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Specifics knowledge links between COVID-19 and urban food systems in Nigeria

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ABSTRACT

COVID-19 pandemic has brought significant adverse impacts, in all ramifications, to the Nigerian society, especially in worsening the hunger situation resulting from the distortion of the urban food system. It has inhibited food choices and access for urban residents due to restrictions imposed on movement and human interactions. In Nigeria, the majority is in the informal economy who depend on the daily income for everyday needs, including food. This study, therefore, establishes specific knowledge links between COVID-19 and the urban food system. Also, it reviewed the impacts of adopted safety protocols and government policies during the COVID-19 pandemic on the Nigerian urban food supply system vis-a-vis state and non-state interventions to provide palliatives for the urban poor and vulnerable groups. The paper concluded that Nigeria has not adequately built a resilient strategy for eventualities, such as the COVID-19 emergency. Also, all measures instituted at different levels of government towards strengthening the urban food system during the pandemic were grossly inadequate as they could barely serve a fraction of the urban vulnerable. Therefore, the paper suggests a holistic policy review towards promoting resilience in the urban food system to withstand future emergencies.

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Introduction

The novel Coronavirus (COVID-19) was not anticipated as a new addition to frontline conditions – urbanisation, population surge, inequality, poverty, dietary change – shaping the urban food system in decades to come. It engendered a rarity as nations worldwide have forged a common front against scourges such as COVID-19. It would be recalled that before COVID-19, many countries of the world were already under the siege of an unprecedented population surge, particularly in developing countries. Moreover, the year 2020 had earlier been projected to become more urban than rural (World Bank, 2013). This feat is accompanied by a phenomenon known as the *urbanization of poverty*. This phenomenon means the more people in cities, the more the poverty movement from rural to urban. It cannot be discounted that people living in poverty are the worst hit during

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COVID-19, as sources of income were either adversely eroded or lost entirely. At the same time, inequality, hunger and food insecurity grew astronomically.

Food plays an essential role in the daily survival of man. Food consumption is an everyday necessity, at least twice a day to every living individual. Before the advent of COVID-19, Sanchez (2013) recounted that at least over a billion people or 1 in 7 persons living on earth were spasmodically or constantly hungry. This reason consolidated the fact that hunger or food insecurity is an urban problem exacerbated by COVID-19.

COVID-19 in our cities today has led to significant shifts in diets, with the consequences hanging on the health and nutrition of the people living in poverty. In reversing this ugly trend in Nigerian cities, there is a need to consider the realities of urban life and understand the role urban food systems and the environment play in shaping food choices and access. For example, how has COVID-19 pandemic affected what urban citizens eat? How does food move across cities during the lockdown and spatial restrictions? Where do people palpably source their food during the COVID-19 pandemic? These portend gaps that attract attention. As reported by the World Bank (2015), poor people are regarded as those living below $1.9 per day. In this respect, the number of Nigerians living in absolute poverty jumped to 95.9 million (World Poverty Clock, 2020). These people feed on the informal economy, accounting for 65percent of Nigerian economic output (Onyekwena & Ekeruche, 2020). Amplifying this, International Labour Organization (ILO) (2009) noted that over 80percent of Nigerian workers are in the informal economy. These people sustain themselves from the money they accrue from daily operations – these groups of people who are the most vulnerable heightened the risk of the pandemic in Nigeria.

To curtail the spread of COVID-19 in Nigeria, governments at all levels came out with guidelines in line with global practices. These include spatial distancing, hand sanitising and a total lockdown – a situation of a compulsory stay at home to curtail the spread of COVID-19. Moreover, as ambitious as these guidelines appear, they do not reflect the realities of urban life of a poverty-stricken country like Nigeria. For better understanding, the application of these measures affects two (2) principal dimensions of the urban food supply chain, namely the production and distribution of foods. Furthermore, the impact of these measures was felt on the three (3) cardinal principles of food security. These principles are (i) food sources – disruption of rural imports, urban-urban transport, non-availability of supermarkets, informal economy producing food closed down; (ii) food reliability – unstable income, seasonality; and (iii) accessibility – income, market access, household size, social protection and food preference. Against this backdrop, this study examines the Nigerian urban food supply system during the COVID-19 pandemic and established knowledge gaps in promoting the sustenance of the urban food system. This aim is to build resilience against future emergencies.

