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Threats of COVID-19 Pandemic Lockdown to the Livelihoods of Farmers in Gusau, Zamfara State

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Abstract

The outbreak of COVID-19 drastically changed the lives of people globally and dramatically altered the activities of farmers, particularly their livelihoods. Several measures, specifically, lockdowns, were instituted as an emergency measure to prevent the spread of diseases through the restriction of individuals to certain areas. The lockdowns required that businesses must be closed and people stay indoors except for essential services. The study examined the levels of threats associated with the COVID-19 pandemic lockdown to the livelihoods of farmers through three main objectives; to assess the extent to which COVID-19 pandemic lockdown has threatened the socio-economic characteristics of farmers, their farming activities and income generation in Gusau, Zamfara State, Nigeria. A conceptual review of livelihood was done and other scholarly works on threats of pandemics to livelihoods were also reviewed. The study adopted a survey research design and has a sample size of 400, calculated based on unknown population by an online calculator. SPSS was used to analyse 397 copies of valid questionnaire retrieved. The study found out that majority of the farmers actively and sufficiently engaged in both commercial and subsistence farming, not too distant to their houses and accessed mainly through vehicles such as motorcycles, cars, etc. Findings revealed that farming activities such as harvesting, irrigating and transporting engaged in by majority of the farmers were threatened by the lockdowns and resulted in poor income generation among the farmers. The farmers were threatened by the sales of farm produce at lower prices, lack of money to pay for the lease of storage facilities, low orders from customers for the purchase of farm produce, wastage in terms of perishable goods, rotten and damaged farm produce, etc. The study recommends that perishable goods and other farm products should be bought by governments at reasonable prices to control unnecessary hikes in goods and services and loss of income to the farmers during such disasters.

Keywords: COVID-19, Farmer, Livelihood, Lockdown, Pandemic

Introduction

The outbreak of COVID-19 has drastically changed the lives of people globally (Global Initiative, 2020). In Nigeria, it has dramatically altered the activities of farmers, shaping their behaviours (Tanielian, 2020). COVID-19 is the disease caused by a coronavirus, firstly reported in December 2019 in China, specifically Wuhan, Hubei Province. It was declared by the World Health Organization as a global pandemic in March 2020 for affecting all European Union countries, the United Kingdom and the African continent (European Monitoring Centre for Drugs and Drug Addiction [EMCDDA], 2020). Several guidelines and measures were put in place by the Federal Government of Nigeria through the Presidential Task Force (PTF) on COVID-19 in conjunction with the Federal Ministry of Health, to prevent the escalation of the virus and to protect the health of Nigerians. One of these includes an initial lockdown of non-essential activities in some parts of the country and a subsequent ban on domestic and international flights.

The lockdown was instituted as an emergency measure to prevent the spread of diseases or other challenges by restricting individuals from certain areas. Lockdowns during the outbreak of the COVID-19 pandemic required individuals to stay at home, embrace new practices such as social distancing and remote working. In Nigeria, the lockdown was declared on March 30 for 14 days in Abuja, Lagos, and Ogun by the Federal Government of Nigeria but later extended to other States of the federation. The purpose of the lockdown was to ensure business closure, movement restriction, except for essential services, and prevention of community spread of COVID-19. The government of Nigeria charged the law enforcement agencies and the military to enforce the lockdown so that the spread of the virus could be curtailed.

The lockdown required that businesses were closed and people stayed indoors, except for essential journeys. Markets were permitted to operate for limited hours for people to purchase food and other important necessities. Campbell and McCaslin (2020) revealed that the lockdown resulted in obvious empty streets, led to shutting down of schools; banning of public gatherings including religious congregations and employees were forced to work from home. While the lockdown was deliberately purposeful, Asimi (2020) claimed that it exposed several people including farmers to untold hardship. This is because larger percentages of Nigerian farmers have their farmlands far away from homes, therefore, the lockdown might have affected their chance of farming to generate income and contribute to food surplus; hence, the emergence of food insecurity in the country.

The lockdowns instituted by the Nigerian governments to combat the spread of COVID-19 relatively reduced coronavirus cases, although, they impacted the country's economies negatively particularly, farming activities (Campbell & McCaslin, 2020). The movement restrictions disrupted most farming activities, causing the inabilities of Nigerian farmers to plant and harvest crops from farmlands far away from homes, hence, setting the pace for food insecurity and loss of income to farmers for family sustenance. The movement restriction slowed down or even halted farming activity, restricted farmers' abilities to work for income generation, meet basic needs and ensure stable food security and family. While this study observed that several reports have been written and documented on the impact of the COVID-19 pandemic on the economy, only a few empirical studies have been conducted on

the impact of lockdowns on farmers' livelihoods. This study bridged the observed gaps by providing empirical information on how the pandemic lockdown constituted a threat to farmers' livelihoods in Gusau, Zamfara State, Nigeria.

Objectives of the Study

i. To determine the extent to which the COVID-19 pandemic lockdown threatened the socio-economic characteristics of farmers in Gusau, Zamfara.
ii. To examine the extent to which the COVID-19 pandemic lockdown hindered farming activities of farmers in Gusau, Zamfara.
iii. To assess the extent to which the COVID-19 pandemic lockdown affected the income generation of farmers in Gusau, Zamfara.

