

# Food Security, Economic Growth and Price Stability Nexus and Conceptual Issues

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## I. Introduction

“Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (World Food Summit, 1996).

This widely accepted definition points to the following dimensions of food security.

i. Food availability: The availability of sufficient quantities of food of appropriate quality, supplied through domestic production or imports (including food aid).

ii. Food access: Access by individual to adequate resources (entitlements) for acquiring appropriate foods for a nutritious diet. Entitlements are defined as the set of all commodity bundles over which a person can establish command given the legal, political, economic and social arrangements of the community in which they live (including traditional rights, such as access to common resources).

iii. Utilisation: Utilisation of food through adequate diet, clean water sanitation and health care to reach a state of nutritional well – being where all physiological needs are met. This brings out the importance of non – food inputs in food security.

iv. Stability: To be food secure a population household or individual must have access to adequate food at all times. They should not risk losing access to food as a consequence of sudden shock (e.g an economic or climatic crisis) or cyclical events (e.g seasonal food insecurity). The concept of stability can, therefore, refer to both the availability and access dimensions of food security.

Food security and economic growth interrelate with each other in a mutually reinforcing process over the course of development. Food is essential for survival, but the question of whether there is enough food for the people of the world is

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subject to population growth. Nigeria is facing a food security crisis that is compounded by the COVID-19 global pandemic and its effects on the food value chain in the country (USAID, 2021). It is only in modern times that some societies have achieved some level of food security. Earlier, only privileged members of society were able to escape from chronic hunger and the constant threat of famine (Fogel, 1991). Many countries in the developing world, especially in Africa and South Asia, have not been able to escape. In these countries, understanding the factors that cause widespread hunger and vulnerability to famines, and the mechanisms available to alleviate their impact, remain important intellectual challenges (Timmer, 2004).

A strong argument that encourages analysing food security and food price stability issues is importance to economic well-being. Nigeria is one of the most food insecure countries and highly affected by all three drivers. For one, the country is vulnerable to price instability and successively hit by environmental disasters, that impact people's livelihoods. Furthermore, its economy is thriving, but around 48.0 per cent of its population lives below the poverty line (World Bank, 2020; World Poverty Clock, 2020). In addition to that, since 2009 northeastern Nigeria is struck by insurgency. Essentially, sustainability in economic growth is dependent on achievement of food security (Manap, & Ismail, 2019). Without a food security strategy, countries will bear a large portion cost. To sustain security, a nation must increase domestic production and minimise relying on food import. Relying highly on food import will cause food security problems with high levels of chronic malnutrition, limitation in human capital development, poverty problem, reduced labour productivity, reduction in life expectancy and decrease economic growth. The objective of this paper is to examine relationship between food security, economic growth and price stability with focus on their Conceptual issues and nexus.

## **II. Conceptualising the Issues**

### **II.1 Concept of Food Security**

Traditionally, food security is defined in terms of either food self-sufficiency or food self-reliance. Food security is a flexible concept as reflected in the many attempts at definition in research and policy usage (FAO, 2005). The United States position paper for the 1996 World Food Conference used one of the standard definitions:

"Food security exists when all people at all times have physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life."

Based on this definition of food security, there are four dimensions to this:

- i. availability of sufficient amount of food is a function of food production;
- ii. stability of supply over time depends on the ability to preserve/store produced food and supplement available food through imports if necessary;
- iii. access to the available food depends on income levels and its distribution; and
- iv. food utilisation, which encompasses procurement, ingestion and digestion all of which are dependent on nutritional quality, education and health.

Abudullahi (2008) defined sustainable food security as when people have physical and economic access to sufficient food to meet their dietary needs for a productive healthy life at present, as well as in the future. This definition outlines some indices for measuring the extent or degree of food security to be achieved by any country and the indices are adequate national food supply, nutritional content, accessibility, affordability and environmental protection.

Food security exists at both the macro and micro levels. National Food Security (NFS), the macro dimension, is possession by a nation of the capacity to procure enough food through production or imports to feed its population. This is a necessary condition but not a sufficient condition for Household Food Security and Individual Food Security, since food availability on a national scale does not preclude the lack of adequate access to such food by many of the inhabitants due to weak markets, poor infrastructure and information system, and inequality in resource and income distribution. Various composite indices have since been developed to measure Food Security incorporating all the dimensions of food security. Popular among these are, the Aggregate Household Food Security Index (AHFSI) by the United Nation's Food and Agriculture Organisation (FAO) and the Food Security Index (FSI) of the United States Agency for International Development (USAID) (Adebayo, 2010).

