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Analyzing the effects of the Russian-Ukrainian war on Nigeria's agrifood systems and policy responses

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HIGHLIGHTS



About 13 million people in Nigeria were at risk of acute food insecurity in 2021. Poor macroeconomic conditions, adverse economic conditions associated with COVID-19, existing shocks, including conflict, displacement, and insecurity in Northeast Nigeria and weather extremes have contributed to the acute food insecurity situation.



The Russia-Ukraine war has further exposed Nigeria's vulnerable food system resulting from conflicts across the food production regions, extreme weather conditions, and economic downturn from COVID-19. Consequently, the government is faced with the difficult question of how to respond to this crisis and ensure a resilient food system.



The Russia-Ukraine has led to shortages in fertilizer availability leading to high prices of fertilizer. Likewise, prices of major food commodities, such as maize, rice, wheat and cooking oils, have been on the rise.



Nigeria has taken some steps, albeit few, to directly respond to the crisis. These include seeking alternative suppliers of grains, given approval for the importation of genetically modified, drought-resistant wheat from Argentina, and establishment of a private fertilizer plant with annual capacity of 3 million metric tons. Other initiatives that began before the inception of the war are also being pursued.



Careful consideration should be given to increasing agricultural and food production by promoting technologies (e.g., climate-resilient technologies, digital and biotechnologies), which will help raise the productivity of major food crops, such as wheat, rice, maize, etc. Also, the promotion of local substitutes for food commodities that are traded on the global market, and which the country heavily relies on, should be pursued.

Introduction

Nigeria is the most populous country in Africa, with a population of 217 million people (UNPFA, 2023). Agriculture plays an important role in the country's economy. For example, data from the World Bank shows that the agricultural sector contributed 23.4% to the gross domestic product (GDP) in 2021, which is more than the average contribution for sub-Saharan Africa (17.2%). In the fourth quarter of 2022, the sector contributed 24.1% to the total real GDP (NBS, 2023). With a population growth rate of about 2.5% (NBS, 2023), producing enough food to feed the population becomes a huge challenge. Thus, the issue of food insecurity has become more of a significant concern. For example, the 2022 Global Report on Food Crises indicates that nearly 13 million people in Nigeria were in crises or worse in 2021 (i.e., acute food insecurity) (Global Network Against Food Crises & FSIN, 2022). At the national level, the poor macroeconomic conditions and adverse economic conditions associated with COVID-19 have weakened the local currency and led to foreign exchange shortages and high inflation rates. Consequently, prices of manufactured and imported products have remained high due to the depreciating currency, the naira. Since Nigeria is dependent on imports, it is susceptible to any disruption in the global agriculture supply chain. At the regional level, existing shocks, including conflict, displacement, and insecurity in Northeast Nigeria, spread of violence in the Northwest and the Middle Belt, and weather extremes (e.g., flooding) are key drivers of this alarming trend (Global Network Against Food Crises & FSIN, 2022; WFP, 2022).

With the emergence of the Russia-Ukraine war on 24 February 2022, which is causing rising food prices worldwide (Abay et al., 2023), the economic conditions in Nigeria have worsened (USDA, 2022). Facing the Russia-Ukraine war, governments across the world, including Nigeria, have been faced with the difficult question of how to respond to this crisis and ensure a resilient food system. According to Birner et al. (2021), studying policy responses of developing countries helps to get a better understanding of policy making in times of crisis. Therefore, the objective of this policy brief is to examine the consequences of the Russia-Ukraine war on fertilizer and food commodities in Nigeria and the actions policy makers took in the agriculture sector in response to the Russia-Ukraine war.

This paper draws on data from various sources to explore the consequences of the Russia-Ukraine war on fertilizer and food commodities in Nigeria. Data on fertilizer prices were sourced from AfricaFertilizer, while data on food commodities prices were taken from FAOSTAT, World Food Programme (WFP), and Nigeria National Bureau of Statistics. The inflation data was sourced from the Central Bank of Nigeria. The data were analyzed using a descriptive analysis approach (i.e., graphs). In terms of the policy responses, various government documents and online newspaper articles were used.

Consequences of the Russia-Ukraine war on Nigeria's agricultural sector

In this section, we explore the consequences of the Russia-Ukraine war on Nigeria's agricultural sector. Specifically, we examine the consequences on fertilizer prices and availability and food prices.