Literature Review

Concept of Livelihood

The concept of 'livelihood' is a basis for understanding how people's lives and their wellbeing are influenced, most especially by focusing on the poor people in developing countries. The concept has several meanings and there is a need to clarify it to further make the study explicit and comprehensive. For the purpose of this study, the definition of Chambers and Conroy (1991), is adopted because it encompasses all the components for understanding the concept of livelihood. According to them, a livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. Such activities could include securing water, food, fodder, medicine, shelter, clothing. An individual's livelihood involves the capacity to acquire the aforementioned necessities to satisfy the basic needs of themselves and their household. The assets are either tangible (food stores and cash savings, trees, land, tools, livestock and other resources or intangible (claims made for food, work, assistance and access to education, information, health services, employment opportunities and materials). In a simple language, livelihoods are means of making a living including the various activities people do to survive or stay alive. The activities are usually carried out repeatedly and in a manner that is sustainable and providing of dignity". For instance, the livelihoods of fishermen heavily depend on fish availability and accessibility; the livelihoods of traders depend on the availability of and accessibility to goods and services without any forms of restriction e.g. lockdown; the livelihoods of teachers depend on going out to work by teaching and disseminating knowledge to receive salaries at the end of every month of work.

Threats of COVID-19 Pandemic Lockdown to Livelihoods of Farmers

Over 50% of Nigeria's population is rural, engaging in agricultural activities mostly at subsistence levels (Food and Agriculture Organization [FAO], 2020; Ogundare, 2020), and remains essential to the livelihoods of rural households and the country's economy. Therefore, food insecurity depends upon the inability of farmers to access their farmlands for planting and harvesting. The inter and intra-state movement restrictions caused by the pandemic make seasonal farmworkers struggle in accessing their lands during planting season e.g. from March to June. Contrary to this, Famine Early Warning Systems Network [FEWS NET] (2020) accentuated that the containment measures by the Nigerian governments have not stopped agricultural activities, but have reduced the production of farm

produce compared to the pre-COVID-19 era. The disruption of household livelihoods and agricultural activities by the pandemic lockdown have hiked food prices, cut down agricultural production and worsened food insecurity in the country.

COVID-19 pandemic has had an enormous impact on the livelihoods of Nigerians and the world at large, especially the most vulnerable and poor households (Campbell & McCaslin, 2020). The efforts put to establish solid sources of livelihoods before the pandemic have been distorted by the outbreak of the virus. The financial status of several individuals most especially the farmers were greatly affected, leading to loss of produce and income (Shen & Liao, 2020). The lockdown aimed at curtailing the spread of the virus restricted the movements of both farmers and buyers. Where a commercial farmer who was previously receiving orders from customers for the sales of farm produce like maize, rice, yams, among others, such has been made difficult or impossible. The situation will certainly increase the worries of the farmers and their families. Also, those who were commercially driving their farm produce to the location where it was demanded for supply and sales before the outbreak of the pandemic were no longer be able to go out due to stay at home orders.

Shen and Liao (2020) observed that the outbreak of the COVID-19 epidemic impacted the urban food system, including agricultural production, sales, distribution, consumption, and farmers' livelihoods. Accordingly, the COVID-19 pandemic lockdown crippled agricultural activities, including people who directly or indirectly involved in agriculture production and transportation. The normal distribution of agriculture products and agricultural production materials, including feed, veterinary medicine, seed and seedlings were made inaccessibly difficult by the lockdown. Shen and Liao (2020) posited that the pandemic lockdown was responsible for the shortage of food supply in the urban and rural areas, restricted and delayed the resumption of the agricultural enterprises' economic activities. Therefore, it would be difficult for farmers to adequately prepare for rainy season farming, aimed at safeguarding an effective supply chain of agricultural produce and a good recovery of the local economy in the post-COVID-19 period.

The period of the pandemic lockdown kept farmers away from their farmlands. The little money at hand was spent without generating more revenues due to the pandemic lockdown and farmers' purses became empty. Hunger, therefore, erupted, crops got spoilt, rotten and damaged, and wares in shops, supermarkets and warehouses got expired. This contributes to the experience of hunger among able-bodied men and women including children. Shen and Liao (2020) noted that the livelihoods of petty traders, farming, artisans and members of the civil service were severed seriously by the pandemic. Additionally, families experienced income shortages as the country struggled to provide essential services to avert the impact of the virus on livelihoods. Such condition deepened food insecurity for vulnerable people. The imposition of movement restrictions caused people to have a dire choice of either continually earning a living or protecting their health. The COVID-19 pandemic extremely disrupted and potentially severed farming activities, businesses and jobs not only in Nigeria but also in the world (FEWS NET, 2020; Ogundare, 2020; Shen & Liao, 2020). Similarly, Shen and Liao (2020) observed that the pandemic has rendered farmlands deserted by farmers during the pandemic lockdown. This implies that a food crisis is likely to erupt and food production systems will get disrupted. Hence, farmers' livelihoods, the national food and nutritional security are threatened.