Factors affecting urban food supply and food security during COVID-19 pandemic

It is an *idée reçue* among scholars that factors affecting the urban food supply system were predicated on many factors before the advent COVID-19 pandemic. These factors include access to water and land to grow crops; the growing cost of irrigation; tenure; climate change; energy; and human and animal labour. With the advent of the COVID-19

pandemic, the leitmotif on adapting or circumventing the factors affecting food production had hitherto focused on efficiency with an apparent disregard for the aspect of resilience (Bakalis et al., 2020). COVID-19 has lent credence to a more resilient urban food system. By description, this resilient food system is the operational food system policy that can realistically survive and at the same time reduce food insecurity and defeat hunger in the face of an emergency or unanticipated disaster. It is instructive to state that measures instituted to curtail the COVID-19 pandemic have affected the urban food system in many ways. These measures include:

***i. Spatial Distancing*:** Unrestricted food movement within the food chain is a principal factor that sustains humankind during a pandemic. Aside from Medicare, lockdown is an important measure to control the spread of SARS-CoV-2 (the virus which causes COVID-19). With a combination of spatial distancing and hygienic practices, the curve of COVID-19 disease has begun to flatten in many countries until the recent upsurge, otherwise christened as the second wave. While China, where it all began, has virtually overcome the scourge, several countries only barely started to see a semblance of normalcy in their daily operations. These measures have consequences. One of them, which remarkably affects humankind, is the disruption in food availability, accessibility, security, price, and safety. Many countries, including Nigeria, have their local food systems affected by spatial/physical distancing and lockdown, including Nigeria. Spatial distancing, which is the most suitable measure in fighting COVID-19, limits access to food due to the lockdown and has led to lesser food production and resultant hike in food prices.

Furthermore, spatial or physical distancing has an unprecedented impact on the costs of moving foods within cities and across borders, leading to more food loss (mainly livestock) and emptier markets. Livestock products are highly perishable, prone to spoilage and contamination with disease-causing organisms (Grace, Lindahl, Corrrea, & Kakkar, 2015). Grace et al. (2015) further argued that livestock farming is one of the drivers of urban agriculture as it had in time past been a strong driver for producing food within and around cities.

***ii. Lockdown*:** Millions of rural farmers are hard-hit during this emergency. Agricultural produce is perishable products that need informal public transport to reach the cities. To some extent, these wasted away as millions needing transportation to their farms could not do so. Agriculture in Nigeria is rain-fed and seasonal. Lockdowns during the planting season threatened food security in the following months. This situation has led to rising inflation in many African countries, including Nigeria, with associated food shortages. Many cities in Nigeria have low food self-sufficiency, mostly below 20percent (Lawanson, 2020). These statistics reinforce the indispensability of rural areas without which the cities might starve. From the preceding, the lockdown has exposed Nigeria's rickety urban food system and presents a grim and hazy future if another emergency such as COVID-19 emerges. The consequences of the lockdown are similar to the signs of food insecurity including, but not limited to disruption of economic activities, difficulty in accessing food supplies locally, thereby causing import and export-based industries to struggle.

Population growth and urban food supply

There has been an agelong conundrum tied to how the cities would secure enough food to arrest the ever-increasing urban population while holding food prices constant and affordable. It could be recalled that the world's population increased by half a billion, fifteen (15) times spanning four (4) centuries (17th – 21st) (United Nations, 1974; World Bank, 2013). Out of this exponential population is the urban population, which by nature has the proclivity to increase from 3.9 billion to 6.3 billion within the next three decades (Brown, 2009). Of these estimates, about 16percent of the world's population is already running at the risk of inadequate food. At the risk of food insecurity, an epiphenomenon relating to malnutrition and undernutrition is created (Anderson, 2009). However, satisfying a growing population presents a twin challenge – one is providing enough food for all and the second challenge is ensuring access to food for all (food security). The latter is an issue that is more attributed to developed nations, while the former is a recurring issue the developing countries, including Nigeria, struggle to address. Satterthwaite, McGranahab, and Tacoli (2010) adduced that a considerable 60percent of African cities under cross-examination was energy-deficient despite the sedentary lifestyle of people in the region.

