

# Economic Wellbeing of Farming Households before and during the COVID-19 Pandemic in Nigeria

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## ABSTRACT

The COVID-19 pandemic breakout affected every population and the agricultural sector in Nigeria was not spared from the pandemic. This was due to restrictions on mobility, interaction of people and reduced purchasing power of people. The demand and supply of the agricultural produce internally and externally were affected due to the measures adopted to contain the spread of the virus. Farmers were finding it difficult to obtain farm inputs like seedlings, fertilizers, herbicides etc. The pandemic caused the abundance and availability of these products, making it difficult for farmers to make profit. The paper examined the economic wellbeing of 400 smallholder farmers before and during the COVID-19 pandemic using descriptive statistics and regression. The result from the research indicated that COVID-19 had a positive relationship with monthly farm expenditure, monthly food expenditure, monthly utility expenditure, number of farm visits, cost of fertilizer, number of food consumption per day, quantity of produce harvested, number of farm land cultivated and number of days spent on the farm. Monthly health expenditure, family allowances and cost of transportation were negatively related with the COVID-19 pandemic. In general, there was a significant difference between the economic wellbeing of farming household before and during the covid-19 pandemic in Nigeria.

**Keywords:** Agriculture, Pandemic, Before COVID-19, After COVID-19, Farming households, Economic wellbeing.

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### **Highlights of this paper**

- This paper intended to highlight the effect of the COVID-19 pandemic on the economic wellbeing of the farming households in the selected States which serves as information to the government and Stakeholders in the agricultural sector to actually see where to assist the farmers who were affected by the COVID-19 pandemic.
- The information also would help government and stakeholders to see where and how to build the resilient capacity of the farming households on disaster outbreak to avoid future shocks associated with agriculture.

## **1. INTRODUCTION**

In Nigeria, agriculture plays a vital role as one of the major contributors to the GDP of the nation and also in the diversification of the nation's mono-economy. Also worthy to mention is its contribution to create more jobs for its teeming population. World Bank (2020) stated that agriculture mostly in Nigeria is the largest employer of labor, providing jobs for more than one-third (35%) of the total country's work force, contributed about 24% to the nation's Gross Domestic Product (GDP) and the main key sector to economy diversification.

Notwithstanding the importance of the agricultural sector in the nation's economy as stated above, the sector is still faced with major challenges such as climate change, low returns on farmers investment, poor access to land, low access to agricultural inputs, poor storage facilities, the use of outdated systems of farming, farmer-herdsmen crisis etc. The breakout of the COVID-19 pandemic further worsened and exposed the agricultural sector to more risk, thereby making the achievement of food security in Nigeria in 2030 unrealistic. The measures which the government of Nigeria took to curb the spread of the virus like restriction of movement of both human and goods, closure of markets affected the populace access to agricultural commodities and equally affected the farmers access to farm inputs. While the move taken by the government to curb the spread of the COVID-19 pandemic was necessary, the restrictions, ban etc disrupted agricultural activities in the nation and caused great loss to farming households livelihood. Example, everyone both the rich and the poor requires food for survival but the COVID-19 breakout deprived many accesses to agricultural commodities while ensuring that the farmers could not sale their agricultural produce which led to a loss of livelihood for many. In the COVID-19 crises, many households mostly the poor had to do with the availability food not minding the nutrient deficiency in the consumed food which causes diseases and many of the poor in Sub-Saharan Africa of which Nigeria is part of, is made up of farming households. The pandemic threatened the food security of billions of people and the already existing challenges of food security in Nigeria as highlighted earlier, even though it was assumed initially that the pandemic would not affect the global food security (Vos & Laborde, 2020a). Andam, Edeh, Oboh, Pauw, and Thurlow (2020) asserted that agricultural sector suffered about 13.1% loss in output (\$1.2 billion) and the households' loss an average of 33% of their income due to COVID-19 pandemic.

With all these, the United Nations (UN) 2030 vision zero hunger became a mirage in Nigeria as in 2016/2017, Food and Agriculture Organization (FAO) classified approximately 27.4% of the population in Africa as severely food insecure which was almost four times as high as any other region. This statistics was estimated before the Covid-19 crisis disrupted food supply chains in both rural and urban localities in Nigeria. Even though food has been identified as an essential service to be provided, local media reported that due to the Covid-19 crisis small and large scale farmers have cut their production by more than 50%.

