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Uganda: Malnutrition

## **Uganda: Food Insecurity in Uganda during the COVID-19 Pandemic**

### **Introduction**

Since December 2019, the world has been facing a big crisis, the COVID-19 pandemic, a global health emergency characterized by its extremely high transmissivity, impacting nations regardless of their economic status. As of January 29, 2023, the worldwide tally has reached a staggering 670,348,201 confirmed cases and a tragic toll of 6,823,861 fatalities (JHU 2023).

Uganda, too, entangled in the pandemic, confirming its first positive COVID-19 case on March 21, 2020. In anticipation of this, Uganda had already implemented various policies as early as March 18, including travel restrictions, a mandatory 14-day quarantine for international arrivals, and the cancellation of major international conferences and public gatherings (e.g., religious services). Sequentially, on March 25, 2020, public transport services were suspended for 14 days. On March 30, 2020, the President declared a nationwide curfew from 7 pm to 6:30 am. This was accompanied by a ban on public transportation and stringent regulations governing the movement of both governmental and private vehicles. Later in May 2020, citizens were required to wear masks and perform daily COVID tests. Uganda launched its vaccination campaigns in March 2021 and started vaccinations on March 10, 2021. As the pandemic's course evolved, Uganda underwent a series of partial lockdowns, the first of which commenced on June 7, 2021. In response to a rise in the community spread of COVID-19, a presidential directive banned inter-district travel, restricted gatherings, and suspended schools and communal/religious gatherings for 42 days. A subsequent lockdown followed, somewhat extended yet less stringent than its predecessor. As of January 30, 2023, Uganda has reported a total of 170,232 Covid-19 cases with a death toll of 3,630 deaths (WHO, 2023). Meanwhile, vaccine administration has reached 299,538 doses by December 18, 2022 (WHO, 2023).

The COVID-19 pandemic unleashed an unprecedented economic, social, and health upheavals worldwide, comparable only to the Ebola crisis of 2013-2016. In low and middle incomes countries, including Uganda, the impact on dietary quality, food security, and overall nutrition has been profound (Picchioni, Goulao, & Roberfroid, 2022). Notably, Kansime et al. (2021) find that over two-thirds of households in Kenya and Uganda experienced income shocks. Resulting in a deterioration of their food security and dietary quality.

Amid these challenges, the World Bank provided support to five African countries, including Nigeria, Ethiopia, Uganda, Tanzania, and Malawi. These countries embarked on data collection endeavors to inform evidence-based strategies aimed at mitigating the impact of COVID-19. Uganda conducted nine rounds of computer assisted phone surveys between June 2020 to August 2022, engaging 2,257, 2,199, 2,147, 2,126, 2,122, 2,100, 1,950, 1,881, and 1,871 households in Rounds 1 through 9, respectively. The objective of this study is to investigate food security among households in Uganda based on these nine rounds of survey data.

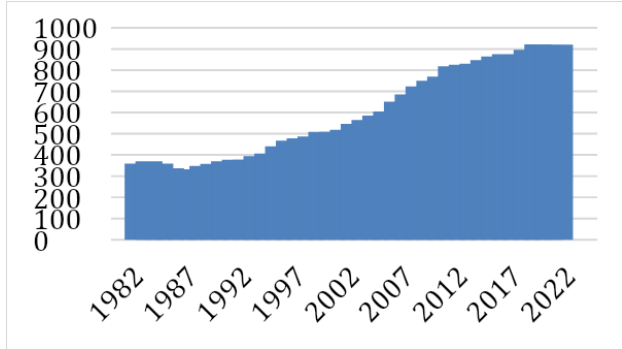
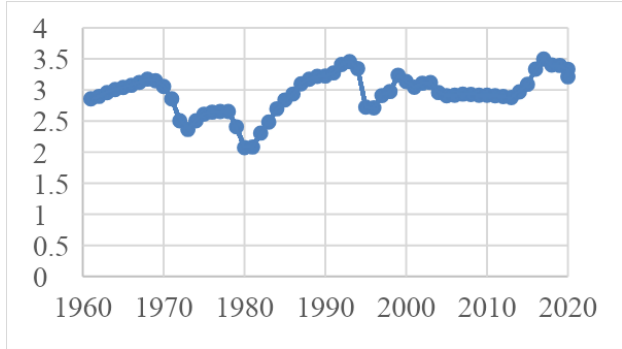
### **Country and Family**

Uganda, situated in Eastern African, shares borders South Sudan to the north, Kenya to the east, Tanzania and Rwanda to the south, and the Democratic Republic of the Congo (Congo) to the West. Its landscape encompasses expansive lakes and vast savannas, predominantly shaped by the Great Rift Valley. The country experiences a tropical climate characterized by two distinct rainy seasons: one from March to May and the other from September to December. However, the Northern region has only one rainy season

from March to October. Presently, approximately 25.6% of its 466 million population live in urban areas, while 74.5% inhabit rural areas. The average farm size is 2.47 acres, cultivating staple crops such as maize, cassava, and beans. In terms of agricultural trade, Uganda’s significant import and export partners include the Netherlands, China, Kenya, and Congo.

