AFEX 2024 Wet Season Crop Production Report

NIGERIA

What you'll find Inside

Executive Summary

Nigeria possesses significant agricultural potential to meet the needs of its growing population and contribute to feeding Africa. However, this potential remains largely untapped, with agricultural production struggling to keep pace with increasing food demand. This gap poses serious challenges to food security, as the sector grapples with high production costs due to vulnerability to global shocks, insecurity, and the depreciation of the naira. Elevated inputs prices further hinder productivity, exacerbating the challenges in meeting the rising demand. Food commodity prices in Nigeria have consistently risen in recent years, with recent months experiencing unprecedented spikes, reaching historical highs. This surge is particularly alarming for a country with 31.8 million people officially classified as food insecure (Cadre Harmonise, 2024).

The survey aims to provide an in-depth analysis of Nigeria's agricultural sector by evaluating this season's production performance, focusing on key commodities vital for food security and economic growth. It will also offer valuable insights into anticipated price trends for each commodity in the upcoming season.

The survey revealed a decline in input usage this season, with limited access to financing and agricultural inputs identified as the primary challenges facing farmers. The outlook for staple commodities appears bleak, with most expected to see a decline in production due to reduced input usage and the severe impacts of climate change. However, sorghum is an exception, with production forecast to increase compared to last year, driven by expanded land cultivation and favourable climatic conditions. Similarly, ginger, cocoa, and sesame are projected to see increased production, primarily due to expanded cultivation and a strong response to last year's price surge. Despite the favourable forecast for ginger, its production will remain significantly lower than in previous years due to the lingering effects of the ginger fungal infestation from 2023.

Commodity prices are projected to rise to historical highs in the new season, driven by reduced production levels, growing international demand, and rising logistics costs, pressured by the fuel price hikes. The outlook for Nigeria's food security is particularly concerning, especially given the historic food inflation rate of 37.5%. If swift action is not taken, the already high levels of food insecurity in the country are likely to worsen. Recent climate shocks have severely impacted staple crops, damaging thousands of farmlands and constraining output. It is now more critical than ever to adopt effective adaptation strategies to combat climate change vulnerability. Key strategies include investing in water management infrastructure, implementing social protection measures such as cash transfers and input affordability, and enhancing early warning systems to better prepare for climate-related events. Establishing public-private partnerships is essential to attract investments and encourage innovations that can mitigate the impacts of climate change.

This report equally highlights the struggles of the Nigerian agricultural commodities market, characterized by significant price volatility due to climate change, domestic supply shocks, and global supply chain disruptions. This volatility has severe implications for food security and economic growth, particularly for smallholder farmers. To manage these risks, the use of risk management tools such as derivatives, commodities exchanges, and commodity-linked bonds is recommended to help stabilize prices and protect stakeholders.

Nigeria

Farmers Sample

47,364

Sampled farmers from all 6 geopolitical zones - North Central, North East, North West, South West, South East and South South.

28,421
Non-AFEX farmers

18,943
AFEX farmers

Key commodities

Cashew

Cocoa

Soybean

Sorghum

Sesame

Paddy rice

Ginger

Maize

Factors affecting the 2024/2025 agricultural performance

Reduced input usage

Limited access to input financing

Impacts of climate shocks

Introduction

The AFEX Crop Production Survey encompasses all geopolitical zones in Nigeria and focuses on the commodities traded on the AFEX Commodities Exchange, including maize, paddy rice, soybean, sorghum, ginger, sesame, cocoa, and cashew nuts.

This report aims to guide crucial stakeholders such as farmers, processors, investors, and the public, providing valuable insights for informed decision-making during the 2024/25 trading season.

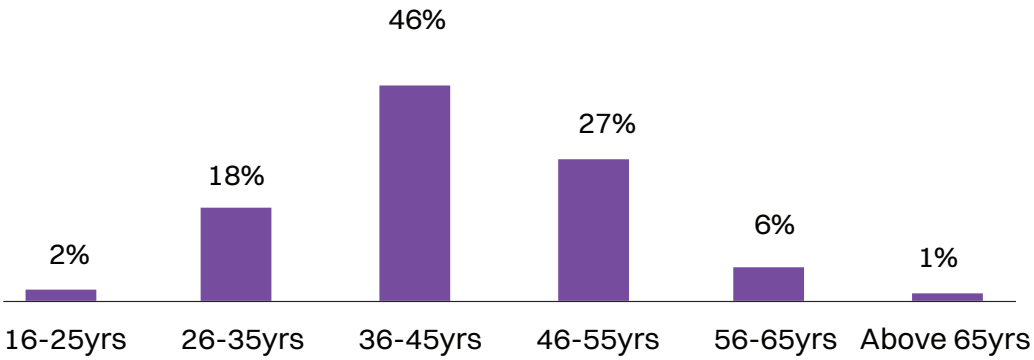
The primary objective of the survey is to analyse Nigeria's food security status and recommend strategies to enhance the nation's crop production capabilities. To achieve this, we aimed to:

- Understand the planting behaviour of both AFEX and non-AFEX farmers during the 2024 wet season.
- Forecast the expected volume of production for the year.
- Provide recommendations to strengthen Nigeria's crop production capabilities.

To offer a comprehensive and representative view of the agricultural sector, the survey sampled 47,364 farmers, comprising 18,943 AFEX farmers and 28,421 non-AFEX farmers. This approach allowed us to assess the impact of factors such as farm size, input usage, and weather on production levels.

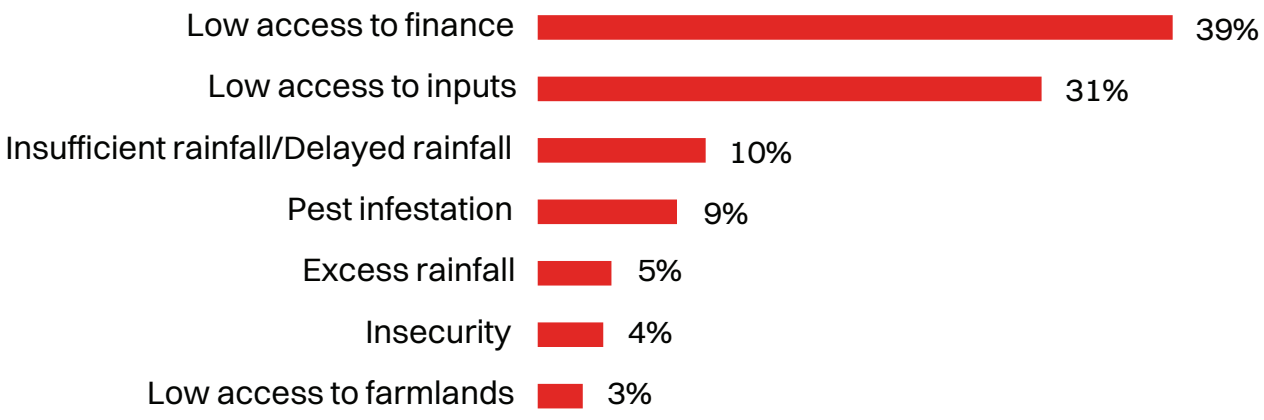
Our findings indicate that input use for the 2024 planting season declined by an average of 38% compared to the previous year. This decline can be attributed to the high prices of inputs,

Age Distribution



Source: AFEX Research

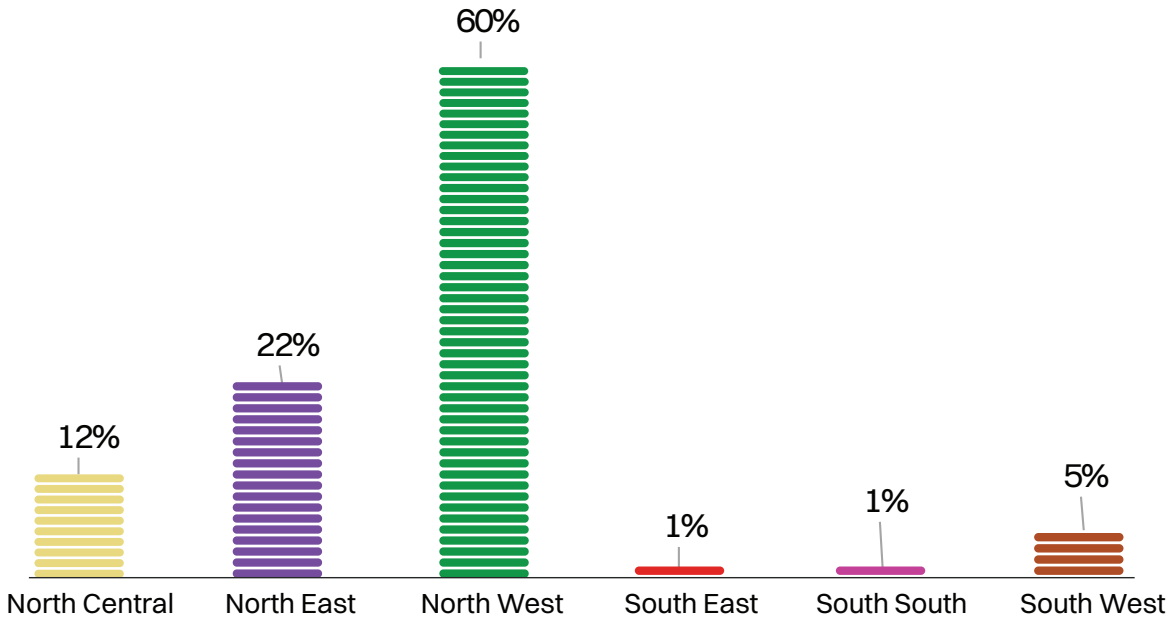
Factors affecting planting season



particularly fertilizers, which remain elevated compared to levels seen before the Russia-Ukraine war.

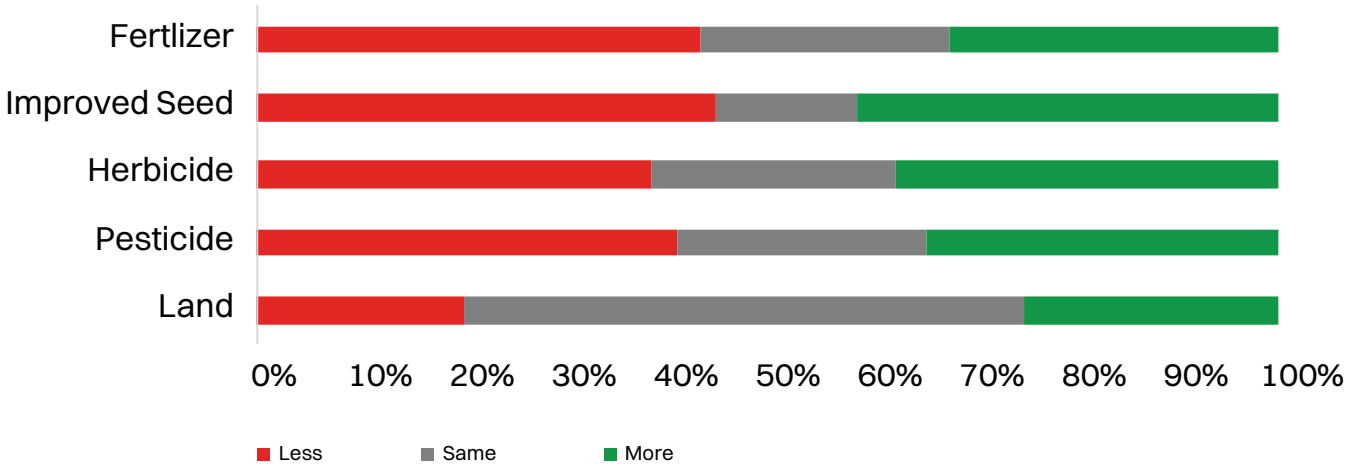
Farmers in Nigeria continue to face significant challenges, with limited access to finance and agricultural inputs emerging as the primary obstacles in planting. Climate change remains a critical threat to agricultural development, with delayed and excessive rainfall posing significant challenges for the 2024 production, both of which have had devastating effects on farmlands. These factors are pivotal in shaping the production outlook for the 2024/2025 season.

Regional Distribution



Source: AFEX Research

Input and Land Usage Y-o-Y Comparison

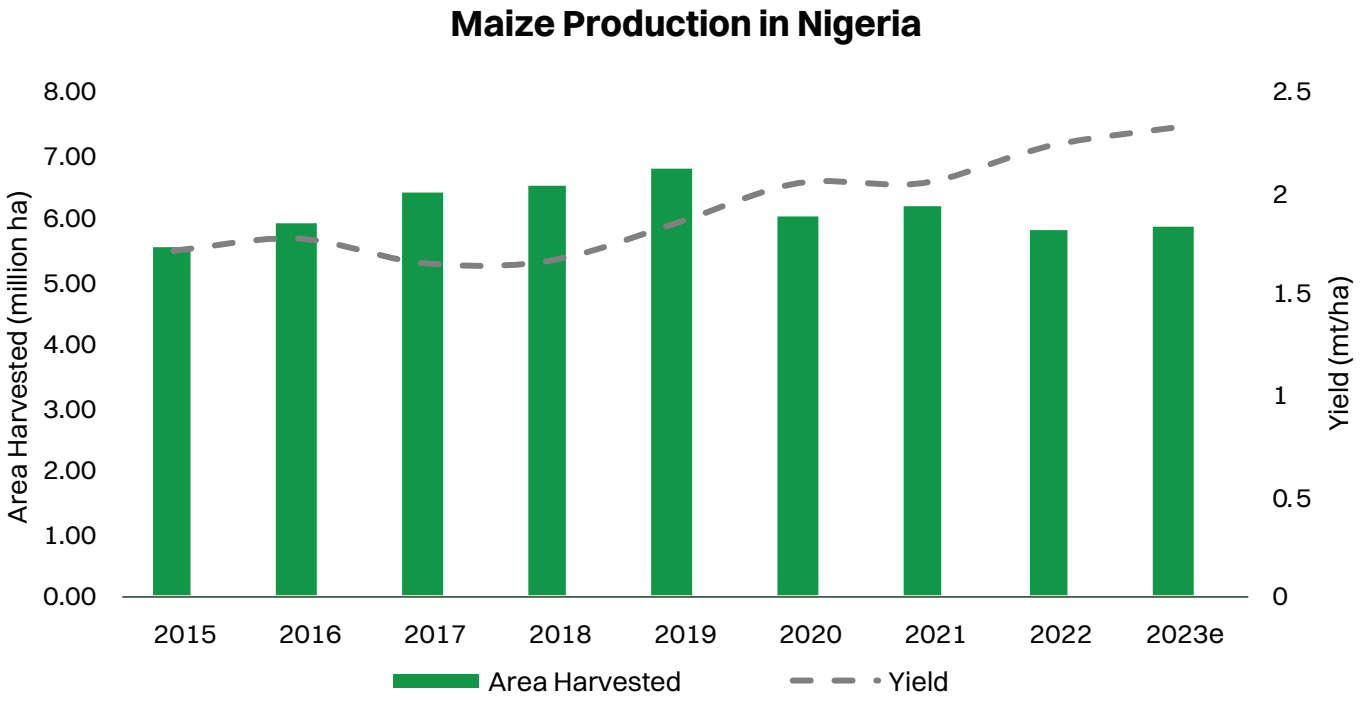


Source: AFEX Research

Commodities Production Patterns

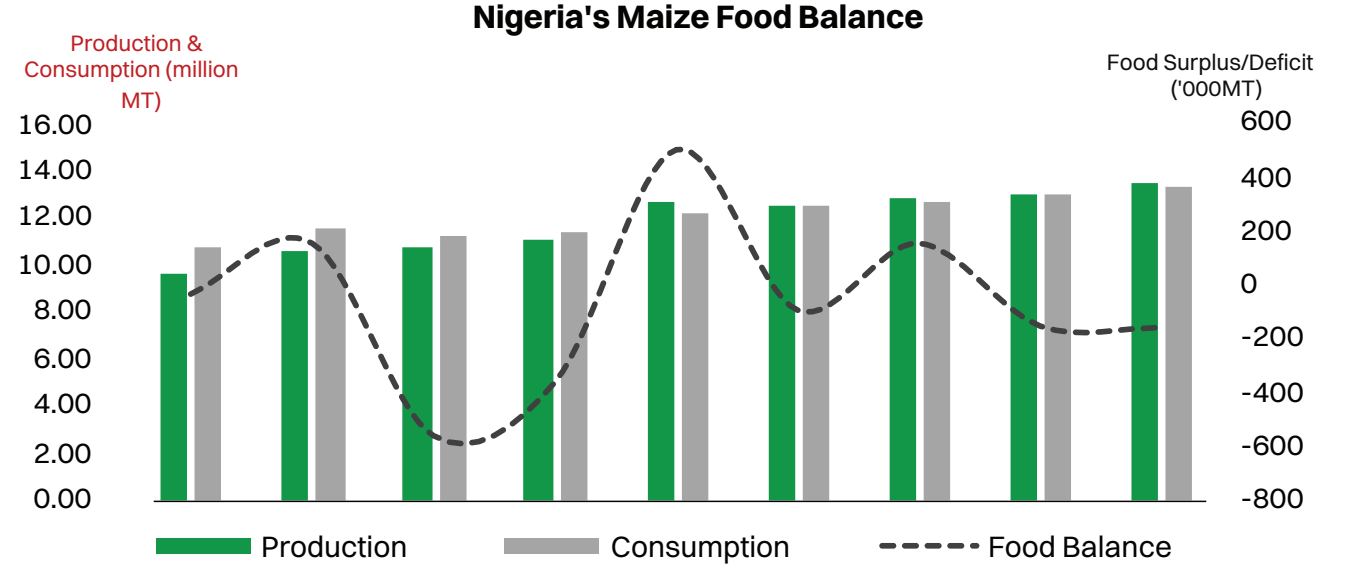
Maize

Maize is a critical crop for food security across sub-Saharan Africa, particularly in Nigeria, where it plays an essential role in both the national economy and local diets. Predominantly cultivated by smallholder farmers, maize is a significant source of food and cash income. The commodity enjoys a robust market in Nigeria due to its high demand for human consumption, livestock feed, and industrial processing. Its adaptability to various ecological zones and the ability to be cultivated during the dry season contribute to a production volume of over 12 million metric tonnes.