According to the U.S. Census Bureau, the world's population grows by 141 individuals each minute of the year 2006. This figure increased to 165 persons/minute of 2013 (Population Reference Bureau, 2013), with assurances of reaching 189 persons/minute of the year 2020/2021. This precarious increase is contingent on continuous access to fresh, nutritious and affordable food. Moreover, if the predictions of Malthus in the eighteenth century about population growing in geometric progression and food supply growing in arithmetic projection were to go by, the world would have been in the quagmire of hunger crises. Food production, to a reasonable extent, had matched the increasing population. Besides, this is an unqualified triumph, as a wide gap still exists between explosive population and food supply.

However, the protracted COVID-19 crisis has presented a redefining moment in the world's history and, at the same time, heightened the level of Africa's vulnerability, being home to the largest desert and the oldest breeding ground of many diseases in the world (FAO, 2020c). These moments have invariably instilled fear that the damage caused by COVID-19 and its effect on the urban food system might cause cities a while to recover from it. Extant predictions of demographers estimating food demand surpassing food supply might come to reality in no distant time. This assertion has been attributed to the lack of urban food system policy capable of absorbing shocks.

COVID-19 experience in Nigeria

COVID-19 shook Nigeria to her root and birthed two schools of thought – the threat to our existence and a race against extinction. It could be recalled that COVID-19 was heralded in December 2019 in Wuhan, China. February 11 2020, will forever be remembered as the World Health Organisation (WHO) assigned the name' novel coronavirus (COVID-19)' as a global name to this ravaging virus, and precisely a month later, the international body declared COVID-19 as a pandemic. As a deadly virus that threatened the existence

of more than 7.6 billion individuals living in the world today (World Bank, 2013), it has shown the potency to infect people of all races, religion, gender and blood groups/genotypes.

For the past fifteen (15) months, the COVID-19 pandemic has worsened in Nigeria, save for recent months, with every Nigerian states, including Federal Capital Territory (FCT), having confirmed cases. These circumstances imperatively necessitated the Federal Government (FG) to institute 'never before policies'. The dialectics of these policies (lockdown, spatial distancing, wearing of face masks and hand sanitising) brought about adjustment and readjustment to match the realities on the ground.

As informed by Olapegba et al. (2020, p. 11), 'Nigerians had relatively high knowledge of the COVID-19 notwithstanding several misconceptions (relying on the hot weather in Africa, consumption of gins, herbs and African foods, as well as chloroquine and antibiotics as precautions to the spread of the pandemic) with appreciably high knowledge of precautionary behaviour'. They revealed that a good percentage agreed that a range of WHO approved and global practices such as hand washing and social distancing, disinfecting contaminated surfaces, closing schools and public events and fumigation of public places were crucial for preventing the spread of the virus. These were corroborated by Oyeyemi et al. (2020) in a study that revealed that a high proportion of Nigerians had correct knowledge about COVID-19. They reported that only about half of the people sampled had accurate knowledge that obesity was a risk factor for COVID-19 and that antibiotics cannot treat COVID-19. Most did not also have a self-perceived risk of contracting COVID-19. Most have been avoiding crowded places and washed their hands very often. Predictors of self-perceived risk of COVID-19 were age 40–59 years and 'visiting crowded places.'

As of October 31 2020, 56,705 people had been infected in Nigeria, compared to 31.2 Million infected and 1,058 dead globally (WHO, 2021). These findings translate to the fact that 0.5percent of the world's population had already been confirmed positive for COVID-19. Figure 1 shows the Nigerian situation as of October 31, 2020. It shows that cases and death tolls are already flatlining.