2.1 Fertilizer prices and availability

Fertilizer prices have risen sharply since the war began in Ukraine, with huge implications for crop production for Nigeria (Andam et al., 2022). The rising prices have been attributed mainly to shortage of Muriate of Potash (MOP), one of the major raw materials used for blending fertilizer. Although Nigeria produces urea and limestones locally, it imports MOP and Di-ammonia Phosphate (DAP)

from Belarus/Russia and Morocco, respectively (Falaju & Binuyo, 2022; USDA, 2022) to blend fertilizers. For example, Nigeria imported potassic and potassium sulphate worth USD41.1 million from Russia in 2021 (WITS-World Bank, 2023), which is about 99.9% of the total potassium sulphate imported from the rest of the world. Since Nigeria is unable to get the required raw materials needed to produce fertilizers due to the war, this has resulted in shortages and increases in fertilizer prices, especially that of NPK (nitrogen, phosphorus, and potassium). Figure 1 shows the trend in fertilizer prices from January 2019 to December 2022. It shows a sharp rise in the prices of all fertilizer types since the war began peaking around June 2022.

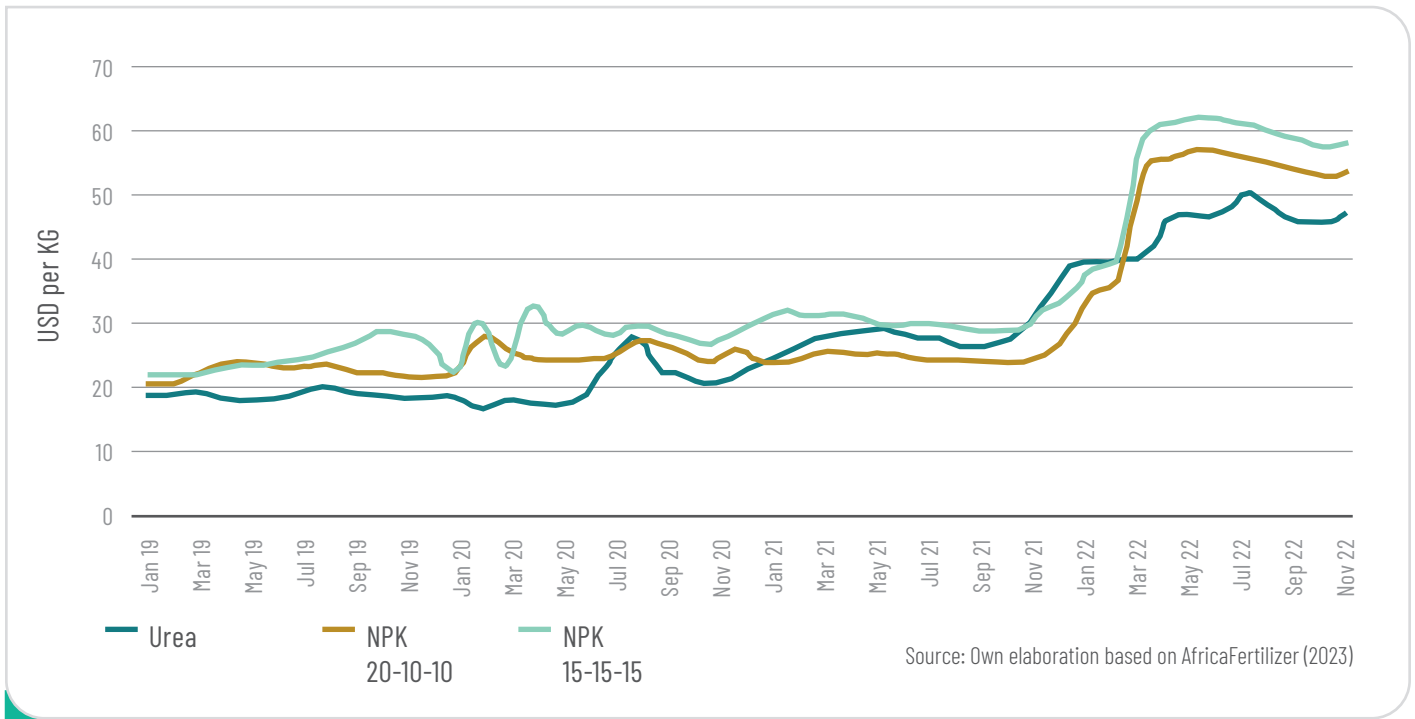


Figure 1. Retail price of fertilizers in Nigeria

2.2 Food prices

Food prices in Nigeria were already high before the war, which can be partly attributed to prohibitions and import restrictions on food commodities (USDA, 2022). Also, the constant devaluation of the naira, increasing fuel prices and rising inflation have contributed to rising prices of food products on the domestic markets. For example, based on data from Central Bank of Nigeria, the food price inflation is higher than the overall inflation in Nigeria (Figure 2). In