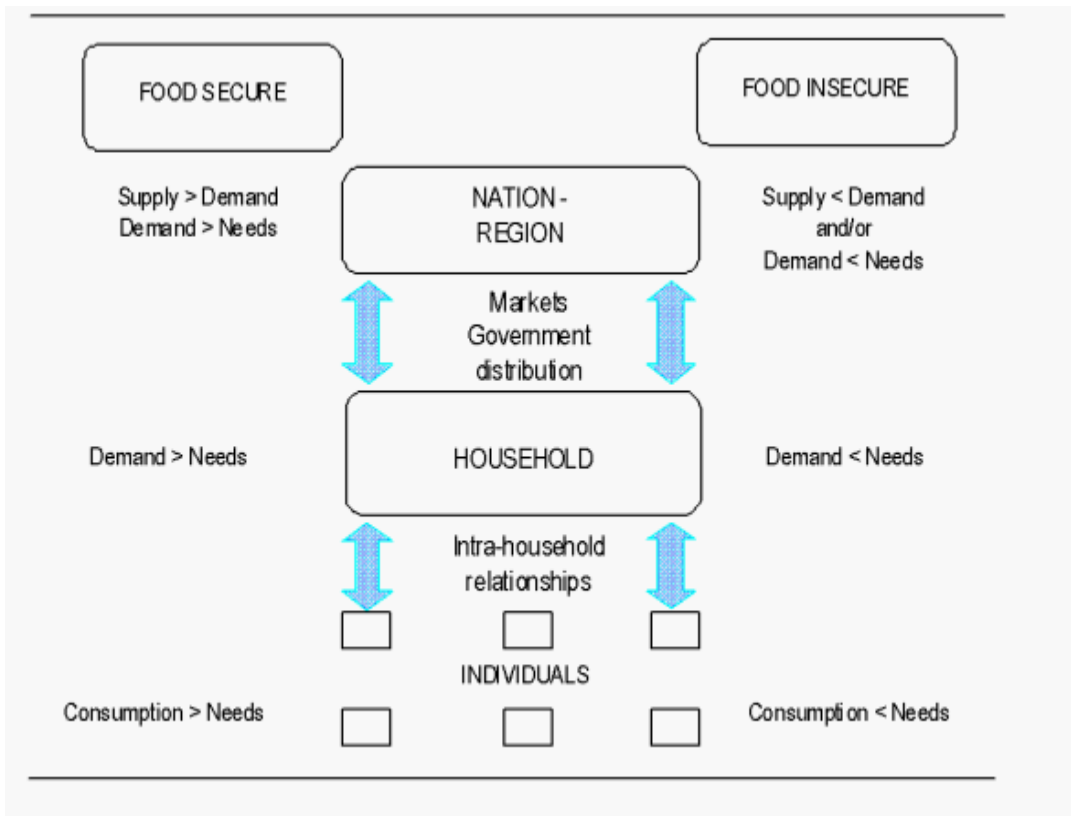
It is important we define what Food Insecurity is. The absence of food security is food insecurity. Food insecurity represents lack of access to enough food and can either be chronic or temporary. Adeoti (cited by Metu et al., 2016) opines that chronic food insecurity arises from lack of resources to acquire and produce food, thereby leading to persistent inadequate diet. FAO (2010) refers to food insecurity as the consequences of inadequate consumption of nutritious food bearing in mind that the physiological use of food is within the domain of nutrition and health.

It is vital to add that Sen (1981) (cited in Clover, 2003) has been credited with initiating the paradigm shift in the early 1980s that brought focus to the issue of access and entitlement to food. Food insecurity is no longer seen simply as a failure

of agriculture to produce sufficient food at the national level, but instead as a failure of livelihoods to guarantee access to sufficient food at the household level. Today, most common definition begins with individual entitlement, though recognising the complex inter-linkages between the individual, the household, the community, the nation and the international community (Clover, 2003). The World Food Summit plan of Action (cited by Attah, 2012) states that food insecurity occurs when:

- i. People experience a large reduction in their sources of food and are unable to make up the difference through new strategies;
- ii. The prevalence of malnutrition is abnormally high for most of the year, and this cannot be accounted for by either health or care factors; and
- iii. A large proportion of the population or group is using marginal or unsuitable strategies, and people are using –coping strategies that are damaging to their livelihoods in the longer term or incur some other unacceptable cost, such as acting illegally or immorally.

**Figure 1: Levels of Food Security**



Source: Adapted from Thomson and Metz (1999).

Figure 1 shows the level of food security in the society. Whenever the concept is introduced in the title of a study or its objectives, it is necessary to look closely, to establish the explicit or implied definition. The continuing evolution of food security as an operational concept in public policy has reflected the wider recognition of the complexities of the technical and policy issues involved.

For the purpose of this seminar, food security is being viewed as “availability of food in its primary, secondary and tertiary output form to the household, individual, community and nation with outflow to other nations at affordable rates, and in a flow with intergenerational considerations”

This concept meets the necessary and sufficient conditions for the interlinkages between food security, economic growth and price stability.

### **II.1.1 Elements of Food Security**

- Availability of sufficient food in quality and quantity.
- Food be available in time and space.
- Food be available at individual household, national and international level.
- Food be affordable and available according to human classes and tastes.
- Food be produced with recourse to resource use efficiency.
- Food production, consumption and marketing must contribute to employment, economic growth and welfare.
- Food security be an instrument of price stability and peace.

### **II.1.2 Food and Agricultural Security Drivers**

- Sustainable land development and availability.
- Skilled and trained and enlightened manpower.
- Production at all levels be organised in an Agripreneurial patterns.
- Innovations, technology and modern inputs are crucial.
- Supply and demand sides for food and production inputs must be considered.
- Capital inputs (stock and flow types) are crucial.

## **II.2 Concept of Economic Growth**

Economic growth is the process whereby the real per capita income of a country increases over a long period of time. It is measured by the increase in the amount of goods and services produced in a territory in a defined period. The goods and services include food and other agricultural produce. A growing economy and indeed an agricultural sector produce more goods and services in each successive year or period. Clearly, growth occurs when the production capacity of (labour,

land, and entrepreneur) increases, which in turn generate more goods and services (i.e more food and agricultural services). Economic growth is expected to raise the standard of living of the citizens, reduce inequalities of income distribution, while economic growth is universal, its annual growth rate for any economy is not the same (Jhingan, 2016).