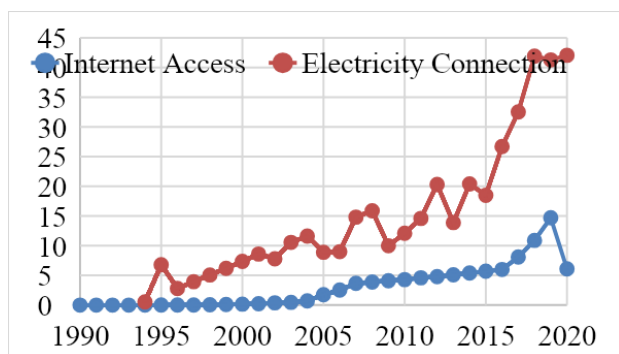
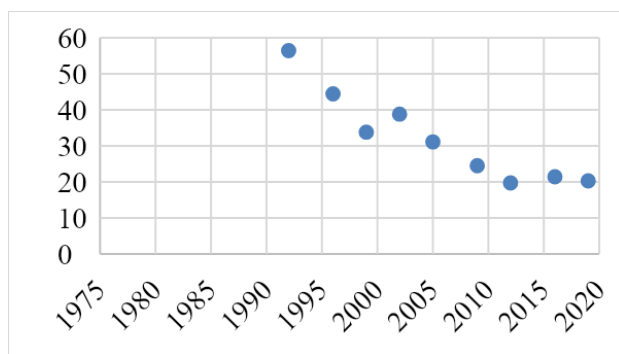
Historically, Uganda’s population has grown at an annual rate of 2-3.5 from 1960 to 2021, as shown in Figure 1(a), totaled at around 45 million in 2021 (equivalent to 14% of the total US population). The World Bank classification designates Uganda as a low-income country. The GDP per capita, measured in 2015 USD, has a consistent upswing from 1962 to 2021, reaching an approximate value of \$920 (Figure 1(b)). Over time, there has been a notable reduction in the percentage of the population living under the national poverty line, decreasing from nearly 60% in 1990 to 20% in 2020 (Figure 1(c)). Furthermore, access to internet has seen a substantial rise, with the percentage of the population having this connectivity increasing from 0.28% in 1995 to 6.1% in 2020. Additionally, the proportion of the population with access to electricity connection expanded from 6.8% to 42% during the same period (Figure 1(d)).

**Figure 1: Economic Indicators for Uganda**  
 (Data Source: Combined by the author from the World Bank Database)



(a) Annual Population Growth (%)

(b) GDP Per Capita (Constant 2015 US Dollar)



(c) Poverty Headcount (%)

(d) % of Population with Internet Access or Electricity Connection

An average Ugandan family typically consists of five members. Their customary diet includes cassava, bananas, potatoes, yams, beans, and a verity of fruits like pineapple, papaya, and oranges. Rural households grow their own crops, whereas urban households predominantly buy their food from markets. Staring from 2016, Uganda has witnessed an influx of refugees from neighboring countries, with approximately 43,000 refugees arriving in 2020 alone (World Bank 2023). This surge of refugees had led to shifts in population dynamics and further exacerbated pre-existing economic challenges, notably poverty and food insecurity.

Based on the data from Round 1 of the HFP survey, Table 1 summarizes a comprehensive overview of various characteristics prior to the pandemic that either impacted or reflected wellbeing of Uganda households. Although 83% of the population owns dwellings, only 73% possessed dwellings with a modern roof and about two thirds had a modern floor (37.38%), and less than half had modern exterior walls (49.03%). The absence of these contemporary architectural elements rendered homes more vulnerable to destruction during natural disasters. Ownership of motorcycles was relatively uncommon (10.69%), and ownership of cars or other vehicles was even scarcer (3.38%). Furthermore, a considerable portion of households lacked access to electricity (17.58%), and possession of refrigerators was rare (0.48%). The absence of refrigeration makes it challenging to maintain the freshness of food and preserve perishable items and meals. Less than one third had access to improved toilets (30.18%); and only half had access to an improved water source (57.04%). Although more than two thirds had mobile phones (76.02), very few had internet access (2.18%).

