

Addressing Food Insecurity in Nigeria: Lessons from Jurisdictional Experiences

*'Biodun Adedipe**

I. Premise

The challenge of food security transcends national or regional boundaries, and indeed became a global concern in 2015 when the Sustainable Development Goals (SDGs) were set. Goal 2 targets zero hunger by 2030, and that is, to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture. While the entire world is not in shortage of food, there are wide disparities in food sufficiency and food security across nations, regions and continents. Even within some nations (like Nigeria), there are some areas of high incidence of food insecurity and some others with varying degrees of food security.

The SDG No. 2 is a 5x1 matrix of five targets and three actions as summarised in Table 1. The targets are five critical elements of food security and the actions or activities that will enable nations to achieve those targets. For example, to end hunger requires scaled investment in food production, agricultural infrastructure, inclusive economic growth and efficient food logistics.

Table 1: Sustainable Development Goal No. 2

| Targets | Action Plan |
|---|---|
| End Hunger (2030) | <ul style="list-style-type: none">• Increase investment• Correct and prevent trade restrictions and distortions in world agricultural markets.• Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information. |
| End all forms of Malnutrition (2030) | |
| Double agricultural productivity and incomes of small-scale food producers (2030) | |
| Sustainable food production systems and resilient agricultural practices (2030) | |
| Genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species (2020) | |

Sources: United Nations, Regional Information Centre for Western Europe.

* Dr. 'Biodun Adedipe is a Chief Consultant of BAA Consult Lagos, Nigeria. The usual disclaimer applies.

The global perspective to food security is well expressed by **Tortajada et al. (2015)**¹:

"In the years to come, food security in most countries will become more complex than ever. Increasing population, land and water constraints, changes in dietary habits with increasing affluence, the impact on global food production of floods and droughts in major food producing areas, falling food exports, and a rising number of importing countries."

This statement means different things to different people. In countries suffering from desert encroachment, access to water and irrigable cultivable land is a major challenge that sparks conflicts. For countries that experience increasing intensity of monsoon rains, it is a yearly nightmare that a country like Bangladesh will not easily forget or overcome, with two-thirds of the country covered by flood during August to October 2020. There are demand and supply shocks on different sides to the global food market, which was compounded by the COVID-19 pandemic of 2020.

Phil Harding MBE², an environmental sustainability advocate and activist, has consistently argued for decades that there is a strong connection between sustainable use of the environment and food security that assures job creation and a better future for upcoming generations (Harding, 2018). He represents this in the form of a simple equation as:

**Sustainable Energy + Food Security + Healthy Environment = Full Employment +
Better Future**

Harding drew a parallel between the health problem of obesity and housing shortages against environmental and food security challenges as:

"Building more roads to tackle congestion is like loosening your belt to tackle obesity, and the same goes for building more homes to tackle housing shortages whilst failing to address the cause of housing shortages."

It means then that increased food production does not in any way equate food security, but the efficacy of interventions along the entire food value chain. This is the approach adopted in this paper. First is to establish the root causes of food insecurity globally, as well as in Nigeria. Second is to examine countries that are food

¹ Tortadaja Cecilia, Thinesh Kumar S/O Paramasilvam, Singapore's Impressive Food Security: How has Singapore become the second-most Food Secure Country in the World? *Pacific Money* (September 06 2015).

² Phil Harding, MBE, Chairman of Saltford Environment Group (2018).

secure and find out why they are so. Third is to draw inferences that guide likely solutions to food insecurity in Nigeria.

II. Foreground Issues

The United Nations Committee on World Food Security defines food security as:

“Where people have **social, economic, and physical access** to **nutritious, sufficient, and safe food** that meets their **dietary needs** and **food preferences** for a **healthy and active life** at **all times**.”