Innovations with attendant increase in productive technologies (in case in agriculture and food production) of labour and capital over time. It is to be noted that productive capacity may not lead to increases in economic growth (say the agricultural sector) if there is a lack of effective demand. The quality of labour must be improved to match with innovations and new technologies, if economic growth must be on continuous increases.

Here, it needs be noted that growth has a cost as resources in the economy are scarce, and have opportunity cost. More food for instance may mean less of other commodities. Also, new technologies lead to replacement of old machines, as they become obsolete. New workers (say agricultural workers) to fit in the new technological set up. Growth leads to urbanisation and industrialisation along with their adverse effects on type of living and environment.

Monetary and fiscal policies contribute to growth by helping to maintain stability of prices. These policies help in moderating economic fluctuations and avoiding recession, thus helping in achieving growth objective. Growth promoted by a good mix of monetary and fiscal policies would encourage investment and control economic fluctuations.

Under a food security and agricultural growth agenda, economic growth benefits include:

1. Raw materials from agricultural sector to modern and industrial sector;
2. Quality and healthy population to drive economic growth;
3. Trade between food/ agricultural sector and with the rest of the economy;
4. Food / farm produce for households;
5. Agricultural incomes and taxes for modern sector;
6. Agricultural inputs demand from modern sector;
7. Export and import towards economic growth; and
8. Jobs/Employment created along the value chain.

## **II.2.1 Concept of Price stability**

Price stability is the condition in which the domestic currency retains its purchasing power by maintaining low and stable inflation, as measured by the Consumer Price

Index over the medium term (from 3 to 5 years). Price stability does not imply that prices do not change; it means that prices grow at a moderate pace. High inflation reduces the incomes and savings of businesses, households, and the state, and drives an increase in production costs, the cost of credit, and interest rates as a result of uncertainty over future prices (Jhinghan, 2016).

Large inflation fluctuations create an unfavorable environment for long-term investment in the economy, as investors focus on short-term transactions. Thus, high and unstable inflation affects economic growth.

### **III. Economic Growth and Food Security Nexus**

Some of the literature suggests that the economy influences food security. Economic growth is one of the biggest variables to measure the health of an economy and can be closely connected to food security. Studies by several scholars provide proof that the better the economic growth is, the more people are likely to be food secure (Warr, 2014). Hence a weak economy or an economy in crisis can lead to food insecurity in a country (Tawodzera, 2011; Musemwa et al., 2015; FAO et al., 2019). Most research has been conducted in developing countries in Africa and other developing countries might have thriving economic growth, but at the same time are vulnerable to an economic crisis, because they are often low-income countries, countries in conflict and the countries that are hit most by climate change. All this increases the vulnerability of a population (FAO, 2019).

For the food security status of a household, the economic situation of the individual is significant as well. Many researchers analysed unemployment as a factor leading to food insecurity. It is one of the most explored factors in the field of economic development and food security. Being unemployed puts people into poverty and poor people usually depend on the market to obtain food. They spend a higher percentage of their income on food and consequently suffer more likely from food insecurity (Etana & Tolossa, 2017). A lot of other literature argues that unemployment, in particular long-term unemployment, does not only result in people spending less money on food but also causes people to change their diet. Evidence showed that they bought cheaper and less healthy food, which in turn impacted the quality of the daily calorie intake. Other studies also found that consumption patterns change when one gets unemployed (Leichenko & Silva, 2014). Therefore, unemployment can lead to food insecurity on the individual level.

#### **III.1 Price Stability and Economic Growth Nexus**

Some people feel strongly that pursuing full employment raises a serious issue of conflicting goals, namely that price stability, high employment, and economic growth cannot be achieved simultaneously. However, on another thought a major

conflict does not exist. The compatibility of these goals depends largely upon how we set them and the means by which we pursue them. Historically, the record shows no conflict between price stability and economic growth. A reasonably stable naira is necessary for rational decision making and orderly economic progress. Price level stability, properly conceived, aids rather than hinders growth. As with price stability, "full employment" is not a simple concept, and it means different things to different people. But no economist holds that it means 100 percent of the work force at work. Some people put an acceptable level of unemployment at 3.0, 6.0, or even 2.0 per cent. So, it is a question of what a society wants to achieve. But whatever level we settle for, will vary from time to time, and it will not mean what the public at large seems to think when they hear the word "unemployment." This term conjures up visions of the 1930's where there was massive unemployment-visions of children at home with no food, no shoes, no fuel for the furnace, and what not. Today we still have some unemployment situations that cause severe economic hardship, in parts of the developing nations.

A detailed study by the US Bureau of Labor Statistics for 1956-57 (prosperous years) showed that about 20.0 per cent of our unemployment was of a seasonal character, in construction and agriculture. About 20.0 per cent consisted of new entrants into the labor force, young people and others who had not previously been employed (these people would not even be counted among the unemployed in most other countries). About 10.0 per cent to 15.0 per cent consisted of people who were voluntarily changing jobs. In other words, about half of the unemployed were not really hardship cases. During a recession a much larger proportion of those unemployed would be lay-offs and heads of families who cannot remain long out of work without their families suffering deprivation. The duration of unemployment could also increase. But with improved unemployment compensation systems, much of the sting can be and is removed from this form of unemployment. If we can keep our recessions mild and short, we shall certainly have achieved a reasonable full employment goal. Such hardship as may remain, and some is unavoidable, can be alleviated by welfare measure. "Price stability – good planning- Investments- more employment – more goods and services- more incomes/better wages- more effective demand – increase in economic growth".