While fish farmers would be thought to survive the impact of the pandemic, unfortunately, the reverse was the case during the total lockdown. Johnstone et al. (2020) argued that aquatic foods, most especially fish, are key to global economic systems for being highly nutritious. However, the COVID-19 pandemic through disruptions in trade, transportation, and labour negatively impacted the chains of supplies of fish and other aquatic foods too. The COVID-19 pandemic reduced the production of fish and aquaculture systems, delayed stocking, lowered supplies and made access to and consumption of these foods difficult. Johnstone et al. (2020) expressed that where the consumers' demands for fish decreased, there would be increased transaction costs. Thus, the prices of aquatic foods (fish in particular) would be very high and it would be difficult for poor people to afford it. Hence, individuals employed in the supply chains of aquatic foods such as processors, suppliers, fish vendors and transporters would be rendered jobless or idle as the pandemic continued.

Chopra, Ravi and Kumar (2020) reported that the lockdown disrupted the long value chains between cultivators and consumers in India with emphasis that retail prices continued to shoot up, wholesale prices continued to fall, and producers struggled to find buyers for their farm products. Accordingly, farmers lacked access to adequate labour or equipment to harvest standing crops; experienced constraints in terms of logistics of input supplies; and experienced unanticipated shortfall in the availability of credit, subdued demand, unpredictable consumer behaviour, and reduced buying power. Similarly, in Nigeria, the COVID-19 pandemic ravaged the activities of poultries. Ogundare (2020) reported that several poultry owners experienced a loss of profits to the pandemic, particularly where poultry farms were located far from homes. The lockdown prevented poultry owners from adequately feeding their birds, hence, several birds died and that amounted to a loss of profits. Ogundare (2020) argued that it was very difficult or impossible to access or locate such farms during the period of lockdown. The situation was even complicated by heavy rainfall, allowing water to get into the poultry, and the birds got shaken and possibly died, owing to absence of poultry attendants. In the case where attendants were present, getting the attention of the birds' doctors was a serious headache to the poultry owners.

Ogundare (2020) posited that a multiple misfortune was experienced owing to the flooding of poultries by heavy rainfall which subsequently exposed the birds to starvation and or ill health. Therefore, poultry farmers might likely experience collateral damage from the pandemic because of the deaths of several birds, shortage of egg crates, decreased demands and low supplies of both the chickens and eggs. The inability of poultry farmers to get the feeds to feed their chickens for fast and multiple lays of eggs was made difficult by the lockdown. Factories and shops for the production and sales of feeds were shut down and locked up which resulted in low crates of eggs in circulation. Therefore, the commercial activities of the poultry farmers were effectively limited and affected by the pandemic, most especially on the generating income capacity and household spending.

The FAO (2020) reported that the pandemic greatly impacted the commercial activities of farmers and predicted that such impact would result in a food crisis, imperil livelihoods and exacerbate poverty. Similarly, the Consultative Group for International Agricultural Research (CGIAR, 2020) also noted that the pandemic would disrupt food production systems, precipitate food crises and pose a great threat to the livelihoods of farmers, the national food and the nutritional security of the country. The survey conducted by the Nigeria Bureau of Statistics between June 2-16, 2020 among a sample of 1,950 households, revealed that the

COVID-19 pandemic has substantially worsened the situation of food security in Nigeria, with evidence from about 30% of households interviewed agreeing to have experienced severe food insecurity for lacking money or other resources (Ogundipe, 2020). This affirms that before the COVID-19 pandemic, businesses were run normally at people's pace but were heavily dealt with by the pandemic and the lockdown.

Overall, Chopra et al. (2020) asserted that wholesale prices were driven down while the agriculture value chain from farm to the final consumers faced many roadblocks. The friction in the supply chain multiplied because of the lockdown, reduced wholesale prices and increased retail prices to reflect the unhappy situation for either the farmers or the consumers. Chopra et al. (2020) argued that the disruption in retail supply chains of food grains and perishables would cause uncertainty in supplies and fluctuating prices. Therefore, panic buying and hoarding would be created by high-income segments and this would lead to shortages for low-income segments. Again, Chopra et al. (2020) claimed that harvested/standing crops could either be sold at extremely low prices, stored in non-conducive conditions or burnt or gifted due to unfeasible transportation to markets. Therefore, farmers might experience apprehension concerning the rainy cropping season, become uncertain about the crops to plant, become apprehensive about the unavailability of farm inputs and credit. The situation of the market and the logistics at the time of harvest might be unpredictable. And at such, livestock farmers might be equally distressed due to the unfounded belief that coronavirus could be transmitted through poultry.

Methodology

The study adopted a survey research design because it is one of the most important areas of measurement in applied social research. The study was conducted in Gusau, the State capital of Zamfara, located on a principal transport route between the central urban hubs (Zaria, Kaduna, Kano and Abuja), and the market towns to the north on the border with Niger. The rural population is comprised mainly of Hausa and Fulani although urban areas are home to a greater mix of ethnicities and nationalities. The sample size of the study, which was calculated based on an unknown population by an online calculator (www.calculator.net/sample-size-calculator.html) is 385. The confidence level was set at 95%, margin of error at 5% and population proportion at 50%. However, for adequate and equal distribution of the questionnaire, the researcher increased the sample size to 400. A multi-stage cluster sampling technique was adopted to select five wards out of eleven in the study area, randomly selected from a sampling frame created by the researcher. The wards selected include Ruwan Bore, Mada, Rijiya, Wonaka and Magami. The questionnaire, with fifteen items, was distributed to four hundred farmers by trained research assistants between 26th December and 25th January 2021. While 397 copies of questionnaire were correctly filled and returned by the time of analysis, two were improperly filled and one was not returned as at the time of compilation.