particular, the food inflation was high (i.e., 20.6%) in January 2021, but declined to 17.1% in February 2022. However, food price inflation began to sour after the war started, increasing from 17.1% to 23.8% in December 2022, which is a 39.2% increase (Central Bank of Nigeria, 2023). In terms of the Consumer Price Index (CPI), prior to the war, the CPI change was 17.1% (i.e., between January 2021 and January 2022), but since the war, the CPI has changed by 22.0% between February 2022 and January 2023.

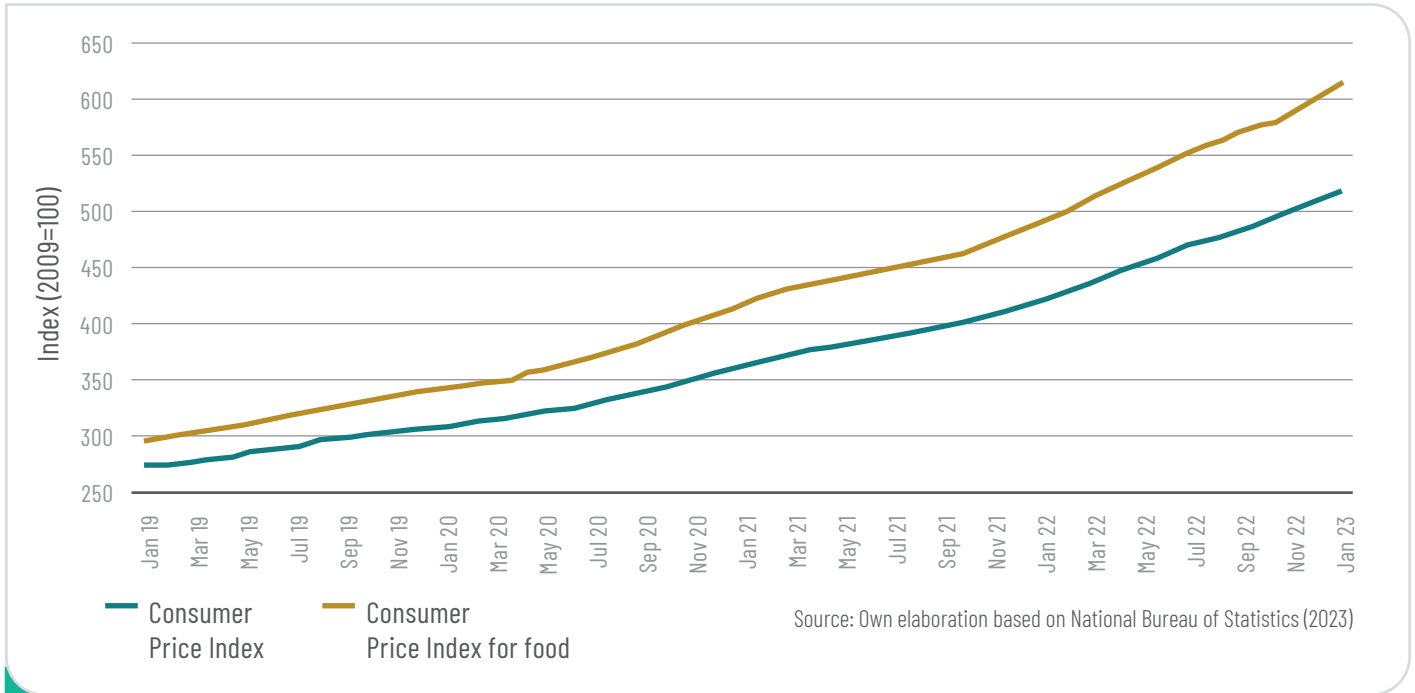


Figure 2. Consumer Price Index (2009=100) in Nigeria

Figure 3 presents the trend in the prices of maize and rice. Maize and rice are one of the major food crops in Nigeria (FAO, 2020) and hence important for food security. The results show that prices of both imported and milled rice increased by more than 28% and 15% over the last 12 months of 2022. For instance, before war, price of imported rice was USD1.3 per kg in January 2021, increasing marginally to USD1.4 per kg in February 2022 (the month the war started), which is about 7.7% increase. Prices however, increased from USD1.4 per kg in February 2022 to USD1.8 per kg in December 2022, which is a 29.6% increase. Maize prices, on the other

hand, were high during the COVID-19 period but seemed to have been stable with a slight decline during the period of the war (i.e., USD0.58 per kg in February 2022 and USD0.50 per kg in December 2022). A possible reason for this is that the majority of the maize consumed in Nigeria is produced locally and hence, the war might not have any direct influence on the prices. For instance, Andam et al. (2022) found that the changes in the world price of food commodities may not have had a major direct influence on domestic prices since many of the major food products produced and consumed in Nigeria are not extensively traded in international markets.