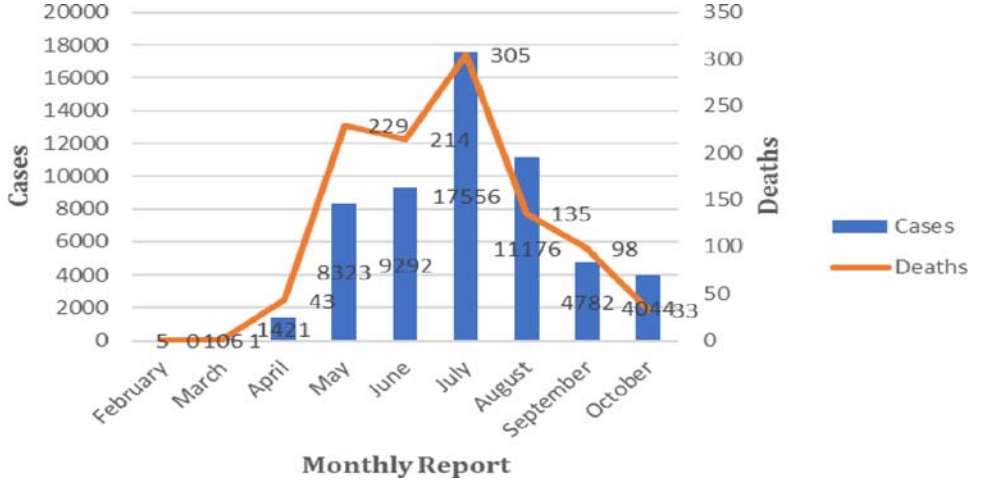


Figure 1. Nigerian COVID-19 Cases and Deaths between February 28 2020, and October 31 2020. Source: WHO COVID-19 Global Data (WHO, 2021).

It is instructive to note that contrary to the belief by some epidemiologists, the trend has not fully aligned with the prediction using the Gompertz model. The model has been used by (Yahuza, Sabo, Dan-Iya, & Abd. Shukor, 2020) to estimate the total number of death cases for Nigeria, with the result shown for August 15 and September 15, 2020, as 940 (95percent CI of 847 to 1,043) and 1,101 (95percent CI of 968–1,252), respectively. Nigeria could not be said to have started winning the war against COVID-19 given the fears about the second wave as new cases, and death tolls have been increasing between 6–13 November 2020 (WHO, 2021). Overall, the COVID-19 pandemic in Nigeria has brought in its wake, significant adverse impact on the food supply chain in Nigeria.

Generally, pandemics, including COVID-19, create demand and supply shocks in all economic sectors, though at varying degrees and different rates. Although the agricultural sector tends to be more resilient than other sectors, to the extent that the pandemic disrupts regional and international trade, the food system in developing countries can still take a significant hit. For countries that rely on food imports, a food system crisis may hit earlier than the effects of the pandemic itself (Savastano, 2020). As shown in Table 1, Andam, Edeh, Oboh, Pauw, and Thurlow (2020) established that during Nigeria's lockdown period occasioned by the pandemic, agri-food gross domestic product (GDP) declines by 11.1percent or US$1.6 billion compared to the year 2019, with barely less than half of the losses occurring within the agricultural sector. Besides, losses in the agro-processing sector were significant (16.5percent) due to restrictions imposed on non-essential manufacturing or services sectors that demand agro-processing products. Food and agricultural trade and transport services declined by 10percent. Despite the limited size of the food services sector, the authors posited that it had significant linkages to other subsectors within the agri-food system, resulting in substantial overall impact.

In its Keeping Food Markets Working (KFMW) programme to provide targeted support to help sustain core food systems, workers and markets during the COVID-19 emergency, Global Alliance for Improved Nutrition (GAIN) (2020) summarised the current situation of Nigerian food systems amidst COVID-19. GAIN's report emphasised small and medium-sized enterprises (SMEs) and how nutritious foods value chains are changing. It asserted that an estimated 32.1 million people in Nigeria are currently in a stressed, crisis, or emergency food-insecure situation. It was reported that the pandemic has further disrupted each segment of the food supply chain, but the effects are different along the rural-urban continuum. Meanwhile, more urbanised areas might have been worse hit than

Table 1. Estimated change in agrifood system GDP during lockdown period.

			GDP change during the lockdown		
		GDP Share in 2019 (%)	%	US$ billions	Contribution to change (%)
1	All Sectors	100	−23.4	−11.3	100
2	Agri-food system	32.6	−11.1	−1.6	14.4
3	Agriculture	21.0	−7.6	−0.7	6.5
4	Agro-processing	4.0	−16.5	−0.3	2.9
5	Food-related trade and transport	6.7	−10.0	−0.3	2.9
6	Food service	0.9	−83.6	−0.3	2.2
7	Rest of the economy	67.4	−28.8	−9.6	85.6

Source: (Andam et al., 2020).

remote rural areas, especially when connectivity is broken down, as most food is produced in rural and semirural areas (Savastano, 2020; United Nations, 2020).