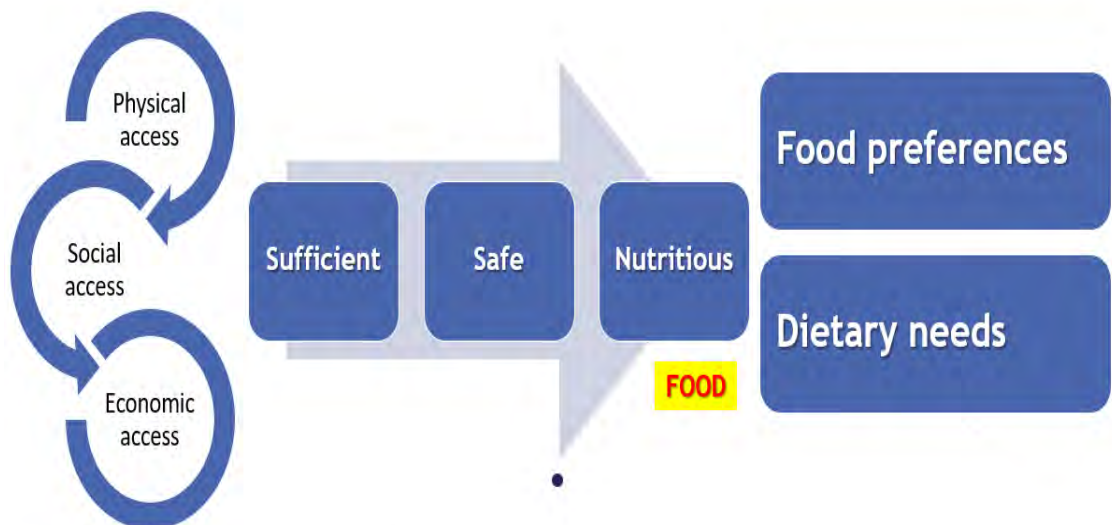
The highlighted words represent the eight dimensions to food security, whereby if any one of them is deficient, then there is some measure of food insecurity as depicted in Figure 1. The more the number of deficient components, the greater the intensity of food insecurity.

These eight dimensions can be categorised into three as follows:

- Access which can be physical, social and/or economic.
- The food which can be sufficient, safe and/or nutritious.
- Cultural preferences and dietary needs that are at the higher end of the food security spectrum.

The starting point of food security then is food availability, and thereafter to scale up to the other components of the framework in Figure 1.

Figure 1: The Food Security Framework



Source: Author's Design.

A perspective inferred from this framework is identification of four underlying factors that are capable of democratising food security:

- **Availability.** Food is produced within or outside of a defined geographical jurisdiction. That is, it is not a necessary condition that the food required be produced within the boundaries of the country. This is the case in some food secure countries that produce less than 20.0 per cent of their food needs and have to depend heavily on food imports. For such countries, the efficiency of organising and logistics is central to their food security strategy. It then means, the mantra will be “if we cannot produce enough of our food needs, we should be able to source the deficit from the international markets.”
- **Accessibility.** There should be no disruptions within the geographical space between the farm and the table that may make it either impossible for the foods produced to leave the farms and the processing stations or to get finally to the tables for final consumption. It addresses not only the agricultural infrastructure but also the deliberate and/or contrived disruptions caused by conflicts and wars, which have been found to be a strong factor in global and regional food insecurity. As such, there should be adequate attention to food transfers along the value chains.
- **Affordability.** This is the economic argument that considers income levels, poverty, unemployment, inflation, interest rates and inequality. There is evidence that most of the food insecure countries are low-income countries that also have high poverty levels. Such situations warrant interventions by every major stakeholder in order to ensure that food insecurity/insufficiency does not spark social strife and that human misery does not completely go out of control. This informed the creation of food banks in some countries (even the advanced ones) and conditional cash transfers, as well as setting of food storages for occasional distribution to the most vulnerable in the society.
- **Qualitative and Safety.** This is the least factor in the food security/insecurity conundrum. The quality of food in terms of cultural and dietary preferences usually comes into consideration only when the basic need for survival and nourishment have been satisfied, especially that insufficiency is a major factor in food insecurity. As such, food quality is usually a priority issue in food-secure countries and among the middle and high-income households in the middle-income and low-income countries.

The Food and Agriculture Organisation (FAO) in 2006 broadened the definition of food security to include access to non-food inputs such as clean water, sanitation and healthcare. This raised the bar and stretched food security conversation beyond the basic food into the total wellbeing of the people. We may then

represent food security as a function of all the activities that take place along the entire food value chain:

Food Security = f (Sustainable Food Value Chain)

In that same year, as global food insecurity began to take a worrying dimension, the G8 nations committed to:

“...act with the scale and urgency needed **to achieve sustainable global food security**” and to be accountable and coordinate with country development plans.

This commitment likely informed the United States in 2010 to launch the Global Agriculture and Food Security Programme, which the US led by investing over US\$3.70 billion from 2010 to 2012 to address global food security, as well as the launch of President Barrack Obama's “Feed the Future Initiative”.

