Responding to the impact of COVID-19 on food security and agriculture in Nigeria

June 2020

pwc

www.pwc.com/ng

Contents

Executive summary

The Nigerian agricultural sector holds the key to the country's drive for economic diversification. The sector has grown consistently at an average of 2.6% over the past three years. As at Q1 2020, agriculture accounted for about 22% of the Nigerian gross domestic product (GDP) compared to oil and gas (9.5%), manufacturing (9.7%), financial services (3.8%) and trade (16.1%). In addition, the agricultural sector remains the largest employer of labour in the country, providing jobs for more than one-third (36.4%) of the Nigerian labour force.

However, agriculture in Nigeria still faces many challenges. Some of these include adverse weather conditions associated with climate change, herder–farmer clashes, terrorism in the northeast, cattle rustling, low levels of mechanisation, and poor research and development activities.

To bridge the demand-supply gap brought about by low agricultural productivity, the country imports agricultural products such as wheat, palm oil, etc. In four years (2016–2019), Nigeria's cumulative agricultural imports stood at N3.3 trillion, four times more than the country's agricultural exports of N803 billion in the same period.

The country's population growth rate has already outpaced the rate of food production. According to the United Nations, the number of people living in Nigeria is expected to more than double by 2050 from its current level of over 200 million people.

The results of the government's policies to reposition the agricultural sector have been mixed. The Agricultural Promotion Policy (APP) introduced by the Federal Ministry of Agriculture and Rural Development (FMARD) and various intervention programmes by the Central Bank of Nigeria (CBN) such as the Anchor Borrowers Programme, have led to transformation in the sector especially in the area of rice production.

However, some of these policies score poorly in the attainment of self-sufficiency for key agricultural products. For example, annual wheat production which stands at 0.06 million metrics tonnes is barely able to cover local demand of over 5 million metrics tonnes despite the APP setting 2018 as the target year in which the nation would have attained self-sufficiency in wheat production. Wheat dominates Nigeria's agricultural imports and accounted for about 40.7% (or N390.6 billion) in 2019.

With COVID-19, the challenges hampering the attainment of food security in Nigeria could deepen. The impact is already being felt in the form of rising food prices. By April 2020, food inflation had risen to 15% compared to 14.7% in December 2019. The intra and interstate movement restrictions could hinder farmers from accessing their farms in other state locations or procuring inputs such as seedlings and farm implements. Furthermore, the restrictions may hamper food distribution, which could result in post-harvest losses, reduced market supply and further increases in food prices.

Also, export earnings from agribusiness could be affected in the coming months due to lockdown in countries that import Nigeria's agricultural produce.

The government has taken steps to soften the impact of COVID-19 on the agricultural value chain. For instance, the government distributed about 70,000 metric tonnes of grains from the strategic food reserve across the country, and reduced fertiliser prices from N5,500 to N5,000. The CBN has also increased intervention funding for the sector and reduced interest rates on existing intervention funding from 9% to 5%.

To ensure that the agricultural sector is not further impacted by the distortions caused by COVID-19, the government (at the national and subnational level) should consider offering more palliatives to farmers in the form of improved seedlings, basic farm implements at highly subsidised prices, and free or more affordable farm extension services.

Also, of importance is the need to ensure that the sector is awarded more budgetary allocations in line with the Maputo Declaration, increase the operational capacity of the strategic grain reserves to ensure food security, and reintroduce farming clusters to be financed through public-private partnership (PPP) arrangements. In addition, state governments should reassess their area of core competence in the agriculture value chain and promote investment in that area.

As at Q1 2020

Agriculture accounted for about **22%** of Nigerian gross domestic product

The agricultural sector remains the largest employer in Nigeria, employing **36.4%** of the labour force.

2016 - 2019

Nigeria's cumulative agricultural imports **N3.3 trillion**

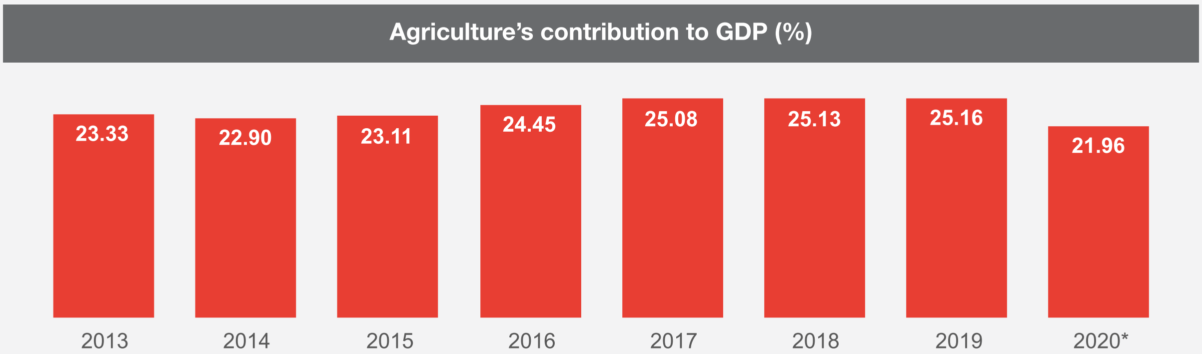
Nigeria's cumulative agricultural exports **N803 billion**

Introduction

The strategic importance of the agricultural sector in Nigeria

Agriculture is one of the sectors of focus for Nigeria's economic diversification drive. This is because of the role it plays in ensuring food security, promoting industrialisation, providing jobs, stimulating strong resilience to external vulnerabilities and fostering shared prosperity.

The agricultural sector has been growing steadily over the last three years at an average of 2.6%. As at Q1 2020, the sector accounted for about 22% of Nigeria's gross domestic product (GDP) compared to oil and gas (9.5%), manufacturing (9.7%), financial services (3.8%) and trade (16.1%). Agriculture's contribution to GDP averaged 24.6% over the five years from 2015 to 2019.



Source: NBS, PwC analysis * data is as at Q1 2020

Additionally, the agricultural sector is the largest employer of labour in the country, providing jobs for more than one-third (36.4%) of the Nigerian labour force, the highest over the past 28 years (1991–2019), according to the International Labour Organisation (ILO).[1]

Nigerians depend on produce from local farms for their daily meals as more than 80% of Nigerians buy their farm produce from local markets. There are more than 200 million people in Nigeria, of which 43.5% are younger than 15 years old.[2] Given the current population growth rate and the resulting demographic shift, the country's population is projected to more than double by 2050. This translates into growing demand for food and industrial consumption. This large and growing population underscores the need for government to put in place relevant strategies targeted at strengthening the agricultural value chain with a view to ensuring food security and availability. Nigeria is well-positioned to gain from agricultural development given its vast arable land and the strong demand for farm produce.

1. https://www.indexmundi.com/facts/nigeria/indicator/SL.AGR.EMPL.ZS
2. https://population.un.org/wpp/DataQuery/

Nigeria's comparative advantage in selected agricultural crops

Agriculture is broadly divided into four sectors in Nigeria–crop production, fishing, livestock and forestry. Crop production remains the largest segment and it accounts for about 87.6% of the sector's total output. This is followed by livestock, fishing and forestry at 8.1%, 3.2% and 1.1% respectively.

Major crops produced in the country include cassava, sesame, rice, cocoa, palm oil, ginger, groundnut, tomatoes, sorghum, millet and wheat. In 2018, total cassava output stood at about 59.5 million metrics tonnes compared to Thailand and Congo DR at 31.7 million metric tonnes and 30 million metrics tonnes respectively.