Notwithstanding, the Nigerian government has introduced several measures to mitigate the impacts of the pandemic on the food supply system and its attendant effects on the citizenry. In a programme instituted by Nigeria's Ministry of Humanitarian Affairs, nine million children in three million homes across all Nation's states were identified as beneficiaries of a home feeding programme. This programme aimed to unlock the children from spasmodic hunger during the school closures, which affected over 39 million youngsters. This programme includes providing food to take home (United Nations, 2020). These were complemented by several palliative measures to bolster the food supply system, such as:

i Reduction in the interest rate on all intervention loans from 9percent to 5percent per annum with the disbursement of over ₦300 billion (USD 788 million) to SMEs in healthcare, agriculture, and manufacturing sectors (Odutola, 2020a).
ii Setting up a ₦50 billion (USD 131 million) credit facility through Nigeria Incentive-Based Risk Sharing for Agricultural Lending (NIRSAL) Microfinance bank for SMEs on May 2, 2020 (Odutola, 2020b).
iii Delivery of 70,000 tonnes of grains from the reserve to cushion the effects of food shortages (GAIN, 2020).

For the record, when COVID-19 first case in Nigeria was confirmed on February 27, 2020, a multisectoral emergency operations centre (EOC) was activated to Level 3 – the highest emergency level so far in Nigeria- led by Nigeria Centre for Disease and Control (NCDC). It must be understood that the 'beck and call' of EOC was to flatten the COVID-19 curve in Nigeria. However, going by reports from the NCDC and despite continuous awareness programmes on the mainstream media, governments still grapple with public perception at all levels. To this end, Nigerian citizens are encouraged to embrace attitudinal change as the anticipated second wave of COVID-19 is feared to be more devastating.

Hunger, food insecurity and food system disruption before and during COVID-19

Having food to eat every day is a foundation for a whole and dignified life. Food is an everyday necessity at least twice a day to every living individual. Hunger is a feeling of discomfort and weakness that individuals or groups of individuals experience due to a lack of food. Globally, the Food and Agriculture Organization (FAO) (2020a) estimates that over 135 million people wallow in food crises and more than 1 billion people occasionally or continuously go to bed hungry every night. This figure, however, has been heightened by COVID-19. It must be ascertained that the poor urban citizens bear the brunt of food insecurity and hunger. These people living in poverty cannot afford to buy food in large quantities but in small amounts that seem contingent on access to street vendors/hawkers, open-air markets, or small shops (FAO, 2020b). They find it onerous to afford home food delivery service or supermarkets. Expectedly, it has led to nutrition deficiency and food insecurity.

It can be recalled that Adam-Bradford and Veenhuizen (2015) estimated that more than 1.2 billion people live in the slum, squatter settlements or refugee camps with limited access to essential services, including safe and affordable nutritious food. This appalling and undesirable condition and setting, in turn, led to the rapid spread of COVID-19. The rapid changes brought about COVID-19 have been felt on food accessibility, availability and affordability. These changes increased the number of people with insufficient food consumption (IFC). The World Food Programme (WFP) refers to this cohort as poor or borderline food consumption. WFP is calculated by using the frequency of consumption of eight food groups by a household during the seven days before a survey using standardised weights for each of the food groups reflecting its respective nutrient density, and then classifies households as having poor (food consumption score (FCS) of less than 28), borderline (FCS of less than 42) or acceptable food consumption (FCS of greater than 42) (WFP, 2020).

FAO postulates that the impact of COVID-19 has increased the number of people living in chronic hunger. The report maintains further that this figure represents 820 million people worldwide (Mojeed, 2020). Moreover, 113 million of these figures are struggling with acute and severe food insecurity. This statistic translates to the fact that these sets of people rely on external assistance/interventions to recover/feed daily. Table 2 puts these statistics into national perspective that 32 million (4percent) of the people that lurch in chronic hunger reside in Nigeria. Accordingly, Table 2 shows Benue, Borno, and Niger states having more than 50percent of their population wallowing in chronic hunger during COVID-19. In contrast, Adamawa, Akwa-Ibom, Nasarawa and Yobe had well over 30percent of their states' population during COVID-19 going to sleep every day with severe and chronic hunger/food insecurity.