Literatures on the effect of the COVID – 19 pandemics in Nigeria is scarce especially the social and economic effects or impacts of the disease. Therefore, this study seeks to contribute to emerging studies on the effects of COVID-19 on farmers economic well-being in Nigeria.

1.1. The Objective of the Study Was to Analyze the Impact of COVID-19 Pandemic on the Economic Wellbeing of Farming Households before and During the Pandemic in Nigeria

Specifically, the objectives were to:

- i. Examine the socio-economic characteristics of the farming households.
- ii. Analyze the effect of the COVID-19 pandemic on the economic wellbeing of the farming households before and during the pandemic.

## 2. METHODOLOGY

### 2.1. Study Area

The study area is the Federal Republic of Nigeria. Nigeria has a population of 166.6 million people (UNDESA, 2011) with a total area of 923,800 sq km and occupies about 14 per cent of land area in West Africa. The country lies between 4°N and 14°N, and between 3°E and 15°E. Nigeria is located within the tropics and therefore experiences high temperatures throughout the year.

The study locations and households were selected from four States in Nigeria (Akwa Ibom, Anambra, Enugu and Delta State) as shown in Figure 1. The States represented different geographical regions (South-South: Akwa Ibom and Delta, South-East: Anambra and Enugu) (Kandala & Stranges, 2014).