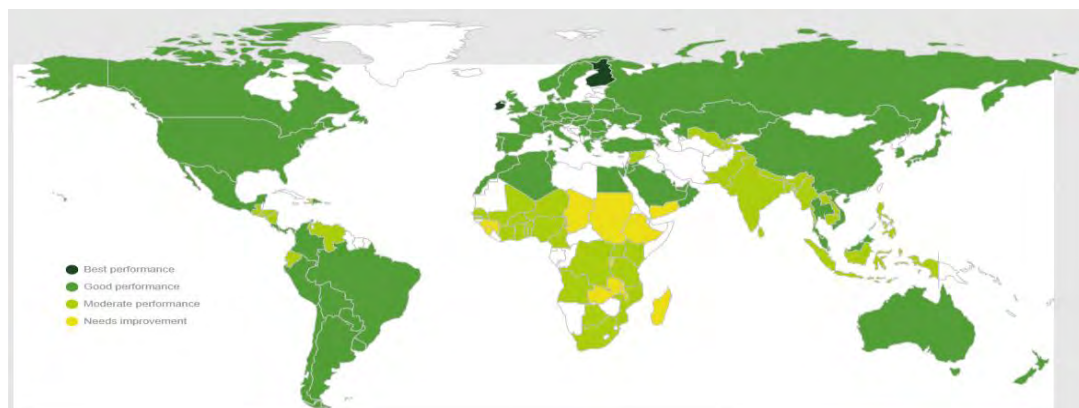
III. Food Security: What and Why?

The United Nations highlights the depth of food insecurity with the following facts obtained from the World Food Programme:

- i. More than 820 million people regularly go to bed hungry;
- ii. Of these, about 135 million suffer from acute hunger due, largely, to man-made conflicts, climate change and economic downturns;
- iii. COVID-19 pandemic could now double that number, putting an additional 130 million people at risk of suffering acute hunger by the end of 2020; and
- iv. A quarter of a billion people are potentially at the brink of starvation.

The Global Food Security Index (GFSI) 2020 by The Economist Intelligence Unit (EIU) is the ninth edition of the annual survey on the changes to the structural factors that affect food security. According to the EIU, the GFSI “considers the issues of food affordability, availability, quality and safety, and natural resources and resilience across a set of 113 countries. The index is a dynamic quantitative and qualitative benchmarking model constructed from 59 unique indicators that measure the drivers of food security across both developing and developed countries.”

In the 2020 outcome, countries are grouped into four categories of best performance, good performance, moderate performance and needs improvement, with Nigeria falling in the third category of ‘moderate performance’. The EIU generated an interactive map that colours the world map according to the performance of each country (Figure 2).

Figure 2: The Global Food Security Index

Source: Economist Intelligence Unit (2021).

One of the means of improving ranking in international competitiveness is to identify the top performers, find out why they are outstanding and adopt/adapt their strategies to the local environment. As such, an attempt was made to identify the top-10 food-secure countries in the GFSI 2020 and thereafter, interrogate why the top ranked were so placed. Table 2 places Nigeria alongside the top-10 food secure countries.

Table 2: Top-10 Food-secure Countries, 2020

| Global Ranking | Country | Overall score | Affordability | Availability | Quality and Safety | Natural Resources and Resilience |
|-------------------|----------------|---------------|---------------|--------------|--------------------|----------------------------------|
| 1 st | Finland | 85.3 | 90.6 | 82.0 | 93.8 | 73.2 |
| 2 nd | Ireland | 83.8 | 92.2 | 75.7 | 94.0 | 73.2 |
| 3 rd | Netherlands | 79.9 | 90.7 | 74.5 | 88.7 | 61.5 |
| 4 th | Austria | 79.4 | 89.5 | 70.8 | 94.3 | 61.8 |
| 5 th | Czech Republic | 78.6 | 86.3 | 70.4 | 87.1 | 70.9 |
| 6 th | United Kingdom | 78.5 | 89.7 | 70.0 | 92.8 | 59.4 |
| 7 th | Sweden | 78.1 | 89.2 | 65.0 | 92.3 | 67.4 |
| 8 th | Israel | 78.0 | 89.5 | 75.3 | 93.9 | 46.3 |
| 9 th | Japan | 77.9 | 90.4 | 73.0 | 83.4 | 58.6 |
| 10 th | Switzerland | 77.7 | 87.9 | 68.4 | 89.6 | 64.2 |
| 100 th | Nigeria | 40.1 | 32.9 | 46.8 | 41.5 | 39.3 |

Source: Global Food Security Index, 2020.