### **III.2 Food Security and Price Stability Nexus**

After years of increasing global food security, world hunger is rising again. This rise is concentrated mainly in countries affected by conflict and fragility where violent conflict destroys crops, assets and displace people. As a result of prolonged instability borders can be closed, access to markets can be limited, and farm inputs can become scarcely available. To deal with such a precarious environment, farmers and actors along the food value chain employ various coping mechanisms



that are at best detrimental to food availability, and at worst can contribute to further instability. Conversely, through the importance of agriculture in the economies of these countries the development of the sector can contribute to an enabling environment for increased price stability. Especially the promotion of resilience of food systems can serve to increase household and community food security in the face of instability. Here we are looking at the relation between food security and price stability, especially ways in which interventions on this nexus can achieve more resilient food systems, contribute to stability and can bridge humanitarian and development programming.

### **III.3 Food Security and Food Price Nexus**

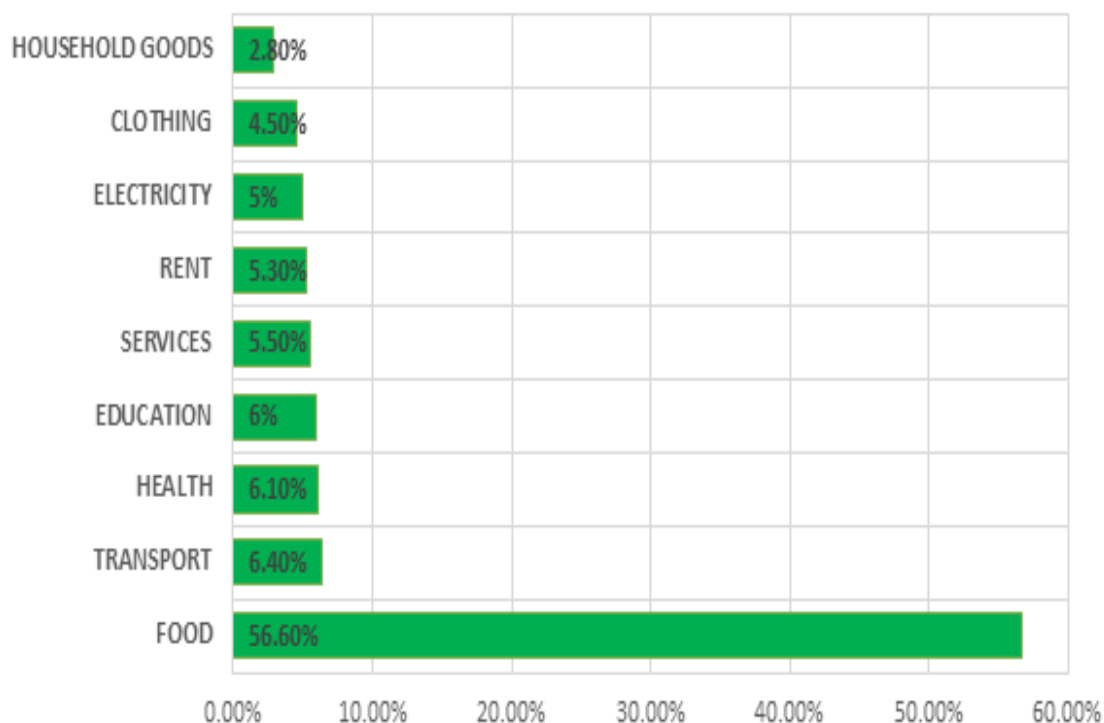
Food prices are another indicator leading to food insecurity (Hertel et al., 2010; Smith et al., 2017). Global food price drops or rises hit especially countries with an uneven trade balance. When a country depends on exporting agricultural goods or minerals, they are more vulnerable to global price volatility (FAO, 2019: 66). As mentioned above, most scholars argue that often developing countries are affected by economic crisis. However, all countries can be affected by a sudden global economic shock. Especially the 2008 financial crisis and the recession that followed has negatively impacted several countries in the Global North. Davis and Geiger (2017) analysed the demand for food aid in Europe after 2008. They argued that the need for more food aid represents higher food insecurity. They found a rise in food aid and therefore more food insecurity after 2008.

In Nigeria, the food price increases have brought significant hardship to many citizens. The poor, who spend a large share of their budgets on basic foods, were especially hard hit (Olomola, 2015; Adesanya, 2021). These soaring food prices have triggered concern about threats to food security in Nigeria, as food commodities are becoming increasingly unaffordable. If this increase in food price continues, poor households are likely to suffer because most are net buyers of food and increased food insecurity and malnutrition may result, with tragic implications in the short and long-term, particularly for children, the aged, and other vulnerable members of society (Mkhawani et al., 2016). Therefore, in analysing the food inflation rates of import-concentrated country like Nigeria, it is important to find out the links through which domestic food price increases and may be affected by prices of food commodities at the international prices such as world food price, price of oil and the exchange rate.

In Nigeria, across most staple food, the rate of consumption has exceeded production (Adekunle et al., 2020). The deficit has been met largely by importation, making the country a net importer, a trend evident till this present time. For instance, in very recent report, Nigeria spent ₦1.85 trillion to import food between January to

September 2020 during the closure of international land borders and this further suggests a weakness in Nigeria's ability to feed herself (Salami, 2021). Accordingly, the higher prices of imported food commodities and inputs may quickly transmit to the domestic economy. Consequently, this study argues that since a large portion of food grains in Nigeria are, either directly or indirectly, based on imports, Nigeria is vulnerable to changes in the international agro-commodity prices, with significant impact on inflation. It is also debatable that higher prices of food in the international markets may directly transmit to the domestic food prices volatility. This situation is doubly worsened, given that Nigerian households already have among the highest shares of consumer expenditure on food in the world (for instance, see Figure 2).

