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Nigeria: Changing Governmental Policies to Boost Agricultural Productivity

The Federal Republic of Nigeria, located on the west coast of Africa, is home to over 200 million people. (“The World Bank,” 2019). Despite being one of the most resource-rich countries in the world, it struggles with acute under-utilization of these resources. Before the 1970s, agriculture was the mainstay of the Nigerian economy, accounting for 60% of the GDP (Akpan, n.d.). Since the discovery of crude oil in the 1970s, agriculture today comprises only 21% of the country’s GDP because of ineffective policies (Akpan, n.d.). This has forced the country to depend on food imports, driving food prices higher (“History Of Agriculture,” 2013). Combined with insufficient agricultural production, this has reduced access to affordable, nutritious food. The main causes of low agricultural productivity include poor infrastructure, lack of agri-finance, post-harvest losses, and gender inequality. As the population grows at an annual rate of 2.6%, Nigeria must change its policies to restore the agricultural sector so it can provide jobs for the majority of its population, while simultaneously providing food security for its people (“Population Growth (annual %),” n.d.).

To boost domestic agriculture, Nigeria has imposed high tariffs on imported foods. Despite this, Nigeria’s internal food production does not meet demand because most farmers are farming at a subsistence level. Additionally, despite the oil boom, due to corruption, 80% of oil revenues benefit only 1% of the population (“Is Oil In Nigeria,” 2012). Moreover, oil crashes during the 1980s and 1990s crippled the government, devaluing the Naira and further driving up food prices (“10 Ways Falling Oil Prices,” 2015). Together, Nigeria’s insufficient food supply and ineffective agricultural policy have prevented the nation from closing the gap between supply and demand. For example, Nigeria remains one of the world’s largest importers of rice. Out of 6.7 million tonnes of rice demand annually, Nigeria is only able to supply 3.8 million tonnes (Obi, 2019), a trend among staples. Imposing tariffs without addressing other factors that limit agricultural yield has not and will not secure Nigerian food supplies.

While its population has continued to rise, Nigeria’s GDP growth rate has fallen to 2% (“The World Bank,” 2019). In tandem, the nation’s per-capita GDP and its average citizen’s purchasing power have declined. Nigeria’s food Consumer Price Index (CPI), a measure of the change in the price of food items purchased by families over a period, stood at 176.3 in May 2015, while in July 2019, the index sky-rocketed to 319.9 (Olakoyenikan, 2019), implying that a Nigerian pays 1.81 times as much for food in 2019 as in 2015. Therefore, Nigeria must adopt policies to lower food prices by increasing internal food production.

Though Nigeria is considered one of Africa’s most urban countries, 49% of its population is rural, with the majority of the rural population farming at a subsistence level (“Rural Population,” 2018). In Nigerian culture, bearing children is a status symbol. The average rural Nigerian household contains 5.1 persons, or 0.4 persons more than the average urban family (“Household Population,” n.d.). Family duties are determined by societal norms and gender division. The male is considered the head of the family, and the female is considered the male’s lesser counterpart (Curry, n.d.). Men are usually responsible for manual

labor such as farming. Many women in Nigeria are also employed in the agricultural sector, as 70% of Nigerian farmers are women (Mkandawire, Adegbite & Macheche, 2020). These rural farms are crucial to Nigeria's food security since they help compensate for deficits created by the nation's failed tariff policy.

While small rural farms play a vital role in providing staple foods like yam, cocoyam, cassava, and rice, most farms lack the mechanization and plot sizes needed to achieve sufficient yields. For example, most Nigerian farms don't have access to basic farming implements such as tractors and plows ("Problems And Prospects," n.d.). The average mechanization rate for Nigerian farms is 0.27 horsepower per hectare (hp/ha), far below the rate of 1.5 hp/ha that the FAO recommends (Mba, n.d.). By doubling the hp/ha rate, Nigeria can double its rice production in 5 years ("Boosting Rice Production," 2018). On the other hand, policies surrounding the land tenure system encourage the fragmentation of farmland. The average size of a Nigerian farm is 0.85 hectares ("Family Farming Knowledge Platform," n.d.). Although 90% of the land in Nigeria is arable, less than 42% is currently being cultivated (Buliamdeen & McHugh, 2020).

Nigeria has one of the highest poverty rates, with 50% of its population living below the poverty line, limiting access to food, healthcare, education, and sanitation (Iheonu & Urama, 2019). Because of this, malnutrition and inadequate healthcare are prevalent. Two million children suffer from acute malnutrition in Nigeria ("Nutrition," n.d.). Additionally, a recent survey states that 37% of children under 5 years old are stunted, 17% severely stunted, 7% wasted, 22% underweight, and 7% severely underweight ("Nigeria: Nutrition Profile," 2018). To make matters worse, nearly 90% of Nigerians live without health insurance (2019 Healthcare Market Insights: Nigeria," 2019). Despite this data, Nigeria's budget allocated for nutrition is significantly lower than the 15% recommended by the WHO (Obadofin, 2020). Luckily, much of the malnutrition problem in Nigeria can be solved by boosting agricultural production through government policies.