Following are the findings of a probe of the ranking of selected food-secure countries by the GFSI and the survey on food security by World Atlas.

Finland (No. 1 in GFSI 2020): The expenditure on food was 11.5 per cent of national budget and US\$2,908.70 per capita (Knoema) out of GDP per capita of US\$40,600. Its strongest attribute is food availability where it ranked No. 1. It came second in natural resources and resilience, fourth in affordability and sixth in quality and safety. The peculiarities of Finland are:

- i. Food safety net programmes;
- ii. Food security and access policy commitments;
- iii. Nutritional standards are defined and adhered to;
- iv. The size of the GDP is not a strong factor in food security, as Finland's GDP was US\$276.00 billion in 2020 (No. 44), compared to Nigeria's at US\$514.05 billion (No. 27);
- v. The land mass also is not a determining factor as Finland has 303,910 km² compared to Nigeria's 923,768 km², but the productivity and agricultural practice are superior; and
- vi. There is low prevalence of undernourishment (2.5 per cent).

Singapore (No. 1 in World Atlas 2019): Its citizens have access to safe and nutritious food at affordable prices. Singapore imports 90.0 per cent of the food its citizens and residents consume and produces a mere 10.0 per cent, which influences the large external trade that is estimated at about 3.5 times her GDP. The low population and high per capita income (US\$56,349.03, Trading Economics) help food access and there is fair income distribution, as all its entire population live above the global poverty line. Singapore has the following peculiarities:

- i. Agricultural import tariffs are low;
- ii. There is food safety net programmes and food security and access policy commitments;
- iii. Several government agencies are involved in ensuring food security, taking different aspects of the country's food supply;
- iv. During the COVID-19 pandemic of 2020, many more government agencies were involved, including Singapore Airlines to fly in the food;
- v. The basic strategy is to get the food from as many places as possible (170 in 2021) to overcome the global challenges of climate change, conflicts, geopolitical changes and population growth. Mr. Goh Wee Hou, Director of Singapore Food Agency (SFA), Food Supply Resilience Division describes this as "This way, if supply from any source country is disrupted, the impact would be minimised";
- vi. The SFA works with importers and overseas authorities to accredit as many farms and countries as possible; and

- vii. The plan of SFA is to expand local production / supply to 30.0 per cent of food needs by 2030. A component of that is for example, "30 by 30" which puts aside US\$30 million to give grants to people and businesses in Singapore to ramp up production of eggs by 2030.

Ireland (No. 2 in GFSI 2020): Unlike Singapore, Ireland produces a vast majority of what her residents consume. Ranked first globally in affordability, second in natural resources and resilience, third in availability and fourth in quality and safety. The peculiarities of Ireland's food security strategy are:

- i. There is high adoption of technology in food production, diversification of agriculture and established network of food distribution;
- ii. Affordability is largely adduced to improving per capita income (US\$81297.07 in 2020); and
- iii. Large-scale production ensures efficiency and sustainability in the agricultural sector, while sufficient rainfall all-year round promotes consistent use of available land.

United States (No. 11 in GFSI 2020 and No. 4 in World Atlas 2019): The USA produces a variety of agricultural products for local consumption and export, relying on large-scale production and an established network of food delivery services that ensure availability of food across the country. It has vast fertile lands (9,147,420 km²) uses technology to drive farming efficiency and intensive processing of foodstuff reduces wastage. The per capita income was US\$54,129.20 in 2019, which enhanced its ranking in affordability.

Although most Americans can access food, 12.0 per cent (38 million) of them, including 12 million children, are not economically empowered to buy fresh and healthy food. The peculiarities of USA's food security strategy made her to score above 75 out of 100 points (considered a strength) in 12 food security metrics of:

- Food safety net programmes;
- Nutritional standards;
- Protein quality;
- Food safety;
- Proportion of population under global poverty line;
- Sufficiency of supply;
- Market access and agricultural financial services;
- Micronutrient availability;
- Agricultural import tariffs, political and social barriers to access;
- Dietary diversity;
- Change in average food costs; and
- Food loss.