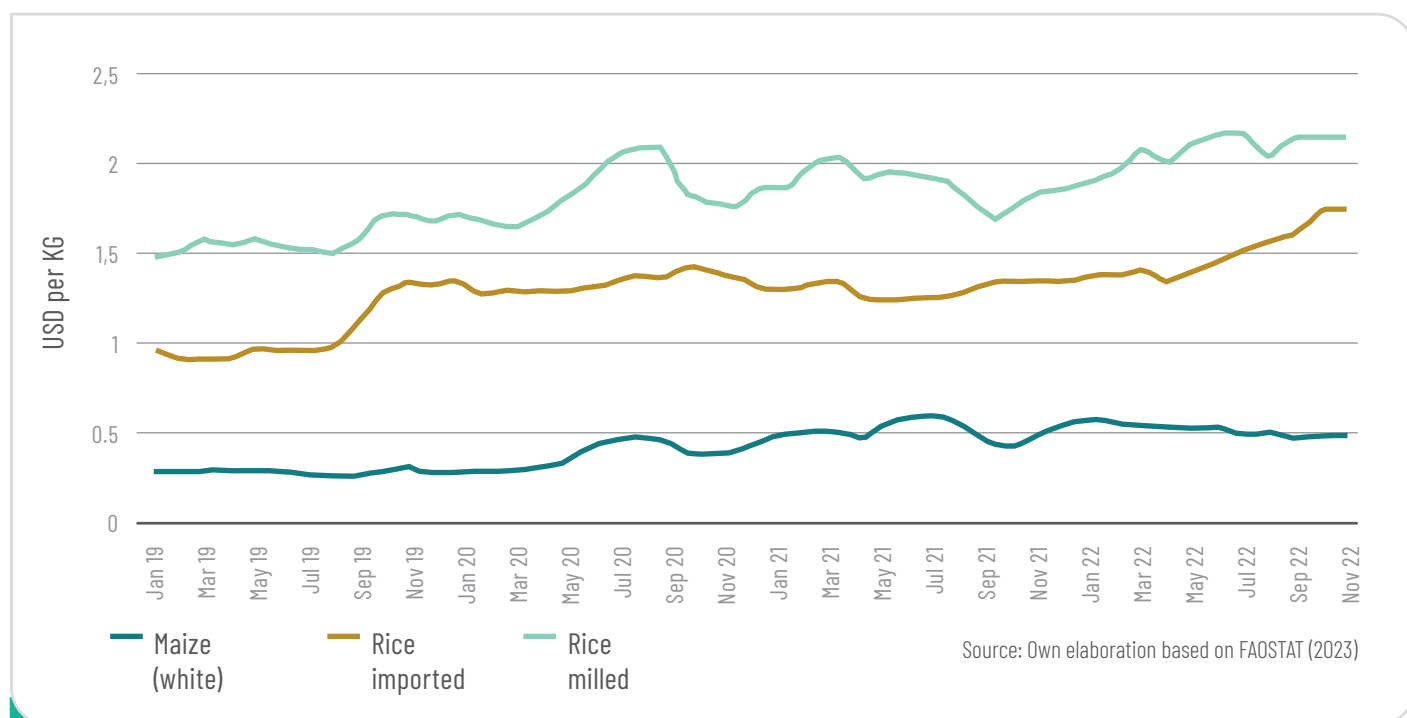


Figure 3. Retail prices of maize and rice in Nigeria

Nigeria is one of the largest importers of wheat products in the world. Data from the UN Comtrade show that the country imported USD1.83 billion in wheat in 2021, with major imports from the United States (USD508 million), Canada (USD297 million), Lithuania (USD277 million), Latvia (USD508 million), Russia (USD254 million), and Lithuania (USD237 million). However, in 2022, Nigeria imported USD1.31 billion, with no imports from Russia (UN Comtrade, 2023). Wheat is third most-consumed grain product in Nigeria, after maize and rice (Balana et al., 2022) and hence important for food security. However, prices of wheat-based products are also under increased inflationary pressures. Rises in the price of wheat flour and bread have been witnessed since the war began. Wheat flour and bread prices have generally been high since 2020 during the COVID-19 pandemic period until 2021, when prices began to decline marginally. However, global market disruptions due to the war led to rising

domestic prices of wheat, especially in March 2022 and this has continued since. For instance, wheat flour prices increased by about 24% from January 2022 to December 2022, while that of bread increased by about 29% within the same period. According to a USDA (2022) report, the increased prices of wheat products have increased demand for substitutes/other staple foods such as maize, yam, and sweet potato products, which are relatively affordable.

Cooking oils are an important part of the Nigerian diet as they are used in preparing different foods consumed at home and in the fast-food industry for preparing products such as noodles, margarine, biscuits, and snacks (TechnoServe, 2019). The results also show that prices of cooking oils (palm oil and vegetable oil) soared over the past 12 months of 2022. For example, Figure 4 shows that the average price of palm oil (750 ML) increased by 10.5% from USD1.9 in January 2021 to

USD2.1 in February 2022¹. However, prices increased by about 18.2%, from USD 2.2 per 750ML in March 2022 when the war had already begun to USD2.6 per 750ML in December 2022. Also, the average price of vegetable oil (750 ML) was USD1.81 in January 2022, but increased

to USD2.73 in May 2022, which is an increase of about 50.8%. The surge in vegetable oil, in particular, could be attributed to the disruption in the global supply chain due to the war, as Nigeria imports a large proportion of its vegetable oil needs.