Nigerian women are central to the agricultural sector. As mentioned before, women make up 70% of Nigeria's farmers. Most female farmers cultivate fresh fruits and vegetables for domestic consumption, while male farmers generally cultivate cash crops for export ("The Role Of Women," 2014). Despite their crucial role, women face many barriers that stunt their agricultural productivity. In Northern Nigeria, the yield of female-owned farms is 28% lower than that of male-owned farms (Oseni, Corral, Goldstein & Winters, n.d.). One reason for this low productivity is the disparity in literacy between men and women. The literacy rate for women in Nigeria in 2015 came in at 50%, while the male literacy rate was at 70% ("Literacy Rate," n.d.). Since agriculture is key to the economy, with women smallholder farmers employing half of the agricultural workers, this gap in literacy has a pernicious effect on overall agricultural output.

Many female Nigerian farmers lack bank accounts and thus have less access to savings, credit, and commerce (Daley, 2018). Often, financial institutions require a male signatory to provide financial access (Daley, 2018). Female farmers also hold substantially smaller land plots, possess fewer agricultural tools, and have less access to training ("Women Lead Agriculture," 2015). In addition, only 14% of women farmers have holding rights to the land on which they farm ("Women Lead Agriculture," 2015). Unless Nigeria closes this gender gap, women farmers will continue to be at a disadvantage.

Beyond gender dynamics, another cause of Nigeria's low rural farm productivity is the lack of access to fertilizers, seeds, and markets (Downie, 2017). 70% of Nigerian farmers use generic fertilizers. To add on to this, Nigeria is a climate-diverse country, with climates ranging from tropical to savanna. This means that many farmers do not have access to fertilizers that are optimized for their region. Farmers also lack climate-resistant seeds, resulting in lower yields (Downie, 2017). Many rural farmers don't have access to markets due to underdeveloped value chains, which means they have to sell their products in uncompetitive surrounding areas (Downie, 2017). Nigeria's government must invest in these agricultural resources or risk a further drop in agricultural production.

For a country the size of Nigeria, access to post-harvest handling and storage infrastructure is crucial. Lacking access to storage silos, farmers are forced to sell cash crops as soon as they are harvested, often when prices are lowest (Buliameen, 2020). This minimizes the farmer's profits and reinvestment into the farm. This also adversely affects the stability of food prices. Additionally, due to a lack of cold storage, more than 40% of Nigeria's fresh produce spoils before harvesting the fields, resulting in an annual loss of \$9 billion (Buliameen, 2020). In addition to a lack of cold storage, poor-quality roads result in fresh food taking much longer to get to the table, often rotting before it arrives. This results in only about 3% of the population having access to fresh fruits and vegetables (Buliameen, 2020).

Nigerian Banks are often reluctant to extend loans to farmers, with only 4% of total bank-lending going to the agricultural sector (Udegbumam, 2019). This also means that the share of funding received by women farmers is even smaller because of their cultural status. Lack of credit is a major factor that limits smallholder farmers from accessing necessary implements like tractors and irrigation systems. ("Nigerian Banks And Smallholder Farmers," 2020). In addition to this, the already limited amount of loans given have high interest rates, making it impossible for smallholder farmers to keep up with loan payments. ("Nigerian Banks And Smallholder Farmers," 2020). Without these inputs, these farmers will not be able to scale up production.

Though there is much to improve in the situation, there is still hope for Nigeria, as most of its barriers to food security are man-made. As discussed previously, female Nigerian farmers represent an underutilized agricultural resource, since the majority of female farmers produce fresh produce but lack the financing and materials to move beyond subsistence farming. One way to enable women to move from subsistence farming to production scale is to help them arrange contractual relationships with established buyers. This is essential since women have less access to markets than men. For example, the government should increase its budget for programs like the Home Grown School Feeding Program, which provides free school meals using food produced by smallholder farmers. By promoting the Home Grown School Feeding Program and similar programs, Nigeria could address child malnutrition and literacy in one shot. If programs like this go a step further and reserve a percentage of their suppliers for women-owned farms, they will leave a lasting impact on empowering women farmers.