Lawanson (2020) verified the assertions of (WFP, 2020) on the basis that the food distribution chain was broken or disrupted during COVID-19, particularly during the imposition of total lockdown and border closure. These impacts were felt by urban and peri-urban residents as both markets and farms were inaccessible. Simultaneously, police officers found it tricky to interpret exceptions to border closure and lockdown (Lawanson, 2020). These circumstances, in turn, led to federal and state orders on border closures being enforced illogically by extortion of operators of both small and big vans transporting food across interstate borders. Resultantly, this compounded the food crises in and around cities during the COVID-19 pandemic.

Current mitigating strategies to strengthen urban food system as well as their loopholes during COVID-19

a. ***Government Intervention***

Food and Cash Transfer: The president of Nigeria, President Muhammadu Buhari announced, on March 31, 2020, palliative measures such as food, cash transfer and loan waivers put in place as strategies to cushion the effects of restrictive policies employed to combat COVID-19. This food and cash transfer were birthed to cover 2.6 million vulnerable households in the first instance (Buhari, 2020). This arrangement was later expanded to cover additional 1 million vulnerable families across the country

Table 2. Food insecurity in Nigeria during COVID-19.

S/N.	States in Nigeria	No. of people with Insufficient Food Consumption (IFC) (Million)	Percentage of IFC
1	Abia	0	0
2	Adamawa	2.2	45.11
3	Akwa Ibom	2.4	43.95
4	Anambra	0	0
5	Bauchi	0.262	3.63
6	Bayelsa	0	0
7	Benue	3.3	52.61
8	Borno	3.3	56.84
9	Cross River	0.302	8.24
10	Delta	0.313	5.45
11	Ebonyi	0.006	0.19
12	Edo	0	0
13	Ekiti	0.267	8.17
14	Enugu	0	0
15	Gombe	0.101	2.84
16	Imo	-	-
17	Jigawa	1.8	28.08
18	Kaduna	0.34	3.62
19	Kano	0.882	5.90
20	Katsina	1.2	15.51
21	Kebbi	0.143	2.91
22	Kogi	0.752	16.79
23	Kwara	0	0
24	Lagos	1.6	12.62
25	Nassarawa	0.783	30.88
26	Niger	5.9	97.14
27	Ogun	0.284	5.24
28	Ondo	0.203	4.31
29	Osun	0.252	5.29
30	Oyo	1.5	19.06
31	Plateau	0.043	0.92
32	Rivers	0.199	2.75
33	Sokoto	0.318	5.87
34	Taraba	0.495	14.55
35	Yobe	1.8	42.57
36	Zamfara	0.786	22.56
37	FCT	0.172	3.96
Total		**31.903**	

Source: (WFP, 2020)

(Eranga, 2020), with a more significant percentage devoted to Lagos state, the ravaging virus's epicentre. This palliative measure only covered 26.7percent of the vulnerable groups in Nigeria (Aduloju, 2020). Moreover, profiling the vulnerable households during the distribution of the palliative presented an onerous task during the implementation. The percentage of food-insecure people has also increased during this pandemic. These statistics heightened the fact that access to food has been absent in urban policy and planning agenda for decades. Poor access to food was more of production, distribution and affordability failure due to restrictive measures and loss of income, particularly among the urban vulnerable.

In some quarters, the food palliative raised equity problems as they were unevenly distributed. To many, it was hijacked by some government agents/politicians who offered the same as constituency projects (Eranga, 2020). To that end, a mind agitating question was invoked: who are the vulnerable groups? This conundrum in understanding the definition of vulnerable groups showed that there had been an agelong absence of a national social register for the urban poor. It could be recalled that vulnerable groups

are the groups with the propensity to suffer harm economically, socially or environmentally. For a comprehensive understanding, Virtual University for Small States of the Commonwealth (VUSSC) (2006, p. 3) and Bako, Aduloju, Suleiman, and Lawal (2018, p. 2) define vulnerability as 'the extent to which an individual or community's structure, services or environment is likely to be damaged or disrupted by the impact of a hazard'. As clear as these definitions are, it became an issue of logical interpretation in Nigeria. It was unfortunate that politicians presented themselves as the vulnerable, while in some cases labelled their families, friends or associates and even political followers as the vulnerable in need of the palliatives while excluding the poorest of the poor in benefitting from the palliatives.