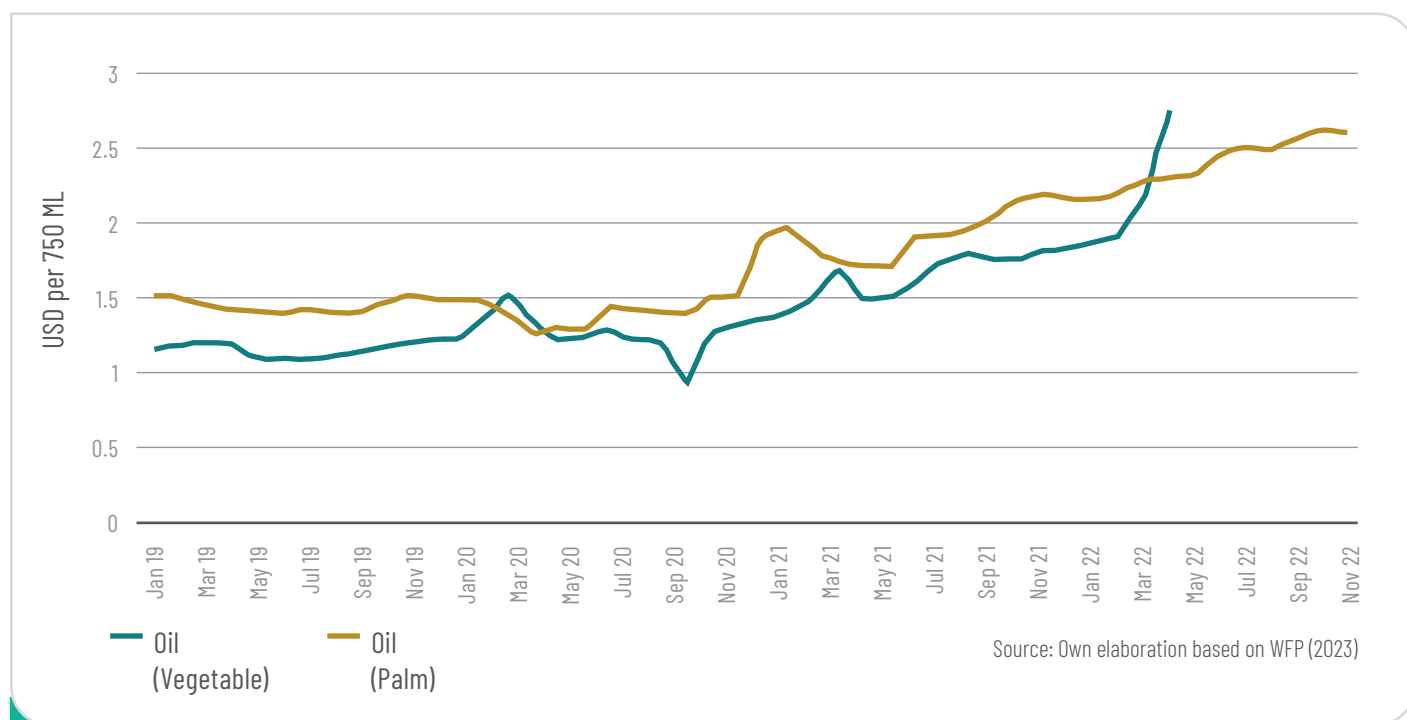


Figure 4. Price of cooking oils in Nigeria

Agricultural policy responses in Nigeria from the Russia-Ukraine war

The Russia-Ukraine war has further exposed Nigeria’s vulnerable food system resulting from conflicts across the food production regions, extreme weather conditions, and economic downturn from COVID-19. However, in terms of policy response to the effect of the war, the government of Nigeria has taken some steps, albeit few, to directly respond to the crisis caused by the Russia-Ukraine war. Indirectly, some initiatives began before the war, with their implementation coinciding with the period of the war. Figure 5 shows a brief summary of the timelines of policy responses.

For instance, as Nigeria is a huge importer of grains, the government through the Minister of Agriculture and Rural Development indicated that it would look for alternative suppliers of grains amid the ongoing Russia-Ukraine war (The Cable, 2022). Consequently, the government has partnered with the private sector to diversify its wheat sources due to the disruption of the global wheat supply

chain. For example, the Ministry of Industry, Trade, and Investment approved a request from Crown Flour Mills to import wheat from India (USDA, 2022). Other initiatives aimed at increasing local production are being pursued. For instance, the government has partnered with a global agribusiness company (Olam) to start replicating seeds by establishing community seed enterprises across the wheat-growing areas in Nigeria (USDA, 2022). Also, the National Biosafety Management Agency (NBMA), in July 2022, approved the importation of genetically modified, drought-resistant wheat from Argentina for food and processing, but not for planting (Heath, 2022; USDA, 2022). This initiative is part of the government’s response to increasing the production of wheat, whose imports have been hampered by the war. In addition, the Ministry of Agriculture established a technical team to review, analyze and adopt successes from the Ethiopian wheat project sponsored by the African Development Bank (AfDB). The Ethiopian wheat project is part of an AfDB’s Technologies for African Agricultural Transformation (TAAT) scheme which seeks to increase self-sufficiency in wheat

¹ Prices are converted to USD using exchange rates from the Central Bank of Nigeria on March 15 of each year.