Source: FAOSTAT, AFEX Research

As the largest cereal crop in Nigeria, maize accounted for approximately 32% of the total cereal area harvested in 2023. However, there was a notable decline in the area cultivated for maize, which decreased to 5.8 million hectares in 2022, down 7% from 6.2 million hectares in 2021. Currently, maize production is on par with its consumption levels, highlighting the need for an increase in production.



Source: FAOSTAT, USDA, AFEX Research

Despite its economic significance, Maize production in Nigeria faces several challenges such as inefficiencies in resource allocation, limited access to finance and agricultural inputs, and the prevalence of pests and diseases hinder productivity. Additionally, the high demand for maize has resulted in substantial price increases, with prices surging by over 90% during the 2023/2024 season.

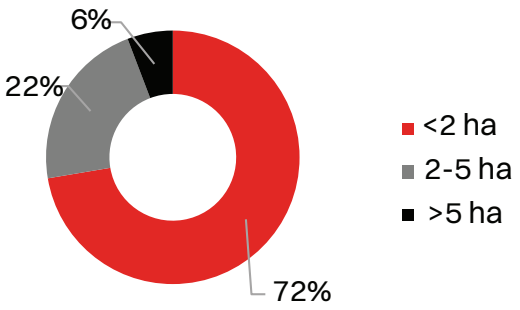
Land Usage

Our survey of over 25,000 maize farmers revealed that approximately 72% were smallholder farmers, cultivating areas of land smaller than 2 hectares. This trend was particularly pronounced in the Southwestern region, where farmers utilized smaller plots for maize cultivation compared to those in other regions.

Input Consumption

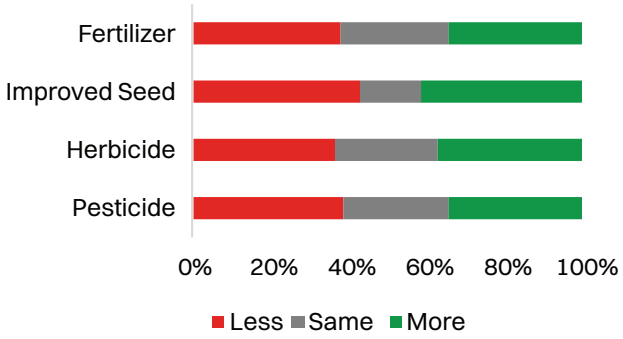
Our survey revealed that most maize farmers used less fertilizer, improved seeds and pesticides this season. The top factors that affected planting of maize this season were low access to finance, low access to inputs, and insufficient or delayed rainfall.

Maize Land Usage in 2024



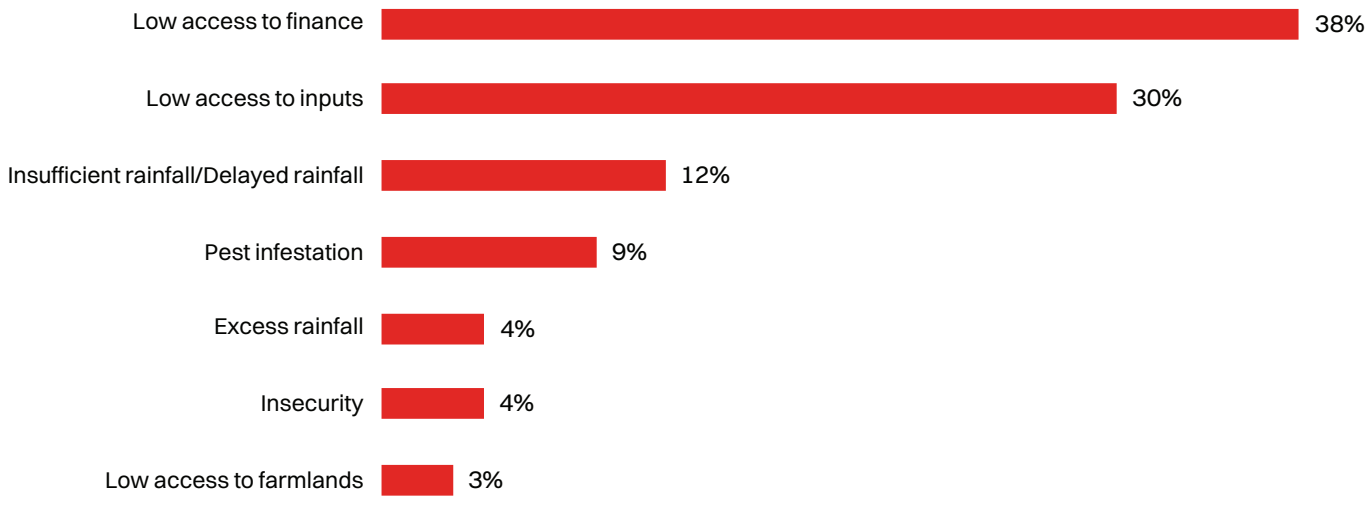
Source: AFEX Reseach

Input Usage Y-o-Y for Maize Planting



Source: AFEX Research

Factors Affecting Maize Planting in 2024



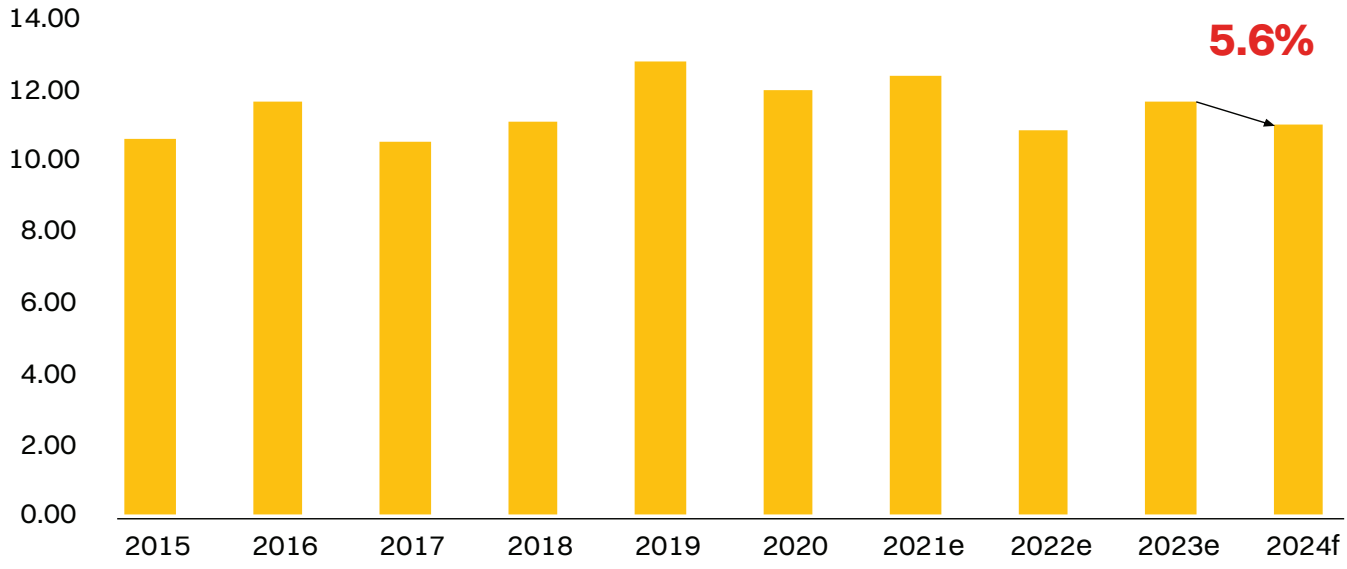
Source: AFEX Research

Maize Projected Outlook

Maize production is projected to decline by 5.6%, resulting in an estimated total output of 11 million metric tons.

This decrease can be attributed to several key factors, including a reduction in the cultivated land area, limited fertilizer usage, and adverse climatic conditions. The cultivated land area shrank by over 3% due to rising production costs during the planting season, prompting many farmers to reduce the size of their farms. Compounding this issue is the decreased application of fertilizers, driven by their high costs, which is expected to negatively impact crop yields. Climate change has further worsened the situation, with prolonged dry spells in states like Taraba and flooding in states such as Kaduna significantly hindering maize production and availability across these regions.

Maize Production Volume ('mmt)



Source: FAOSTAT, AFEX Research

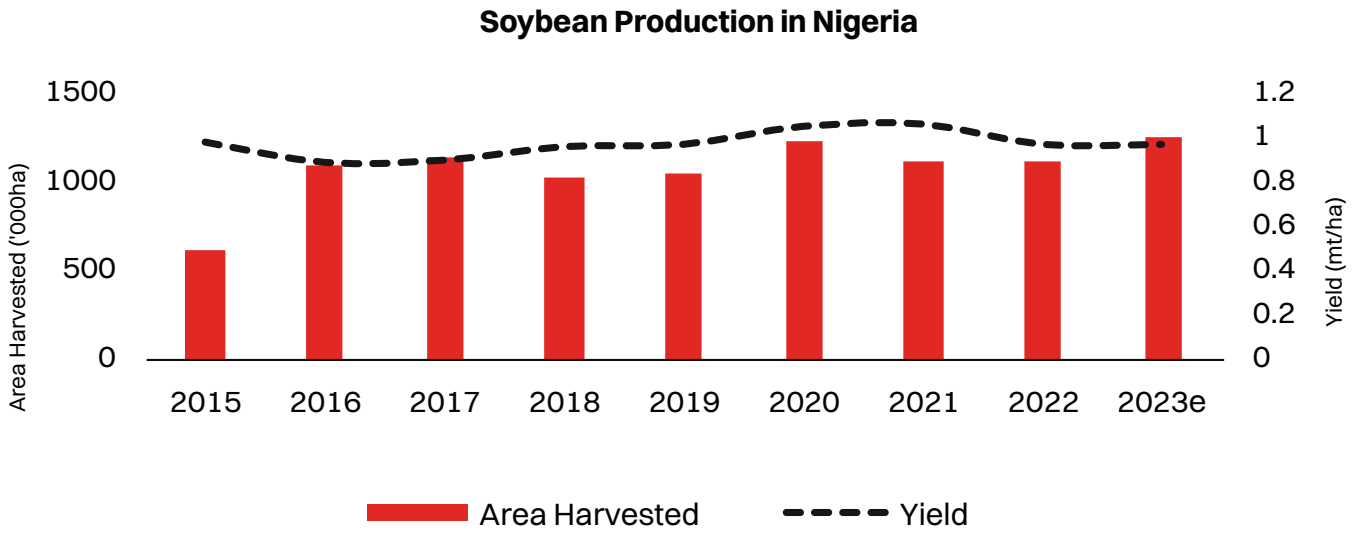
Soybean

Soybean, often referred to as the "king of beans," plays a crucial role in the global food supply, accounting for a significant portion of both direct and indirect protein consumed worldwide. It is the second most cultivated oilseed, contributing 31% to global oilseed production. Of the world's soybean output, 76% is utilized as high-quality protein in animal feed for dairy and meat production, while 20% is consumed in the form of edible oils and food products such as tofu and soy milk.

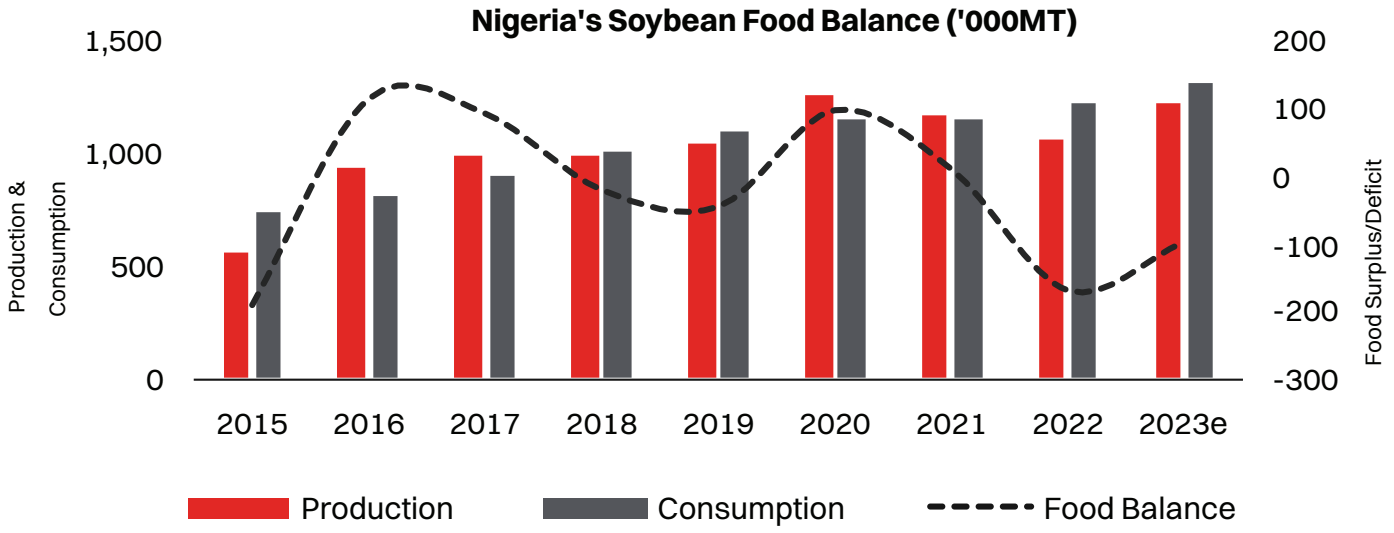
The remaining 4% serves industrial purposes, notably in biofuel production. The rising global demand for soy is driven by increasing consumer interest in both animal and plant-based protein options.

Soybean is among the most traded agricultural commodities globally, with its derivatives, such as soybean oil and meal, actively traded in the futures market. The global soybean market, currently valued at USD 155 billion, is projected to grow to USD 278 billion by 2031, reflecting a compound annual growth rate (CAGR) of 6%.

The global price of soybean is heavily influenced by demand from China, the world's largest soybean consumer and importer, which holds approximately 60% of the global market share. Additionally, demand from Brazil and the United States, particularly for biofuels and ethanol, also impacts pricing.



Source: FAOSTAT, AFEX Research



Source: FAOSTAT, USDA, AFEX Research

In Nigeria, soybean production has increased by 12% over the past decade; however, demand continues to outpace supply. The country's soybean sector benefits from its exclusive cultivation of non-genetically modified organisms (non-GMO) soybeans, which have a niche demand in the global market. This positions Nigerian soybean farmers to capitalize on high demand, potentially earning foreign exchange for themselves and the country. According to the National Bureau of Statistics, Nigeria generated NGN 237.37 billion from the exports of soybeans and their derived products in 2023.

High international demand for Nigerian soybeans has led prices to soar to over NGN 1 million per metric tonne in the 2023/2024 season.

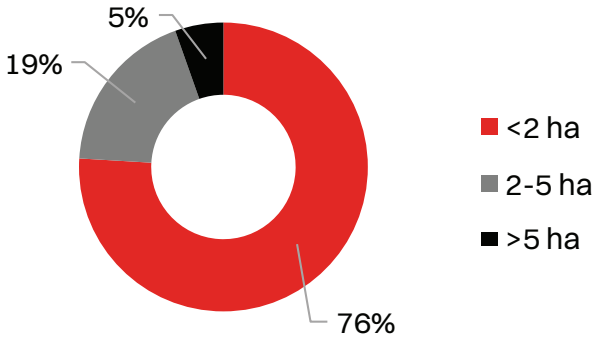
Land Usage

Over 6,000 soybean farmers were surveyed, with approximately 76% identified as smallholder farmers cultivating areas of land smaller than 2 hectares. The majority of these farmers are located in the Northern region, where they grow soybeans due to the crop's relatively low input requirements and high market demand.

Input Consumption

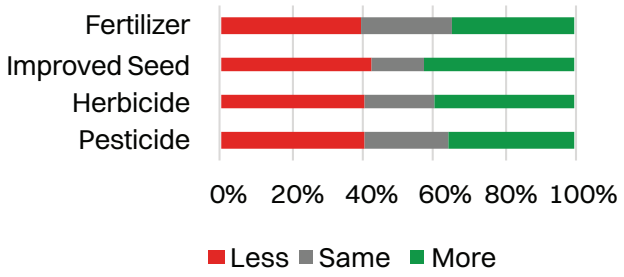
The most used inputs for soybean cultivation this season were improved seeds and herbicides. The primary factors affecting soybean planting included limited access to finance, inadequate access to inputs, and insufficient or delayed rainfall.