The study adopted a quantitative method of data collection via the use of a structured questionnaire as an instrument. The questionnaire was thoroughly revised by the research team for validity, comprehensiveness, and appropriateness to collect the required information from the targeted population. The structured questionnaire was designed by the researcher with three (3) sections based on the objectives of the study after an extensive literature search. The study respondents were required to tick or write where necessary based on the

options provided. Names of the respondents were not used for identification but coding numbers were used instead. Many of the respondents could not speak fluently and write legibly in English language, hence, the researcher employed three research assistants who helped in the translation and administration of the questionnaire in the language (Hausa) of the respondents. Data collected were treated with the utmost confidentiality. The questionnaire was tested with a group of 20 farmers in Maru Local Government Area, Zamfara. While minor observations were made, modifications were suggested and adopted in the final questionnaire.

The data generated from the field were processed using the software Statistical Package for Social Science (SPPS, version 23). Descriptive analysis was utilized for data analysis which involved the use of frequency, percentage and mean distribution. Descriptive statistics were used to provide basic information about the variables and to highlight potential relationships between variables. The mean decision was based on 1.5. Thus, from any variable with 1.5 and above means acceptance, high, good, affected, considered as the case may be while below 1.5 means rejection, low and poor, not affected and not considered.

Results/Findings

Threats of COVID-19 Pandemic Lockdown to the Socio-Economic Characteristics of Farmers

This section presents the socioeconomic characteristics of farmers to establish the levels of threats experienced amid the COVID-19 pandemic lockdown.

Table 1: Socio-Economic Characteristics of Farmers

Variables	Responses/Options	Frequency (397)	Percentage (100)
Types of farming	Subsistence	71	17.9
	Commercial	95	23.9
	Both	231	58.2
Distance of farmland to house	Close	159	40.1
	Far	238	59.9
Types of transportation mostly used to access farmlands	Vehicles (e.g. motorcycle, car, etc.)	310	78.1
	Trekking	87	21.9
Type of labour mostly used for farming	Family labour (wives, children, siblings, etc.)	119	30.0
	Community labour (friends, neighbours, etc.)	67	16.9
	Commercial labour (paying for labour)	211	53.1
Ownership of the land for farming	Personal	173	43.6
	Family	87	21.9
	Community	43	10.8
	Leasing/Renting	94	23.7
Size of farmland	Large (hectares [10,000 square metres])	59	14.9
	Medium (acres [4,046,86 square metres])	118	29.7
	Small (plots [900 square metres])	220	55.4

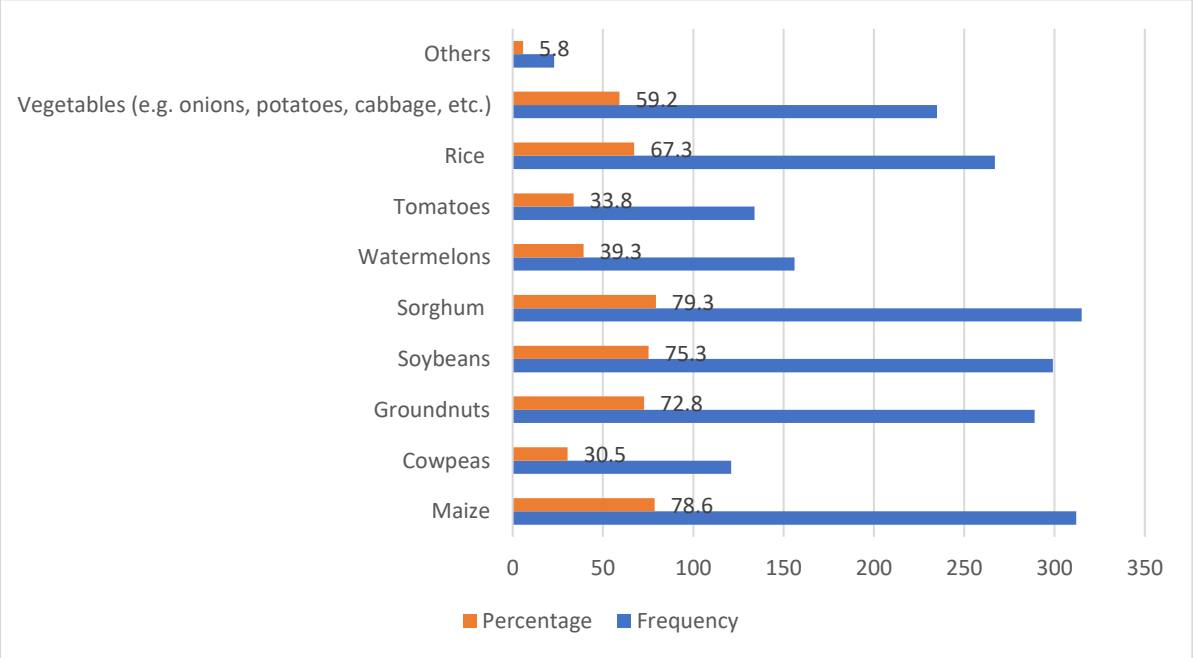
Source: Fieldwork 2021

Table 1 presents the socioeconomic characteristics of respondents before the COVID-19 pandemic lockdown to assess the level of threats experienced. It was found out that majority