United Kingdom (No. 6 in GFSI 2020 and No. 3 in World Atlas 2019): The UK does not have vast acres of land as the USA but receives adequate rainfall that supports all-year farming and has a smaller population to feed - 67.08 million compared to USA's 329.45 million. Just like the United States, low-income families in the UK are struggling to purchase food, and a third of the families skip a meal to save money.

Similar somewhat to the USA, UK scored above 75 out of 100 (considered a strength – 100 is a near perfect score) in 12 food security metrics but the relative rankings differ in terms of:

1. Food safety net programmes (100);
2. Nutritional standards (100);
3. Protein quality (100);
4. Food safety (100);
5. Proportion of population under global poverty line;
6. Micronutrient availability;
7. Market access and agricultural financial services;
8. Food loss;
9. Change in average food costs;
10. Political and social barriers to access;
11. Sufficiency of supply; and
12. Inequality-adjusted income index.

From each of these selected countries are pointers to what Nigeria should do to achieve food security by reversing the trend towards deeper food insecurity. Having experienced food security in the 1960s and 1970s, followed by the gradual shift to food importation in the 1980s till date, the solutions proffered will also consider past practices that assured food security.

IV. Food Insecurity: Issues and Challenges

Food insecurity varies in severity, depending on the extent of compromise to the underlying factors earlier identified in Section II. That is, availability, accessibility, affordability and quality. The severity of food insecurity may then be categorised into three as:

1. **Very Severe:** No physical access, no social access and/or no economic access;
 2. **Severe:** Food is insufficient, food is not safe and/or food is not nutritious; and
 3. **Moderately Severe:** There are no dietary preferences and no dietary balance.
- There are two perspectives adopted here to interpret jurisdictional food insecurity – the top-5 food-secure countries in Africa (which Nigeria is not among) and the food-insecure developing countries that have disparate reasons for each country falling into this category.

Based on the outcome of the GFSI 2020, the top-5 food secure African countries are Morocco, Algeria, Tunisia, Egypt and South Africa (Table 3). Each of these is profiled to find why they ranked better than Nigeria in the 2020 global food security index ranking.

Table 3: Top-5 Food-secure African Countries, 2020

| S/No. | Global Ranking | Country | Overall Score | Affordability | Availability | Quality and Safety | Natural Resources & Resilience |
|-------|-------------------|----------------|---------------|---------------|--------------|--------------------|--------------------------------|
| 1 | 57th | Morocco | 62.0 | 76.3 | 51.4 | 67.4 | 49.5 |
| 2 | 58th | Algeria | 61.8 | 78.7 | 55.7 | 62.0 | 42.0 |
| 3 | 59th | Tunisia | 61.4 | 69.0 | 56.7 | 70.8 | 46.7 |
| 4 | 60th | Egypt | 61.1 | 51.8 | 75.2 | 64.3 | 49.4 |
| 5 | 69th | South Africa | 57.8 | 63.1 | 49.5 | 72.4 | 49.0 |
| 6 | 100 th | Nigeria | 40.1 | 32.9 | 46.8 | 41.5 | 39.3 |

Source: Economist Intelligence Unit, Global Food Security Index, 2020.

Morocco

Morocco was rated as having good performance in food security, ranking highly along with Algeria in food affordability, quality and safety to attain best position among African countries. Based on the 2020 ranking, Morocco needed to improve in availability (highly dependent on imports), but it has invested in strengthening the governance and organisational pillar, as well as the technical and financial support pillar, especially to address the deficiency caused by her two-speed approach to agriculture (the neglected traditional and supported modern sub-sectors). The diet of course, is dominated by cereals. Particular attention being paid to fine elements that make up each of the four categories of food security in the EIU Global Food Security Index will likely see Morocco improve in food security as well as in ranking. The central theme is to ensure that food is available and affordable, irrespective of where it comes from.

Algeria

Coming from a history of food crisis that began during the war of independence (1954 to 1962) that culminated in the food riots of 1988, Algeria had been giving attention to food security even before it became central to international discourse on sustainability. The challenges included land availability and access with 1.3

million hectares of cultivable land available to only about 100,000 beneficiaries³. Algeria was the strongest among African countries in food affordability and availability, building on its achievement of self-sufficiency in cereal production in 1980.