Soybean Land Usage in 2024



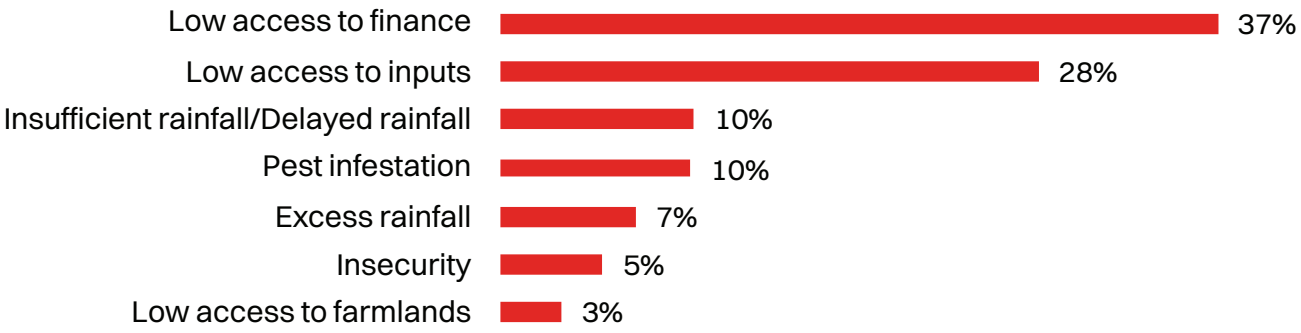
Source: AFEX Research

Input Usage Y-o-Y for Soybean Planting



Source: AFEX Research

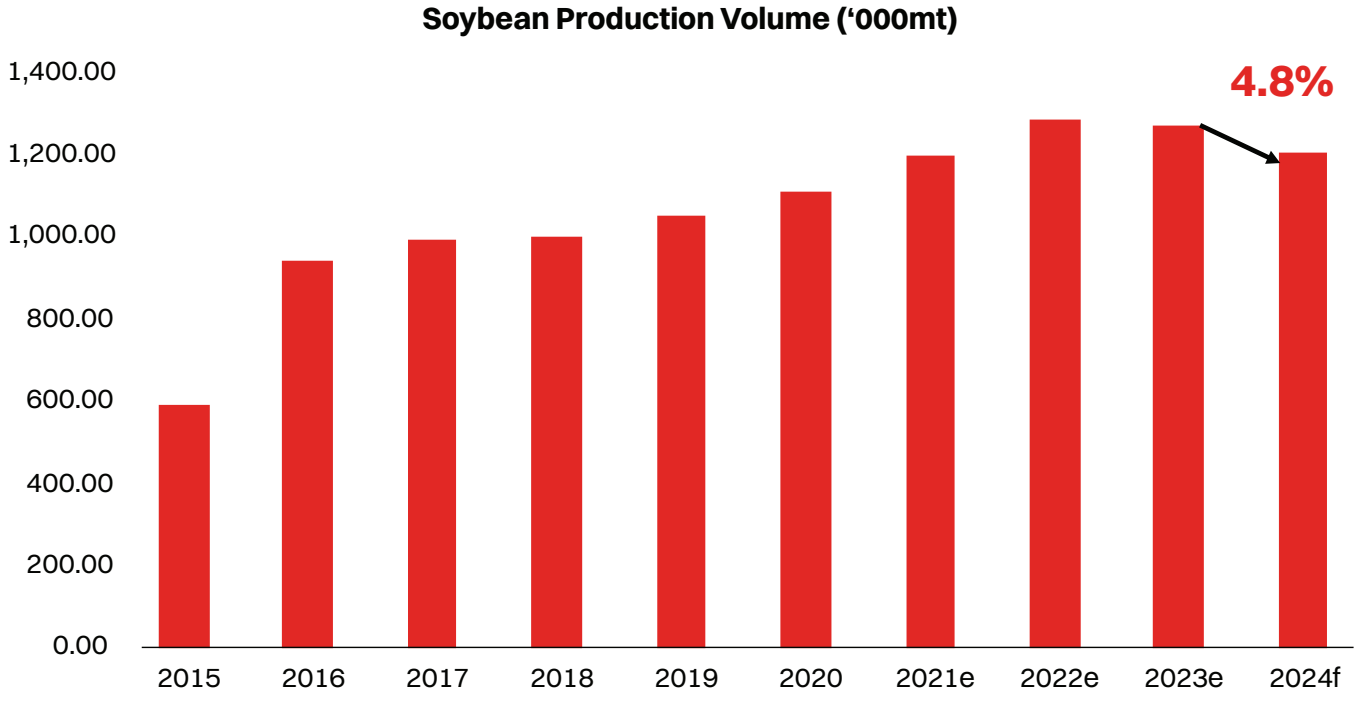
Factors Affecting Soybean Planting in 2024



Source: AFEX Research

Soybean Projected Outlook

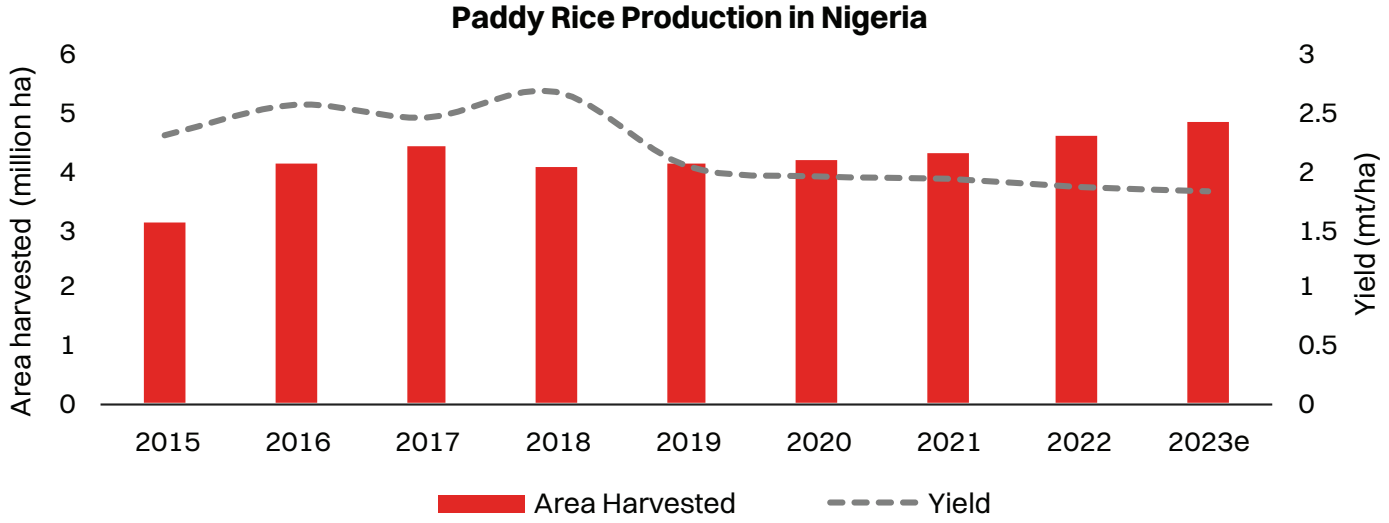
Soybean production is projected to decrease by 4.8%, resulting in a total national output of 1.2 million metric tons. This decline is primarily driven by the scarcity of Single Super Phosphate (SSP), the appropriate fertilizer type crucial for soybean cultivation due to its low nitrogen requirement. The shortage has caused a sharp increase in SSP prices, limiting its availability for farmers. Consequently, many have turned to using less suitable fertilizers, negatively impacting yields. Additionally, some farmers have opted to switch to alternative crops, such as millet and sorghum, in response to the rising costs associated with soybean production.



Source: FAOSTAT, AFEX Research

Paddy Rice

Rice is a dietary staple for billions of people, serving as a primary source of carbohydrates and nutrition. As such, it holds a vital position among global agricultural commodities. With the global population expanding—particularly in densely populated regions like Asia and Africa—the demand for staple foods such as rice continues to rise. As a food crop, rice ranks first in global consumption, fourth in total output, and third in total cultivation area, following sugarcane, maize, and wheat. Globally, irrigated rice, lowland rice, and upland rice contribute 50%, 35%, and 9% of total rice production, respectively. The global trade value of rice reached $32.1 billion in 2022 and is projected to rise to approximately 700 million metric tons by 2025.

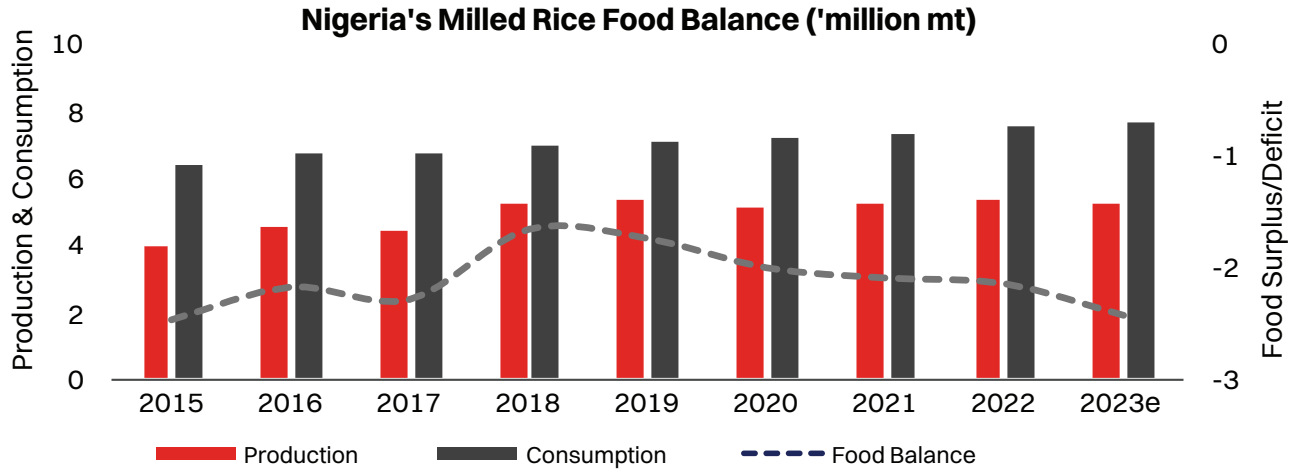


Source: FAOSTAT, AFEX Research

In Nigeria, rice is the second-largest cereal crop and a crucial food security commodity. The country ranks fourth in global rice imports, accounting for about 5% of global rice trade, and is the tenth-largest rice consumer worldwide. Regionally,

Nigeria leads Africa in rice production, consumption, and imports, with an estimated per capita rice consumption of around 30 kg annually.
The total area cultivated for rice in Nigeria is estimated at 4.85 million hectares, comprising 30% rain-fed uplands (contributing 17% to domestic production), 47% rain-fed lowlands (accounting for over 50% of total national production), 17% irrigated lowlands (responsible for 27% of domestic output), and 6% mangrove rice (contributing 4% to total production).

Over the past decade, rice consumption in Nigeria has surged by 25%, while production struggles to keep pace. Despite increased cultivation efforts, rice production remains characterized by low average farm yields, and the widening domestic rice deficit is being bridged through imports.



Source: USDA, AFEX Research

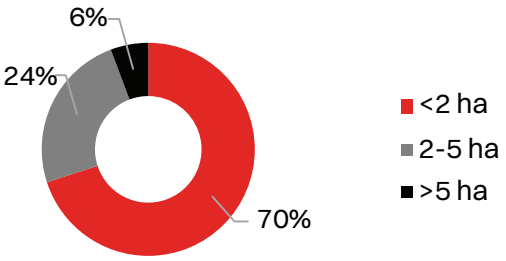
Land Usage

Our survey of over 18,000 paddy rice farmers revealed that approximately 70% were smallholder farmers cultivating areas of land smaller than 2 hectares. The Northwestern geopolitical zone had the highest number of rice farmers, and this region also featured more farmers cultivating larger areas compared to other regions

Input Consumption.

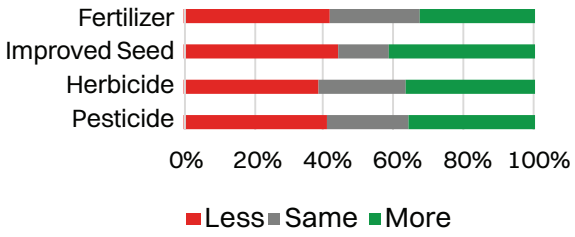
This season, most paddy rice farmers reported using fewer improved seeds, pesticides, herbicides, and fertilizers. The primary factors that affected paddy rice planting included limited access to finance, inadequate access to inputs, and insufficient or delayed rainfall.

Paddy Rice Land Usage in 2024



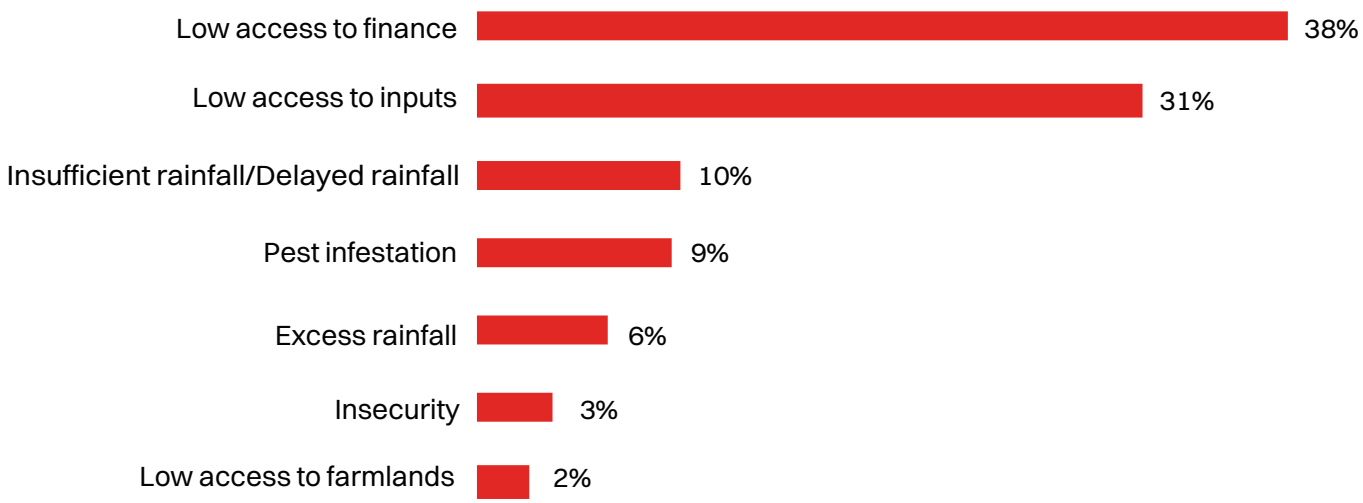
Source: AFEX Research

Input Usage Y-o-Y for Paddy Rice Planting



Source: AFEX Research

Factors Affecting Paddy Rice Planting in 2024

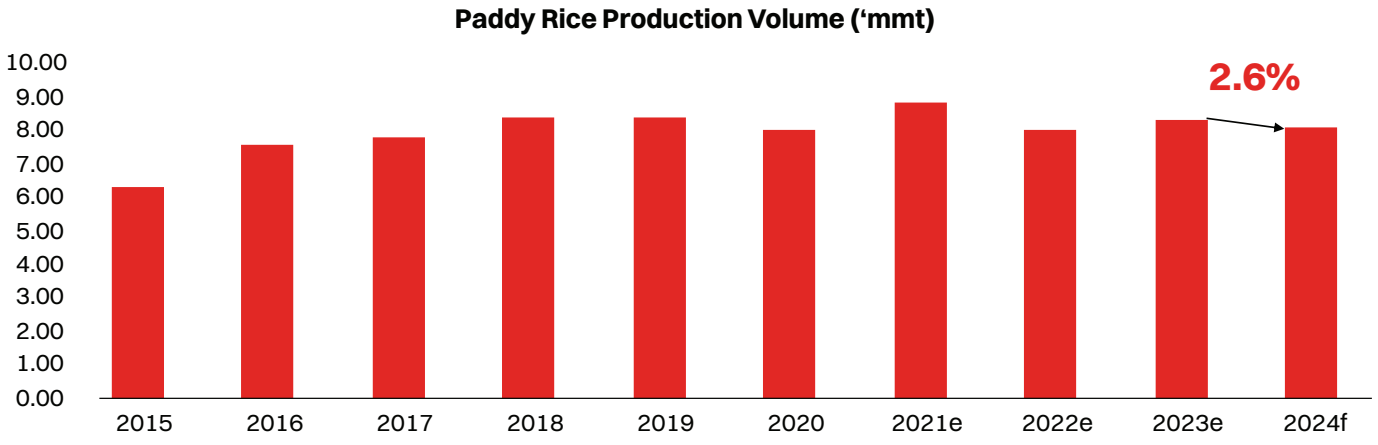


Source: AFEX Research

Paddy Rice Projected Outlook

Paddy rice production is projected to decrease by 2.6% in 2024, resulting in a total output of 8.1 million metric tons. This decline is primarily driven by the high cost of fertilizers, which not only reduced rice yields but also led many farmers to switch to alternative crops such as sesame and sorghum, which require less fertilizer and are less expensive to cultivate.

Additionally, widespread insecurity in major rice-producing states has disrupted farming activities, while severe flooding in several regions has further compounded the challenges, negatively impacting rice production and worsening the overall outlook for the crop. These combined factors are expected to significantly affect both the availability and price of paddy rice in the coming year.

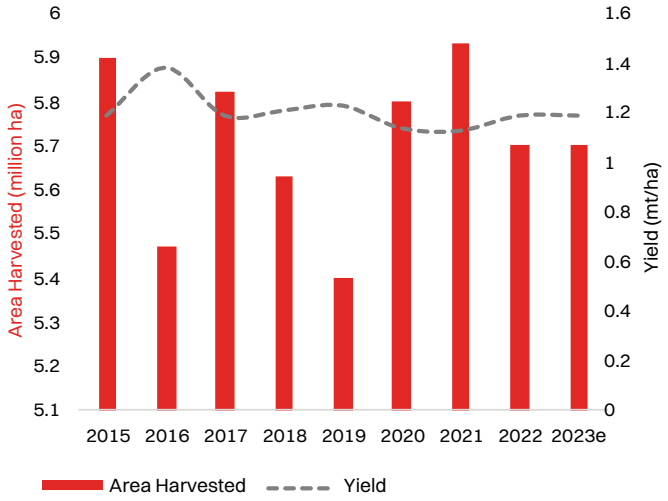


Source: FAOSTAT, AFEX Research

Sorghum

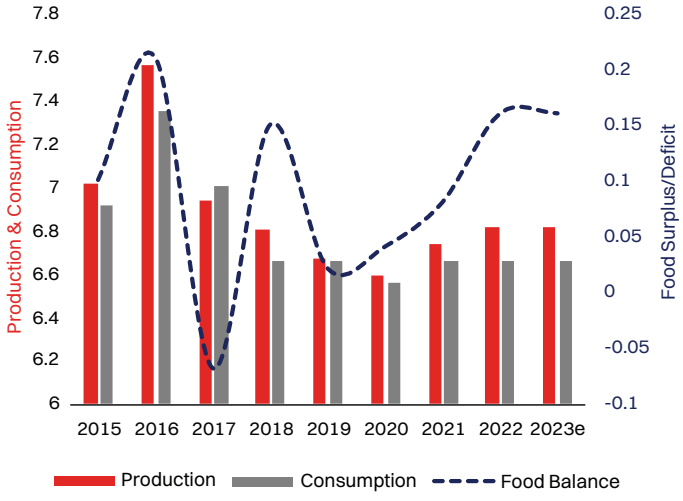
Sorghum is a vital food crop for millions of people worldwide, particularly in Sub-Saharan Africa and Asia. It is widely cultivated due to its resilience to harsh environmental conditions and its versatility as a source of human food, livestock feed, biofuel, and forage. Sorghum performs exceptionally well in regions facing water scarcity and temperature extremes. In 2022, global sorghum production exceeded 57 million tonnes. However, its yield remains comparatively low, averaging just 1.4 tonnes per hectare when compared to other cereal crops like maize and rice. In Nigeria, sorghum ranks as the third-largest cereal produced, following maize and rice, with approximately 6.8 million tonnes harvested in 2022, accounting for 22% of the country's total cereal output. Notably, Nigeria has achieved self-sufficiency in meeting local demands, as production currently exceeds consumption.