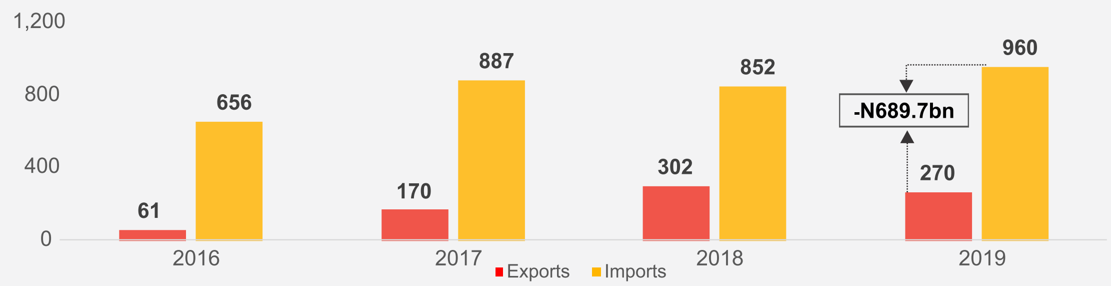
Nigeria's agricultural trade potential and top agricultural trading partners

Nigeria's major agricultural imports include wheat, sugar, fish and milk, while the main agricultural exports cut across sesame seeds, cashew nuts and fermented cocoa beans to ginger, frozen shrimp and cotton. Sesame, cashew nuts and cocoa account for more than half of the nation's agricultural exports.

Nigeria's agricultural export declined by about 11% from N302.2 billion in 2018 to N269.8 billion in 2019. Despite the government's attempt to reduce the nation's food import bill and drive self-sufficiency in agriculture, Nigeria's agricultural imports rose by 12.7% from N851.6 billion to N959.5 billion during the same period, the highest value ever recorded in the country. Nigeria remains a net food importer—the agricultural trade deficit has widened with imports exceeding exports by N689.7 billion in 2019 compared to N549.3 billion in 2018.

In four years (2016–2019), Nigeria's cumulative agricultural imports between 2016 and 2019 stood at N3.35 trillion, four times higher than the agricultural export of N803 billion within the same period.

Nigeria's agricultural trade (N' billions)



Source: NBS, PwC analysis * data is as at Q1 2020

Meanwhile, the share of agriculture in Nigeria's total export earnings remains small compared to crude oil exports. In 2019, agriculture accounted for less than 2% of total exports relative to crude oil (76.5%). This is because Nigeria's agricultural sector is primarily focused on meeting domestic demand and is less export oriented.

Despite this, food production in Nigeria has not been able to keep up with population expansion and this has resulted in an increase in the importation of agricultural products, even with increased productivity among some agricultural products. For example, while Nigeria is the largest producer of cassava in the world, accounting for about 21% of global production, the country's export earnings from cassava is very low. Thailand and Vietnam dominate the global export market with both countries accounting for approximately half (51.8%) of global cassava exports in 2018.

Nigeria is the largest producer of rice in Africa with Kebbi state taking the lead in this regard. However, local rice production is insufficient to meet growing domestic demand. As a result, rice is imported to complement local supply.

In 2019, the Federal Government of Nigeria imposed a total land border closure with Benin Republic, Niger and Cameroon in a move to protect local rice farmers, who had been hard-hit by rice smuggling through the country's porous borders with neighbouring countries. While rice production enjoyed a significant boost due to the government's favourable policies, storage and distribution issues remain the key to eliminating post-harvest losses and bridging the local demand-supply gap.

A significant portion of Nigeria's agricultural exports flowed to Asia and Europe. In 2019, agricultural exports to these continents were valued at N152.7 billion and N96.9 billion respectively. Nigeria's top agricultural trade partners include the Netherlands, India, China, the United States, Japan, Germany, Belgium, Tunisia and Turkey.

Opportunities exist for Nigeria to increase its agricultural productivity to meet growing local needs and export demand. But factors such as low mechanised farming, inefficient storage and poor distribution system, weak agricultural research and extension services. continue to undermine agricultural self-sufficiency and export drive.

It is therefore important that government continues to emphasize the role of agriculture in the push for economic diversification and promote initiatives and policies that will boost the competitiveness of Nigeria's agricultural goods in the global market.

Agriculture as the bedrock of Nigeria's diversification drive in the wake of oil price slump

Prior to the discovery of crude oil in 1956, agriculture played a dominant role in driving growth in the Nigerian economy. It was a good source of foreign exchange earnings and a major source of government revenue. Subsequent to independence and specifically between 1962 and 1968, agricultural exports were Nigeria's main foreign exchange earner. In the glory days of agriculture, Nigeria was ranked number one globally in palm oil exports, ahead of Malaysia and Indonesia. Also, during the same period, Nigeria accounted for 47% of all groundnuts produced globally, ahead of the United States and Argentina.

Again, Nigeria was the second largest cocoa producer in the 1960s, accounting for 18% of the global cocoa production. Today, the country accounts for less than 8% of the world's cocoa production compared to Ghana (21%) and Cote d'Ivoire (39%).[3] Interestingly, Nigeria was once the largest producer of tomatoes in sub-Saharan Africa, accounting for 65% of the region's output and the 13th largest producer globally. Currently, the country is the largest importer of tomato paste in the world.

With Nigeria's continued exposure to volatility in global oil prices, and the resulting negative consequences for the domestic economy in terms of decline in government revenue, unstable currency and rising general price level, among other issues, it has become expedient to return to the glory days of agriculture in a push to diversify the economic base of the country. Developing the agriculture sector lies at the heart of the diversification drive as crude oil proceeds becomes grossly unsustainable in stimulating robust and inclusive economic growth.

Agriculture is the only sector that showed resilience with a growth of about 4.11% in 2016 following the oil price crash that sunk Nigeria into recession. The oil sector on the other hand shrank by 13.65% in the same year. In addition, agriculture has the capacity to create more jobs and employ more people than the oil sector.

3. https://www.oecd.org/swac/publications/39596493.pdf

Challenges in the agriculture sector before COVID-19

Challenges		
a.	**Resource shortages e.g. limited rainfall and inputs (e.g. seeds, mechanisation, irrigation systems, etc.)**	Over the past years, Nigeria has dealt with very low yields per hectare due to shortages in the supply of inputs such as seedlings and fertilisers as well as inadequate irrigation and harvesting systems, which hinders productivity and yield rates.
b.	**Violent conflicts (e.g. farmer–herder crisis)**	Due to the desertification and water depletion in the northern part of Nigeria, nomadic herdsmen are now shifting towards the south of the country in search of grazing fields and water for their animals. This has resulted in violent conflict with crop farmers in the south. Increased violence in the food producing states is causing decline in Nigeria's food production output.
c.	**Outdated systems of agriculture**	Outdated methods of agriculture such as the use of hoes and cutlasses reduce efficiency as these methods are costly and time consuming. Nigeria's failure to adopt advanced mechanised systems has reduced the quality of its agricultural products.
d.	**Insufficient supply to meet population growth and food demand**	With a population of roughly 200 million people, Nigeria's agricultural productivity is insufficient to meet the food demanded of its growing population thus increasing the demand and supply gap in Nigeria.
e.	**Lack of access to finance**	Although the Nigerian government has provided several facilities through the Central Bank of Nigeria (CBN) such as the Anchor Borrower's Programme to help provide small-scale farmers with adequate financing, the farming industry still lacks adequate access to finance.
f.	**Lack of the business element in the agriculture sector**	Small-scale farmers make up a large percentage of agricultural enterprises and they struggle to transform from subsistence farming into profitable businesses due to lack of access to finance and illiteracy.
g.	**Absence of value addition and supply-chain linkages**	Nigeria focuses mostly on food production, thus neglecting the processing and manufacturing segment of the value chain. The chain reaction that arises from shortages of resources, lack of financing for small-scale farmers and inefficient transport systems, exacerbates the development of food production along the value and supply chain.