Further, lack of coordination in distribution and massive shortage of the meagre palliatives were evident across all geo-political zones already earmarked as beneficiaries (Amzat et al., 2020). Moreover, the youths that the Federal government failed to invest in are dominating the vulnerable groups. Therefore, there is a need to build a resilient urban food system by carrying out periodic assessment and generating reliable and realistic data of the urban vulnerable.

FarmerMoni – Government Enterprise and Experiment Programme (GEEP): The ability to absorb shocks during COVID-19 became more worrisome as many had already lost their sources of income with the advent of COVID-19, which resulted in a total lockdown and border restriction. However, the *sine qua non* of this GEEP facilitates and improves farmers' access to soft loans. In other words, the loan is designed as a collateral-free loan accessible to farmers and repayable after six (6) months plus an additional three (3) months as a moratorium due to COVID-19 (https://www.startcredits.com/loans/farmermoni/, 2020). Furthermore, an amount ranging between 300,000 to ₦2 Million could be accessed provided the petty farmers pay back within the stipulated period. Nevertheless, it is safe to state that this offered some lifelines to the urban vulnerable even though people who have benefitted during the pandemic remain unknown.

School Feeding Programme: In maintaining adequate food and nutrition for school children during COVID-19, the presidency directed the Ministry of Humanitarian Affairs, Disaster Management and Social Development (FMHDM&SD) to maintain the proper diet of school children by supplying at least one (1) square meal to these children at home. At the Presidential Task Force (PTF) briefing dated August 3, 2020, Olisah (2020, p. 1) reported that the Minister maintained the indispensability of take-home rations for feeding children during the lockdown. So, it was a joint resolution of the ministry and the state governments to give out take-home rations'.

The mandate given to this ministry was to work out a realistic scenario of sustaining the school feeding programme (SFP) during COVID-19 and without compromising the spatial distancing guidelines. At the said briefing, the Minister averred that a child's meal is bargained at 70 per day and three (3) children per household, equating 210 per day, per 3 children and household (Olisah, 2020). The modified homegrown SFP was designed to cover 20 working days in a month. Based on this assumption, a sum of 4,200 was bargained per household (3 children made up a household) per month. As of the time of the study, 124,589 households were identified as being impacted by COVID-19. To that end, 23.8percent, 27.7percent and 48.5percent of the households were identified in Federal Capital Territory (FCT), Lagos and Ogun, respectively, as vulnerable households in need of the homegrown SFP (Olisah, 2020). Albeit, it may seem as though the

methodology and data employed in arriving at such figures appeared vague and arbitrary due to the socio-demographic settings of typical African cities. Although 4,200 was bargained as the amount spent on a household per month, with 124,589 households identified to be impacted by COVID-19. This premise translated into 523.3 Million being spent per month. Approximately N1.05 Billion was spent between May 14, 2020, and July 6, 2020, as declared during the PTF briefing of August 3 2020 (Olisah, 2020). As explanatory as the above explanations are, there were considerable concerns about how this modified homegrown SFP was implemented.

Additionally, questions about how data and locations of these school children were gotten during COVID-19 lockdown arouse suspicions and hitherto presented an ostensible situation to the citizens of the three states in question. Also, citizens find it challenging to identify the supposed vulnerable pupils in rural and urban settings that have benefitted from the homegrown SFP. Therefore, as flamboyant as the SFP appeared, the lack of social data of these school children, particularly those vulnerable, faults the disbursement process and identifying and evenly distributing food to the vulnerable school children with the SFP of equity as the guiding principle. Nonetheless, there were indications that the SFP was hijacked by politicians for their political faithful and subsequently fraught with corruption.

b. ***Other State and Non-State Interventions***

To strengthen the urban food supply chain during COVID-19, many governmental or non-governmental organisations in their little way have risen to the occasion. For instance, Engr. Seyi Makinde – Governor of Oyo State – identified and distributed food items to 120,000 households comprising 90,000 households drawn from the poorest of the poor and the remaining 30,000 households drawn from the vulnerable groups (Isaac, 2020). Similarly, Isaac (2020) informed that the Governor of Borno State – Prof. Babagana Zulum – donated food items to Internally Displaced Persons (IDPs). These individuals have been forced to flee their homes due to the *Boko Haram* insurgency. Also, Lagos identified 200,000 households that would benefit from food palliatives to cushion the effects of COVID-19.