Nigeria can address many issues at once by creating initiatives modeled after successful female-operated microfinance schemes such as WMI(Women's Microfinance Initiative) in Uganda, which empowers women's businesses through training and financing. Gender-specific microfinance schemes ensure that the loans benefit women. Such initiatives would provide female farmers with agricultural resources such

as tools and storage facilities. Furthermore, an initiative like the WMI would significantly improve women's financial status. WMI surveys report a 100-400% increase in women's income in 6 months ("Loan Program Results," n.d.). Once empowered in this way, women will prioritize spending this income on their family's education, food, and healthcare. This will ultimately benefit society as a whole in addition to solving malnutrition and food insecurity.

One-way Nigeria has tried to solve the multifaceted problems of smallholder farmers is through initiatives like the Anchor Borrowers Program (ABP). Before the introduction of ABP, foreign exchange was allocated to import foods like rice, wheat, and tomatoes, depleting foreign exchange reserves in the face of lower oil revenue. ABP incentivizes smallholder farmers by providing loans to grow previously imported crops. In addition to providing credit, ABP links farmers to processors ensuring that the farmer will have a guaranteed market for their products. As of 2018, 2.5 million jobs have been created through ABP (Ogbonna & Itsibor, 2019). ABP works closely with each state, which makes its financing decisions relevant to the local region. Nigeria should increase its agricultural budget to fund such loan programs.

Nigeria's government must expand its agricultural research budget to improve its seed and fertilizer quality. In addition, research institutions should work closely with farmers to produce optimal fertilizers and seeds for a given region. For example, Nigeria Agro-Inputs project has produced fertilizer blends that suit the local soil conditions and report 30% better yields (Downie, 2017). Researchers should also focus on developing durable seeds resistant to the climatic conditions of specific regions. Finally, Nigeria's government should partner with international initiatives such as the Salk Institute's Harnessing Plants Initiative, which genetically engineers climate-resistant plants.

For smallholder farmers, purchasing mechanical tools may not be financially practical. Rental schemes like Hello Tractor, however, provide a solution by offering access to tractors only when needed, allowing farmers to access tractors without investing excessive capital ("9 Ways To Achieve Higher Yield," 2019). Hello Tractor has proven successful, reducing the cost of land preparation to one-third of the cost of manual preparation. Improving access to farm mechanization will also attract youth into the agriculture sector, who are often reluctant to work with primitive farm tools. The government must forge partnerships with programs such as Hello Tractor to make mechanization more affordable to the common Nigerian farmer. The citizens should be encouraged to join regional agricultural cooperative societies so that they can consolidate their purchases, sales, procurement of equipment, gain negotiating power and influence policy specific to their region. This will also help the national government to become more efficient by delegating policy making to these cooperatives. The government must also revamp policies regarding land tenure so that more arable land will be used for agriculture.

Transporting nutrient-rich fruits and vegetables from farms to communities should be a priority in Nigeria. Minimizing post-harvest losses is equally important since doing so will boost farmer revenues. To achieve both objectives, the Nigerian government should implement recommendations from organizations such as PLAN (Post-Harvest Loss Alliance for Nutrition). PLAN is a global platform that assists governments in implementing solutions to reduce waste. PLAN is privy to previously successful strategies that can be adapted to Nigeria. For example, tomatoes are a popular and highly nutritious staple food in Nigeria. But of the 1.8 million metric tons of tomatoes harvested, only 50% reached the consumer,

with the remainder decaying in transport (Held, 2018). PLAN identified that transporting tomatoes in plastic crates rather than in baskets on bumpy roads were crucial to extending its shelf life. Nigeria must engage local farmers and stakeholders to work closely with organizations like PLAN. Similarly, the government should support local businesses to create cold storage facilities that are accessible to farmers. Long term, infrastructure investment will improve Nigerian food security and offset the costs that the government spends on addressing malnutrition and other difficulties.

The recent Covid-19 pandemic is pushing an already food insecure Nigeria over the brink. Since March of 2020, the country has been in lockdown, including school closures. As aforementioned, 2 million children suffer from acute malnutrition. Before the pandemic, the Nigerian government was providing many of these children meals through their school feeding programs. Shutting down these schools has further aggravated the situation for 8.6 million children who were dependent on this program (Obadofin, 2020). In the face of the pandemic, boosting local production is even more pertinent.

To conclude, Nigeria is a country that possesses great agricultural potential, but it faces problems due to ineffective government policy. Throughout the essay, the focus has been on how government policy change can boost agricultural production. Looking at how many millions of lives depend on small-scale farms, it is apparent how crucial and necessary it is to address the barriers that aggravate Nigerian food security. The government has many lives in its hands, and it must deliver for the well-being of the people. Luckily, the ability to make a change is within grasp and can be done by altering government policies. If the government can deliver on this, it will make Nigeria a land of food security and prosperity for all its people.

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