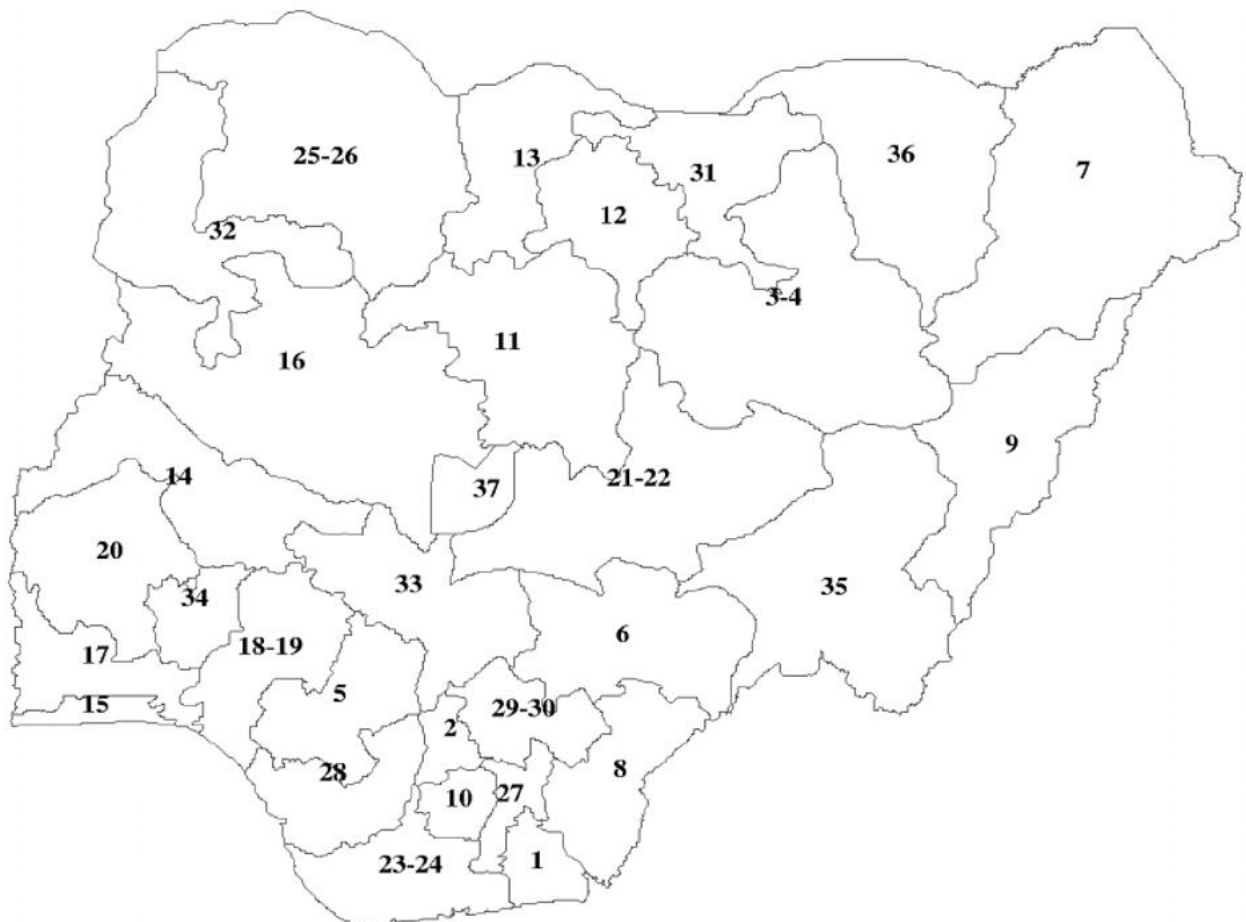


Figure 1. Map of Nigeria by states. 1) Akwa Ibom. 2) Anambra. 3) Bauchi. 4) Gombe. 5) Edo. 6) Benue. 7) Borno. 8) Cross-River. 9) Adamawa. 10) Imo. 11) Kaduna. 12) Kano. 13) Katsina. 14) Kwara. 15) Lagos. 16) Niger. 17) Ogun. 18) Ondo. 19) Ekiti. 20) Oyo. 21) Nassarawa. 22) Plateau. 23) Bayelsa. 24) Rivers. 25) Sokoto. 26) Zamfara. 27) Abia. 28) Delta. 29) Ebonyi. 30) Enugu. 31) Jigawa. 32) Kebbi. 33) Kogi. 34) Osun. 35) Taraba. 36) Yobe. 37) Abuja.

## 2.2. Data Collection and Analysis

The primary data for the study was obtained through structural questionnaire. A purposive and simple random sampling procedure was used in the selection of the four States and the respondents for the study. The first stage was the selection of four States out of the thirty-six States and the Federal Capital Territory (FCT) that make up Nigeria which was done purposively. The second stage of sampling was the random selection of one hundred (100) farming households from each of these States to give a total of 400 respondents for the study. This survey was a cross-sectional study conducted using structured questionnaires. The questions focused on the period before the COVID-19 outbreak and during the pandemic. The questionnaires were administered by trained field officers who visited each of the participants in their respective households. All the field officers were familiar with the farmers, local languages, communities, and practice of the farming households. Each field officer was assigned to a village. Data were subjected to inferential statistics.

Descriptive statistics (means, frequency distribution, percentages) was used to analyze the data collected.

## 3. RESULTS AND DISCUSSION

Sex: Majority (73.0%) of the farming households were male while the remaining 27.0% were female. The implication is that men were more engaged in farming activities than the female in the study area.

Age: Table 1 showed that majority (82.25%) of the farming household were between the age bracket of 26 – 50 years, while the remaining 13.75% and 4.0% were within the age bracket of 51 – 75 years, and 1 - 25 years respectively. Thus, this implied that the people engaged were actually in their youthful age. The result agreed with Obot, Ozor, Nwankwo, and Obiekwe (2022) that the people engaged in the farming activities were in their youthful age.

**Table 1.** Distribution of the farming household's socio-economic characteristics.

Sn	Variable	Frequency (n = 400)	Percentage (100%)
1	Sex		
	Male	292	73.0
	Female	108	27.0
2	Age (years)		
	1 – 25	16	4.00
	26 – 50	329	82.25
	51 – 75	55	13.75
3	Marital status		
	Single	21	5.25
	Married	361	90.25
	Widow(er)	5	1.25
	Separated/Divorced	13	3.25
4	Level of education		
	No formal education	27	6.75
	Primary	150	37.5
	Secondary	210	52.5
	Tertiary	13	3.25
5	Farming experience (Years)		
	≤ 6	298	74.5
	7 – 12	79	19.75
	13 – 18	19	4.75
	19 and above	4	1.0
6	Household size (No)		
	≤ 5	294	73.5
	6 and above	106	26.5
7	Farm size (Ha)		
	≤ 2	224	56.0
	3 – 4	136	34.0
	5 and above	40	10.0

Source: Field survey 2020/2021.

Marital status: Majority (90.25%) of the farming households were married, while the remaining 5.25, 3.25% and 1.25% were single, separated/divorced and widow/er respectively.

