value and uniform growth in size of market from 2007.



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Glossary

Abbreviation	Description
ABP	Anchor Borrowers Programme
APP	Agriculture Promotion Policy
BBC	British Broadcasting Corporation
BIN	Bangladesh, Indonesia and Nigeria
BOI	Bank Of Industry
BMI	Business Monitor International
CACS	Commercial Agriculture Credit Scheme
CAGR	Compound Annual Growth Rate
CAP	Cottage Agro Processing
CBN	Central Bank of Nigeria
CSR	Corporate Social Responsibility
ECOWAS	Economic Community Of West African States
EIA	Environmental Impact Assessment
EIU	Economist Intelligence Unit
EU	European Union
FAO	Food and Agriculture Organisation
FEWS NET	Famine Early Warning Systems Network
FMARD	Federal Ministry of Agriculture and Rural Development
GDP	Gross Domestic Product
GEMS4	Growth and Employment in States – Wholesale and Retail Sector
GESS	Growth Enhancement Support Scheme
IAR	Institute for Agricultural Research

Abbreviation	Description
IFAD	International Fund for Agricultural Development
IRRI	International Rice Research Institute
MSME	Micro, Small and Medium Enterprises
NASC	National Agricultural Seed Council
NBS	National Bureau of Statistics
NCRI	National Cereals Research Institute
NCS	Nigeria Customs Service
NERICA	New Rice for Africa
NIRSAL	Nigeria Incentive-Based Risk Sharing System for Agricultural Lending
NRMAN	National Rice Millers Association of Nigeria
NSIA	Nigeria Sovereign Investment Authority
PAS	Paddy Aggregate Scheme
PFI	Presidential Fertiliser Initiative Programme
PPP	Public Private Partnership
RIFAN	Rice Farmers Association of Nigeria
SCPZ	Stable Crop Processing Zone
SHFs	Small Holder Farmers
SMEDAN	Small and Medium Enterprises Development Agency of Nigeria
UNAAB	University of Agriculture, Abeokuta
USAID	United States Agency for International Development
USDA	United States Department for Agriculture



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33	Public Sector Involvement in Rice Farming	FADAMA AF I; CBN; EPRA – Effect of Growth Enhancement Scheme on food Security status of rural farming households in Adamawa State, Nigeria; IFAD website
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