Sorghum Production in Nigeria



Source: FAOSTAT, AFEX Research

Nigeria's Sorghum Food Balance ('million mt)



Source: FAOSTAT, USDA, AFEX Research

A significant driver of the Nigerian sorghum market is the growing demand from manufacturers in the beverage, cereal, and confectionery sectors. This shift has created substantial opportunities for the viability and profitability of sorghum production. With breweries increasingly adopting sorghum, the crop is transitioning from a traditional staple to a versatile ingredient used in a variety of foods and beverages, paving the way for wider consumption and innovative applications..

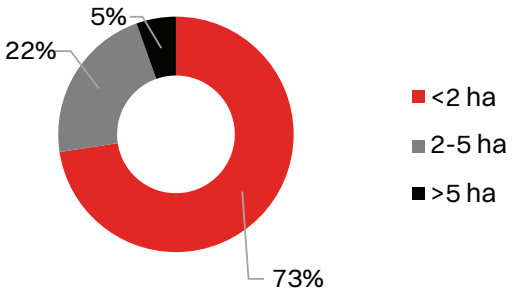
Land Usage

We surveyed over 10,000 sorghum farmers, predominantly located in the Northwest and Northeast geopolitical regions. Our findings revealed that approximately 73% of these farmers are smallholders, cultivating less than 2 hectares of land.

Input Consumption

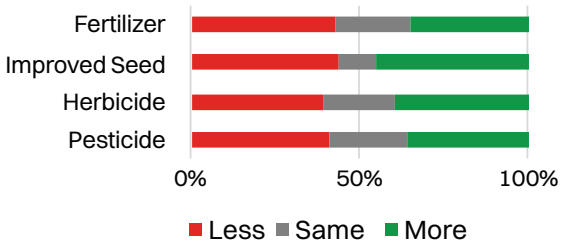
This season, most sorghum farmers reported using less fertilizer and fewer pesticides. The primary factors affecting sorghum planting included limited access to finance, inadequate access to inputs, and pest infestations.

Sorghum Land Usage in 2024



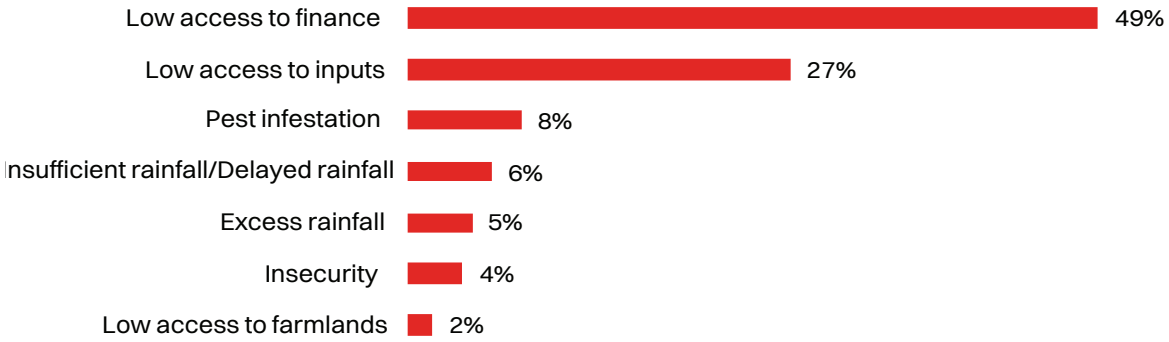
Source: AFEX Research

Input Usage Y-o-Y for Sorghum Planting



Source: AFEX Research

Factors Affecting Sorghum Planting in 2024



Source: AFEX Research

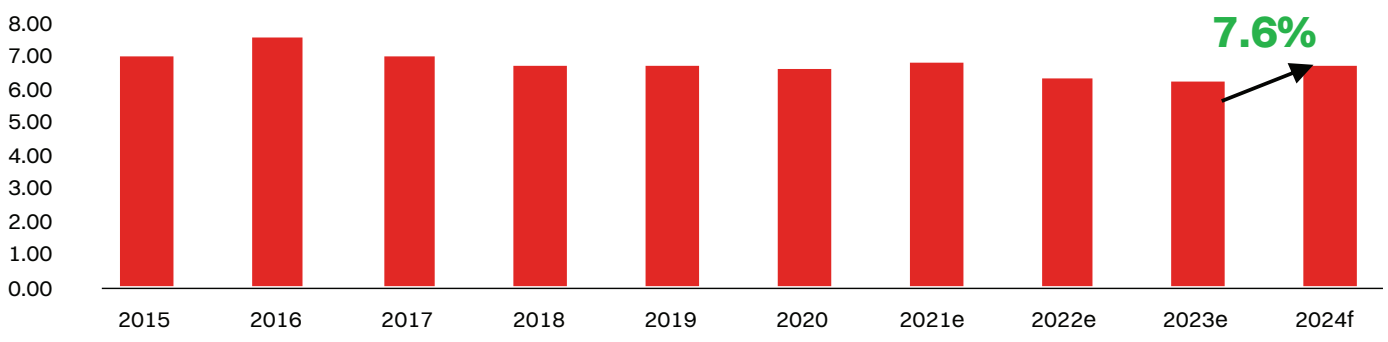
Sorghum Projected Outlook

Sorghum production is projected to follow an upward trend, with an expected increase of 5.6% in 2024, bringing the total national output to 6.6 million metric tons.

This growth is largely attributed to an expansion in the land area cultivated, as many farmers have shifted from growing crops like paddy rice and soybeans to sorghum.

The key reasons for this shift include sorghum's lower fertilizer requirements, which make it more affordable to cultivate, and its resilience to harsh climatic conditions, providing greater stability in regions affected by unpredictable weather patterns. Consequently, more farmers are turning to sorghum as a viable and cost-effective crop option.

Sorghum Production Volume ('mmt)



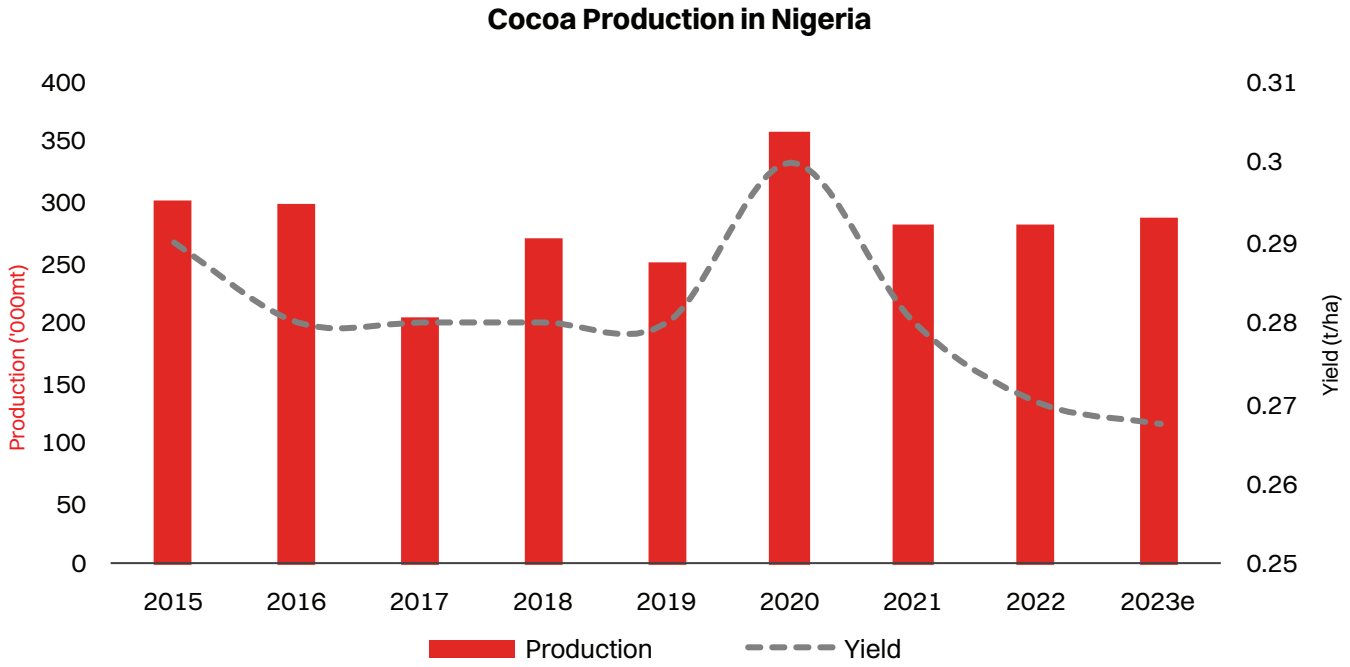
Source: FAOSTAT, AFEX Research

Cocoa

The growing demand for cocoa powder, a key ingredient in chocolate and other cocoa-based products, is driving increased consumption in both developed and emerging markets. This trend is further fuelled by the rising popularity of premium and organic cocoa products.

West Africa, particularly Côte d'Ivoire and Ghana, remains at the centre of global cocoa production, supplying over 60% of the world's cocoa. However, these regions face persistent challenges, including low yields due to aging plantations, diseases, and unfavourable weather conditions. In 2023, global cocoa bean production experienced a significant decline, primarily attributed to climate change and El Niño, which caused erratic rainfall and higher temperatures in cocoa-growing regions.

These conditions encouraged the proliferation of pests and diseases, such as black pod disease and cocoa swollen shoot virus, leading to a spike in global cocoa prices.



Source: FAOSTAT, AFEX Research

Nigeria, the world's sixth-largest cocoa producer, also saw a decline in production in 2023. Cocoa prices surged by over 250% as Côte d'Ivoire and Ghana faced one of the worst supply deficits in decades. Additionally, the devaluation of the Naira exacerbated the price increase, given cocoa's status as an internationally traded commodity.

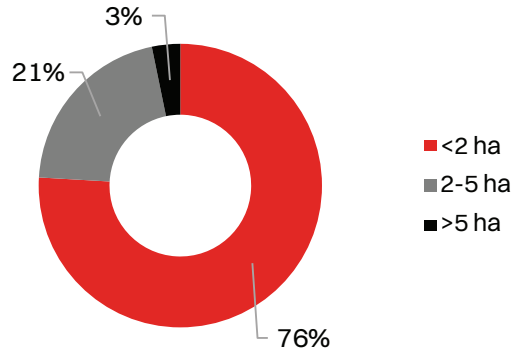
Land Usage

The majority of cocoa farmers surveyed were located in Ondo, Oyo, Ogun, and Ekiti States in the Southwest geopolitical region, as well as in Cross River and Edo States in the South-South geopolitical region. Our findings indicate that approximately 76% of the cocoa farmers interviewed were smallholders cultivating less than 2 hectares, with only about 3% cultivating more than 5 hectares. Most of the cocoa farmers were between the ages of 36 and 45 years .

Input Consumption

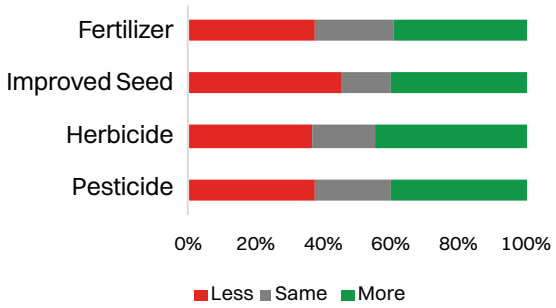
The primary inputs used for cultivating cocoa this season were herbicides, pesticides, and fertilizers. The key factors affecting cocoa planting included limited access to finance, inadequate access to inputs, and insufficient or delayed rainfall.

Cocoa Land Usage in 2024



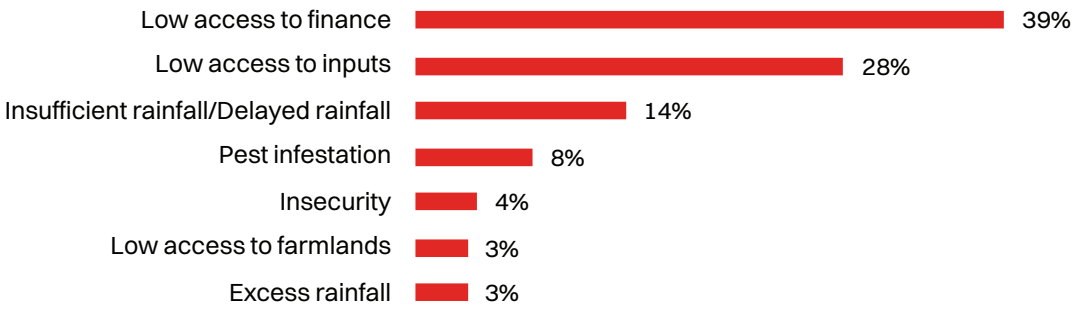
Source: AFEX Research

Input Usage Y-o-Y for Cocoa Planting



Source: AFEX Research

Factors Affecting Cocoa Planting in 2024



Source: AFEX Research

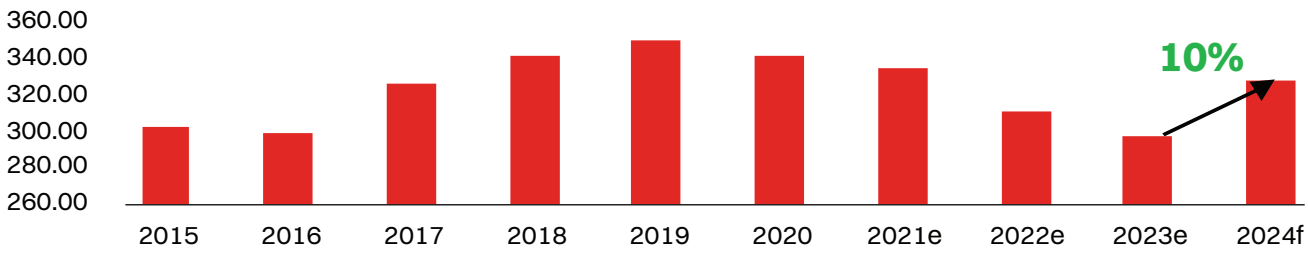
Cocoa Projected Outlook

Cocoa production is expected to experience an upward trend this season after several years of decline. This growth is primarily driven by historically high cocoa prices, which have resulted from increased international demand and supply shortages in major producing countries.

These elevated prices have incentivized farmers to invest in essential pre-harvest activities such as tree pruning, fertilizer application, and pesticide use, all of which have contributed to improved yields from existing aging trees. Additionally, several cocoa seedling projects initiated in recent years are now yielding results, with many trees reaching maturity and expanding the area available for harvest.

Favourable weather conditions in the southwestern region of the country, the primary cocoa-producing area, have also played a significant role. Given the combined impact of these factors, we project a 10% increase in cocoa production this year, with an estimated yield of approximately 320,000 metric tons in 2024.

Cocoa Production Volume ('000mt)



Source: FAOSTAT, AFEX Research

Ginger

Ginger is highly valued for its versatility, with a wide range of applications, including herbal medicines, baking spices, beverage production in breweries, pharmaceuticals, and the cosmetics industry.

Global ginger production stands at approximately 4.9 million tonnes annually, and the market is projected to grow from $4.16 billion in 2023 to $6.29 billion by 2030, reflecting a compound annual growth rate (CAGR) of 6.08% during the period from 2024 to 2030. Nigerian ginger holds a competitive advantage in the international market due to its pungency and high levels of oleoresin oil, a sought-after active ingredient. Nigeria is the second-largest producer of ginger globally, after India, and the largest producer in Africa. Of the country's total ginger output, 10% is consumed fresh domestically, while 90% is used in its dried form.

Approximately 20% of the dried ginger is consumed domestically for various uses, with the remaining 80% exported.

Source: FAOSTAT, AFEX Research

Ginger production in Nigeria had been steadily rising since 2019, driven by growing global demand. However, in 2023, a widespread fungal infestation affected over 30,000 hectares of ginger farms, resulting in a staggering 92% decline in production. This supply shortage triggered a sharp rise in prices, with the cost of ginger soaring by more than 400% in the 2023/2024 season, reaching an average price of NGN 4.15 million per metric ton.

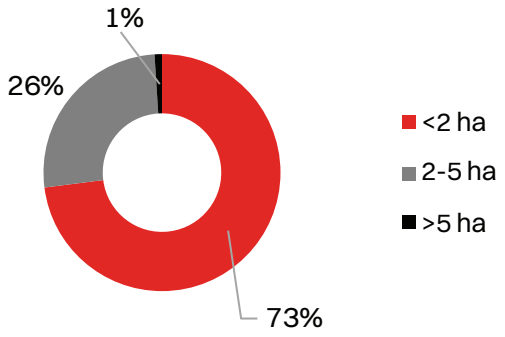
Land Usage

Most of the ginger farmers we surveyed were located in the Northwest geopolitical region, with Kaduna State accounting for over 50% of the total. Our findings indicated that approximately 73% of these farmers are smallholders, cultivating ginger on less than 2 hectares of land.

Input Consumption

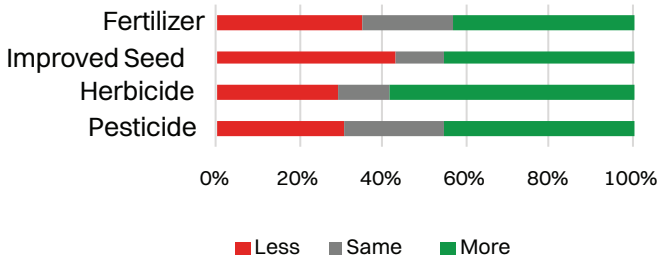
The majority of ginger farmers used more fertilizers, herbicides, pesticides, and improved seedlings this season. The primary factors affecting ginger planting included limited access to finance, inadequate access to inputs, and pest infestations.