Level of education: The finding showed that majority (52.5%) of the farming households in the attended secondary school, while the remaining 37.5%, 6.75% and 3.25% attended primary, no formal education and tertiary institution respectively. The implication was that the farming households were literate and as such can easily understand and accept new innovations. This agreed with [Obot et al. \(2022\)](#) that literate farmers can easily adopt new technologies

Farming experience: The study found out that majority (74.5%) of the farming households were in farming for the past  $\leq 6$  years while the remaining 19.75%, 4.75% and 1.0% were in farming for over 7-12years, 13-18years and, 19 years & above respectively. This implied that the farming households were better experienced in agriculture and the risk involved in it.

Household size: Majority (73.5%) of the farming households in the study area had household size within  $\leq 5$  persons, while the remaining 26.5 had household size within the bracket of 6 and above.

Farm size: Majority (56.0%) of the farming households had farm size of  $\leq 2$  hectares, while the remaining 34.0%, and 10.0% had farm size of 3 – 4 hectares and, 5 hectares and above respectively. This agreed with [Obot et al. \(2022\)](#) that farmers in the study area were mostly small holder farmers.

**Table 2.** Test of COVID-19 influence on farming households economic before and during the COVID-19 pandemic

S/N	Well-being indicators	Duration	Mean	Std. Deviation	Std. Error Mean
1	Monthly Farm Income	Before	14881.38	21805.72	1090.29
		During	14427.73	16165.33	808.27
2	Monthly farm expenditure	Before	40371.25	54920.30	2746.02
		During	11610.50	12211.23	610.56
3	Monthly health expenditure	Before	17926.01	45564.67	2278.23
		After	3078.97	1844.67	92.23
4	Monthly food expenditure	Before	2748.63	1706.64	85.33
		During	5686.50	5382.38	269.12
5	Monthly utility expenditure	Before	2022.75	2890.87	144.54
		During	5966.97	13171.26	658.56
6	Family allowances	Before	30079.75	40641.086	2032.05
		During	6778.13	5232.167	261.61
7	Number of farm visits	Before	4.74	0.673	0.034
		During	1.87	0.337	0.017
8	Cost of farm labor	Before	15341.79	15876.80	793.84
		During	16297.13	21170.78	1058.54
9	Cost of fertilizer	Before	19216.05	34000.07	1700.00
		During	48569.00	53238.00	2661.90
10	Cost of herbicides	Before	35219.70	47791.40	2389.57
		During	39304.28	48470.20	2423.51
11	Number of food consumption per day	Before	2.53	0.70	0.035
		During	2.94	0.66	0.033
12	Cost of transportation per month	Before	1688.80	1445.57	72.28
		During	8373.75	10117.28	505.86
13	Quantity of farm produce sold	Before	49.10	23.23	1.162
		During	48.93	25.82	1.291
14	Quantity of produce harvested	Before	33.82	38.67	1.93
		During	22.48	20.85	1.04
15	Number of farm land cultivated	Before	3.39	1.83	0.09
		During	2.42	0.93	0.05
16	Number of days spent in the farm	Before	7.34	3.26	0.16
		During	6.72	2.81	0.14

Source: Field survey 2020/2021.

### *3.1. Comparison of the Economic Variables of Farmers Before and During the Pandemic*

The results from [Table 2](#) is explained above while comparing the mean before and during the COVID-19 pandemic. From the result above, there was a drastic drop in the purchasing power of the farmers during the COVID-19 pandemic than before the pandemic. This was attributed to the fact that government-imposed measures to tackle the spread caused hiked in prices of available farm inputs, loss of farm produce etc.

The monthly farm expenditure decreased from ₦40, 371 before the pandemic to ₦11, 610 during the pandemic. This was in consonance with the [SAR, Aernan, and Houmsou \(2010\)](#) that the presence of the pandemic prompted increased in hunger and malnutrition as a result of the restriction of goods in order to curb the spread of the disease. The monthly health expenditure decreased from ₦17, 926 before the pandemic to ₦3, 079 during the pandemic.

The monthly food expenditure increased from ₦2, 748 before the pandemic to ₦5, 690 during the pandemic as a result of closure of markets and food groceries etc. As such, food became scarce and prices of available food items were hike. This confirmed the [FAO \(2021\)](#) findings that the lockdown limited access to agricultural inputs for major staple crops such as rice, cassava, maize etc.

The monthly expenditure on utility increased from ₦2, 023 before the pandemic to ₦5, 967 during the pandemic as a result of non-utilization of electrical appliances in the house and farm for the production and processing of agricultural goods.