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(58.2%) of the respondents were practising both subsistence and commercial farming. In other words, the respondents farmed for income generation and food consumption. Findings revealed that the majority (59.9%) of the respondents had their farmlands far from their houses and about (278.1%) used vehicles such as motorcycles, cars, buses, etc., to access the farmlands and to transport goods and services to the location where needed. Furthermore, the Table shows that while family labour (30%) (wives, children, siblings, etc.) and community labour (16.9%) (friends, neighbours, etc.) were used in carrying out farm activities, commercial labour (53.1%) (paying people for the work) was mostly adopted. This is because farming activities were beyond consumption and carried out to boost the economy through income generation and food surplus. The Table also shows that about 43% had their personal farmlands, a few of the respondents depended on family (21.9%) and community (10.8%) lands for farming while (23.7%) solely accessed lands through leasing/renting. Similarly, findings established that majority (55.4%) of the farmers had access to plots of land for carrying out their farm activities, although, 29.7% and 14.9% had access to acres and hectares of lands respectively. This implies that majority of the farmers could not expand their farmlands beyond their means which was influenced by their socioeconomic characteristics.

Figure 1: Types of Crops Planted/Farmed



Source: Fieldwork 2021

Figure 1 shows the types of crops commonly planted or farmed by the respondents. Findings show that various types of crops were planted but mainly vegetables (59.2%), rice (67.3%), sorghum (79.3%), soybeans (75.3%), groundnuts (72.8%), and maize (78.6%). This implies that any threat experienced by the farmers amid the lockdown could multiply their problems in farming the major crops. This, of course, could lead to scarcity of these crops and hikes in their prices where available.

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Figure 2: Types of Animals Reared/Kept
Source: Fieldwork 2021

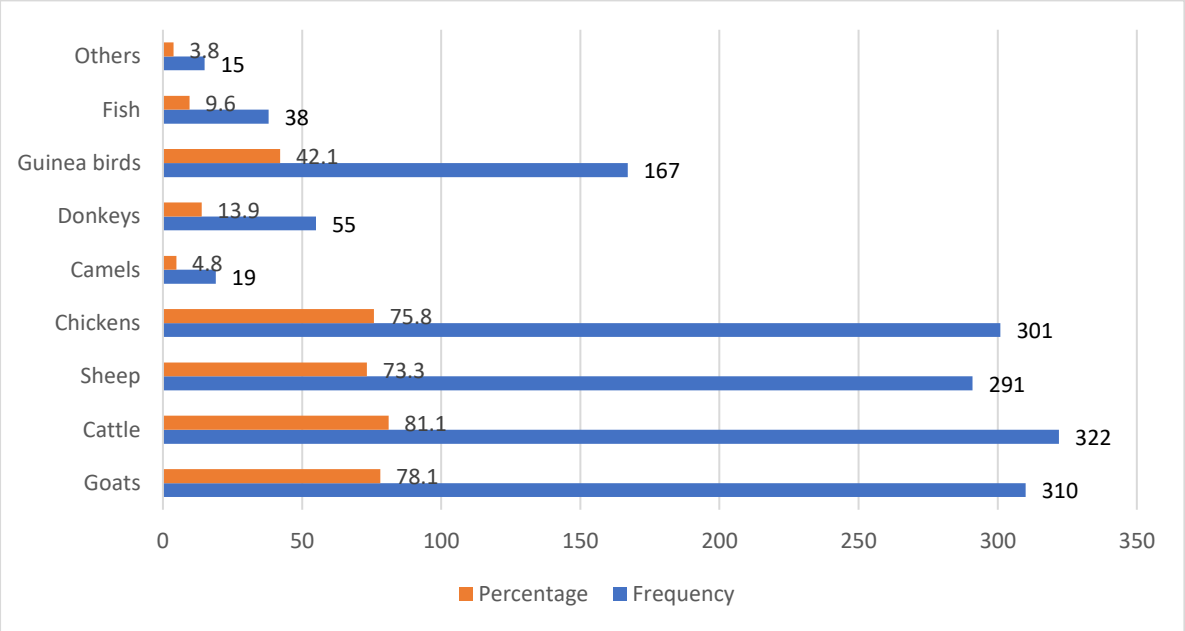


Figure 2 shows the types of animals commonly reared or kept by the respondents for food consumption and income generation. Findings show that various types of animals were reared but mainly chickens (75.8 %), sheep (73.3%), cattle (81.1%) and goats (78.1%). By implication, there might be scarcity and hikes in the prices of these animals due to deaths, poor nutrition and attention caused by the lockdown and inaccessibility to their feeds particularly the chickens.

Threats of COVID-19 Pandemic Lockdown to Farming Activities

This section explores the various dimensions associated with the threats of the COVID-19 pandemic lockdown to farming activities in Gusau. Table 2 below has the details.