Ginger Land Usage in 2024



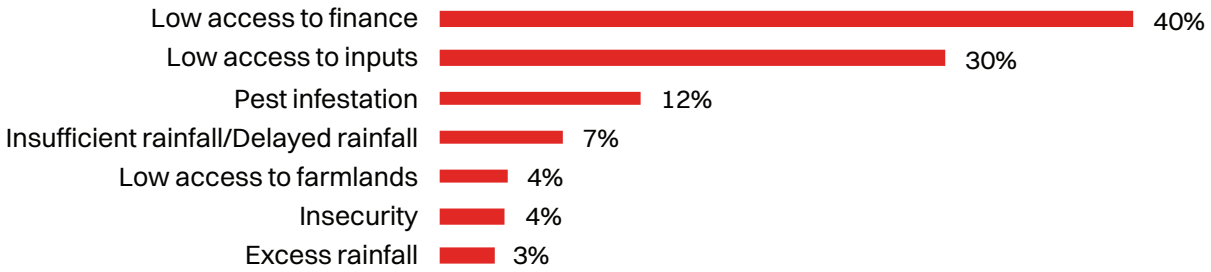
Source: AFEX Research

Input Usage Y-o-Y for Ginger Planting



Source: AFEX Research

Factors Affecting Ginger Planting in 2024



Source: AFEX Research

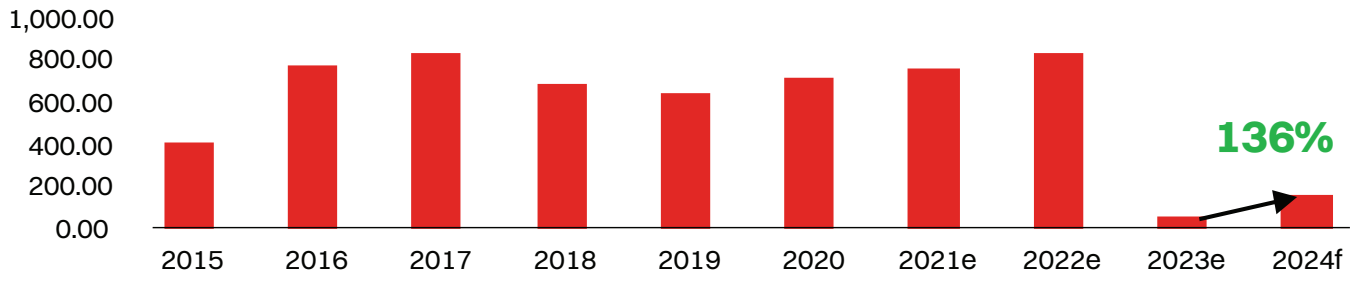
Ginger Projected Outlook

We estimate a 136% year-on-year increase in ginger output for 2024, projecting a total of around 160,000 metric tons. Although farmers allocated 75% more land to ginger in 2023 compared to previous years, the area harvested was significantly lower due to the devastating impact of the fungal outbreak during the 2023/2024 season.

This outbreak affected over 30,000 hectares and resulted in a 92% year-on-year decline in production, with harvested output dropping from 845,000 metric tons in 2022 to just 68,000 metric tons in 2023. While the forecasted 160,000 metric tons for 2024 indicates a recovery, it remains well below pre-outbreak production levels.

Urgent interventions are needed to prevent farmers from shifting away from ginger to other crops. Without these measures, it could take up to five years to restore ginger production to 2022 levels.

Ginger Production Volume ('000mt)



Source: FAOSTAT, AFEX Research

Sesame

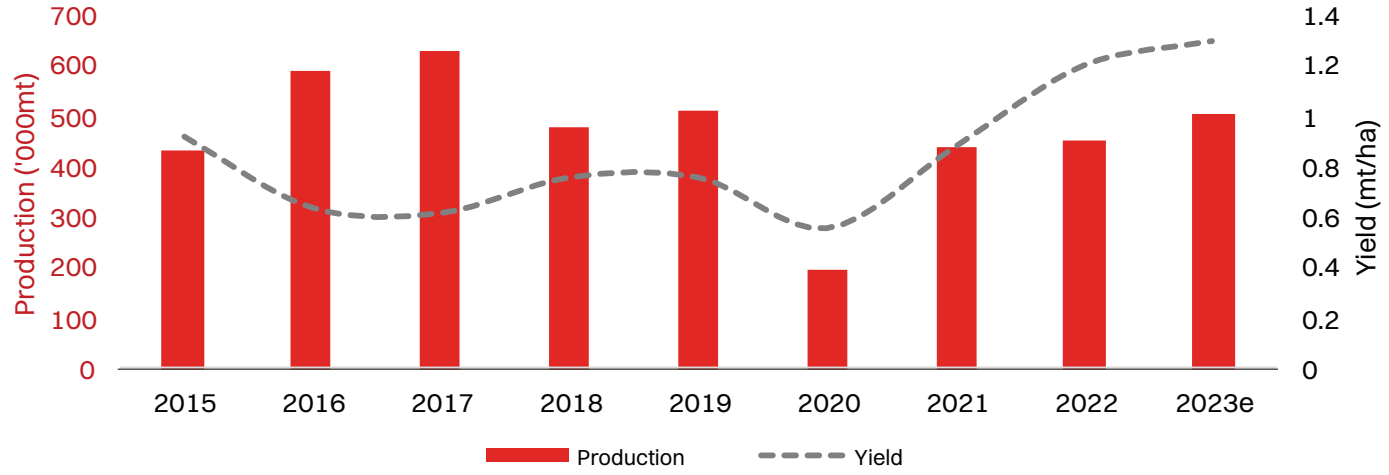
Sesame, an oilseed crop primarily cultivated in tropical and subtropical regions, is grown for its seeds, which are primarily used to produce cooking oil.

Sesame seeds are commercialized in various forms, with most processed directly into oil by growers or within the producing region. They are also sold in different stages of processing for various uses, including meal, paste, confections, and bakery products.

According to the FAO, global sesame seed production is estimated at 6.74 million metric tonnes, with the market size projected to reach $7.67 billion in 2024.

This figure is expected to grow to $8.72 billion by 2029, driven by a compound annual growth rate (CAGR) of 2.60%. The positive market trend aligns with increasing health awareness among consumers, leading to heightened demand for sesame products.

Sesame Production in Nigeria



Source: FAOSTAT, AFEX Research

In Nigeria, sesame seed production is concentrated in the North Central region, including states such as Benue, Nasarawa, Kogi, and the Federal Capital Territory (FCT).

Nigeria ranks as the fifth-largest producer of sesame globally, with an output of 450,000 metric tonnes, and is the third-largest producer in Africa, following Sudan and Tanzania. However, the country faces challenges with a relatively low average yield of 1.2 tonnes per hectare.

Despite these challenges, sesame is a key export crop for Nigeria, significantly contributing to foreign exchange earnings. Approximately 60-70% of sesame seeds produced in Nigeria are exported, with major destinations including Japan, Turkey, Vietnam, and China.

In 2023, Nigeria earned NGN 253.6 billion from sesame exports and was the third-largest exporter of sesame globally in 2022 (National Bureau of Statistics, OEC). With global demand continuing to rise, Nigeria has significant potential to further increase its foreign exchange earnings through sesame exports.

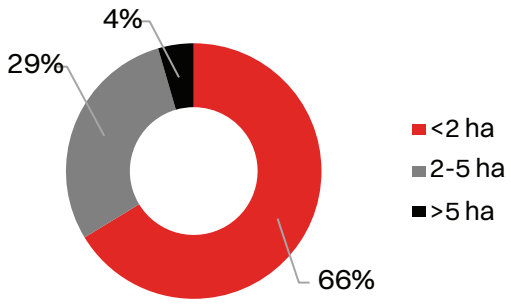
Land Usage

We surveyed over 2,000 sesame farmers, primarily located in the Northwest, Northeast, and North Central geopolitical regions. According to the results, approximately 66% of the sesame farmers surveyed were smallholders, cultivating on less than 2 hectares of land.

Input Consumption

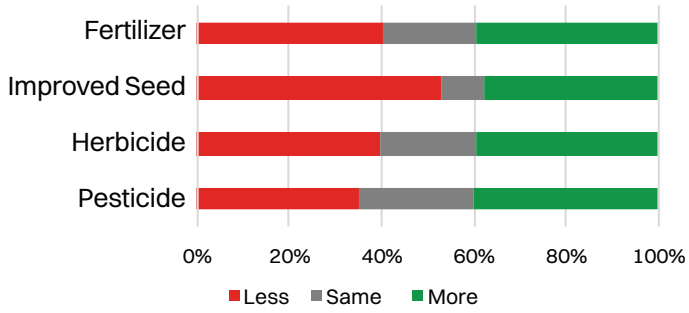
This season, sesame farmers reported using fewer improved seeds, herbicides, and fertilizers compared to the previous season. The main factors affecting sesame planting included limited access to finance, inadequate access to inputs, and pest infestations.

Sesame Land Usage in 2024



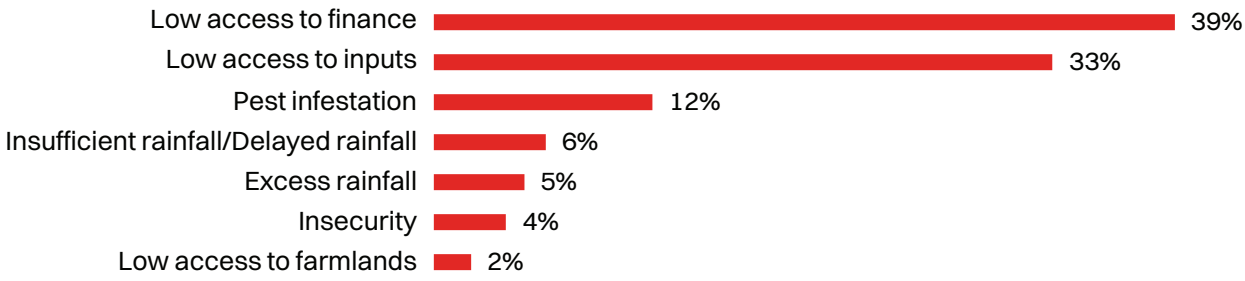
Source: AFEX Research

Input Usage Y-o-Y for Sesame Planting



Source: AFEX Research

Factors Affecting Sesame Planting in 2024

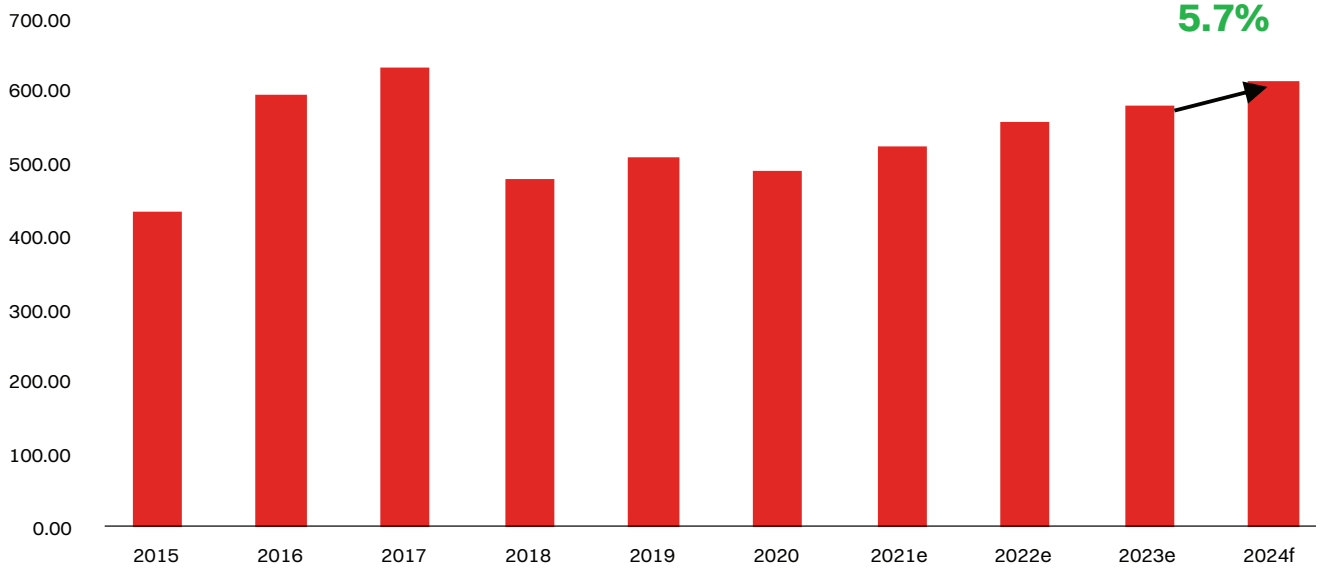


Source: AFEX Research

Sesame Projected Outlook

Our projections indicate a substantial 5.7% increase in sesame production for 2024, with an estimated output of 613,000 metric tons. This growth is primarily driven by the expansion of cultivated land, with over a 4% increase in sesame-cultivated areas. The rise in local sesame prices, which experienced a 55% seasonal increase during the 2023/2024 season due to growing international demand, has motivated farmers to allocate more land for sesame cultivation. Additionally, sesame's early harvest cycle positions it as a strategic crop for farmers aiming to mitigate the effects of poverty and food insecurity.

Sesame Production Volume ('000mt)

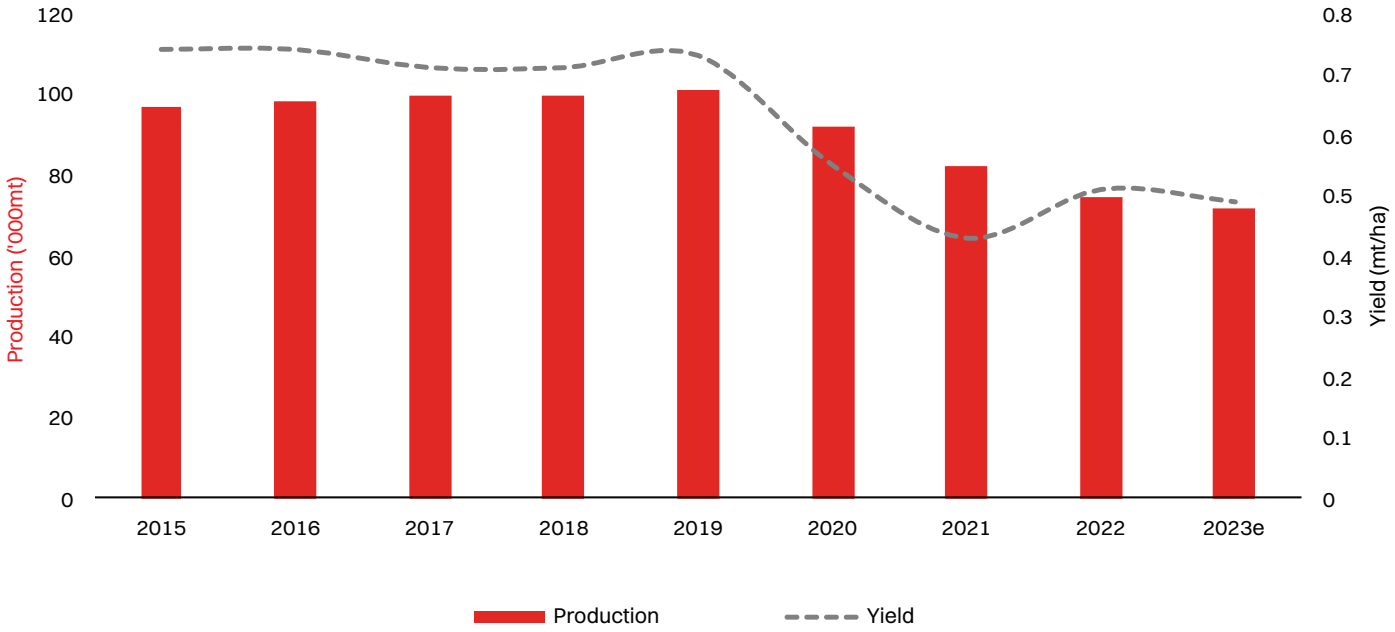


Source: FAOSTAT, AFEX Research

Cashew Nut

Cashew nut, which are rich in healthy carbohydrates, protein, and good fats, have seen a rise in global consumption, particularly as more people adopt plant-based diets and seek alternative protein sources. In 2022, global cashew nut production reached 3.85 million metric tonnes, with Côte d'Ivoire, India, and Vietnam leading the way and collectively contributing about 54% of global output. Nigeria ranks as the 13th largest producer, according to FAOSTATS. The largest global consumers of cashew nuts include the United States, Germany, the Netherlands, China, the United Arab Emirates, and the United Kingdom.

Cashew Production in Nigeria



Source: FAOSTAT, AFEX Research

Since 2019, Nigeria's cashew production has been declining, with yields averaging just 0.5 tonnes per hectare—significantly lower than Malawi's average of 2.1 tonnes per hectare. Several factors contribute to this low productivity, including aging cashew trees, post-harvest losses, adverse climatic conditions, and the high cost of inputs. Despite being a notable producer, Nigeria processes only about 5% of its cashew output domestically. In 2023, the country earned NGN 159.55 billion from cashew nut exports, accounting for 13% of the total agricultural exports during that period.

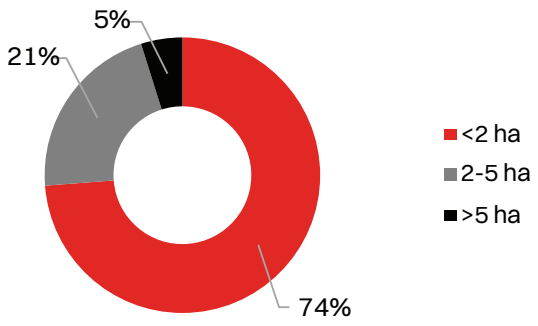
Land Usage

Over 300 cashew farmers were surveyed, revealing that approximately 74% were smallholder farmers cultivating less than 2 hectares. Most of these smallholder farmer-swere located in Kogi State.

Input Consumption

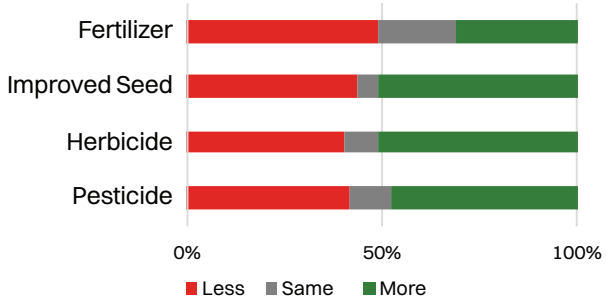
The most commonly used inputs this season for cashew cultivation were improved seeds, pesticides and herbicides. Low access to finance, low access to inputs, and excess rainfall were the main factors that affected cashew planting.