**Figure 2: Average Share of Nigerian Household Expenditure in 2019**



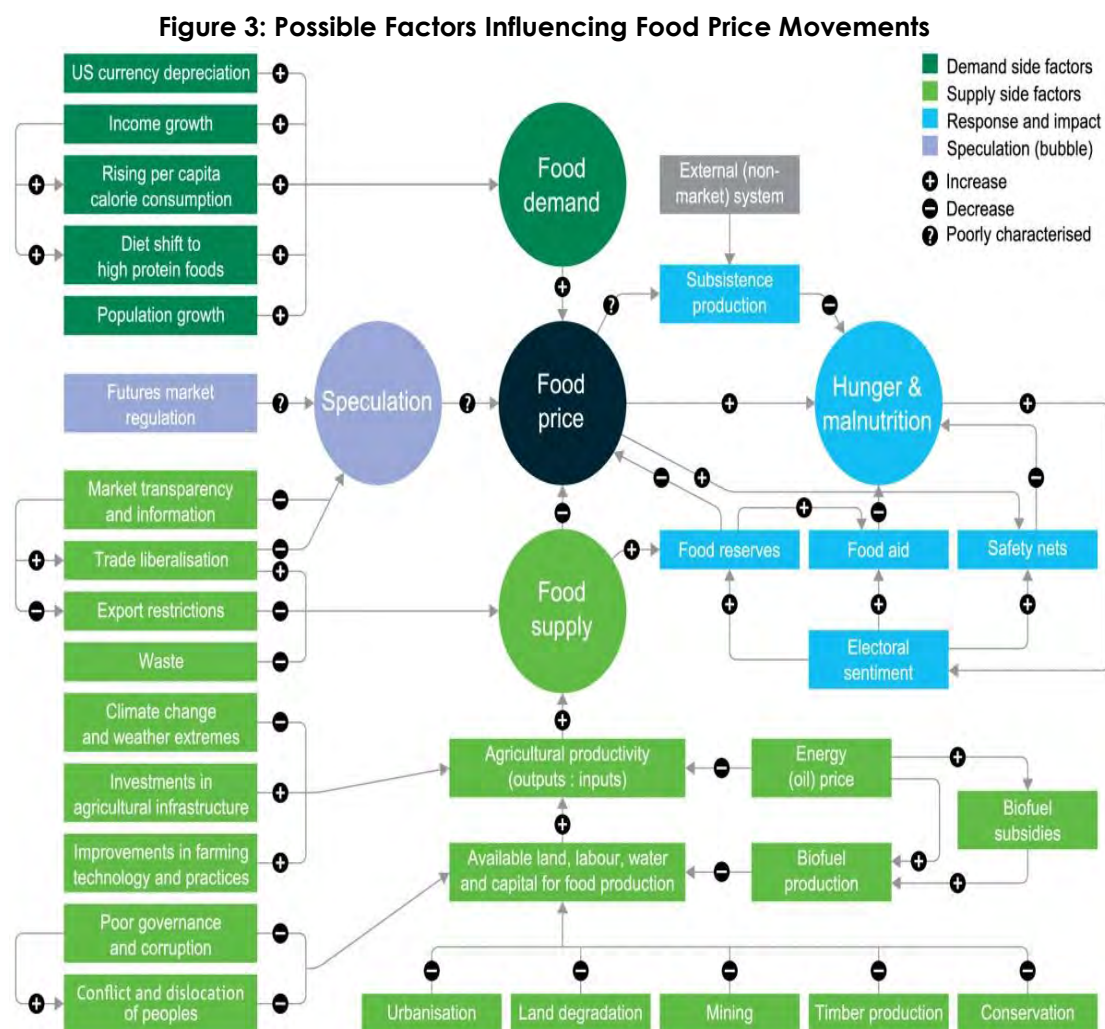
Source: National Bureau of Statistics (2019).

Figure 2 shows that food accounted for 56.6 per cent of total household expenditure in the year under review, while non-food items accounted for 43.4 per cent. The volatile and increasing domestic food price becomes a huge problem as the ability of poor households to meet other important non-food expenses, such as education and health care, are limited by rising food prices. And so, there is need to take urgent and coordinated action to combat the negative impacts of soaring domestic food prices in Nigeria. This study also argues that Nigeria's agro-food value chain requires massive investment, and increasing the food commodity is effective

in isolating the domestic food market from risk associated with international prices (Mkhawani et al., 2016).

### III.4 Factors Influencing Food Price Movements

According to Hajkowicz et al. (2012), a comprehensive listing of all factors which potentially cause food price movements would contain hundreds of entries and some of the major theories/causes of food price surge are described in Figure 3.



Source: Adopted from Hajkowicz et al. (2012).