Policy measures for agribusiness

As part of a wider objective of ensuring food security and boosting agricultural export competitiveness, several policies have been introduced by the Federal Government, various state governments, the Central Bank of Nigeria and other domestic developmental financial institutions such as Bank of Industry (BOI). This is with a view to solving the challenges militating against agricultural productivity in the country. In this section, we attempt to unravel the extent to which these initiatives have succeeded.

Agricultural Promotion Policy

The Agricultural Promotion Policy (APP), also known as the Green Alternative, encompasses the agricultural policy strategy of the current administration and covers the period of 2016 to 2020. The two major issues highlighted in the APP are the inability of the country to meet its domestic requirement for food and its failure to meet the quality requirement for success in international markets.

Consequently, the APP was formulated to achieve food security, promote import substitution, create jobs and stimulate economic diversification.

However, the lack of measurable metrics (other than target year of sufficiency) in the APP, makes it difficult to track progress and make comparisons against set targets. For example, targets in volume have not been set for domestic production of key food and cash crops like rice, cocoa, sesame and cashew nuts. This makes the overall assessment of the policy vague. Nonetheless, we have been able to evaluate progress by comparing recent performance with how things were before.

The initial focus for domestic crops was to expand the production of rice, wheat, maize, soya beans and tomatoes. In that regard, the APP has achieved remarkable success especially in the area of rice production. Leveraging on the Anchor Borrowers Programme (ABP) of the CBN, rice production in Nigeria has increased from 7.4 million metrics tonnes (MT) in 2017 to about 7.6 MT in 2018 and slightly decreased to 7.4 MT in 2019 according to data from the United States Department of Agriculture (USDA).[4]

However, the APP has fallen short of realising its objective of driving agricultural export through a diversified product portfolio of cocoa, cassava, oil palm, sesame, gum arabic, bananas, avocado, mango, fish and cashew nuts. Of all these products, only cocoa, sesame and cashew nuts (with contribution of 70% to total agricultural export) have enjoyed significant success.

The policy document needs reviewing, especially in the area of the share of agriculture budget relative to the total federal budgetary allocation, which is still far below the 10% target set by the Maputo Declaration.

4. https://apps.fas.usda.gov/newgainapi/api/report/downloadreportbyfilename?filename=Grain%20and%20Feed%20Annual_Lagos_Nigeria_5-6-2019.pdf

The Anchor Borrowers' Programme

The Anchor Borrowers' Programme (ABP) is an initiative of the CBN to create a linkage between agro-processors and smallholder farmers (SHFs) through provision of funding for selected agricultural commodities.

Some of the broad objectives of the scheme include increasing the CBN's credit financing to the agricultural sector, reducing importation and conserving external reserves, increasing capacity utilisation of agricultural firms, as well as deepening the cashless policy and financial inclusion initiatives of the government.

The funds for the programme are provided from a N220 billion Micro, Small and Medium Enterprise Development Fund (MSMEDF). The participating financial institutions in the ABP can borrow at a 2% interest rate and lend at a maximum of 9% per annum to agricultural players. The targeted agricultural commodities for this policy include cotton, cereals, roots and tubers, sugarcane, tree crops, legumes, tomatoes and livestock.

One of the achievements of the ABP is the establishment of a N2 billion Gino Tomato processing plant and farm sitting on 130 hectares of land in Kaduna State.[5]

The impact of ABP has been more significantly evident in rice production than in any of the targeted crops. In no other state is this more visible than Kebbi State where the increased rice production has led to different rice mills springing up across the countryside. The gap between local rice production and domestic consumption has been reduced within three years. In addition, over N20 billion has been used to cultivate more than 100,000 hectares of land for wheat production and create more than one million direct and indirect jobs in Nigeria.

While the ABP has recorded some positive results, there is a need for continuous assessment of its performance against predefined and established metrics. This is with a view to ensuring that required adjustments are made to the implementation strategies as and when required.

The Economic Recovery and Growth Plan (ERGP)

The ERGP (2017–2020) outlined in explicit terms the federal government's plan to diversify the economic base of the country and create jobs. At the core of the objectives outlined by the ERGP lies the agricultural sector.

The ERGP projected an average growth of 6.5% for the agricultural sector over the life span of the plan, but the actual growth rate averaged about 3%, less than half of the target. The table below illustrates this.

Projected growth of the agricultural sector from 2016 to 2020

Year	Target (%)	Actual (%)
2016	4.69	**4.11**
2017	5.03	3.45
2018	7.04	2.12
2019	7.23	2.36
2020	8.37	-
Average (2016–2020)	**6.47**	**3.01**

Source: ERGP, NBS, PwC analysis

5. https://allafrica.com/stories/201903180065.html

Furthermore, the plan set a target timeline for the realisation of self-sufficiency in key agricultural products: tomato paste was set at 2017; rice by 2018; and wheat by 2019/2020. While significant progress has been made in rice production, it is worth noting that this has not guaranteed self-sufficiency. In 2016, total local production of rice was put at 2.3 million MT while demand was estimated at 6.3 million MT. With the Anchor Borrowers' Programme and the Presidential Fertiliser Initiative, rice production increased significantly to 7.4 million MT, but so did demand. To close the gap, rice was imported despite the land border closure and the measures put in place by the CBN to restrict importers from accessing foreign exchange. In 2019, rice importation rose to 2.4 million MT from 2.2 million MT in 2018.

In addition, Nigeria is yet to attain self-sufficiency in wheat production. Domestic wheat production remained unchanged at 0.06 million MT in 2019 relative to 2018 while consumption/demand was estimated at over 5.2 million MT in 2019 compared to 5 million MT in 2018. In fact, wheat dominates Nigeria's agricultural imports accounting for about 40.7% (or N390.6 billion) of total agricultural imports in 2019.

There is need for a holistic evaluation of the ERGP in relation to agribusiness. This is with a view to identifying factors responsible for the successes recorded in certain areas, as well as identifying reasons for below target performances in other areas.

Development finance institutions and commercial banks credit financing to agribusiness

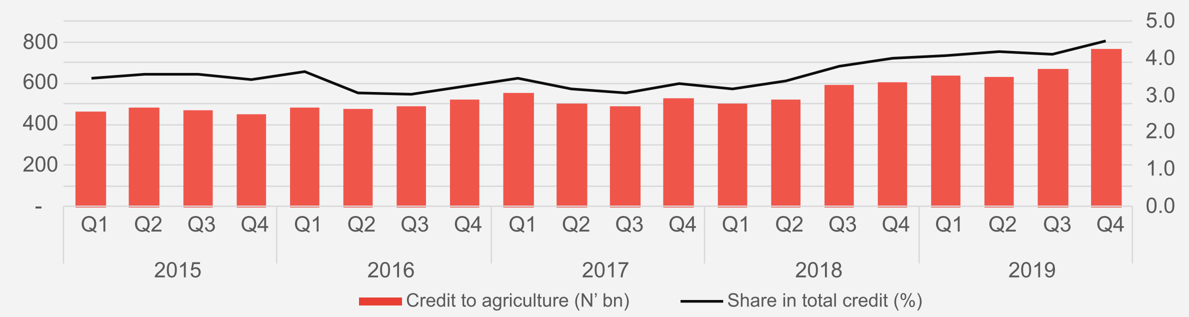
The Bank of Industry (BOI) in Nigeria has continued to support the growth of the agricultural sector in the country through loans for the development of the value chain. Financial loans provided by BOI to agricultural-related businesses since 2015 totaled over N193 billion and it is projected that the current level of transactions in agribusiness could triple in the coming years. Between 2015 and Q1 2020, the BOI facilitated the creation of an estimated 880,000 direct and indirect jobs in the sector. The developmental impact of the BOI can be seen in its support of smallholder farmers. Through its smallholder cluster financing initiative, the BOI has financed 73,000 MT of agricultural crops with about 36,600 MT assigned to manufacturers.