The Lagos State Government (LASG), via her official Twitter handle dated September 22, 2020, affirmed that Coalition Against COVID-19 (CACOVID), which is one of the leading non-state institutions against COVID-19, donated food palliative to Lagos State Government and other South-west states (LASG, 2020a). The palliative comprised 107,546 packs of food initially stashed in a warehouse in Lagos before distribution to other Southwestern states (Ondo, Oyo, Osun, Ogun and Ekiti). Each pack contained 10 kg of rice, 5 kg of *garri*, 5 kg of sugar, 1 kg of salt, two cartons of *indomie* noodles and one carton of pasta (LASG, 2020b). Unfortunately, this donation suffered a setback as the distribution did not take off. The warehouse that stashed the food items was massively looted by hijackers of the #EndSARS (agitation for an end to Special Anti-Robbery Squad (SARS) brutality) peaceful protest in Lagos (Channels Television, 2020). This wanton destruction and massive looting by hoodlums disenfranchised more than 100,000 vulnerable households across the south-west region that would have benefitted. Furthermore, these massive lootings have been replicated across other regions of the country. In other

words, the looting of the food items was borne out of greed and apparent disregard for the guiding principle of equity.

Other non-state actors that contributed immensely to the supply of food to the vulnerable during the pandemic include (i) Non-Governmental Organizations (NGOs) – CACOVID, Tuls Chanrai Foundation (TNF), and Flour Mills Nigeria (FMN). (Onehi, 2020); (ii) Faith-Based Organizations (FBOs) – Christian Association of Nigeria (CAN), *Nasrul-lahi-li Fathi* Society of Nigeria (NASFAT), and The Redeemed Christian Church of God (RCCG); (iii) Elite groups – North East Development Commission (NEDC), academic communities; and (iv) Community Based Organisations (CBOs) – Traditional communities, landlord associations (Isaac, 2020). All these state and non-state actors helped in no small measure in realistically building resilient measures that helped cushion the effects of COVID-19.

Conclusion

COVID-19 has practically bared its fangs globally. Its impacts have been felt on the urban food system in Nigeria, with disruptions of food systems across the Nation's architecture, particularly during the lockdown. However, urbanisation and shifting governance responsibilities pose an existential threat to the future of urban food systems. The growing concerns about governance, tied with the increasing complexities of cities, remain an issue in many developing countries. Administrations at federal, state and local levels struggled to separate governance from politics in the equitable distribution of resources. This paper asserts that Nigeria has not adequately built a resilient strategy for eventualities, such as the COVID-19 pandemic. All measures instituted at all levels of government to strengthen the urban food system during COVID-19 only covered an insignificant proportion of the urban vulnerable.

Additionally, governments at the federal and state-level should establish food banks, where food can be safely stored and efficiently disbursed during emergencies. This food-bank initiative should be structured so that a certain percentage of governments' (federal and state) budget and companies' annual profit are committed to this initiative. The saying that *we have to double our food production* amongst experts in food and agriculture is a modern-day reality. To that end, urban and peri-urban agriculture (UPA) must be legitimised and instituted into the urban spatial framework. Recall that 75percent of earth food is consumed in cities (Wiskerke, 2015). Traditionally, UPA is not a fundamental land use in cities. However, given modern-day reality, there is a need to produce more than what people can eat, hence its inclusion in the city's spatial frameworks. Although, many challenges in cities today are either related or influenced by the food provisioning system. Therefore, this has placed the food provisioning system in an advantageous position in integrating economic, social and environmental dimensions of sustainability and further presents ways of obviating problems associated with social and environmental justice, health and nutrition-related issues.

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