Egypt

Ranked fourth in Africa, the basic risk to food security in Egypt is water supply from abroad and limited cultivable land. The factors that have supported the country's pursuit of food security include, among others:

1. Domestic economic growth;
2. The ration card system (usually preferred to cash transfer);
3. Food subsidy in which bread especially at 5 piasters compared to the market indicative price of 20 piaster;
4. Land allocation by local governments for bakery construction; and
5. Improved seeds and seedlings made available to farmers.

All these point to more attention to items that are prevalent in the local diet – cereals and bread.

South Africa

The national policy on food security (Food and Nutrition Security Policy) rightly identified the challenges to food security in the country as follows:

1. Inadequate safety nets and food emergency management systems;
2. Limited knowledge and resources;
3. Sub-optimal utilisation of cultivable land;
4. Limited processing facilities;
5. Climate change; and
6. Inadequate, timely and relevant information.

Proper diagnostics of the food situation enabled South Africa to design initiatives for overcoming these challenges and gradually improve her ranking in the four categories of food security index. This culminated in the best African score in food quality and safety in 2020.

Drawing from the experiences of top-ranked African countries in food security, Nigeria should focus primarily on availability and affordability, while quality, safety, national resources and resilience will follow.

³ Swearingen (1990).

V. Global Causes of Food Insecurity

Global food insecurity is caused by a number of factors that have been summarised into five as:

1. Inability to access and purchase food;
2. A growing global population;
3. Deteriorating global climate;
4. Widening deserts that impede the production of crops; and
5. Unemployment and poverty that prevent people from buying food even when available.

These factors impact countries in many different ways, depending on their peculiarities. For instance, to the more advanced economies that have aging population, growing population is a non-issue and in fact, their own concern is more with resolving the problems caused by aging population and sustaining food quality at already acceptable levels in some of them.

VI. Food Insecurity in Nigeria

All the five causes of global food insecurity are prevalent in Nigeria, in addition to the following:

- a) Pervasive insecurity. This is a major factor in Nigeria's food insecurity, as bandits, terrorism and kidnapping/abduction have caused many smallholder and commercial farmers to either abandon their farms or to considerably scale down farming activities. Also, where some agricultural output is generated, there are logistics constraints in moving this to either the processing centres or the retail markets for delivery to the table;
- b) Poor agricultural infrastructure, which relates more to all-year farming and processing to both enhance output and preserve the output through different seasons and assure stable prices;
- c) Poor coordination of food policies among the government agencies concerned. The disconnect at times results in large output of perishable agricultural produce for which there are no matching storage and/or processing facilities. As well, special agricultural funding programmes are not properly sequenced with other value chain activities. These combine to make crop cultivation unsustainable;
- d) Limited scope for agribusiness, as substantial agricultural activities are yet to be operated as real business. In recent years though, a good number of entities are establishing plantations, either in response to government intervention in particular value chains like rice and cassava or identification of opportunities in the growing population that is becoming more spatially concentrated in the urban areas; and

- e) Some measure of sub-national resistance to the Federal Government's school feeding programme, either for political differences, inadequate commitment of resources and wrong priorities. In a research conducted by the World Health Organisation, it was indicated that out of 160 countries surveyed, 142 had health and nutrition programmes in schools as an important component of food security.

There are some countries that are food secure for diverse reasons that Nigeria could possibly learn from and to build some resilience into the system for occasions of a global crisis (health or financial) of the pervasive kind of pandemic experienced since the beginning of 2020.

VII. Selected Cases: Food Secure Countries and Why

Five countries were selected as benchmarks for Nigeria, not for any particular reason or peculiarities that make for similarities or comparisons, but simply that they have the most security models that offer good lessons to learn.

VII.1 Finland

Finland is the most food secure country among the 113 countries surveyed in 2020 with the following attributes:

1. Expenditure on food was 11.5 per cent of budget and US\$**2,908.70** per capita⁴;
2. GDP per capita is US\$40,600⁵;
3. Strongest in food availability (ranked No. 1);
4. Ranked 2nd in natural resources and resilience;
5. Ranked 4th in affordability; and
6. Ranked 6th in quality and safety.

Informing these outcomes are the following factors:

1. Food **safety net** programmes;
2. Food security and access **policy commitments**;
3. **Nutritional standards** are defined and adhered to;
4. The land mass also is not an advantage per se, but the productivity and agricultural practice⁶; and
5. Low prevalence of undernourishment (2.5 per cent).