Cashew Land Usage in 2024



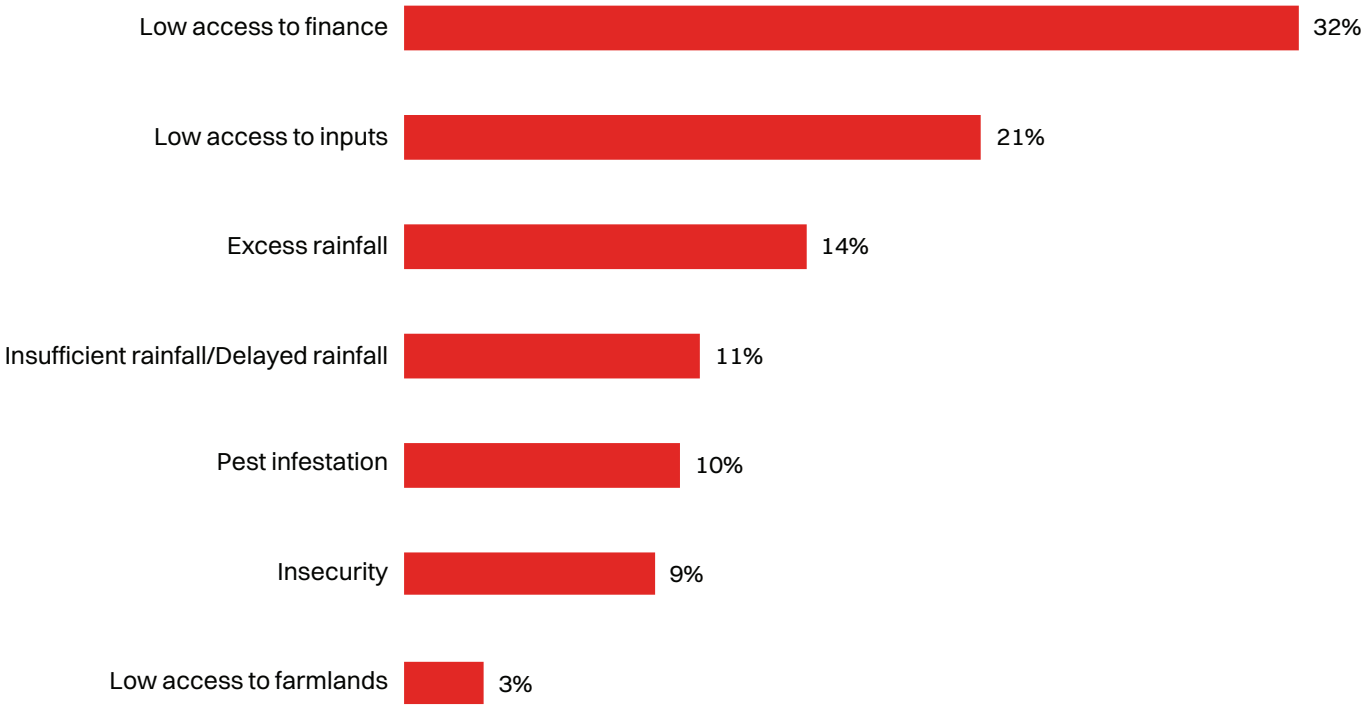
Source: AFEX Research

Input Usage Y-o-Y for Cashew Planting



Source: AFEX Research

Factors Affecting Cashew Planting in 2024



Source: AFEX Research

AFEX 2024/2025 Commodity Price Outlook

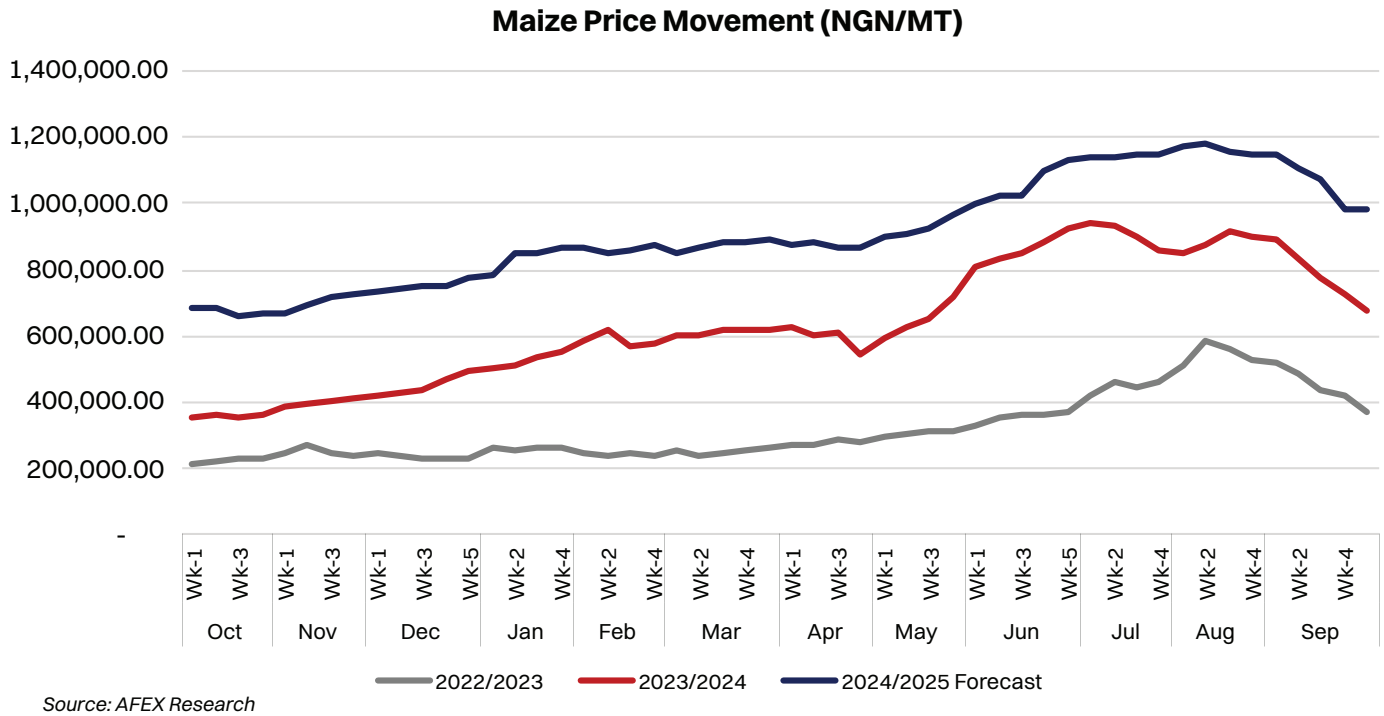
Maize

The average price of maize in the 2023/2024 season was NGN 630,000 per metric ton, peaking at around NGN 940,000 per metric ton. This sharp price increase was primarily driven by a supply shortage resulting from reduced production, attributed to factors such as lower input usage amid security issues. The season concluded with a significant 98% increase compared to the previous season, reflecting the considerable pressure on the market.

Looking ahead to the 2024/2025 season, maize prices are expected to continue their upward trajectory.

With the season starting at a historical base price of over NGN 650,000 per metric ton, we anticipate the average price to rise to around NGN 910,000 per metric ton, representing a 48% seasonal increase.

This continued surge is fuelled by deteriorating supply conditions, worsened by reduced planting areas, low yields, and persistent climate challenges. Additionally, rising logistics costs due to fuel price hikes and transportation difficulties will further drive prices upward.



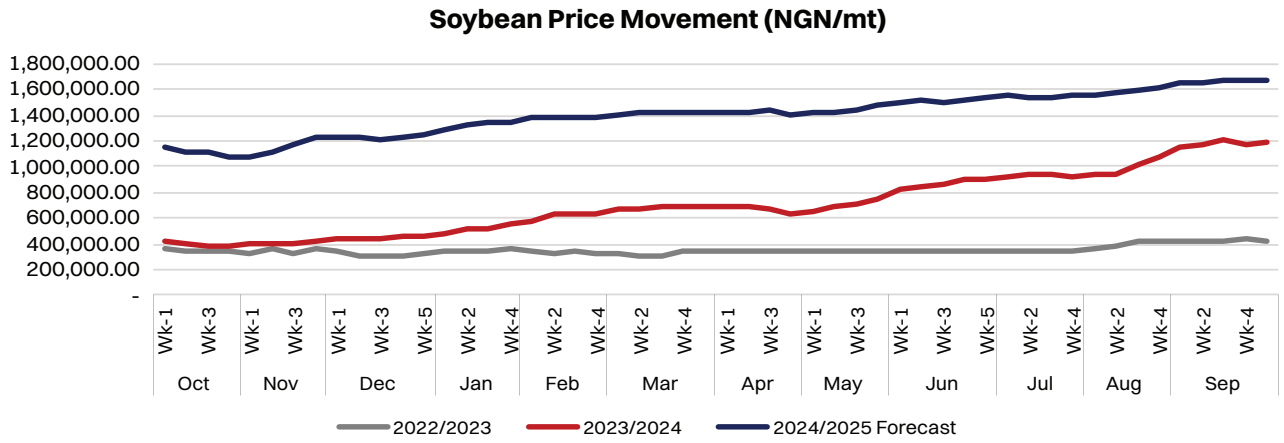
Source: AFEX Research

Without the implementation of effective price controls and agricultural policies to stabilize supply and manage inflation, maize prices could escalate even further, potentially reaching an average of NGN 1,200,000 per metric ton during the season. Such a situation could place significant strain on consumers and industries dependent on maize, further amplifying food security concerns and inflationary pressures across the broader economy.

Soybean

Soybean prices experienced huge volatility during the 2023/2024 season, with fluctuations of around 35%, reflecting unpredictable market conditions. Throughout the season, prices averaged NGN 710,000 per metric ton, highlighting the commodity's sensitivity to both domestic and international factors. By the close of the season, soybean recorded a season-on-season performance increase of 101%, with prices surging dramatically toward the end of the season due to intensified export demand.

This heightened export activity, driven by favourable international prices and a weak naira, resulted in prices peaking at NGN 1,210,000 per metric ton.



Source: AFEX Research

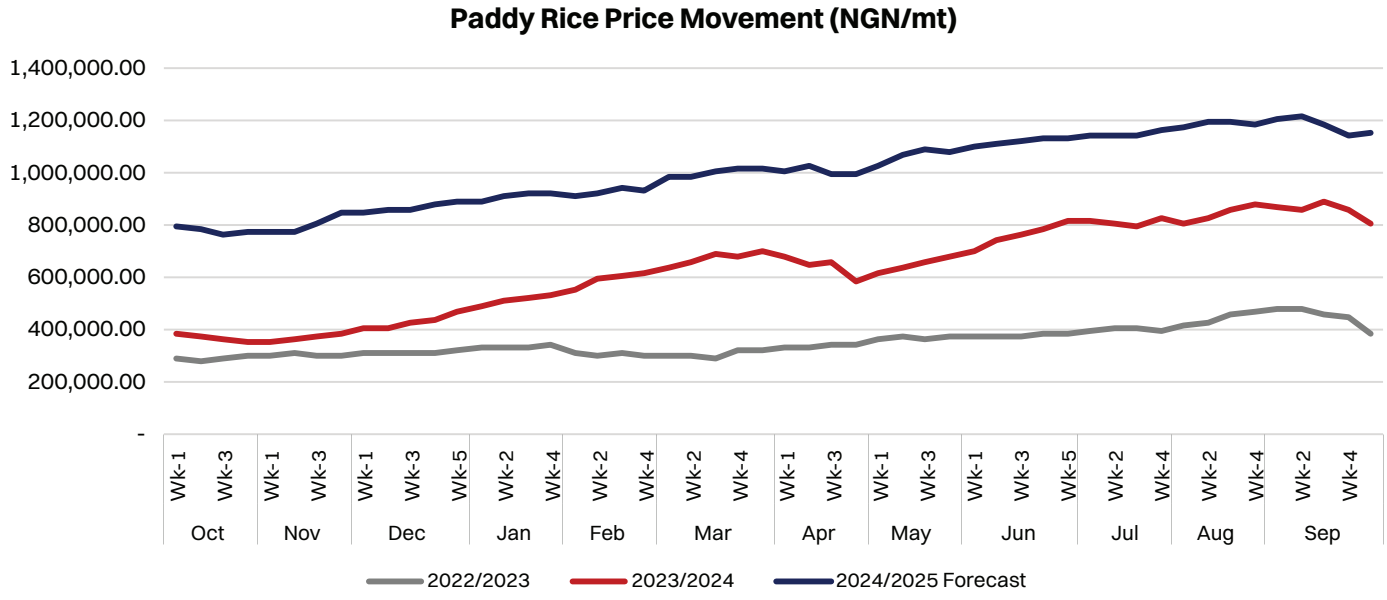
Looking ahead, we expect soybean prices to continue rising, projected to range between NGN 1,100,000 and NGN 1,700,000 per metric ton by the end of Q3 2025. This projection indicates an average price of approximately NGN 1,400,000 per metric ton, representing a substantial seasonal increase of about 95%. Several factors will contribute to this anticipated surge.

Firstly, a projected 2% decline in production volumes due to unfavourable growing conditions and reduced input usage will tighten supply. Secondly, an expected increase in export activities will further strain domestic supply, as international buyers capitalize on the weak naira, making exports more attractive in Nigeria.

This rise in export demand will limit availability for local consumption and industries, placing additional upward pressure on prices.

Paddy Rice

Paddy rice experienced a significant price upswing during the 2023/2024 season, primarily driven by reduced production due to decreased land cultivation, lower input usage, climate change, and the ripple effects of international market dynamics. By the end of the 2023/2024 season, paddy rice recorded a seasonal increase of 78%, with the average price reaching NGN 630,000 per metric ton. This notable rise underscores the tight supply in the market and the growing pressure on prices as demand for rice outpaced available supply.



Source: AFEX Research

Looking ahead to the 2024/2025 season, we anticipate a further seasonal price increase of around 55%. This is largely due to the elevated starting price for the season, beginning at approximately NGN 750,000 per metric ton, reflecting ongoing supply constraints. By the third quarter of 2025, we expect paddy rice prices to fall within the range of NGN 1,100,000 to NGN 1,300,000 per metric ton.

The projected surge in prices is primarily attributed to the continued decline in paddy rice production volumes, in addition to high logistics and transportation costs, which will further contribute to the overall cost structure and drive prices higher.

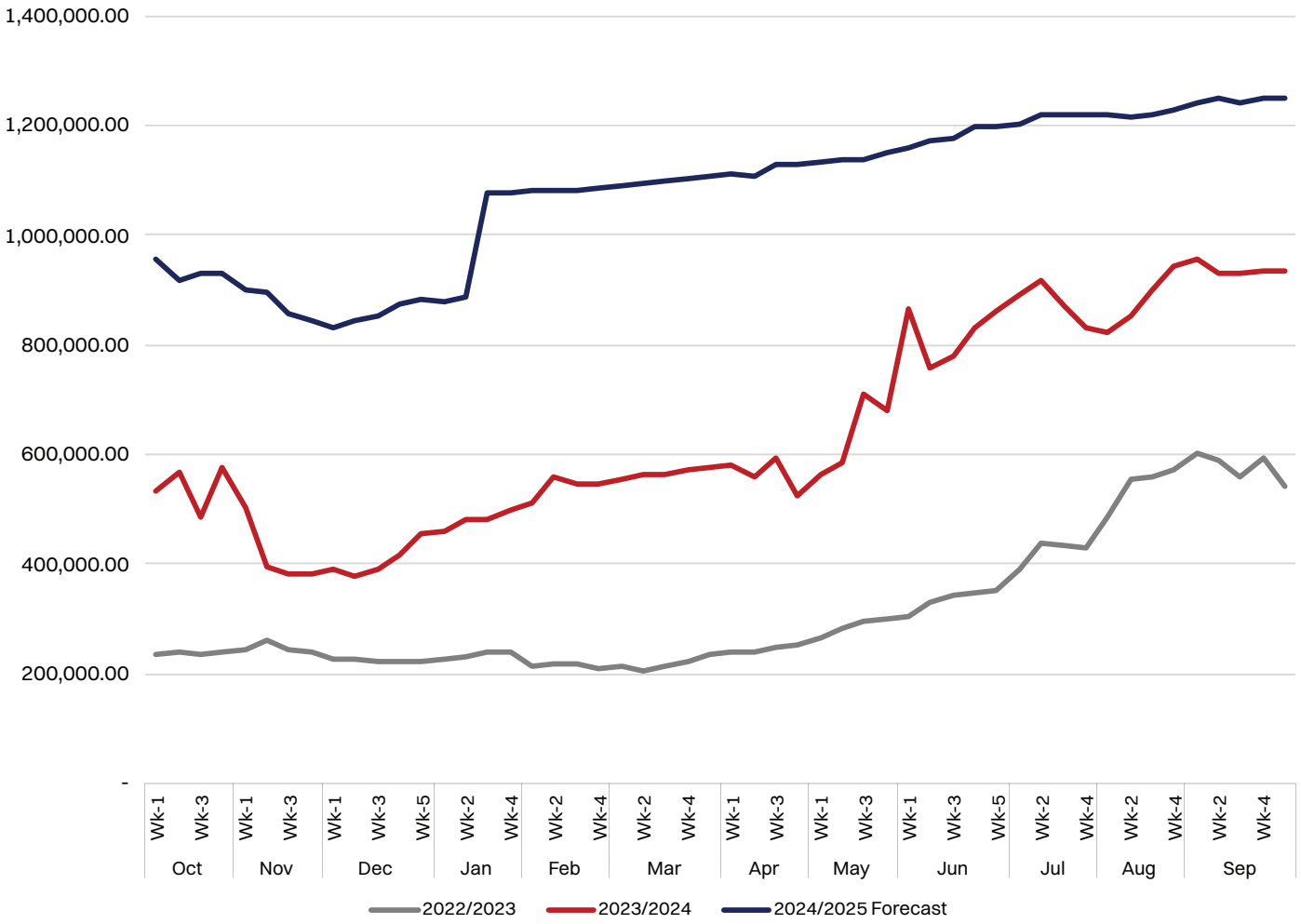
Sorghum

We project a roughly 70% increase in the seasonal average price of sorghum, continuing its upward trajectory after experiencing a remarkable 102% increase in the 2023/2024 season.

The average price during that period was NGN 640,000 per metric ton. Looking ahead, prices are expected to reach an average of NGN 1,000,000 per metric ton, with a strong upward trend anticipated starting in Q1 2025. This anticipated surge will be largely driven by the expected depletion of maize supply, which will increase demand for sorghum as a substitute.