Subsector	Total disbursement (N' billions)	Total enterprises supported
Agro-processing (non-food)	87.3	79
Food processing	103.9	59
Smallholder cluster financing	2.5	18,300
Total	**193.7**	**218,438**

Source: BOI, PwC analysis

Commercial banks are also at the forefront of institutions ramping up credit support for the agricultural sector. Over the past five years, bank loans for the development of the agricultural sector have been on an upward swing. Notwithstanding this, the share of agricultural loans is small compared to other sectors.

Commercial banking credit to the agricultural sector has increased over the past five years



Source: NBS, PwC analysis

Attempts by the BOI and commercial banks to finance the agricultural sector are commendable. However, it is important to note that not all the challenges facing the agricultural sector can be solved efficiently with credit.

There is a need for financial institutions to do in-depth root cause analysis of the level of growth in the agricultural sector despite the quantum of credits already available to the sector.

Other policies at subnational level e.g. states policies

State governments are beginning to tap into the agricultural development plan of the federal government, through innovative initiatives that showcase to investors, their comparative advantages in the production of some crops.

The developmental strides made by Kebbi State Government in making the state a model for rice production stands out for discussion. In 2018, Kebbi State signed a $10m agreement on agricultural development projects cutting across rice, dairy products and groundnuts. With support of the ABP, rice yield in the state has increased from an average of two to three metric tonnes per hectare of rice paddies to about six metric tonnes. This stellar performance has been attributed to the state government's improved varieties of rice, fertiliser application and good agronomical practices.[6] The interstate agricultural partnership agreement between the governments of Kebbi State and Lagos State under the LAKE rice project has transformed and boosted the fortunes of rice farmers in Kebbi State.

In Edo State, priority focus is on cassava, maize and rice cultivation. The Edo State Government has launched the Edo State Agripreneur Programme in partnership with the CBN to promote mechanised agriculture in the state. This has led to a significant influx of both local and foreign investors into the state's agricultural sector. For instance, Dufil Foods, makers of Indomie instant noodles, acquired about 17,954 hectares of land in Edo state for the cultivation of palm oil as part of the backward integration drive of the federal government. The Agriprenuer programme has since been expanded with the Nigerian Incentive-Based Risk Sharing System for Agricultural Lending (NIRSAL) coming on board to de-risk the sector.

6. https://guardian.ng/business-services/agricultural-development-is-kebbi-governments-strength/

The impact of COVID-19 on Nigeria's agricultural value chain

COVID-19 has impacted global food security due to the lockdown and movement restrictions across many countries of the world. In a bid to combating the impending global hunger, the need to attain food security has become extremely important. According to the World Food Programme (WFP), the pandemic could plunge about 265 million people (up from 135 million people) into acute hunger by the end of 2020.

Prior to COVID-19, Nigeria's agricultural sector is affected by several challenges ranging from drought and flooding occasioned by climate change, and widespread instabilities including the Boko Haram crisis, cattle rustling in the North and farmer–herder clashes across the South and Middle Belt. The outbreak of COVID-19 may further exacerbate the challenges of the country's agricultural sector, thereby impacting the nation's food security.

According to a survey by the Oxford Business Group, more than half (60%) of chief executive officers (CEOs) of Nigerian companies stated that COVID-19 will significantly disrupt the agricultural sector in Nigeria.

Furthermore in 2018, about five million people in 16 Northern states of the country suffered from acute food insecurity, with Borno, Yobe and Adamawa states accounting for more than half (60%) of the total number of people affected. By the end of the first half of 2020, the number of people from the 16 Northern states suffering from acute food insecurity is projected to increase to seven million people. In March 2020, Nigeria was listed among 44 countries globally that require external food assistance.[7] According to the Food and Agriculture Organisation (FAO), the majority of the country's population is unable to procure food from local markets due to very low incomes, high food prices and bottlenecks in the distribution of agricultural products within the country.

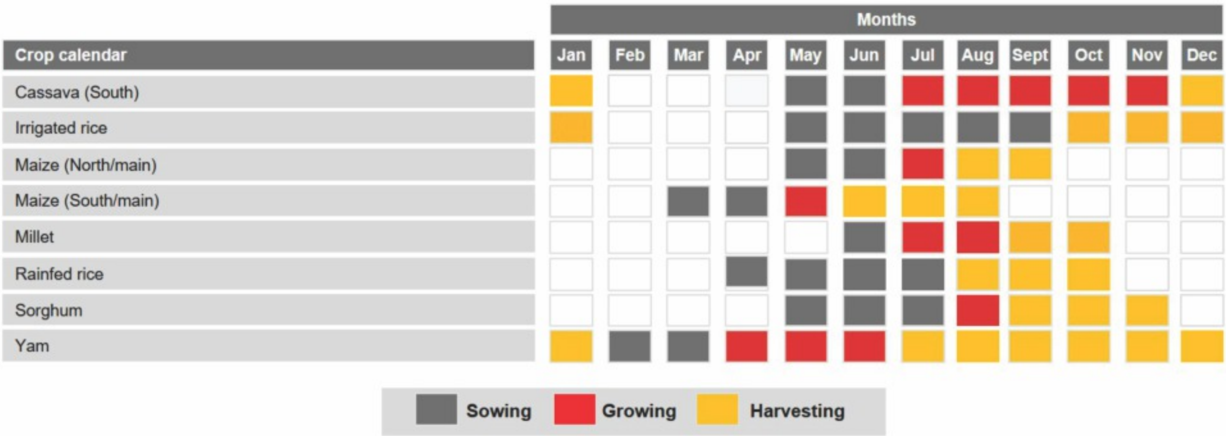
Some of the ways in which the COVID-19 pandemic is impacting the country's agricultural sector and food security are enumerated in the points below.

Degraded 2020 farming season and possible effect on food availability from Q3 2020

The availability of food in Nigeria is determined by, among other factors, the farming season. The farming season varies with crops and across the different regions of the country. For instance, maize planting begins March/April in the Southern part of the country and harvesting is carried out between June and August. The situation is slightly different in the North where planting kicks offs by May/June and the harvesting activities are carried out in August/September.

The commencement of the rainy season recently marked the beginning of the farming season for most crops in Nigeria. However, community transmission of COVID-19 as well as interstate movement restriction may lead to shortages of farm labourers for the current farming season. Given the disruption to the farming calendar, signs of reduction in availability of agricultural produce in the market may become evident from Q3 2020. This is more worrisome due to the ban on importation of major food products and the depletion of the strategic food reserves. Also, local agro-industrial players could face shortages of key inputs or raw materials for production.