Figure 3 describes the systems model of possible factors influencing food price movements and hunger. One may argue for and against some of the proposed causes above. Some of these factors are highlighted and explain below:

### **III.4.1 Low Food Stocks**

Food prices are mostly sensitive to supply shifts when stocks are low (Wright, 2011). In 2006, global food stocks, especially wheat, were at their lowest level since the early 1980s (Von Braun et al., 2008). It is possible that factors constraining supply, could be flood in Nigeria. Nigeria experienced some of the worst floodings in recent years especially the huge damage it has caused rice farms in Kebbi State (ThisDay, 2020). This has led to higher utilisation of storage ratios in the lead up to the 2020 price surge. From this perspective, low stocks are a consequence of underlying supply and demand forces which cause food price volatility in Nigeria.

### **III.4.2 Export Restrictions, Trade Barriers and Market Distortions**

With the objective of stabilising domestic prices, countries may sometimes impose export bans, export restrictions and export taxes on food products. While this may stabilise prices domestically and in the short term, it has been shown to substantially increase food prices globally and, especially, for countries heavily dependent on imports (Timmer, 2010; Headey & Fan, 2008). Also, very recent in Nigeria, the closure of land border and import restrictions for rice are widely considered a primary cause of the price hike in Nigeria as the domestic production capacity was barely enough to feed the nation.

### **III.4.3 Urbanisation**

During 1975 to 2009, the world urban population grew at an average annual rate of 2.4 per cent, compared to the rural population which grew at 0.85 per cent. These rates are forecast to be 1.76 and 0.12 per cent during 2009 to 2025 (United Nations, 2010). Urbanisation is impacting food production via the conversion of productive arable land into towns and cities. The rate of urbanisation is particularly rapid in Nigeria. The country is undergoing rapid urbanisation with a rapidly growing population. At current growth rate of about 2.8 per cent–3.0 per cent a year, Nigeria's urban population will double in the next two decades (Aliyu & Amadu, 2017). However, while urbanisation is likely to place upward pressure on food prices, it is unlikely to cause sudden price surges or price volatility (Hajkowicz et al., 2012).

### **III.4.4 Speculation on Food Commodity Futures Markets**

There is considerable debate about whether or not speculation on food commodities markets exacerbates food price surges. Most economists and financial analysts agree that speculation cannot drive prices up in the long run – over a decade or more (Timmer, 2008). However, there is a possibility it may impact short-term price movements. Some lead-lag studies suggest that speculation places upward pressure on food price volatility. One study found that unexpected

increases in futures trading volumes leads to a subsequent increase in cash price volatility for most commodities (Jian, Balyeat & Leatham, 2005). A similar lead-lag study by the International Food Policy Research Institute is not conclusive and finds that speculative activity “might” have been influential in the 2008 price spike, but suggests the need for further research (Robles et al., 2009). However, there are opposing perspectives. Some suggest futures markets may have exacerbated price volatility but are unlikely to be a leading cause and there is little evidence to support the link between futures markets and “real” supply-and-demand factors (Headey & Fan, 2008). A stronger position argues that speculation is often unfairly attacked during periods of increased market volatility and that the “bubble” argument for high food prices “does not withstand close scrutiny” (Irwin, Sanders & Merrin, 2009). There is also a view that speculation has positive impacts by facilitating smooth functioning of global food markets and stabilising trade (Sanders & Irwin, 2010).

### **III.4.5 Oil Price**

World food prices and world oil prices move in unison. It has been observed that modern agriculture uses land to convert petroleum into food (Bartlett, 1978; Attarian, 2002). One estimate suggests that industrialised farming systems use 10 calories of fossil fuel to produce 1 calorie of food energy (Wright, 2012; Hamer & Anslow, 2008). Therefore, a rise in crude oil prices typically increases the cost of food production, steepens the supply curve, and increases food prices (Gilbert, 2010). An analysis of crude oil and commodity price data from 1965 to 2005 finds that a 10 per cent increase in the crude oil price leads to a 3.3 per cent increase in fertilizer cost and a 1.8 per cent increase in food price (Baffes, 2007).

### **III.4.6 Climate Change and Future Food Prices**

Climate change and water scarcity have the potential to place significant upward pressure on food prices, and increase price volatility, over the coming decades. Both warrant special attention because they have the capability to impose fundamental constraints on the world's ability to produce food. Prior research establishes a clear and unambiguous link between localised climate extremes, such as droughts and floods, local food security and local food prices. While the link between extreme climate events and food prices, both regionally and globally, has been identified through prior research, the link between human induced climate change (that is, the greenhouse effect) and global food prices is not yet known. It is worth noting that the impacts of climate change on food production may not be universally negative. Some areas of the world will experience changed rainfall patterns and more favorable growing conditions.

Lastly, insecurity and worsening age-long conflict between farmers and herders continued to hamper normal domestic food production. This results to increase

prices of food products and its implications for food security in Nigeria is dire as the soaring price has direct impact on welfare.

#### **IV. Effect of Price Changes on Households' Food Demand in Nigeria**

Generally, food prices in Nigeria exhibit some behaviour through time. Olukosi and Isitor (1990) and Okuneye (2008) noted that such behavior include seasonal patterns of change, yearly variations, trends and cycles. But of all these changes, seasonal price changes stand out as the most distinct feature of agricultural commodities. It is common to see highly reduced market prices of food crops particularly during harvest time and skyrocketed prices off seasons. This scenario is quite common with food grains and vegetables. These price variations often determine the level of access and consumption of these food crops by households. Lack of or complete absence of reliable storage facilities for harvested food crops coupled with poor and crude processing methods again limit the market supply of foods.