⁴ Knoema.

⁵ The size of the GDP is not an issue in food security. Finland's GDP was US\$276 billion in 2020 (No. 44), compared to Nigeria's at US\$514.05 billion (No. 27).

⁶ Finland's land mass is 303,910 km² compared to Nigeria's 923,768 km².

VII.2 Singapore

Singapore was the most food secure country in 2019 with its citizens having access to safe and nutritious food at affordable prices. It has the following attributes:

1. Singapore imports 90.0 per cent of the food it consumes and produces a mere 10.0 per cent;
2. External trade is about 3.5 times the GDP;
3. Low population and high per capita income help food access; and
4. Outstanding (100 out of 100) in proportion of population under global poverty line, agricultural import tariffs, food safety net programmes and food security and access policy commitments.

In Singapore, several government agencies are involved in ensuring food security, each handling specific but complementary responsibilities for the country's food supply. For instance, at the height of the COVID-19 pandemic in 2020, many more agencies were involved, including Singapore Airlines that had to fly in food.

The broad strategy is to get the food from as many places as possible (as at the last count, 170 sources around the world) in order to overcome the global challenges of climate change, conflicts, geopolitical changes and population growth. According to Mr. Goh Wee Hou, Director of SFA's Food Supply Resilience Division:

"This way, if supply from any source country is disrupted, the impact would be minimised."

The concerned government agencies work with importers and overseas authorities to accredit as many farms and countries as possible, having a plan to expand local production and supply to 30.0 per cent of food need by 2030. For example, the plan tagged "30 by 30" is being accelerated by putting aside US\$30 million as grants to people and businesses in Singapore to ramp up the production of eggs.

VII.3 Ireland

Ireland was ranked second, but unlike Singapore, she produces a vast majority of what its residents consume. Central to this are the adoption of technology in food production, diversification of agriculture, established network of food distribution, and improving per capita income.

With a tight focus on large-scale production, Ireland assures efficiency and sustainability in the agricultural sector, while sufficient rainfall all year promotes consistent use of available land. This enabled the country to be globally ranked first in food affordability, second in natural resources and resilience, third in availability and fourth in quality and safety.

VII.4 United States of America

The United States produces a variety of agricultural products for both local consumption and export, leveraging large-scale production capabilities and an established network of food delivery services that ensure the availability of food across the country.

The US also has available vast fertile lands and the use of contemporary agricultural technology that drives efficiency, while processing of foodstuff reduces wastage.

Although most Americans can access food, 12.0 per cent (or 38 million) Americans, including 12 million children, are not economically empowered to buy fresh and healthy food. This is the major challenge the country faces in its food security plan (Hunger & Health, 2020).

The country scored above 75 out of 100, which is considered strong, in all 12 food security metrics of:

1. Food safety net programmes;
2. Nutritional standards;
3. Protein quality;
4. Food safety;
5. Proportion of population under global poverty line;
6. Sufficiency of supply;
7. Market access and agricultural financial services;
8. Micronutrient availability;
9. Agricultural import tariffs political and social barriers to access;
10. Dietary diversity;
11. Change in average food costs; and
12. Food loss.

VII.5 The United Kingdom

The UK does not have vast acres of land as the USA but receives adequate rainfall and has a smaller population to feed. However, just like the United States, low-income families in the UK are struggling to purchase food, and a third of the families skip a meal to save money.

The country also scored above 75 out of 100 in all the 12 food security metrics, but had perfect score in four of them:

1. Food safety net programmes (100);
2. Nutritional standards (100);
3. Protein quality (100); and
4. Food safety (100).

VIII. Inferences and Recommendations

There is hope, as well as pointers to improving food security in Sub-Saharan Africa (SSA) in general and Nigeria in particular that can be inferred from the 2020 food security index report. Following are the major inferences.

VIII.1 Inferences

There is nothing too peculiar in terms of natural resources that the food secure countries have that are lacking in Africa and especially Nigeria that has land area of 910,770 km². Ranked No. 100 out of 113 countries surveyed by EIU in 2020, Nigeria had no score falling within the strong range of 75 and above out of 100.