Additionally, rising demand across various industries—particularly for food and animal feed—combined with production challenges, is likely to contribute to sustained price growth. If no significant supply-side interventions are made, we may continue to see upward pressure on sorghum prices, further worsening the market situation.

Sorghum Price Movement (NGN/mt)

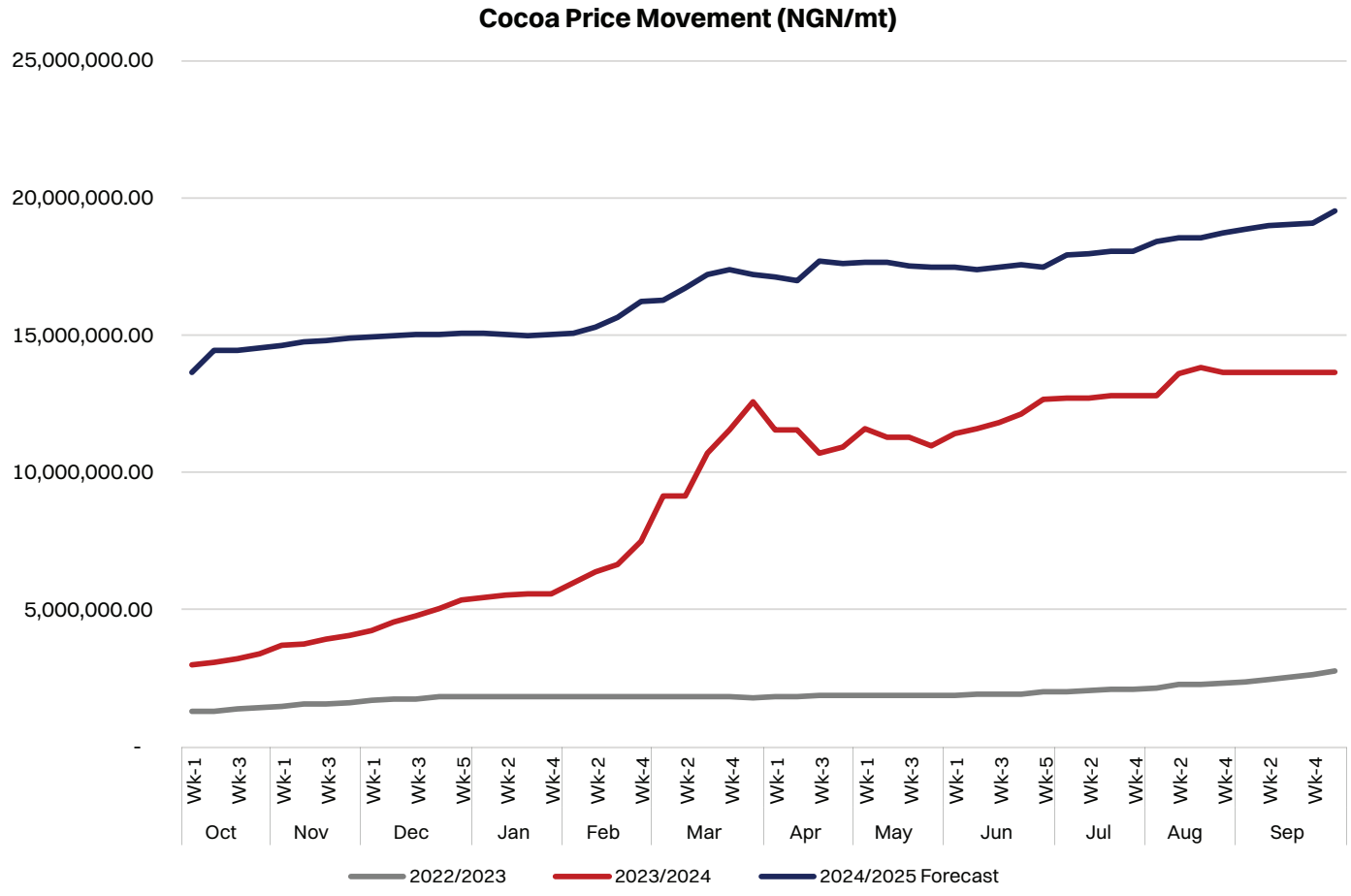


Source: AFEX Research

Cocoa

Cocoa prices averaged NGN 9,200,000 per metric ton during the 2023/2024 season, peaking at over NGN 13,800,000 per metric ton by the beginning of Q3 2023, marking a seasonal surge of approximately 380%.

This significant price increase was largely driven by global market dynamics, where supply from key cocoa-producing countries, such as Côte d'Ivoire and Ghana, fell sharply due to unfavourable weather conditions and disease outbreaks. Simultaneously, global demand for cocoa—particularly from major chocolate producers and the growing confectionery industry—surged, leading to a steep rise in prices.



Looking ahead to the 2024/2025 season, we expect cocoa prices to continue their upward trend, albeit at a slower pace compared to the substantial rally witnessed in the previous season. As supply conditions are expected to improve, especially in key producing countries, and global markets stabilize, the rate of price increase will likely moderate.

Despite this anticipated stabilization, we still forecast a strong upward movement in cocoa prices, with the average price expected to range between NGN 15,000,000 and NGN 16,500,000 per metric ton throughout the 2024/2025 season. By the end of Q3 2024, prices could climb further, potentially reaching as high as NGN 20,000,000 per metric ton, translating to a seasonal increase of over 82%.

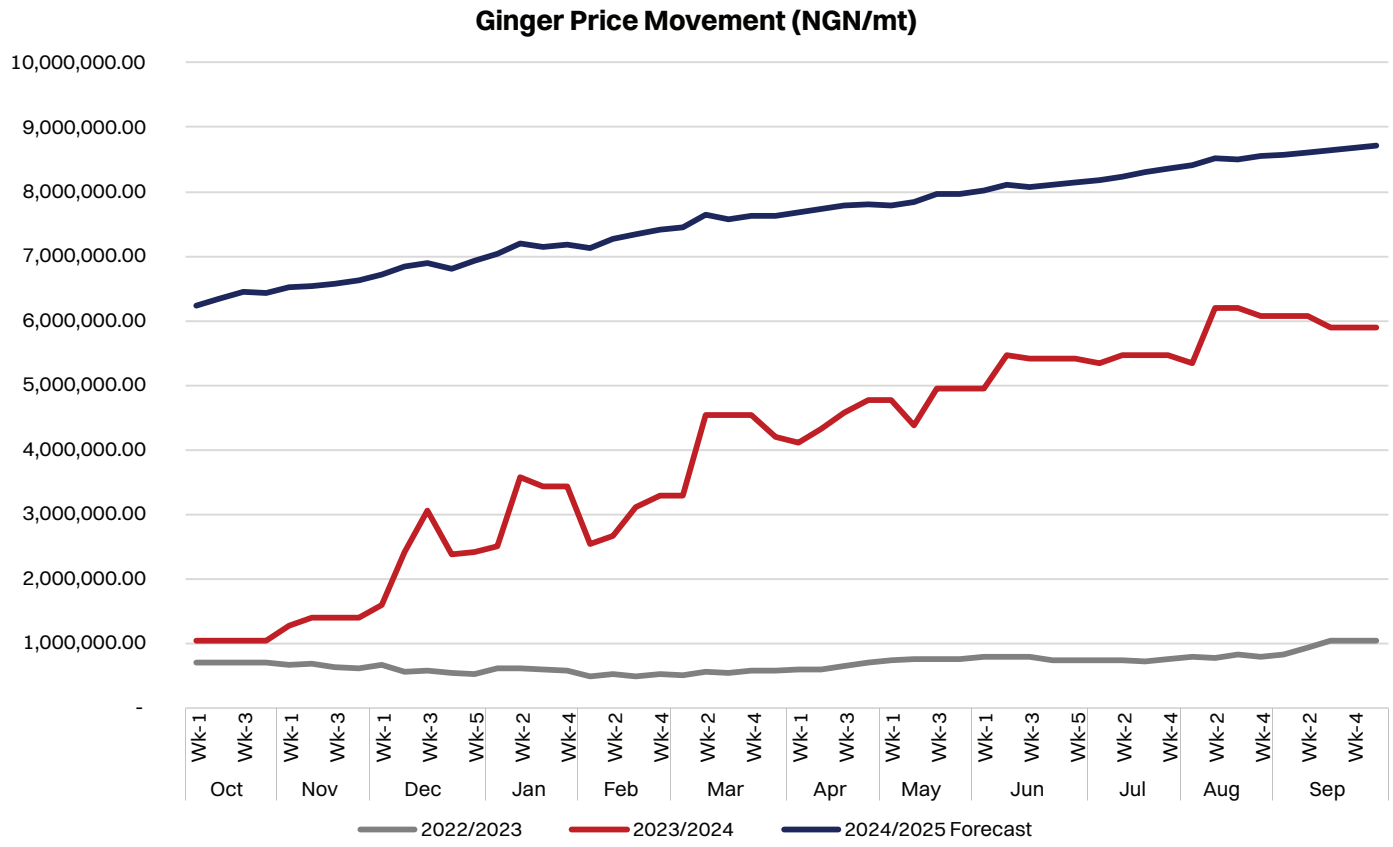
Ginger

Ginger prices experienced an extraordinary surge during the 2023/2024 season, skyrocketing by a staggering 476% due to a severe supply shortfall caused by a widespread fungal attack on ginger farms.

This devastating outbreak resulted in historical lows in ginger production, with farmers facing significant crop losses.

Consequently, ginger prices averaged NGN 3,900,000 per metric ton throughout the season, peaking at an all-time high of NGN 6,200,000 per metric ton.

The combination of plummeting supply and steady demand created a perfect storm for prices to surge, making it one of the most significant price hikes seen in recent years.



Looking ahead to the 2024/2025 season, we expect another period of elevated prices driven by continued supply constraints. Although efforts are being made to restore production levels, supply is anticipated to remain well below pre-fungal attack volumes. We project ginger prices to range between NGN 6,200,000 and NGN 9,000,000 per metric ton, representing a seasonal increase of over 90%. This forecast reflects both the ongoing supply shortages and intensifying demand from international markets. While prices are expected to stabilize somewhat compared to the previous season's massive rally, significant relief in the market is unlikely until production fully recovers, which may take several growing seasons.

Building A Resilient Food System In Nigeria's Changing Climate

Climate change has a direct and profound impact on food insecurity, making food production increasingly difficult and unpredictable due to shifts and disruptions in weather patterns. Beyond risks to production capacity, climate change has significant economic and social consequences, including market disruptions, rising food prices, and instability in agricultural and rural incomes.

Nigeria's food system is under immense pressure, struggling with a combination of factors such as insecurity, macroeconomic instability, and the escalating impacts of climate change. As one of the countries most vulnerable to climate change, Nigeria frequently experiences natural hazards, including floods and droughts in its northern and southern regions, which further strain its agricultural sector.

This vulnerability is reflected in Nigeria's low ranking of 152nd out of 187 countries on the Notre Dame Global Adaptation Initiative Index, which measures susceptibility to climate change. These challenges have led to food scarcity, malnutrition, health crises—especially among children—and rising food prices, worsening the country's food insecurity.

In recent years, Nigeria has faced significant damage and losses due to these events. In 2022, the country experienced its worst flooding in decades, affecting over 3 million people across 34 states.

This disaster severely impacted agricultural production, destroying over 500,000 hectares of farmland and affecting key crops such as cassava, maize, rice, millet, and yam. The agricultural sector has yet to recover from the significant blow dealt by the 2022 floods, as evidenced by the sector's growth rate, which has averaged only 1% between 2022 and 2024.

During the 2024 planting season, Nigeria experienced the dual effects of climate change, with some regions suffering from dry spells while others faced severe flooding. The months of June and July were marked by dry conditions affecting areas such as Adamawa, Gombe, Taraba, Plateau, Kebbi, Bauchi, Niger, Nasarawa, and others across the country. This dry spell led to significant crop stress, wilting, and stunted growth. While the onset of rains provided some relief, allowing certain vegetation to show signs of recovery, the damage from the early dry spells limited the full recovery of crops.

Following the dry spell, heavy rains in August and September triggered widespread flooding, particularly in northern Nigeria. As of September, 31 states and 180 local government areas had been severely affected, displacing over 1 million people.

The states most impacted were Borno, Sokoto, and Bauchi, with over 400,000 hectares of farmland destroyed across all affected states (World Food Programme). This flood

also devastated rice farms, particularly in Borno, where key paddy rice-producing hubs were impacted. A significant portion of these farmlands was ready for harvest when the floods struck, compounding the losses.

This incident occurred just before the harvest season, and with the peak of the rainy season approaching, further damage is likely. These developments dampen the production outlook for commodities this season amid record-high spikes in food and fuel prices, further raising the risk of worsening food insecurity across the country.

The agricultural sector's vulnerability to climate change, combined with its reliance on rainfall and water resources, has significant implications for both Nigerian farmers and the broader economy.

Adaptation Strategies

According to the Department for International Development (DFID), failure to address climate change could result in a GDP loss of between 6% - 30% by 2050 for Nigeria, equating to an economic impact of US$100 to 460 billion. Therefore, it is crucial to implement effective adaptation strategies to boost productivity and strengthen resilience within the agricultural sector.

1. Building Resilience of Livelihoods

This strategy focuses on providing social protection measures for poor and food-insecure populations to ensure access to adequate nutrition. Such measures may include cash transfers and input affordability.Ensuring input affordability can empower farmers to cultivate larger areas of land during the dry season, helping to offset the losses experienced during the wet season.

Additionally, disaster risk reduction and management are essential to provide farmers with timely and regular agroclimatic information, including weather forecasts and planting advice, both before and throughout the growing season.

2. Strengthening Resilience of Food Systems

Enhancing food system resilience to climate change requires a multifaceted approach that incorporates improved irrigation technologies, climate-resilient agronomic practices—such as agroforestry and drought-resistant crop varieties—and efficient water management systems through dam construction and water harvesting. Furthermore, providing weather-based insurance is vital to protect farmers from climate-related risks.

3. Policies and Institutions

To help small-scale food producers adapt to climate change, it is essential to establish policies and institutions that integrate climate concerns into food and agricultural frameworks.

This requires recognizing the specific challenges agriculture faces and its critical role in ensuring food security and nutrition within climate policies. Institutional arrangements that enhance and stabilize agricultural returns are vital, including improving access to markets and agricultural inputs, as well as creating policies that facilitate access to financial services, such as low-interest credit.

Public-private partnerships are also necessary to foster collaboration, while the government can play a key role by establishing proactive and integrated risk management boards responsible for monitoring and preventing agricultural risks.

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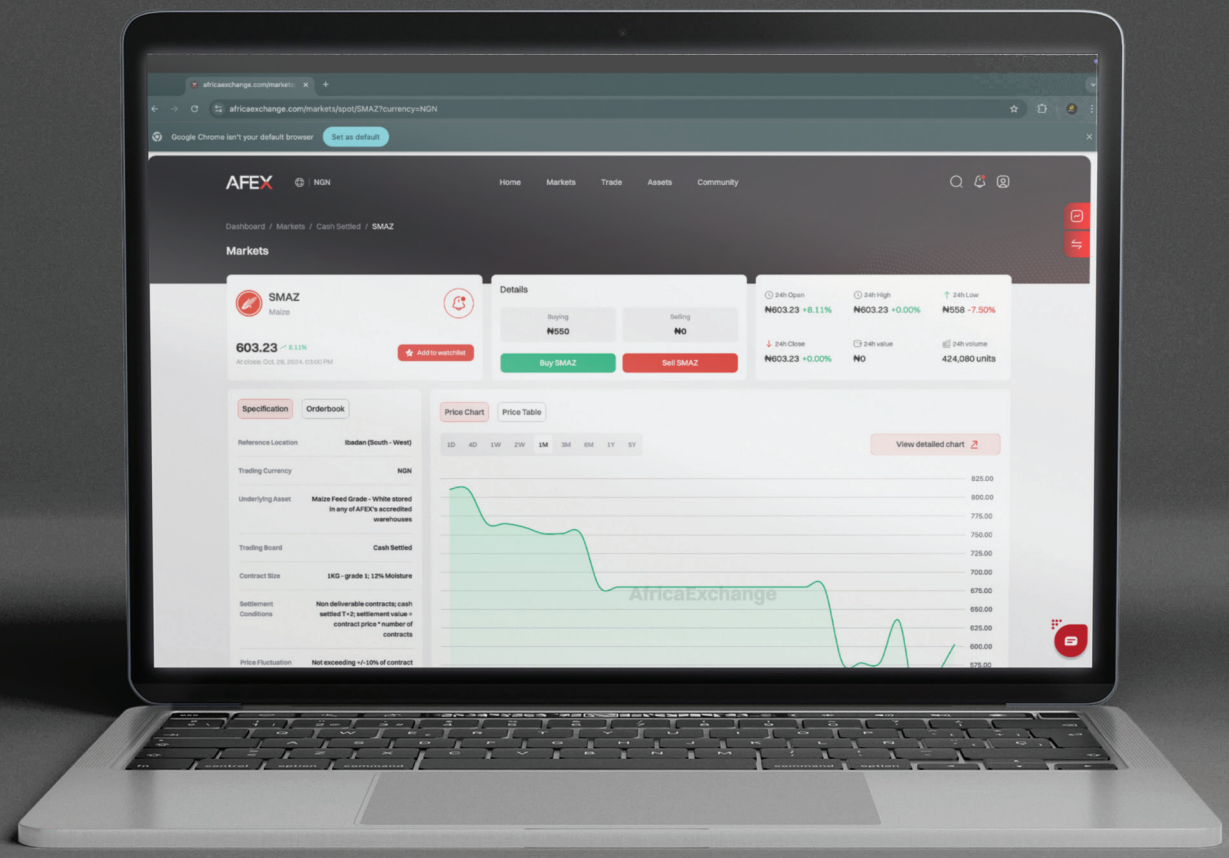
Trade Commodities on Africa Exchange