##### **IV.2 The Role of Government in Stabilising Food Prices**

All government leaders recognise the impact of rice prices on the poor, and most countries stabilised their rice economy by keeping domestic rice prices more stable than border prices (Timmer, 2004). Economic growth, poverty reduction, and stability are linked to each other through the "virtuous circles" reviewed by Birdsall, Ross and Sabot (1995). Greater stability of the food economy contributes to faster economic growth by reducing signal extraction problems, lengthening the investment horizon, and reducing political instability (Timmer, 1989; Ramey & Ramey, 1995; Dawe, 1996). In the other direction, stability contributes to equity and poverty reduction by reducing the vulnerability of the poor to sudden shocks in food prices or availability. Greater equity also stimulates investment in human capital, especially in rural areas (Williamson, 1993; Birdsall, Ross, & Sabot, 1995), thus speeding up economic growth, at least in the long run.

##### **IV.3 What is the Way Forward on Enhancing Food Security in Nigeria?**

According to Ogundare (2015), earlier consultations in FAO identified the following policy priorities as possible building blocks for the new post-2015 global food development agenda. Most of this forms the very basis of strategic initiatives known as systems strengthening approach:

##### **Prioritising equitable development - especially the empowerment of women.**

Women hold the key: they are the drivers of change in ensuring nutrition and food security. If women had the same access to productive resources as men, agricultural yields and output would increase and there would be a significant

reduction in the number of impoverished people. Key elements are (a) enhancing women's access to and control over land and other productive resources; (b) empowering women smallholder farmers to overcome institutional, social, and economic bottlenecks, (c) investing in the nutrition of women and their young children, and (d) participation of both women and men in decision-making at all levels: from the household to public policy and development planning. By focusing on equity of access or opportunity, decision makers emphasise the interests of vulnerable people.

**Ensuring access to nutritious food through comprehensive approaches to food and nutrition security.** Policies, programmes and investments for strengthening food and nutrition security must aim at: (a) focusing on access as well as availability of foods, (b) recognising the importance of diversified diets made up of nutritious foods, especially for pregnant women and young children, (c) preventing excessive food price volatility, (d) enabling poor people to access both social protection and social services, and (e) ensuring that the services contribute to adequate child care and feeding practices, and mother and child health care services, with sufficient access to clean water and sanitation. All forms of malnutrition – including nutrient deficiencies and obesity – should be addressed. This means dealing with the global transition to high energy and low nutrient diets and the shift away from unhealthy food consumption patterns.

**Recognising the key role of agriculture and rural development in eliminating poverty, hunger and malnutrition.** Smallholder farmers are essential contributors to resolving these challenges which are most pronounced in rural areas. Key elements are (a) provision of necessary public goods and support to raise rural incomes and productive capacities, (b) enabling smallholder farmers to participate and benefit from national and international markets, and (c) pro-poor development through investing in rural economies, both farm and nonfarm.

**Making agricultural and food systems sustainable and climate sensitive.** As demand for food increases – as a result of population growth, urbanisation, and changing dietary habits – greater attention is given to the ecological footprint of agriculture and food systems. What are the options for enabling these systems to be socially, economically and environmentally sustainable, while becoming more productive and nutrition-enhancing? The dilemma is faced by all nations and is made starker by changes in climate, which may threaten agricultural production. Sustainable intensification of agriculture requires increases in productivity, while adapting to climate change and reducing greenhouse gas emissions. Climate-sensitive agriculture makes growth more sustainable, while improving the management of ecosystems, including soils, forests, water, fisheries, oceans, watersheds and biodiversity. Reinforcing resilience to natural and man-made disasters: Poor rural and urban societies experience crises – such as those linked to volatile food prices

or climatic shocks – with increasing frequency threatening their food and nutrition security. The sustainability and resilience of their livelihoods can be reinforced by (a) developing a range of capacities and entrepreneurial skills, (b) promoting non-farm rural employment, (c) empowering small producers to diversify their on-farm and off-farm activities, (d) including the most vulnerable in sustainable development processes, and (e) investing in social protection - including food assistance, safety nets and targeted transfers. Focusing on food security and waste along value chains: better functioning of interfaces between food and health systems will lead to reduced risks of disease, especially for food that is unsafe for humans. This is increasingly relevant as ecosystems change, due to climate change or human activity. Furthermore, there is universal concern over post-harvest processing and handling losses and food consumption waste: they undermine the sustainability of food systems.

**Ensuring responsible investment in agriculture and food systems.** Investment in agriculture and food systems can – if undertaken responsibly – contribute to major societal benefits, including reduced inequalities, inclusive growth, and creation of decent jobs. Responsible investment can be strengthened by (a) recognising that the main investors in agriculture are the farmers themselves, (b) engaging small producers and their organisations fully in the design and implementation of national strategies for agriculture and food security, (c) ensuring their secure tenure of land and improving their access to improved technology and innovation, (d) ensuring they benefit from key public goods - market infrastructure, price stabilisation instruments (for both producers and consumers), affordable financial services, and functioning extension services. This calls for a combination of public and private investment involving farmer associations, agri-businesses, government, civil society groups and sources of financing.