Table 2: Level of Threats on Farming Activities by COVID-19 Pandemic Lockdown

Farming activities negatively impacted by the lockdown	**Mean**	**Std. Deviation**
Harvesting	1.574	.4951
Tilling the soil/land	1.559	.4971
Planting the crops	1.516	.5004
Pruning/Weeding	1.645	.4792
Spraying	1.602	.4901
Irrigating	1.753	.4317
Transporting	1.665	.4726
Grazing	1.476	.5001
Livestock ranching	1.370	.4835
Difficulty experienced while accessing and carrying out farm activities	**Mean**	**Std. Deviation**
Farm equipment to cultivate	1.574	.4951
Farm equipment to harvest standing crops	1.559	.4971
Labour	1.665	.4726
Farm materials e.g. seedlings, feeds, etc.	1.753	.4317
Farmlands	1.602	.4901

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Levels of production of farm produce amid the lockdown	**Mean**	**Std. Deviation**
Adequate production process	1.370	.4835
Quantity of farm produce compared to the pre-pandemic era	1.476	.5001
High demands and supplies of farm products	1.444	.4976
Easy access to transporters to make goods available in the markets	1.297	.4576
A high number of buyers to purchase the available farm products	1.320	.4670
Farm activities changed to aid the production of farm produce	**Mean**	**Std. Deviation**
Restricting farm labour to family members	2.292	.8647
Resorting to community farming/household farming	2.239	.8502
Unwillingly deserting farmlands	2.239	.8502
Transportation adopted in accessing farms amid lockdown	**Mean**	**Std. Deviation**
Trekking	2.292	.8647
Camels	1.045	.2083
Donkeys	1.096	.2946
Bicycles	1.123	.3293
Motorcycles	2.292	.8647
Cars/Buses	1.028	.1643

Source: Fieldwork 2021

Table 2 has four sections on various ways through which farming activities have been threatened by the COVID-19 pandemic lockdown. On farming activities negatively impacted by the lockdown, findings established that harvesting, tilling the soil/land, planting the crops, pruning/weeding, spraying, irrigating and transporting were mostly affected by the lockdown except grazing and livestock ranching. The affected farm activities required the farmers to make use of either public or private transportation, particularly where their farmlands were distant from their neighbourhoods. The low scores for grazing implies that it requires movement of cattle and other animals from one place to another without transportation, while livestock ranching was mainly practised by a few of the respondents and the ranches were located close to the neighbourhoods.

Table 2 also presents the level of difficulty experienced by farmers while accessing and carrying out farm activities. The mean score of 1.5 and above shows that that majority of the respondents had difficulty in accessing farm equipment to cultivate, farm equipment to harvest standing crops, adequate labour, farm materials such as seedlings, feeds, etc. and farmlands due to the COVID-19 pandemic lockdown. By implication, majority of the respondents depended on others for the success of farm activities which were impeded by the containment measures put in place by the governments. Therefore, the prolonged experience of these challenges could result in loss of income, food insecurity and other developmental issues.

On the levels of production of farm produce by farmers amid the lockdown, the mean score below 1.5 reveals that majority of the respondents had low/poor production process, low quantity of farm produce compared to the pre-pandemic era, low demands and supplies of farm products and low number of buyers to purchase the available farm products. This implies that most of the farmers could not access their farmlands, hence, their production process was disrupted, leading to a low quantity of farm products. The low production resulted in scarcity, hike in prices and poor demands and supplies of goods and services which of course, decreased the number of buyers in the markets where accessible.

Furthermore, the fourth section on Table 2 presenting farm activities changed to aid the production of farm produce based on a 1.5 and above mean score, shows that majority of the

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farmers restricted farm labour to family members, resorted to community farming/household farming and unwillingly deserted farmland amid the lockdown.

The fifth section presenting the transportation adopted to continually accessing farms amid lockdown shows that the majority of the respondents resorted to trekking and the use of motorcycles to boycott containments measures in accessing their farmlands amid the lockdown period. Implicationally, the inability of the farmers to access their farmlands and process their farm produce as at when due motivated a lot of them to design coping strategies particularly changing their modes of operation to continue their farm activities.

Threats of COVID-19 Pandemic Lockdown to Income Generation

This section assesses various means through which the COVID-19 pandemic lockdown affected farmers' income generation in Gusau. Table 3 below presents the details.

Table 3: Impact of COVID-19 Pandemic Lockdown to Income Generation of Farmers

Financial collateral damage amid the lockdown	**Mean**	**Std. Deviation**
Sales of farm produce at lower prices	2.292	8647
Lack of money to purchase farm implements	2.247	.8224
Lack of sufficient storage for farm produce	2.239	.8502
Lack of money to pay for the lease of storage facilities	1.965	.7874
Low orders from customers for the purchase of farm produce	2.013	7992
Wastage in terms of perishable goods, rotten and damaged farm produce	1.660	.4796
Hike in prices of transporting the farm produce to location	2.191	.8725
Income generation amid the lockdown	**Mean**	**Std. Deviation**
Ability to cater for the financial needs of the family members	1.320	.4670
Increase in money kept in the bank accounts as savings	1.385	.5597
Sufficient money to cater for daily needs	1.348	.4768
Spending more than accumulating	1.516	.5004
Easy access to credit facilities	1.297	.4576
High sales of farm produce	1.645	.4792

Source: Fieldwork 2021

Table 3 presents many dimensions through which the COVID-19 pandemic lockdown threatened farmers' income generation. The first section in the table presents the views of respondents on financial collateral damage experienced amid the COVID-19 pandemic lockdown. The mean decision used here is 1.5. This implies that any variable from 1.5 and above is considered/accepted as financial threats experienced by farmers while below is rejected and not considered for decision making. Therefore, from the mean score distribution, the table shows that majority of the respondents had financial collateral damage amid the lockdown particularly in terms of sales of farm produce at lower prices, lack of money to purchase farm implements and lack of sufficient storage for farm produce. Also, the table shows that the lockdown was responsible for lack of money to pay for the lease of storage facilities, low orders from customers for the purchase of farm produce, wastage in terms of perishable goods, rotten and damaged farm produce and hike in prices of transporting the farm produce to location.