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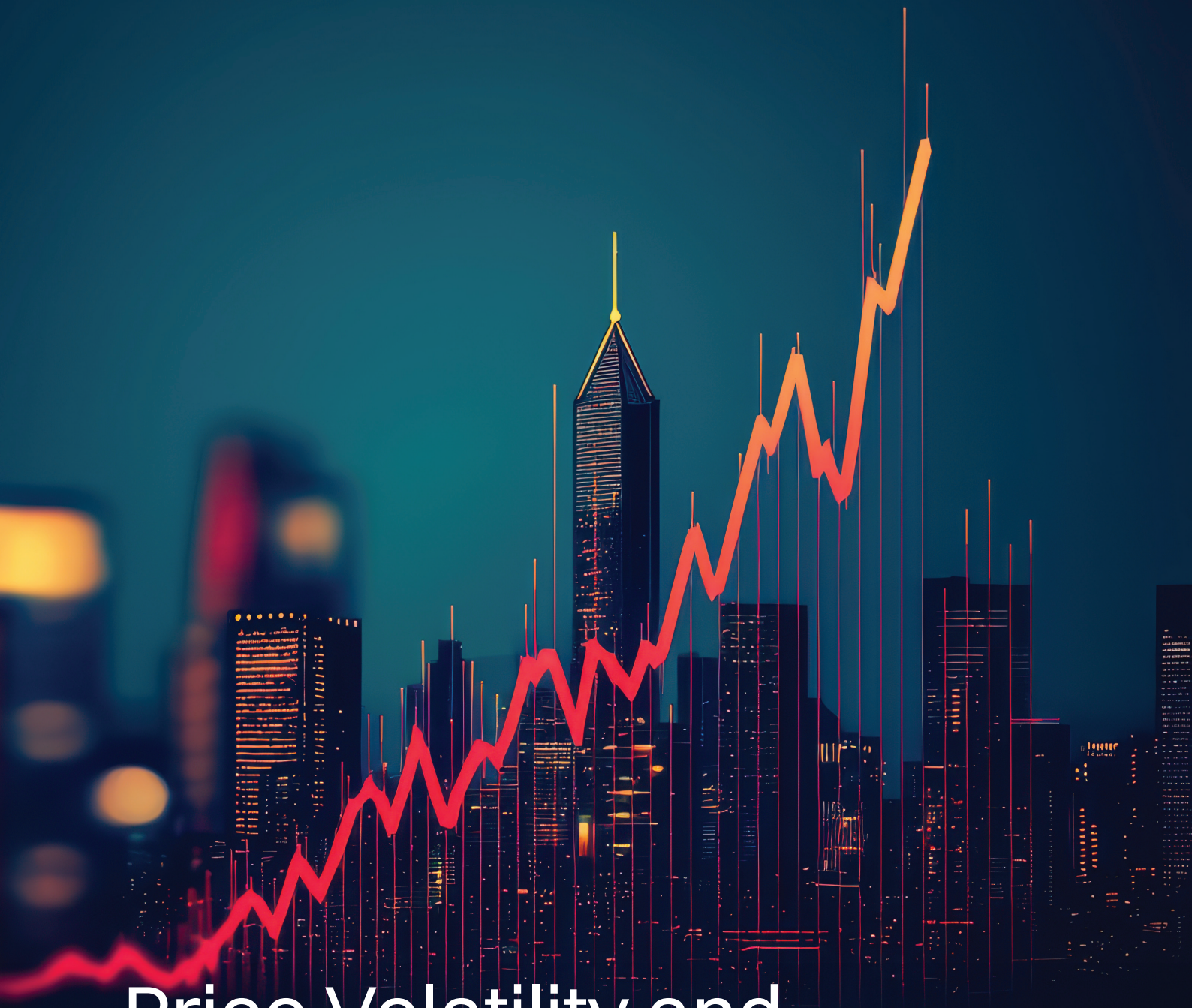


Price Volatility and Commodities Market:

Opportunities For Minimized Exposure

Price volatility refers to the degree of fluctuation in the value of a commodity, asset, or financial instrument over a specified period.

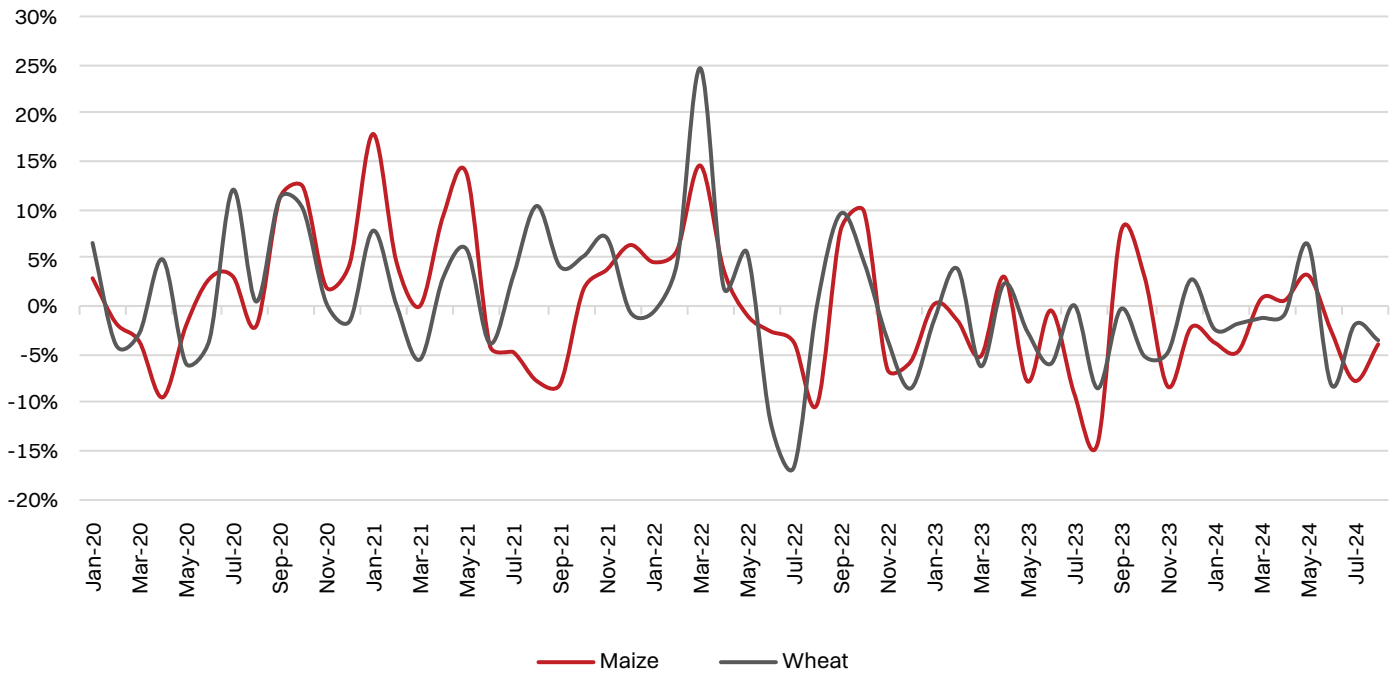
On the supply side, key drivers of volatility include seasonality in agricultural markets, unexpected production shortfalls (supply shocks), climate change, pests and diseases, geopolitical crises, and concentrated production in specific regions. On the demand side, factors such as trade restrictions, exchange rates, and global macroeconomic conditions contribute to price instability.

Excessive price volatility has severe consequences, particularly regarding hunger, malnutrition, and poverty, which, in turn, escalate food insecurity. The broader economic effects are also significant, influencing fluctuations in exchange rates, capital flows, terms of trade, and revenue streams. These disruptions can hinder investment and slow economic growth, especially in low-income countries, where the most vulnerable populations are disproportionately affected.

The impact of price volatility is felt across various sectors, with businesses facing uncertainty regarding production costs and profit margins. In agriculture, managing supply and price risks is one of the most pressing issues. International markets have experienced significant price swings, particularly in grains and cereals, whose real prices have more than doubled between 2006 and 2024.

The COVID-19 pandemic in 2020 disrupted food supply chains, driving up food prices and threatening food security. This situation was further compounded by the Russian invasion of Ukraine and the economic sanctions imposed on Russia.

International Maize and Wheat Price Volatility



Source: World Bank, AFEX Research

In the agricultural commodities market, farmers, agribusinesses, and consumers are particularly at high risk in today's economy.

Agribusinesses grapple with uncertainty surrounding production costs, pricing of finished products, and ultimately, profit margins. Price volatility can be especially damaging to processors, as fluctuating prices affect inventory management and potentially hinder long-term production.

Farmers respond to these challenges by adjusting their production levels. An excess supply during one season often leads farmers to scale back production of that commodity in the next season due to low prices.

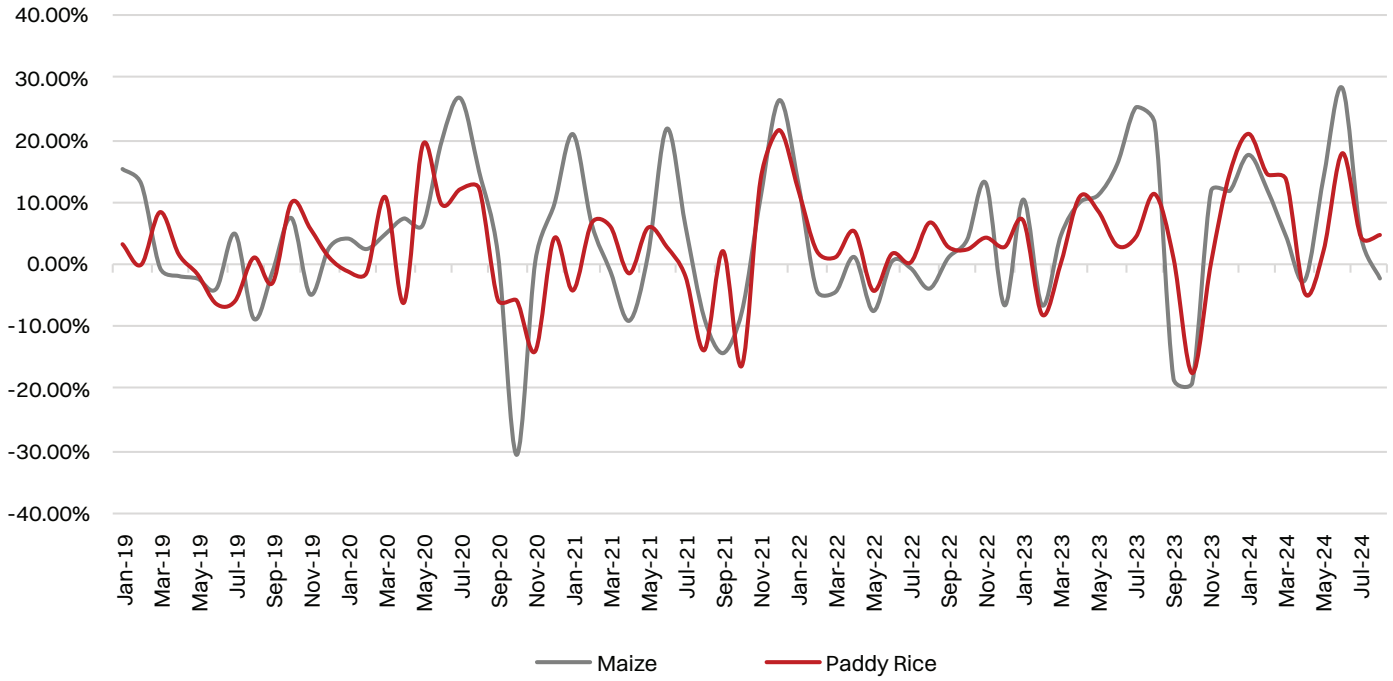
This reduction results in price increases during subsequent harvest seasons, further fuelling market volatility through supply shortages.

Unfortunately, farmers rarely receive their fair share of compensation during periods of high prices, while suffering significant income losses during periods of glut and price collapse.Agricultural demand is highly inelastic, meaning that even slight reductions in production can trigger sharp price hikes, placing an additional burden on consumers. Historical instances, such as the "hunger riots" in Mali and Burkina Faso during the food price spikes of the late 2000s, illustrate how price volatility can escalate into social unrest if governments fail to implement effective price controls.

This is a significant problem in Nigeria, where agricultural production fails to keep pace with the needs of the growing population.

A key reason for this shortfall is the weak supply response from smallholder farmers, who often do not react effectively to market signals. Nigerian farmers are particularly vulnerable to global economic shocks, in contrast to their counterparts in more developed nations.

Domestic Maize & Paddy Rice Price Volatility



Given the likelihood of global shocks in the coming years, it is crucial to adopt strategies that mitigate their impact on prices and manage commodity price volatility effectively. Enhancing farmers' and investors capacity to manage price risks is essential for making serious improvements in the country's food security levels.

1. Derivatives:
Financial contracts whose value is derived from the performance of an underlying asset can help Nigeria manage the risks associated with commodity price volatility.

These contracts involve an agreement between two entities to buy or sell the underlying assets at a specific date and price. Derivative contracts include forwards, futures, options, and swaps.

- **Options** give the buyer the right (but not the obligation) to buy (call option) or sell (put option) an asset at a specific price on or before a certain date. The seller of the option is obligated to fulfill the terms of the contract if the buyer exercises the option.

- **Swaps** allow two counterparties to exchange a series of cash payments over a stated period. These periodic payments can be based on fixed or floating interest rates, depending on the contract terms. Swaps offer flexibility and enable market participants to customize risk management strategies to suit specific needs.

- **Forward and Futures Contracts** involve agreements to buy or sell a specific quantity of an asset at a specified price with delivery set for a future date. Forwards are over-the-counter contracts settled directly between

counterparties, making them less regulated, while futures contracts are exchange-traded and settled through a recognized clearinghouse, subject to regulatory oversight.

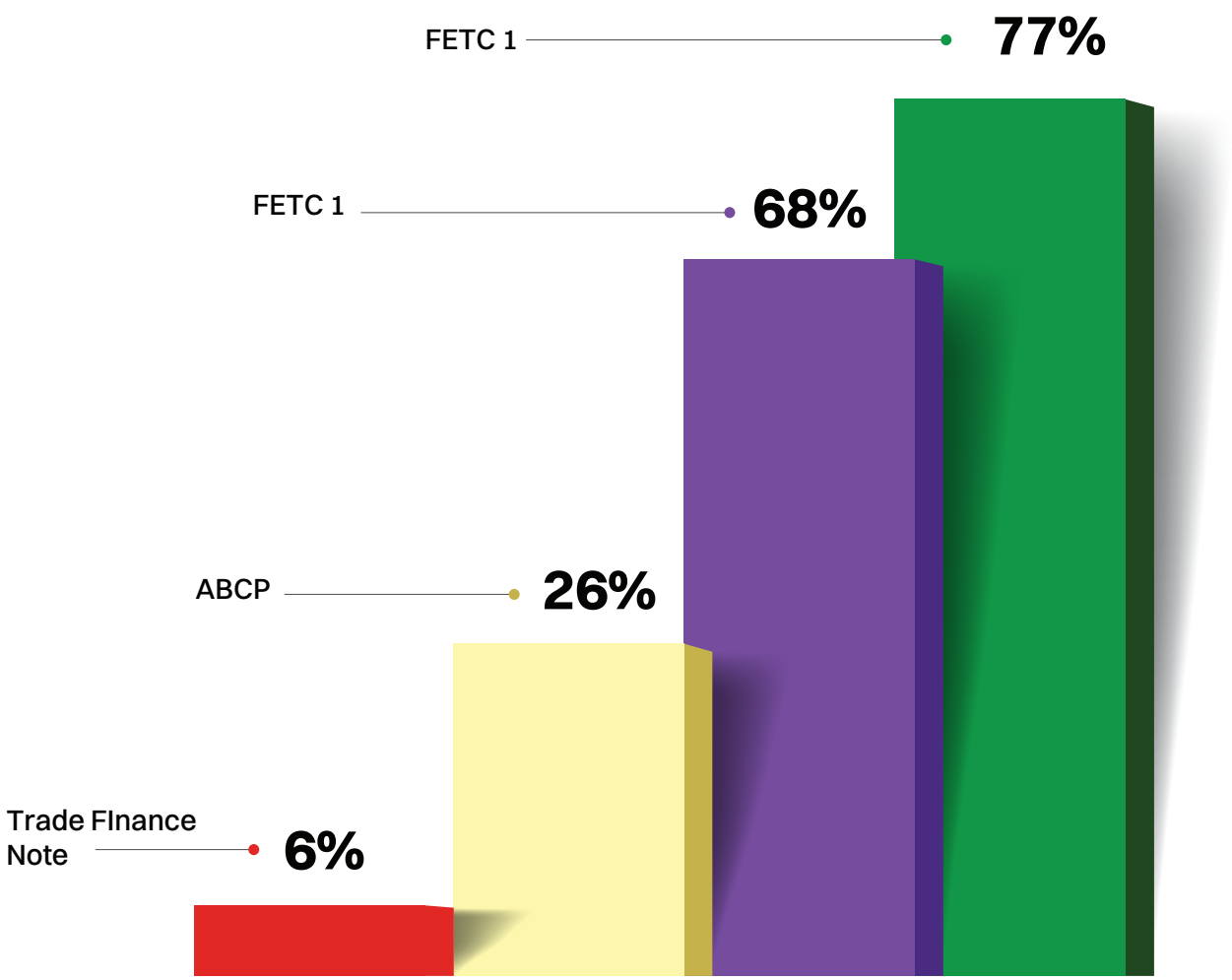
2. Commodities Exchanges:
These centralized marketplaces facilitate the trading of a wide range of commodities and standardized commodity contracts, including futures, options, and spot contracts. Commodities exchanges enable participants to purchase fixed quantities of commodities for future delivery, providing opportunities for traders to capitalize on periods of high volatility. Among the various types of contracts traded, spot and futures contracts are the most common, offering protection against price fluctuations caused by factors such as weather, seasonal production variations, and stock fluctuations. By employing diverse trading strategies on the exchange, commodity traders can take advantage of price fluctuations to maximize their profits.

3. Commodities-Linked Bonds:
These fixed-income securities have returns tied to the price of a specific commodity or commodity index.

These instruments offer investors the opportunity to gain exposure to commodity markets while receiving fixed interest payments. By incorporating commodity-linked bonds into their portfolios, investors can hedge against inflation and fluctuations in commodity prices, diversifying their investments beyond traditional fixed-income assets. The range of commodity-linked bonds includes commodity-indexed bonds, inflation-indexed bonds, asset-backed securities, and exchange-traded bonds.

In Nigeria, AFEX provides various commodity-linked bond offerings, such as input notes, asset-backed commercial papers, trade finance notes, and exchange-traded bonds (FETC). These products have consistently delivered significant yields over the years, underscoring their value in a well-rounded investment strategy.

AFEX's Commodity-linked Bonds Returns (2024)



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