The monthly family allowances decreased from ₦30, 079 before the pandemic to ₦6, 778 during the pandemic as a result of restriction of movement of goods, closure of markets and increased in the prices of available goods. This confirmed the result by [Egger et al. \(2021\)](#); [Miguel and Mobarak \(2021\)](#); [Turiansky et al. \(2021\)](#) that farmers were making a lesser profit due to reduced consumption.

The number of farm visits decreased from 5 before the pandemic to 2 during the pandemic as a result of farmers rushing to their farms to see how they can recover from the losses during the pandemic. This confirmed [Aggarwal et al. \(2020\)](#); [Krauss et al. \(2021\)](#) who stated that the lockdown and restriction of movement limited access to farmlands by farmers.

The cost of fertilizer increased from ₦19, 216 before the pandemic to ₦48, 569 during the pandemic. This confirmed the result by [Oyetero, Adefare, and Iderawumi \(2020\)](#); [Balana et al. \(2020\)](#) that the prices of farm inputs surged as a result of foreign exchange volatility as most of the inputs were imported.

The number of food consumption per day remained almost the same as before the pandemic it stood at 2.94 and during the pandemic it reduced a bit to 2.53. This confirmed the result by [Zurayk \(2020\)](#) who observed that the pandemic has a negative impact on all the four fundamental dimensions of food security, as defined by [Food and Nutrition Technical Assistance \(2003\)](#), which include availability, accessibility, utility, and stability, which will further affect the sustainability of food security in the world.

The cost of transportation increased from ₦1, 689 before the pandemic to ₦8, 374 during the pandemic. This was as a result of lack of low demand for transport services during the planting season.

The quantity of produce harvested decreased from 34 before the pandemic to 22 during the pandemic. This was attributed to the fact that farmers did not plant during the pandemic because of the restrictions on movement and only had to harvest the remnant or left over of whatever was in the farm during the pandemic. It also confirmed the findings by [Ilesanmi, Ilesanmi, and Afolabi \(2021\)](#) that due to shortage of labor during the COVID-19 pandemic, agricultural production decreased.

The number of farm-land cultivated decreased from 3.4 before the pandemic to 2.4 during the pandemic. This also corresponded with [Akpata \(2020\)](#) who asserted that the COVID-19 crisis started during the cropping season which made most farming households abandon their existing farms and the ones in the process of cultivation.

The number of days spent on the farm also decreased from 7.3 before the pandemic to 6.7 during the pandemic because farmers were restricted to visit their farms by the government imposed measures. This also corresponded with Akpata (2020); Pan, Yang, Zhou, and Kong (2020) who asserted that the COVID- 19 crisis started during the cropping season making most farming households to abandon their existing farms and the ones in the process of cultivation.

#### 4. CONCLUSION

In general, the covid-19 pandemic had a negative influence on the farming household's economic wellbeing. Food safety and security were greatly threatened due restrictions on mobility, interaction of people and the reduced purchasing power of people. The demand and supply of the agricultural produce internally and externally were affected due to the measures adopted to contain the spread of the diseases. Farmers had difficulties to obtain farm inputs like seedlings, fertilizers, herbicides etc. due to high cost or non -availability of the commodities. The pandemic caused an upsurge in the availability of these products, making it difficult for farmers to make profit. As such, there was a negative difference between the economic wellbeing of farming households before and during the Covid-19 pandemic in terms of the cost of agricultural inputs and its availability all year round.

Government should therefore put measures on ground to ensure that the farming households are protected from future pandemic by building the resilience capacity of the farming households against future pandemic and also ensure farmers access to resources like finance, inputs etc to fall back to in the case of agricultural shock like the sudden COVID-19 outbreak.