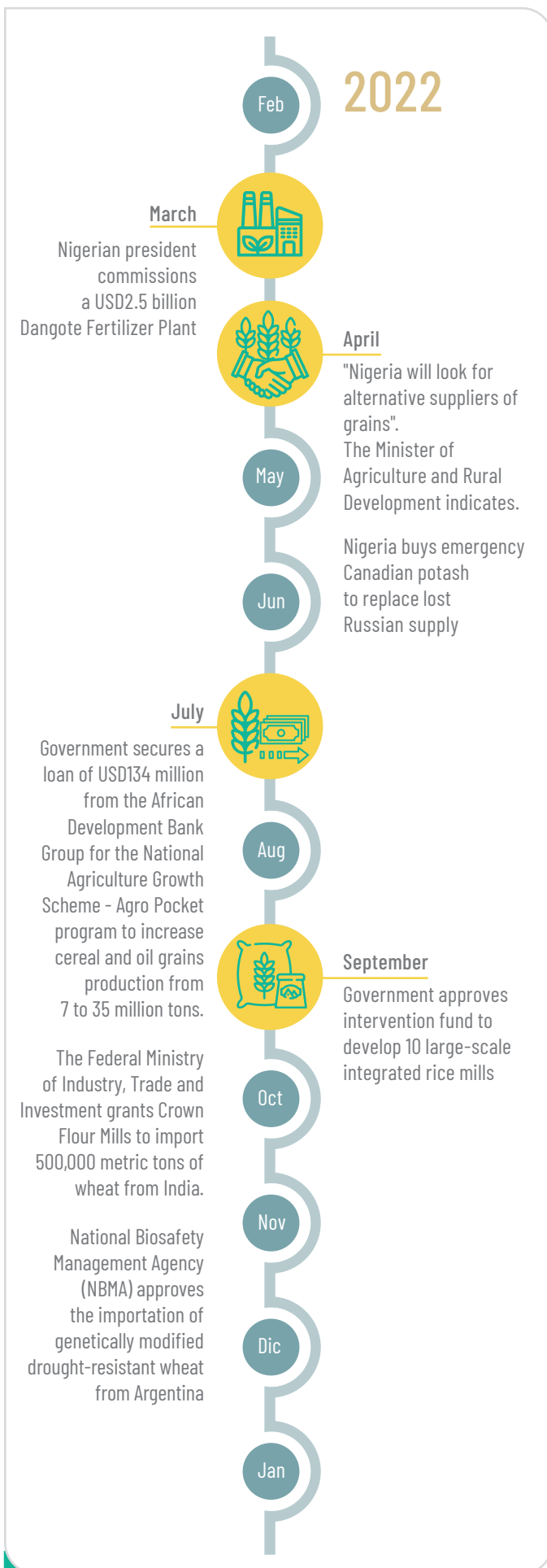


Figure 5. Timeline of policy responses to the war
Source: Own elaboration

production through the adoption of irrigation systems and improved wheat seeds (AfDB, 2020). Consequently, the team developed a 10-year strategy for wheat production and self-sufficiency, which is to be implemented between 2022 and 2032 (USDA, 2022).

Furthermore, the government secured a loan of USD134 million in July 2022 from the African Development Bank Group for the National Agriculture Growth Scheme – Agro Pocket program in Nigeria. The scheme objective is to increase cereal and oil grains production from 7 to 35 million tons. The program will put in place key policies to increase private sector participation in agriculture (AfDB, 2022). In terms of boosting rice production, the Government in September 2022 approved an intervention fund to develop 10 large-scale integrated rice mills with a combined minimum capacity of 320 MT per day in 10 states (Anyango, 2022; Voice of Nigeria, 2022).

The Russian-Ukraine war has also impacted fertilizers given that Russia is an important producer of fertilizer nutrients (NPK). In the initial stages of the war, the President on 22 March 2022, inaugurated a USD2.5 billion fertilizer plant with an annual capacity of 3 million metric tons owned by Aliko Dangote, Africa’s richest man. Although this is a private initiative and not a direct government response to the war, it forms a key part of the government’s diversification agenda of reducing its dependence on fertilizer imports. With Russia being one of the main suppliers of fertilizer to Nigeria, it is expected that this will reduce Nigeria dependence on fertilizer imports and solve the perennial fertilizer problem that the country faces (Asadu, 2022). As a diversification strategy, Nigeria imported potash, a raw material for fertilizer blending from Canada, in April 2022 to replace supply from Russia, according to a report from Reuters (Payne, 2022).

Building resilience to food systems in Nigeria

There have been policies and initiatives implemented by the Nigerian government in the agricultural sector aimed at building resilience of the food system. Most of these policies began prior to the war but are being continued and, in some cases, scaled up. Some of these policies have focused largely on maintaining already existing incentives, such as the fertilizer subsidy program and ban on imports of rice through land borders and ban on poultry meat products. As a result of these initiatives and investment in the agricultural sector, the government believes the country is better placed to cope with the shocks arising from the war, as captured in a tweet by President Buhari on July 15: “Because of our policies and investments in the last seven years, towards achieving

food security, Nigeria is today much better prepared to cope with the inevitable disruptions in global agricultural supply chains occasioned by Covid-19 and the Russia-Ukraine war”.