Table 3 also presents the views of respondents on level of income generation amid the lockdown. Findings show that majority of the respondents' income generation was negatively affected by the pandemic lockdown owing to the fact that the mean score is below 1.5. The study found out that the lockdown impeded the ability of the farmers to cater for the financial needs of the family members, decreased the money kept in the bank accounts as savings, reduced the money to cater for daily needs and spent more than accumulated. It was also

established that easy access to credit facilities and high sales of farm produce were practically impossible and difficult due to the lockdown. It is therefore concluded that the COVID-19 pandemic lockdown threatened the income generation of farmers in the study area through blockage of sources, increased spending and depreciated savings.

Discussion of Findings

The discussion of findings is done in line with the study objectives. Objective one assessed the extent to which the COVID-19 pandemic lockdown threatened the socio-economic characteristics of farmers in Gusau, Zamfara State. Based on the objective one, it was discovered that the socioeconomic characteristics of the farmers comprised of both subsistence and commercial types of farming for income generation and food consumption. Findings affirmed that many of the respondents accessed their farmlands through the use of vehicles such as motorcycles, cars, buses, among others because they were very far from their houses. Thus, the enforced lockdown measures made it practically difficult or impossible to access the lands and endangered their access to continuous farming activities. The size of the farmlands used for farming ranged from large, medium to small, with the majority cultivating on plots of lands, not above 900 square metres. These findings are substantiated by the report of Asimi (2020) who found out that farmers were faced with untold hardship as a result of the lockdown with emphasis that larger percentages of Nigerian farmers majorly have their farmlands far away from homes. Accordingly, the lockdown affected their chance of farming to generate income and contributed to food surplus and such experience could contribute to food insecurity in the country.

Findings established that family labour (wives, children, siblings, etc.) and community labour (friends, neighbours, etc.) were used in successfully carrying out farm activities, but commercial labour (paying people for the work) was mostly adopted. The adoption of commercial labour is because farming activities were beyond consumption and carried out to boost the economy through income generation and food surplus. These farming activities are in no doubt sufficient in creating jobs for others and reducing unemployment, hunger, among other social issues in the study area. However, the lockdown imposed affected the farmers, forcing them to strictly adopt family labour for cost reduction and to access their farmlands. These findings are corroborated by the report of FEWS NET (2020) that the containment measures by the Nigerian governments had not only stopped agricultural activities but also reduced the production of farm produce compared to the pre-COVID-19 era. Accordingly, the disruption of household livelihoods and agricultural activities by the pandemic lockdown hiked food prices, cut down agricultural production and worsened food insecurity in the country.

The study also discovered that majority of the respondents were cultivating on their personal farmlands, except a few who depended on family and community lands. While some respondents solely accessed lands through leasing/renting, it was difficult for them to pay as they could not plant on the farms for crops production and income generation. Furthermore, the study discovered that many of the respondents were mainly involved in the production of crops such as vegetables, rice, sorghum, soybeans, groundnuts and maize. Similarly, it was found out that chickens, sheep, cattle and goats were the types of animals mostly kept or reared for the accumulation of wealth and food consumption. Therefore, there might be loss of income, scarcity and hikes in the prices of these crops and animals influenced by not only

the lockdown but also deaths, poor nutrition and attention. These findings are in tandem with Shen and Liao (2020) who observed that the outbreak of the COVID-19 epidemic and the lockdown have impacted the urban food system, including agricultural production, sales, distribution, consumption, and farmers' livelihoods, crippled agricultural activities, including people who directly or indirectly involved in the agriculture production and transportation.

Objective two examined the extent to which the COVID-19 pandemic lockdown threatened the farming activities of farmers in Gusau, Zamfara State. Findings reveal that the lockdown affected farming activities such as harvesting, tilling the soil/land, planting the crops, pruning/weeding, spraying, irrigating, and transporting except in the areas of grazing and livestock ranching which were relatively practised by a few individuals and rarely impeded by the restrictions of the government. Findings affirmed that the majority of the respondents had difficulty in accessing and carrying out farm activities especially in terms of farm equipment to cultivate, and farm equipment to harvest standing crops. It was also discovered that majority of the farmers experienced difficulty in accessing adequate labour, farm materials e.g. seedlings, feeds, etc., and farmlands. These findings are supported by the work of Shen and Liao (2020) who reported that the pandemic lockdown was responsible for the shortage of food supply in the urban and rural areas, restricted and delayed the resumption of the agricultural enterprises' economic activities. Similarly, CGIAR (2020) also noted that the pandemic would disrupt food production systems, precipitate food crisis and pose a great threat to the livelihoods of farmers, the national food and the nutritional security of the country.