More worrisome though are the four areas of challenge in which Nigeria scored below 25 (out of 100) and these need urgent attention in order to improve food security in the country:

1. Proportion of population under the global poverty line. Based on the latest available official data from the National Bureau of Statistics, 40.1 per cent of the population lived below the poverty line and there are some projections that this might deepen in 2022 to 2023 before it will begin to improve;
2. Dietary diversity. There are staples that are national and some local to particular sections and even ethnic groups in the country. Taken together, these staples do not offer a wide variety that satisfies the defined human dietary needs;
3. Agricultural research and development. There are several research institutes devoted to agriculture but hardly are the research outcomes utilised in the field by smallholder farmers that dominate the agricultural space in Nigeria; and
4. Change in average food costs. Food inflation has been a major factor in inflation in Nigeria in the last 10 to 15 years, as dependence on food imports expanded and the country has been unable to effectively transit from the seasonal agricultural system that results in waste during the harvest season and dearth off season.

The 2020 food security index shows improved market data on access to food and mobile banking in 63 out of 113 countries with the following specifics:

- 1.2. Asia and Sub-Saharan Africa have seen the highest improvements on this indicator;
- 1.3. Governments in these regions can further deploy mobile technology to provide targeted support such as timely information, targeted agriculture advice and financial services to smallholder farmers;

- 1.4. The COVID-19 pandemic saw China, Malaysia and Ghana successfully using e-wallets and mobile text messages to deliver timely information and financial services to smallholder farmers and citizens; and
- 1.5. High mobile-penetration rates and digital-friendly attitudes in the developing world present a long-term opportunity to protect incomes and extend targeted support to smallholder farmers.

VIII.2 Recommendations

From several jurisdictional experiences, the top global strategies for tackling food insecurity have been identified as:

1. Reclaiming the land from the sea and the deserts;
2. Better land use patterns;
3. Improved post-harvest measures;
4. Increased food trade;
5. Controlled food prices; and
6. Flexibility and commitment to policy execution.

The following are specifics that Nigeria should focus on to attain and sustain food security:

1. Grow the economy inclusively by empowering smallholder farmers, linking them with processors and markets, and ensure guaranteed prices for farm produce. For example, the yam zone in Ekiti State runs from November to February as 'buy' period, while March to October is 'sell' period with wide price variability between these seasons, which is a disincentive to persistent commitment and investment in farming;
2. Creative disbursement of 'cash transfers' in the form of food tickets rather than cash. This will be a departure from the current practice in Nigeria and effectively address food insecurity than mere cash transfer;
3. Adoption of modern technology and practices in agribusiness to enhance the quantum and quality of food that meet dietary needs as well;
4. Monitoring and evaluation of agricultural policies and quick adjustments to keep focus, even in times of disruptions of the magnitude caused by the COVID-19 pandemic; and
5. Provision of regular and aggregated data on nutritional status in order to tailor responses towards specific groups, especially the most vulnerable groups.

In addition, in order to direct more resources to MSME agribusiness, the Central Bank of Nigeria (CBN) might consider setting a benchmark percentage share of banks' loan book for agric-lending, especially for women and youths that are in agric-ventures. This could start by measuring the commitment of the top-10 deposit money banks and top-20 microfinance banks to these banking market segments, and subsequently a consideration of regulatory minimum like the loan/deposit ratio.

The CBN should give consideration to a special fund devoted to land preparation, which is a major constraint to commercial and smallholder farming in Nigeria. It is difficult for commercial lenders to provide the moratorium that this requires and as such limiting the cultivated portion of cultivable land. The governments and their agencies did this in Tunisia and Algeria. Perhaps, Nigeria could replicate the Malaysian approach in which deposit money banks acquired and cleared agricultural land, allocated to smallholder farmers and shared in the profit from the agricultural ventures.

There is need for concerted effort to transit Nigeria from rain-fed farming to irrigated, all-year farming. This will enable the country maximise cultivation of the cultivable land and also enhance agricultural productivity.

Also, much like we have seen in North Africa where four of the countries dominate the top-5 in food security in Africa, Nigeria should also prioritise major staples and the local production capacity for them.

For sustainable use of fertilizer, Nigeria should consider a gradual shift from chemical fertilizers to organic fertilizers derived from waste.

Another area dire need of attention in Nigeria is policy disruption and lack of continuity. There are lessons to learn from South Africa, where the food security policy is traceable to 1926 with the establishment of the Native Affairs Department (NAD) that was charged with dealing with hunger and famine. The policy was updated at intervals as the country evolved and the revisions culminated in the 2002 approval of the Integrated Food Security Strategy.

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