7. http://www.fao.org/giews/country-analysis/external-assistance/en/

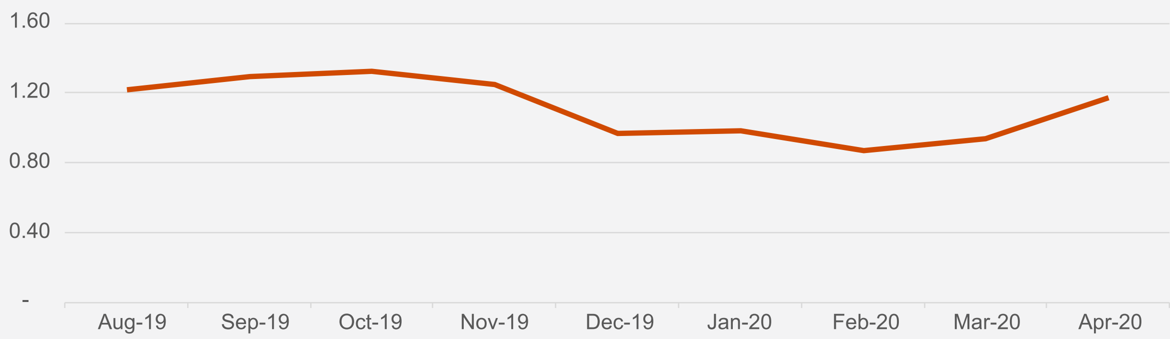


Source: FAO, PwC analysis

Hike in food prices

To flatten the curve of new cases of COVID-19, the Federal Government issued a directive on 29 March 2020 for an initial two-weeks lockdown and movement restriction in Abuja, Lagos and Ogun states. The exigency of the directive, which came into effect at midnight the next day, left no room for people to plan. As a result, panic buying ensued with consumers stocking up on essential food items due to the uncertainty of the duration of the lockdown. Panic buying caused prices of basic foodstuffs and other essential household items to skyrocket. In Lagos, it was reported that prices of staple food like rice, garri, yam etc. rose between 80% and 120%.[8]

Food inflation in Nigeria has been on the increase since February 2020



Source, NBS, CBN, PwC analysis

8. https://allafrica.com/stories/202004060020.html

Prior to the lockdown occasioned by COVID-19, the partial border closure by the Federal Government in August 2019 and the subsequent full border closure in October 2019 had caused food prices to rise. For instance, year-on-year food inflation of 13.2% in August 2019 jumped to 14.7% by December 2019. Following the speculative buying as a result of the lockdown order, food inflation rose to an average of 15% year-on-year by April 2020. Among the food items that drove the increase in food inflation in April 2020 were fish, fruits, potatoes, yams and tubers, vegetables, bread, cereals, oil and fats.

A survey by the National Bureau of Statistics (NBS) reported that Nigerians spent about N22.8 trillion on food items in 2019, representing more than half (56.7%) of the total household expenditure of N40.2 trillion. This ranks Nigeria as the country in which people spend the highest proportion of their household income on food. This trend is driven predominantly by declining household income and/or rising food prices. One way to stem the tide is for government to rein in on escalating food prices in the country.

With the COVID-19 pandemic and its associated effects such as the interstate movement restriction, the disruption to the rainy season farming and the logistics challenges associated with domestic food distribution, there is a tendency for food prices to increase over the course of the year. This may further worsen the poverty level in the country.

Disruption in food distribution and supply chain

According to FAO, the inability to distribute food in the country is one of the reasons for food insecurity and the high cost of food in Nigeria. With the distortion caused by COVID-19 pandemic, the distribution of food across the country could deteriorate in the coming months. At the core of the food distribution system are storage facilities especially for perishable foods. According to NBS, about 35–59% of households reported not being able to buy staple foods like yam, rice and beans when they needed them.

The infrastructure needed to preserve and store agricultural products in Nigeria is grossly inadequate. While there are currently about 75 government warehouses, 33 silo complexes and 10 conditioning centres scattered around Nigeria, the reality is that this infrastructure is not enough. Significant investment is needed to optimize the efficiency of the food storage and distribution capacity of the agricultural value chain.

The incidence of post-harvest losses and food wastages exist along the value chain. Produce like tomatoes and pepper get spoilt at the farm or in transit due to logistical challenges and unnecessary delays at security checkpoints that prevents these products from reaching the local market timeously. It is estimated that about 70% of fresh agricultural produce gets spoilt on the road. These bottlenecks impede farmers' access to markets, limit their productive capacities and hinder them from selling their produce. Consequently, farmers suffer losses, while consumers are forced to make do with the little food items available at inflated prices.

Depletion of the strategic reserves of food

To cushion the impact of the lockdown on the poor and those that are vulnerable to the negative economic shocks of the pandemic, the Federal Government of Nigeria (FGN), among other palliative measures, ordered the release of about 70,000 metric tonnes (MT) of food, mostly grains, from the six silo complexes of the National Food and Strategic Reserve as outlined below.

Location	Volume (in metric tonnes)
Minna Silo, Niger State	12,500
Lafia Silo, Nassarawa state	6,500
Dustin-Ma Silo, Katsina state	17,500
Yola Silo, Adamawa state	17,500
Gusau Silo, Zamfara state	15,000
Ilesha Silo, Osun state	1,000

Source: PwC analysis

This is not the first time the FGN have had to draw down its grain reserves. Earlier, 30,000 MT of grains was disbursed from the national strategic reserve in response to the food crisis at the various internally displaced persons' (IDPs) camps across the country.

In 2009, a total of 78,000 MT of grains was distributed out of the available 85,000 MT stock. This left only about 6,000 MT in storage, which was consequently carried forward into 2010. In 2011, purchases were ordered to complement existing storage and the entire stock was distributed that same year, leaving no grains in storage.

In 2012, the entire stock of grains bought in the year was distributed. This phenomenon of little or no grain left in storage has been the dominant trend over the years and this is a serious threat to food security especially in period of uncertainties and when there is small harvest.[9]

With COVID-19, the rate of depletion of food reserves may run faster than the rate of replacement. This is due to low agricultural productivity in the country and low replenishment of the reserves to full capacity.

9. https://media.africaportal.org/documents/Food-Reserves-Working-Paper-No7.pdf

Decline in export earnings from agribusiness

The lockdown across major countries of the world could significantly weaken export earnings during this pandemic period. The decline in export earnings is estimated to be driven by a combination of declining prices and dampened demand by import partners. Exports of cocoa, cashew and sesame are predicted to decline significantly because of decrease in prices due to falling demand from major importing countries.

Interestingly, these three agricultural products generated about US$800 million in foreign exchange and accounted for about 70% of Nigeria's agricultural exports in 2018. The Nigerian Export Promotion Council (NEPC) predicted that export of cocoa is expected to slice off about US$100 million from agricultural export earnings as a result of dwindling demand in Europe.

Logistics constraints at the port are another challenge that could hamper export earnings from agribusiness as the country battles COVID-19. Currently, all terminals in Lagos are between 90–95% full of uncleared cargo—many of which are carrying non-essential goods. This could prevent or delay agricultural products to access the port.[10] Furthermore, reduced staffing at the port could slow the speed of processing the needed documents for exportation.

Slowdown in the implementation of government's agribusiness funding interventions

The CBN has been at the forefront of providing funding interventions to businesses that have been affected by the disruption caused by the COVID-19 pandemic. Prior to the outbreak, the CBN operated different funding interventions for the agribusiness ranging from the Anchor Borrowers Programme to the Agricultural Credit Guarantee Scheme.

To protect key sectors from the shock arising from COVID-19, the CBN introduced the N50 billion Targeted Credit Facility (TCF) as a stimulus package for firms in the agricultural value chain activities, health, aviation, hospitality sector as well as micro, small and medium-scale enterprises (MSMEs).[10] To further ensure accessibility to finance for farmers across the 36 states of the federation and the Federal Capital Territory, the CBN approved the disbursement of a N75-billion loan guarantee scheme under the Nigerian Incentive-Based Risk Sharing System for Agricultural Lending (NIRSAL).[12]

The CBN also reduced its interest rate for all its previous intervention funding such as the ABP and Agriculture Credit Guarantee Scheme (ACGS) from 9% to 5% per annum. The apex bank also extended the moratorium on the payment of principal of its intervention funds by one year while it also granted leave to all deposit money banks to consider restructuring their term loans in view of the impact of COVID-19 on key sectors, including oil and gas, agriculture and manufacturing.