One of the key initiatives implemented is the Presidential Fertilizer Initiative (PFI), which was launched in 2017 but continued to be implemented during the recession. The aim of the PFI was to stimulate local production of 1 million metric tons of blended NPK fertilizer by resuscitating moribund fertilizer plants and making fertilizer available for farmers at affordable prices (NSIA, 2023). This initiative, according to the Minister of Agriculture and Rural Development (FMARD), has resulted in the increase of fertilizer blending plants in the country from 8 to 200, with annual fertilizer production increasing from 300 metric tons per annum to over 7 million metric tons (Anyango, 2022). Another initiative is the Anchor Borrowers Program. The Central Bank of Nigeria Anchor Borrowers Program was also launched in 2020 to provide loans to smallholder farmers cultivating agricultural commodities, such as cereals, legumes, tomatoes, root and tubers, tree crops, etc., to enable them to expand their farming activities (Central Bank of Nigeria, 2021).

In the 2021 planting season, the Central Bank of Nigeria (CBN) intervened in wheat production to make Nigeria self-sufficient. In this regard, it imported 13,000 metric tons of quality heat-tolerant wheat seeds, which have been cultivated on 150,000 hectares of land in 16 states between October 2021 and April 2022. Out of the 150,000 hectares, 100,000 is meant to produce grains for millers, while 50,000 hectares is meant to produce 250,000 tons of seed for the 2022/2023 planting season (Central Bank of Nigeria, 2022).

In terms of outlook, the Nigerian government seeks to boost agricultural productivity, especially among smallholder farmers. In this regard, Nigeria will begin national performance trials for drought-tolerant and insect-resistant maize known as TELA (ISAAA, 2022). With low productivity mainly resulting from low input use (e.g., fertilizer and improved seeds) among farmers, the Nigerian government established the Growth Enhancement Support Scheme (GESS) in 2011 to provide subsidized inputs to farmers as part of its Agricultural Transformation Agenda (ATA). This program is still running and will ensure that farmers have access to subsidized inputs, which will help mitigate the effect of rising prices, especially fertilizer in the country. The government is also planning to support the refurbishment of existing dams in Nigeria for irrigation purposes and encouraging technology start-up companies to invest in the agriculture sector, especially the rice sector to help transform rice farming, processing, and selling (USDA, 2022).



Conclusions

Regarding the consequences of the war, the available evidence shows that the crisis has adversely affected fertilizer, food commodity prices, inflation and the cost of imports. The government has implemented policies and initiatives, most of which began before the war to mitigate effects of the war on local food systems. Overall, the initiatives and policies implemented by the Nigerian government have had positive effects on the agricultural sector in Nigeria, improving food security, creating jobs, and increasing the income of farmers. However, some challenges such as access to finance, infrastructure, and technology still remain and need to be addressed.

In this regard, more attention should be focused on increasing agricultural and food production by promoting technologies (e.g., climate-resilient technologies, digital and biotechnologies) that will increase the productivity of major food crops, such as wheat, rice, maize, etc. This will also help to reduce Nigeria's reliance on wheat and grain imports from outside Africa and build more resilient food systems capable of dealing with current and future shocks.

Nigeria's food production is already hampered by low fertilizer usage. The limited availability or unaffordability of fertilizers can significantly reduce agricultural production and productivity, leading to higher food prices. Hence improving access to affordable fertilizer will be one way to improve productivity and build a resilient food system. Thus, the establishment of a 3 million metric ton fertilizer plant in Nigeria is a timely investment. This would not only improve the availability of fertilizer in the country but also help reduce some of the negative effects of the war (e.g., high fertilizer prices) on the country.

There is also the need for Nigeria to reconsider some of its current trade policies, such as border restrictions on

movement of food commodities from neighboring countries. Opening such land borders to trade would help to reduce Nigeria's vulnerability to food price increases. Another strategy is for the country to promote local substitutes for food commodities that are traded on the global market and which the country heavily relies on. For example, some food producers in Nigeria are already exploring the options of mixing cheaper alternatives, such as cassava flour, millet flour and sweet potato flour as substitutes for wheat flour in making breads and pastries. As domestic crops are less exposed to global trade disruptions or global inflation, promoting such local substitutes would help protect the country from food price increases resulting from current and future external shocks.

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