#### REFERENCES

- Aggarwal, S., Jeong, D., Kumar, N., Park, D. S., Robinson, J., & Spearot, A. (2020). Did COVID-19 market disruptions disrupt food security? Evidence from households in rural Liberia and Malawi. National Bureau of Economic Research, No. w27932.
- Akpata, G. (2020). Personal communication (pp. 215). Owerri Nigeria: Springfield Publishers.
- Andam, K. S., Edeh, H., Oboh, V., Pauw, K., & Thurlow, J. (2020). Impacts of COVID-19 on food systems and poverty in Nigeria. *Advances in Food Security and Sustainability*, 5, 145-173. Available at: <https://doi.org/10.1016/bs.af2s.2020.09.002>.
- Balana, B. B., Oyeyemi, M. A., Ogunniyi, A. I., Fasoranti, A., Edeh, H., Aiki, J., & Andam, K. S. (2020). *1979 IFPRI discussion paper*. Washington D.C: International Food Policy Research Institute.
- Egger, D., Miguel, E., Warren, S. S., Shenoy, A., Collins, E., Karlan, D., . . . Udry, C. (2021). Falling living standards during the COVID-19 crisis: Quantitative evidence from nine developing countries. *Science Advances*, 7(6), eabe0997. Available at: <https://doi.org/10.1126/sciadv.abe0997>.
- FAO. (2021). *National agrifood systems and COVID-19 in Nigeria: Effects policy responses and long-term implications*. Rome: Food and Agriculture Organization.
- Food and Nutrition Technical Assistance. (2003). *Food access indicator review. Food and nutrition technical assistance project*. Washington D. C: Academy for Educational Development.
- Ilesanmi, F. F., Ilesanmi, O. S., & Afolabi, A. A. (2021). The effects of the COVID-19 pandemic on food losses in the agricultural value chains in Africa: The Nigerian case study. *Public Health in Practice*, 2, 100087. Available at: <https://doi.org/10.1016/j.puhip.2021.100087>.
- Kandala, N.-B., & Stranges, S. (2014). Geographic variation of overweight and obesity among women in Nigeria: A case for nutritional transition in Sub-Saharan Africa. *PloS One*, 9(6), e101103. Available at: <https://doi.org/10.1371/journal.pone.0101103>.

- Krauss, J. E., Artur, L., Brockington, D., Castro Jr, E., Fernando, J. J., Fisher, J., . . . Nuvunga, M. (2021). To prevent this disease we have to stay at home but if we stay at home we die of hunger'—livelihoods vulnerability and coping with Covid-19 in rural Mozambique. *World Development*, 151, 105757. Available at: <https://doi.org/10.1016/j.worlddev.2021.105757>.
- Miguel, E., & Mobarak, A. M. (2021). The economics of the COVID-19 pandemic in poor countries. National bureau of economic research. Working Paper No. 29339.
- Obot, A., Ozor, M., Nwankwo, T., & Obiekwe, N. (2022). Knowledge attitude and perception of smallholder farmers on corona virus pandemic in Nigeria. *American Journal of Agricultural and Biological Sciences*, 17(1), 34-39. Available at: <https://doi.org/10.3844/ajabssp.2022.34.39>.
- Oyetero, B., Adefare, T., & Iderawumi, A. (2020). Comparative effects of COVID-19 pandemic on agricultural production and marketing in Nigeria. Retrieved from: <https://www.researchgate.net/publication/347914031>.
- Pan, D., Yang, J., Zhou, G., & Kong, F. (2020). The influence of COVID-19 on agricultural economy and emergency mitigation measures in China: A text mining analysis. *PLOS One*, 15(10), e0241167. Available at: <https://doi.org/10.1371/journal.pone.0241167>.
- SAR, T., Aernan, P., & Houmsou, R. (2010). H1N1 influenza epidemic: Public health implications for Nigeria. *International Journal of Virology*, 6(1), 1-6. Available at: <https://doi.org/10.3923/ijv.2010.1.6>.
- Turiansky, A., Lipman, E., Mamun, A., Seaton, C., Gellar, J., & Hughes, S. (2021). Financial inclusion and resilience to COVID-19 economic shocks: Evidence from Kenya Nigeria and Uganda. *Mathematica Policy Research* (No. a7cc410219f848528f77e294d2ebae78).
- UNDESA. (2011). *World population prospects: The 2010 revision. United nations department of economic and social affairs*. New York: Population Division.
- Vos, M. R. W., & Laborde, D. (2020a). As COVID-19 spreads no major concern for global food security yet'. IFPRI Blog. Downloaded at. Retrieved from: <http://www.ifpri.org/blog/covid-19-spreads-no-major-concern-global-food-security-yet>.
- World Bank. (2020). The impact of COVID-19 (Coronavirus) on global poverty: Why Sub-Saharan Africa might be the region hardest hit. Retrieved from: <https://blogs.worldbank.org/opendata/impact-covid-19-coronavirus-global-poverty-why-sub-saharan-africa-might-be-region-hardest/>.
- Zurayk, R. (2020). Pandemic and food security. *Journal of Agriculture Food Systems and Community Development*, 9(3), 1-5.

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