Despite all these measures, the uncertainties associated with COVID-19 have slowed down the rate at which the targeted agribusiness players are taking advantage of these versed opportunities.

10. https://nepc.gov.ng/cms/wp-content/uploads/2020/04/Covid-19-impact-assessment.pdf
11. https://nairametrics.com/2020/04/21/how-to-access-the-n50-billion-cbn-covid-19-intervention-fund-for-smes/
12. https://www.premiumtimesng.com/business/5486cbn_approves_n75billion_loan_for_agricultural_lending_in_states_.html

Disruption to Agricultural Promotion Policy (APP) targets for self-sufficiency in certain food items

In 2016, the Agricultural Promotion Policy (APP) was formulated to succeed the Agricultural Transformation Agenda (ATA). The APP is expected to run through 2020. The APP emphasises the need to solve the constraints hampering food production in the country and improve agricultural export. Essentially, the Federal Ministry of Agriculture and Rural Development (FMARD) came up with four crucial ways of realising the fundamental objectives of the APP:

- Prioritize productivity improvement of certain domestic crops such as rice, wheat, maize, fish (aquaculture), dairy milk, soya beans, poultry, horticulture (fruits and vegetables), and sugar.
- Prioritize for export markets the production of the following crops and activities: cowpeas, cocoa, cashew, cassava (starch, chips and ethanol), ginger, sesame, oil palm, yams, horticulture (fruits and vegetables), beef and cotton.
- For the purpose of policy synergy, FMARD will work closely with states and other federal MDAs e.g. Power, Transportation and Trade.
- Periodically publish metrics to track performance against the strategy e.g. tonnage of rice paddy produced, or yields/milking cow etc.

However, the extent to which the pandemic could impact the achievement of the goals set in the APP is reflected by the possible disruption to the farming season and potential decline in agricultural export. The level of food sufficiency is still below the plans and objectives contained in the APP. Also, the agricultural export base is yet to be diversified as more than 70% of earnings from agricultural exports still comes from cashew, cocoa and sesame.

Decline in income of farmers

As a result of COVID-19, peasant farmers and pastoralists whose livelihoods come from crop and livestock farming could experience a decline in their disposable incomes. According to a survey recently conducted by the NBS, about 9% of respondents revealed that they stopped farming as a result of COVID-19. In addition, about 73% of respondents in the survey reported that they have experienced income losses since mid-March.

Recommendations for improving agribusiness post COVID-19

The strategic importance of the agricultural sector is underscored by its ability to combat hunger, stimulate economic diversification and foster shared prosperity. But the sector's performance remains hampered by varied challenges. To combat these challenges will require significant efforts from all stakeholders across the agricultural value chain. Here, we highlight some short-, medium- and long-term measures the government could take to upscale the viability of the agricultural sector and ensure food security for all.

More palliatives for farmers

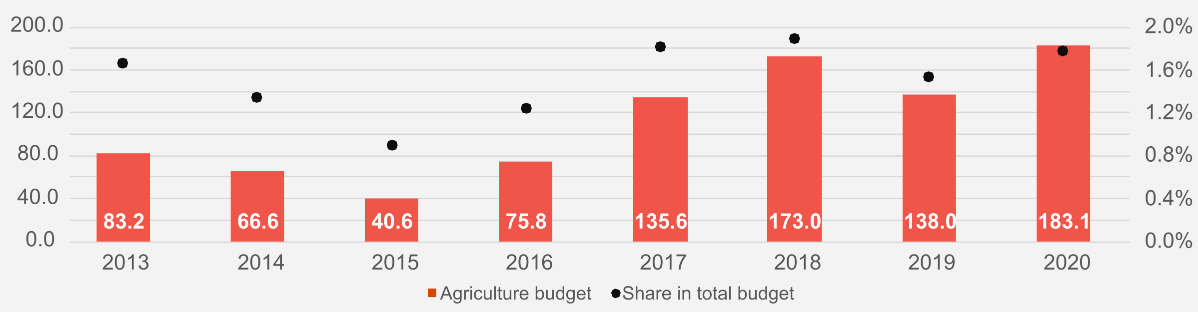
The Federal Government has provided fiscal and monetary palliatives to mitigate the spillover effect of the pandemic on the economy, businesses and individuals/households. Different organs of government are also taking steps towards assisting farmers to ensure the sustenance of food production and avert the looming food crisis. For instance, the Federal Government through the Presidential Fertiliser Initiative (PFI) recently reduced its fertiliser retail selling price from N5,500 to N5,000 per 50kg bag.

While these steps are commendable, they are not enough to meet the needs of the farmers. It is important for governments (both at national and subnational levels) to explore other means of palliatives particularly with respect to the provision of free improved seedlings, basic farm implements at highly subsidised prices, free or cheap and affordable farm extension services, etc. to farmers.

Increase in budgetary allocations to agribusiness at the national and subnational levels

Agriculture is one of the largest contributors to Nigeria's gross domestic product (GDP). Yet, budgetary allocations to the agricultural sector at both the national and the subnational level have remained low at less than 2% over the past seven years. The ratio of Nigeria's budget for agriculture to annual budget falls short of the prescribed standard set by the Maputo Declaration on Agriculture and Food Security ("the Declaration"). Through the Declaration, the African Union (AU) agreed to allocate at least 10% of its member countries' annual national budget to agriculture.

Nigeria's agricultural budget (N'billions)



Source: Budget Office of the Federation, PwC analysis

Given the crucial role agribusiness plays in ensuring food security, fostering economic diversification and stimulating the growth of a country, it is beneficial for governments at the various levels to devote more resources towards the development of agribusiness.

Increase in the capacity of existing strategic food reserves

The current capacity of existing strategic food reserve remains inadequate in conserving food for the raining day and stabilising domestic agricultural prices at the guarantee minimum price (GMP) especially during non-seasonal periods.

Region	Operational capacity	Non-operational capacity	Total capacity
North Central	136,000	150,000	286,000
North East	25,000	200,000	225,000
North West	25,000	275,000	300,000
South West	50,000	150,000	200,000
South South	50,000	125,000	175,000
South East	-	150,000	150,000
Total	**286,000**	**1,050,000**	**1,336,000**

Source: Strategic Grain Reserves Department, Delaporte et al (2014)

Following the food crisis of 2009, Nigeria ramped up its grain reserves from 13 to about 33 silos complexes with a total capacity of about 1,336,000 MT. Six of these silos are currently managed by the government.