In addition to the systems strengthening approach advocated by Ojo and Adebayo (2012) and Ogundare (2015) also recommended the following as strategies to be adopted in ensuring food security in Nigeria:

**Science and Technology.** In Africa, Asia, Latin America and other third world countries, Nigeria inclusive, a deterioration in technology or ecology, which lower outputs from given input has long been identified as one of the reasons for poor agricultural production performance. It is equally important to note that indigenous techniques like crop rotation and other cultural farming practices, which have been used to preserve the soil structure and its fecundity do not seem to be adequate or even relevant in the present efforts to boost food production in most developing countries. It is for this reason that the use of chemical and organic fertilizer has been widely promoted in Nigeria, while its rate is even heavily subsidised by the State, despite the awareness of the corruption that is associated with its procurement and



distribution. Government intervention to increase food production through technical and economic assistance to the small-scale farmers for land improvement schemes is therefore, not a misallocation of resources. It is, in fact, a necessity because viewed from macro-economic perspective; this kind of intervention cannot be left to market forces in the present circumstances. There is thus, the need for the government to sustain the intervention. Not only that, threat to the attainment of food security in Nigeria also comes from the unresolved issue of the safety of genetically modified foods made possible through agricultural biotechnology.

Today, biotechnology represents a scientific advance in agriculture with far reaching potentials in increasing food production in an environmentally sustainable manner. Agricultural biotechnology includes using genetics to modify crops and plants to produce more nutritious food, cloning of livestock; tissue culture technique and genetic engineering. Apart from its potential to produce higher yields, biotechnology gives shorter gestation and maturity periods to crops, plants and livestock, as well as will continue to use biotechnology to produce genetically modified foods.

As opined by Akinyosoye (2007), Nigerian agricultural scientists have been very enthusiastic in advancing the frontier of knowledge in biotechnology. They have been making efforts to assure the people that genetically modified foods do not pose any higher risk to consumers than conventionally cultivated crops, and have been calling on the government to allocate more research funds to enhance the application of biotechnology in agriculture to optimise yield potentials. The positive disposition of the government and the enthusiasm of the scientists notwithstanding, there are still obstacles to be overcome before full advantage is taken of scientific information in biotechnology in agriculture. First, the amount set aside for investment in the project is grossly inadequate. Second, the quality and the effectiveness of extension services needed to increase the awareness of the peasant farmers of the potentials of biotechnology are still low and need to be upgraded and there are still unwarranted public fears to contend with in the safety of genetically modified foods, stemming from scare-stories, reinforced by superstition and crash ignorance, of the danger in the consumption of genetically modified foods (Davies, 2009).

**Diplomacy.** Food no doubt is a veritable weapon used in foreign policy implementation. It has become a new form of weapon in international relations. Expectedly, governments may use food resources in international diplomacy for two purposes viz: to influence international food markets, and secondly to influence international economic and political relationships beyond food markets. Moreover, a hungry and unenlightened nation is a weak one, while any region subject to famine or starvation is an insecure one no matter how vast and populated it is. Such

a region will continue to be constantly under threats and be exposed to external penetration either by ways of aids, relief materials or other forms of assistance presumably put together to alleviate the suffering of the people. It is perhaps in realizing all the above-mentioned facts that now made every country to place great emphasis on self-sufficiency in food production. The summation of this deduction so far, is that, food as it was, is still and will continue to be a weapon of international and domestic politics (Bamisaye, 1987 cited in Ojo & Adebayo, 2012).

#### **IV.4 Policy Priorities for Food Security**

The FAO adopts the “twin – track “approach for fighting hunger combines sustainable agricultural and rural development with targeted programmes for enhancing direct access to food for the needy. The first track is rural development and or productivity enhancement and the second track is the direct and immediate access to food, it comprises of:

- i. Availability of food: Which signifies that, food supply should be enhanced to the most vulnerable groups of the society, improving rural food production especially, by small – scale farmers, investing in rural infrastructure, investing in rural markets, revitalisation of livestock sector, resource rehabilitation and conservation and enhancing income and other entitlements to food. The second track is composed of; food aid, seed/input relief, restocking livestock capital and enabling market revival.
- ii. Access and Utilisation: There is need to re – establish rural institutions, enhance access to assets, ensure access to land, revive rural financial systems, strengthen the labour market, mechanisms to ensure safe food and social rehabilitation programmes. The second track is composed of; transfers i.e food/cash based, assets redistribution, social rehabilitation programmes, nutrition intervention programmes.
- iii. Stability: Diversifying agriculture and employment, monitoring food security and vulnerability, dealing with the structural causes of food insecurity, reintegrating refugees and displaced people, developing risk analysis and management and reviving access to credit system and savings mechanisms. The second track is composed of; re-establishing social safety nets, monitoring immediate vulnerability and intervention impact and peace- building efforts.

Drawing on the twin- track approach, the following principles underline the overall strategies on food security:

- a. Focus on food security: Ensuring that food security objectives are incorporated into national poverty reduction strategies, which consider

- impacts at the national, sub- national, household and individual levels to have a particular emphasis on reducing hunger and extreme poverty;
- b. Fostering broad based, sustainable agricultural and rural growth: promoting environmentally and socially sustainable agricultural development as a cornerstone for economic growth;
  - c. Addressing the entire rural space: Looking beyond farming to include off farm income opportunities;
  - d. Addressing the root causes of food insecurity: Promoting not only productivity growth, but also resource access, land tenure, returns to labour and education;
  - e. Addressing the urban dimension of food insecurity: Addressing the unique factors behind increasing urban poverty and improving food security in terms of availability and access, market development, management of natural resources and access to basic services;
  - f. Addressing cross- cutting issues: Taking into account national and international policies and issues that affect implementation and impact. These include public sector reform and decentralisation, peace and security, trade and macroeconomic policy reforms; and
  - g. Encouraging the participation of all stakeholders in the dialogue leading up to the elaboration of the national strategies: To ensure a broad consensus on issues, goals and solutions.

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