Again, findings revealed that the levels of farm activities and production were reduced owing to the lockdown. It was also discovered that many of the respondents had low production processes, low quantity of farm produce compared to the pre-pandemic era, experienced low demands and supplies of farm products and a low number of buyers to purchase the available farm products. Also, it was found that the lockdown contributed to the difficulty experienced by farmers in accessing transporters to make goods available in the markets. Hence, the farmers employed several means to cut costs and continually engage in the production of farm produce through restricting farm labour to family members, resorting to community farming/household farming and unwillingly deserting farmlands. Similarly, it was found out that respondents who were using vehicles in accessing their farmlands resorted to trekking, although, some who had motorcycles dodged the security personnel to access their farmlands. The findings follow the observations made by the FAO (2020) that the pandemic had greatly impacted the commercial activities of farmers and predicted that such impact would result in a food crisis, imperil livelihoods and exacerbate poverty.

Objective three assessed the extent to which the COVID-19 pandemic lockdown threatened the income generation of farmers in Gusau, Zamfara State. Findings established that the lockdown was responsible for the farmers' financial collateral damage such as sales of farm produce at lower prices, lack of money to purchase farm implements, lack of sufficient storage for farm produce, and lack of money to pay for the lease of storage facilities for those lacking personal storage facilities. It was also discovered that the lockdown was responsible for low orders from customers for the purchase of farm produce, wastage in terms of perishable goods, rotten and damaged farm produce and hike in prices of transporting the farm produce to location. These challenges led to a loss of income among farmers and got them robbed of their financial capabilities in accessing daily needs. These findings align with

Chopra et al. (2020) who reported that the lockdown has disrupted the long value chains between cultivators and consumers with emphasis that retail prices continued to shoot up, wholesale prices continued to fall, and producers struggled to find buyers for their farm products.

The findings of the study also established that the lockdown impeded the ability of the farmers to cater for the financial needs of their family members owing to decrease in the money kept in the bank accounts as savings. This of course reduced the money to cater for their daily needs and made them spend more than accumulated. It was also established that easy access to credit facilities and high sales of farm produce were practically impossible and made difficult by the lockdown. It is therefore concluded that the COVID-19 pandemic lockdown has threatened the income generation of farmers in the study area through blockage of sources, increased spending and depreciated savings. These findings are in agreement with Chopra et al. (2020) who posited that the farmers lacked access to adequate labour or equipment to harvest standing crops, had logistics of input supplies to farmers constraints, experienced anticipated shortfall in the availability of credit, subdued demand, unpredictable consumer behaviour, and reduced buying power due to the pandemic lockdown. Similarly, Ogundare (2020) corroborated the findings of the study by establishing that several poultry owners experienced a loss of profits to the pandemic.

Conclusion and Recommendations

This study concludes that the COVID-19 pandemic lockdown has negatively affected the livelihoods of farmers. Many of the farmers who depended on both subsistence and commercial farming activities were unwillingly forced to desert their farmlands to increase their income and contribute to food security in the study area. Farming activities such as planting, tilling of the soil, weeding, among others, were stalled by the containment measures, leaving standing crops unharvested or damaged. The lockdown also contributed to the inabilities of the farmers to access soft loans, farm equipment, materials and other relevant things useful for successful farming activity. The threats experienced amid the lockdown exacerbated the income generation of the farmers and endangered their livelihoods. Based on the findings of the study, the following recommendations are made:

i. Farming activities should be boosted by governments at all levels by expanding the farm size to increase the rates of farm products. The expansion will also contribute to adequate and consistent commercial farming capable of reducing food insecurity and boosting the livelihoods of not only the farmers but also the country at large.
ii. Governments at all levels should prioritize farmers' sources of livelihoods, while protecting the citizens from contracting the virus, maintain the spirit of cooperation and solidarity to refrain from making ultimate and selfish decisions that may undermine the already built trust and confidence.
iii. The global community should collaborate, coordinate, share lessons learned, and assist one another to combat the pandemic and mitigate its impacts on farmers' livelihoods. The outbreak has shown the level of interconnectedness and interdependence; hence, global institutions and global governance systems should be strengthened via policies, commitment and honesty to prevent further outbreaks and their impacts on farmers' income generation.

iv. Access to farm materials and equipment should be made easy by governments and wealthy private individuals for farmers. During pandemics, farmers should be given preferential treatments to enable them to access farmlands for the continuous production of goods and services. Also, more storage facilities should be built to enable farmers to have their farm products stored for a relatively long time particularly

v. The spirit of anticipatory actions should be developed by governments and individuals, particularly for a pandemic to save lives and livelihoods. This will help to build the right warning systems to swiftly act in mitigating the shocks of a health problem. These actions will help to curb the effects of the COVID-19 on livelihoods and possibly create the infrastructure to avert future pandemics or act quickly against them.

vi. It is also important that perishable goods and other farm products should be bought by governments at reasonable prices to control unnecessary hikes in goods and services and loss of income to the farmers. In addition, more efforts should be made to alleviate untold hardship experienced by the farmers against the pandemic and any other ones.

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