In 2018, the Federal Government entered into a concessionary agreement with 13 companies to lease out 20 silos at a cost of about N6 billion over a ten-years period.[13]

Despite this attempt to infuse efficiency into the agricultural storage process and ensure food security, it has been reported that the 20 concessioned silos were yet to be handed over to the 13 companies that won the bid by first quarter of 2020.[14]

13. https://www.premiumtimesng.com/news/more-news/284557-nigerian-govt-to-generate-n6-billion-from-concession-of-20-silos.html
14. https://guardian.ng/features/federal-government-hasnt-released-silos-to-operators-one-year-after-payment/

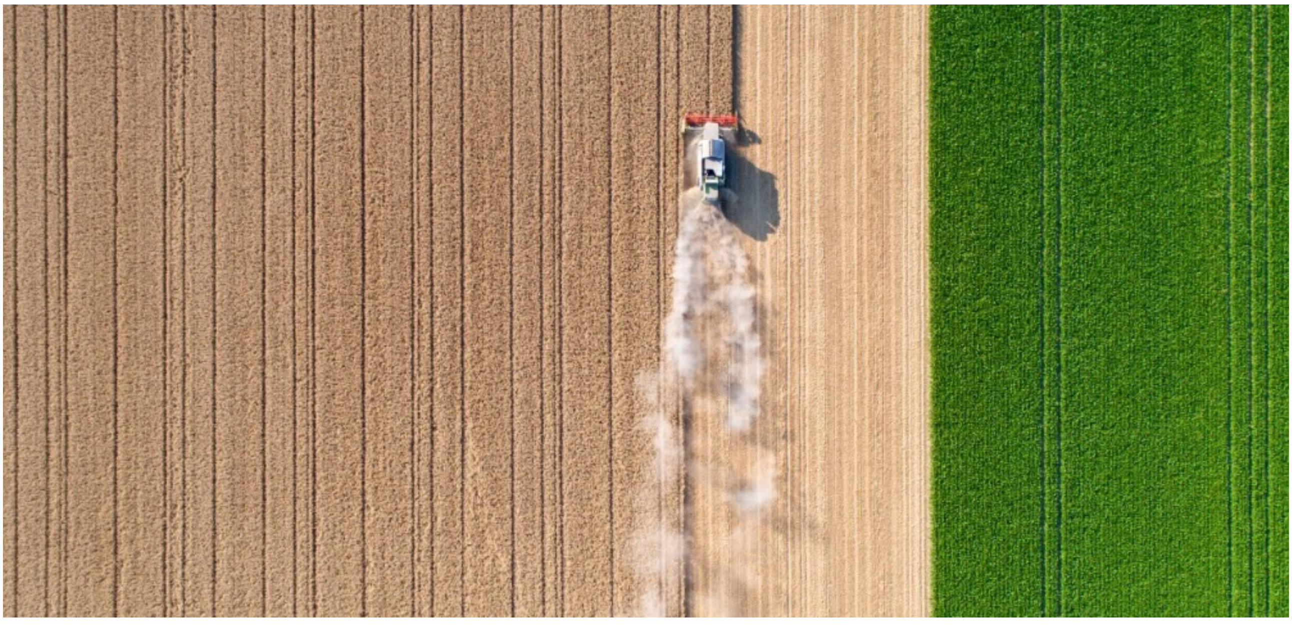
Furthermore, concerns about the needed infrastructure (power, water etc.) to operate the food reserves at full capacity also exists. Available data reveals that only about 21% (or 286,000 MT) of the combined silo capacity in the country is operational.

Excessive food wastage in Nigeria due to inadequate storage facilities could be better minimised by increasing the operational efficiency of the existing strategic food reserves. This would better strengthen the supply chain for agricultural products, affirm government's resolve to food security, boost agricultural export competitiveness and guarantee price stabilisation of domestic food items.

Revolutionise agricultural mechanisation

Agricultural mechanisation in Nigeria is still in its infancy. Major agricultural activities are organized along subsistence means hence the use of more labourers than machines in the farming process. More than one-third (37%) of Nigeria's labour force is employed in the agricultural sector which, is a significantly higher proportion than in China (17.5%), South Africa (5.6%) and Brazil (10.3%). Nigeria has one of the least mechanised farming industries in the world with the country's tractor density put at 0.27 hp/ hectare which is far below the Food and Agriculture Organisation's (FAO's) recommended tractor density of 1.5 hp/ hectare. Experts note that the country would need about 700,000 additional tractors to be at par with global farm mechanisation standards.[15]

Mechanised agriculture requires huge investment. One of the challenges to mechanisation in Nigeria's agricultural process is the large number of smallholder farmers who, individually, lack the financial resources to acquire heavy-duty agricultural machines like tractors, ploughs, harvesters etc. This challenge could be surmounted by encouraging farming clusters wherein smallholder farmers could come together to co-acquire and co-own farming machinery. Recent approval by the Federal Executive Council of a US$1.2 billion loan facility for the Federal Ministry of Agriculture and Rural Development to build 140 processing centres and purchase tractors and other farm machines for about 632 local government areas is a welcomed development but more needs to be done.[16] Provision of a conducive business environment for deepen domestic and foreign investments could be the game changer for agricultural mechanisation in Nigeria.



15. https://businessday.ng/agriculture/article/agric-2019-budgetary-allocation-declines-by-20-despite-fgs-food-security-quest/
16. https://www.premiumtimesng.com/agriculture/agric-news/392680-fec-approves-1-2-billion-loan-for-agric-mechanisation.html

States and the FCT to take responsibility for their areas of agricultural core competence

Each state and region in Nigeria have comparative advantages in the production of certain types of agricultural products. Harnessing these advantages will help ensure a competitive agricultural sector and guarantee food security in the country. For example, Kebbi state has invested heavily in rice value chain.

Regions	States	Strength/Agricultural potentials	Current export potential
North West	Kaduna, Kano, Kebbi, Katsina, Sokoto, Zamfara, Jigawa	Cassava; cowpea; cotton; dairy products; economic trees-date palm and other tree crops; groundnut, garlic, ginger; hibiscus; hides and skin; maize; millet; onion; pepper; rice; sesame; soybeans; sorghum; sugar cane; tomatoes; vegetables.	Sesame; spices and processed foods.
North East	Yobe, Borno, Taraba, Adamawa, Bauchi, Gombe	Cassava; cowpea; cotton; dairy products; economic trees-date palm and other tree crops; groundnut, garlic, ginger; hibiscus; hides and skin; maize; millet; onion; pepper; rice; sesame; soybeans; sorghum; sugar cane; tomatoes; vegetables; yam.	Sesame; spices and processed foods.
North Central	Nasarawa, FCT, Benue, Kogi, Niger, Plateau, Kwara	Cassava; cowpea; cotton; dairy products; economic trees-date palm and other tree crops; groundnut, garlic, ginger; hibiscus; hides and skin; maize; millet; onion; pepper; rice; sesame; soybeans; sorghum; sugar cane; tomatoes; vegetables; yam.	Sesame; cashew; spices and processed foods.
South East	Enugu, Imo, Anambra, Abia, Ebonyi	Cassava; coconut palm; economic trees-fruit trees; rubber; cashew; oil palm; plantain; rice; vegetables; yam; fishery; livestock.	Cassava; industrial starch; ethanol; processed food.
South West	Osun, Ondo, Ekiti, Lagos, Oyo, Ogun	Cassava; coconut palm; economic trees-fruit trees; rubber; cashew; cocoa; oil palm; plantain; rice; vegetables; yam; fishery; livestock; cowpea; hides and skin; cotton.	Cashew; cocoa; spices and processed foods.
South South	Edo, Delta, Bayelsa, Rivers, Cross River, Akwa Ibom	Cassava; coconut palm; cowpea; yam; fishery; livestock; rice; plantain; cocoa; vegetables; oil palm, rubber; mahogany; timber.	Cassava; cocoa; industrial starch; ethanol; processed food.

Source: Strategic Grain Reserves Department, Delaporte et al (2014)

However, it is imperative for state governments, including the FCT, to genuinely ask and answer some fundamental questions before venturing into agriculture. State governments must ensure they have a full grasp of the structures and intricacies of the agricultural value chain and thereafter, define how they can best contribute to the sector.

Perhaps, the best way for governments to operate in the agricultural value chain is not to directly involve itself in the upstream sector of the agricultural sector (i.e. directing farming), but to create an enabling environment within their areas of jurisdiction for private sector to thrive. A conducive environment involves getting the states' agricultural policies right and providing infrastructural facilities such as irrigation systems, storage facilities, good road networks connecting high-value farming settlements to strategic commercial market etc. States government could equally fill up the gap in the value chain that private sector players are not willing to take up because of the long gestation period e.g. the planting of economic trees that takes more than 10 years to become productive. In some cases, a public-private partnership (PPP) might be appropriate.

Compulsory backward integration for agro-allied industries

The gains from robust and sustainable agricultural sector growth could be strengthened through a linkage between agro-allied industries and farm. While major agro-based players such as Promasidor, Nigerian Breweries, Flour Mills of Nigeria, De United Foods Industries Limited amongst others have taken steps to secure their supply chain through backward integration of their production processes, many more are yet to embrace the policy.

The onus therefore lies on the government to intensify efforts to incentivise agro-allied industries that are making investments towards backward integration of their primary inputs i.e. agricultural produce. This will go a long way in promoting local content development, significantly reducing pressure for foreign exchange for importation of raw materials and stimulating local agricultural production.

Reintroduction of farming clusters to be financed through public-private partnerships

The reintroduction of streamlined farming clusters based on geospatial and/or crop categorisation, could significantly increase the yield and volume of agricultural products of Nigeria and improve pricing mechanism of these products. More than 80% of Nigeria's farmers are smallholder farmers (SHFs). SHFs produce about 90% of the nation's agricultural output.[17]

Organising these farmers into farming clusters could stimulate agglomeration economies by integrating end-to-end agriculture value chains, such as farmers, agro-processors, input suppliers, agro-dealers and industrial manufacturers. The CBN's Anchor Borrowers' Programme (ABP) is one of attempt to reintroduce farming clusters in Nigeria.

For efficient performance, farming clusters require the provision of adequate facilities (equipment, seedlings, storage, distribution etc.) within the cluster. With government's meagre resources, provision of these facilities could fall short of requirement hence the need to rope in private sector players through public-private partnerships (PPP). Agglomeration through PPP has been the bedrock of the agricultural revolution across key South America countries like Brazil and Argentina.

Increased investment in research and development aimed at improving yields

Research and development (R&D) will play a key role in breaking the barriers to food security. Nigeria can unlock significant improvement in its crop and livestock yields, and boost domestic and international competitiveness of its agricultural produce by prioritising investment in R&D. Unfortunately, investment in this area in Nigeria has been low over the years. In 2019, about N40 billion was earmarked for the various national agricultural research agencies in the country with approximately 47% of the fund going into offsetting personnel costs and overheads. Ramping up R&D capacity could result in improved results and efficiencies in crop and animal production.

17. https://www.devex.com/news/agritech-startups-aim-to-lift-nigerian-smallholder-farmers-out-of-poverty-92646

Case study: Innovations as the way to boost Agribusiness

Below are examples of countries that have successfully deployed agricultural innovations

Country	Details
 **The Netherlands**	With a population of roughly 17 million people, the Netherlands is currently the second largest exporter of food in the world after the United State because of its agricultural innovations. In 2019, the country's total export of agricultural products stood at €94.5billion. Some agricultural innovations adopted by the Dutch to achieve this feat include: • Use of industrial greenhouses covering over 175 acres and above across the country. • Use of hydroponic systems and geothermal energy to reduce negative effects on the environment while also maximizing yield. The use of this method helps the Dutch to produce roughly 100 million MT of tomatoes annually. • Development of an integrated and efficient value chain through sophisticated processing, manufacturing, and exportation of food products. • Use of artificial intelligence with advanced mechanised systems to help speed up food processing.
 **Brazil**	With a population of about 209 million people as at 2018, Brazil is currently one of the largest food exporters in the world. The country has comparative advantage in the production and exportation of coffee, livestock, sugar cane, grains, cocoa and cotton. In addition, Brazil has developed advanced agricultural innovations to further boost the country's productivity. For instance, the country adopted biotechnology in the production of soybeans and other crops and became the second largest producer of genetically modified crops in the world. In 2018, Brazil's agriculture to GDP was valued at $82 billion, contributing roughly 4.5% to its total GDP of $1 .8 trillion. Some of the ways Brazil has used innovations to drive agriculture are explained below: • Use of biotechnology through the development and utilisation of controlled environments such as insects, weeds, soil level, water and sun to produce specific crops, as well as genetically modified crops. The result of this approach has been an increase in output with less resources or input. • Adoption of mechanisation to boost agricultural production. Brazil intensified the use of more mechanised methods of farming across the agricultural value chain to replace the traditional farming methods. The use of mechanised farming tools such as industrial cotton pickers, combine harvesters etc. has reduced wastage from harvesting.

Reference

1. ILO- https://www.indexmundi.com/facts/nigeria/indicator/SL.AGR.EMPL.ZS
2. NBS- https://nigerianstat.gov.ng/elibrary?queries[search]=GDP
3. http://www.fao.org/nigeria/fao-in-nigeria/nigeria-at-a-glance/en/
5. https://www.pwc.com/ng/en/assets/pdf/unlocking-ngr-agric-export.pdf
6. https://www.forbes.com/sites/skollworldforum/2013/08/08/agriculture-is-the-future-of-nigeria/#674156b16d96
7. https://www.proshareng.com/news/COMMODITIES/Nigeria-is-the-Largest-Producer-of-Tomatoes-in-Sub-Saharan-Africa-and-13th-in-the-World/37930
8. https://www.cbn.gov.ng/out/2017/dfd/anchor%20borrowers%20programme%20guidelines%20-dec%20%202016.pdf
9. https://www.premiumtimesng.com/regional/nwest/378838-kano-farmers-hail-anchor-borrowers-programme-seek-increased-funding-for-agriculture.html
10. https://boi.ng/downloads/2018%20BOI%20Annual%20Report.pdf
11. https://www.pwc.com/ng/en/assets/pdf/feeding-africas-largest-economy-2050.pdf
12. https://www.pwc.com/ng/en/assets/pdf/unlocking-investment-opportunities-in-agribusiness.pdf
13. https://www.pwc.com/ng/en/assets/pdf/transforming-nigeria-s-agric-value-chain.pdf
14. https://www.government.nl/ministries/ministry-of-agriculture-nature-and-food-quality/news/2020/01/17/dutch-agricultural-exports-worth-%E2%82%AC94.5-billion-in-2019
15. https://www.ideatovalue.com/curi/nickskillicorn/2018/12/how-the-netherlands-has-innovated-agriculture-to-become-the-worlds-2-exporter-of-food/
16. https://www.weforum.org/agenda/2019/11/netherlands-dutch-farming-agriculture-sustainable/

Contacts

Mary Iwelumo
Partner
mary.iwelumo@pwc.com

Andrew S. Nevin Ph.D.
Partner
andrew.x.nevin@pwc.com

Edafe Erhie
Partner
edafe.erhie@pwc.com

Oladele Oladipo
Partner
oladele.oladipo@pwc.com

Taiwo Oyaniran
Director
taiwo.oyaniran@pwc.com

Omomia Omosomi
Manager
omomia.omosomi@pwc.com

Chiamaka Nnake
Senior Associate
chiamaka.nnake@pwc.com

Kelvin Umweni
Associate
kelvin.umweni@pwc.com

As part of our PwC Cares COVID-19 intervention, we have set up a Knowledge Hub with insights to support businesses and governments in their response to the impacts of COVID-19

Visit our COVID-19 Content Hub at www.pwc.com/ng/covid-19

Access COVID-19 Resources on PwC Nigeria's Tax 247 Mobile App available on both Google Play Store and the Apple App store