**Table 1.** Characteristics of Uganda Households Prior to the COVID-19 Pandemic

Household Characteristics	Percent	Household Characteristics	Percent
Ownership of dwelling	82.99	Access to improved toilet	30.18
Having a modern roof	72.53	Access to improved water source	57.04
Having modern floor	37.38	Connection to electricity	17.58
Having modern exterior walls	49.03	Ownership of television	18.26

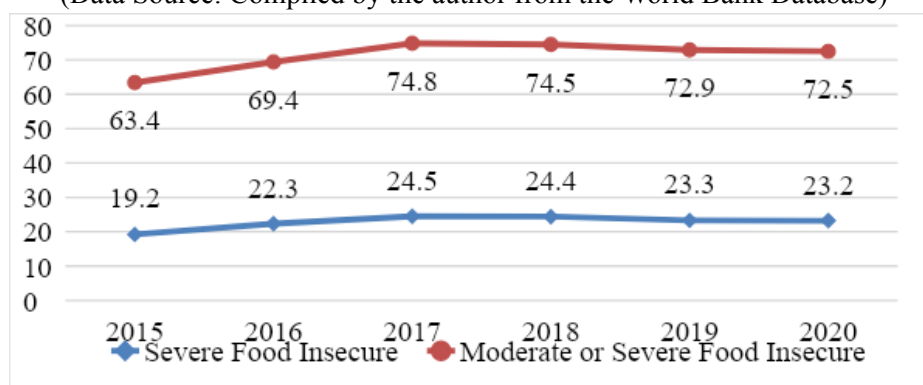
Owenship of refrigerator	0.48	Owenship of radio	47.56
Owenship of motorcycle	10.69	Owenship of mobile phone	76.02
Owenship of car/vehicle	3.38	Access to internet	2.18

Data source: Calculated by the author based on the HFP Survey in Uganda supported by the World Bank.

### Challenges and Impacts

Figure 2 shows the prevalence of severe and severe/moderate food insecurity in Uganda prior to the pandemic. Notably, the rate of severe food insecurity ranged between 19% and 23% from 2015 to 2020, indicating approximately one out of every five households faced severe food insecurity. Over the same period, the prevalence of moderate or severe food insecurity experienced an upward trajectory, increasing from 63.4% in 2015 to 72.5% in 2020. That is, more than two thirds were either moderately or severely food insecure. Therefore, food insecurity was a significant and enduring challenge in Uganda even prior to the pandemic, with far-reaching and adverse implications for malnutrition and other health outcomes.

**Figure 2.** Prevalence of Severe and Moderate/Severe Food Insecurity in Uganda in 2015-2020  
(Data Source: Compiled by the author from the World Bank Database)



Among the various food insecurity related questions in the HFP surveys, seven specific questions were used to characterize the state of food insecurity in Uganda during the pandemic. These questions are whether in the last 30 days, for any reasons, the survey respondent or their family members faced challenges such as being unable to eat healthy and nutritious foods, having limited food options, skipping meals, eating less than they should, running out of food, experiencing hungry without access to food, or even going without eating for an entire day.

Table 2 presents summary statistics for these questions across two different time periods: the early pandemic (Rounds 1 to 5, spanning from June 2020 to February 2021) and the later pandemic (Rounds 6 to 9, spanning from March 2021 to August 2022). During Round 2 (July to September 2020), half of the households reported difficulties in consuming healthy and nutritious foods or having limited food varieties. Additionally, considerable challenges to food security were observed: 26.67% had to skip a meal, 32.59% ate less than they should, 17.11% ran out of food, 19.90% experience hungry with access to food, and 7.24% went without eating for an entire day. However, in the early pandemic periods (Rounds 2 to 5), food insecurity appeared to improve. In contrast, during the later pandemic periods (Rounds 5 to 8), the prevalence of food insecurity exacerbated. For example, in Round 8 (June to July 2022), over 60% of households were unable to eat healthy and nutritious foods or faced limited food variety (63.03% and 65.80%, respectively). Additionally, 41.60% had to skip a meal, 54.04% ate less than they should, 33.14% ran out of food, 32.94% experienced hungry without access to food, and 14.15% went without eating for an entire day. Round 9 reported similar numbers to Round 8.

The reasons for food insecurity in these two periods may differ. During the early pandemic, travel restrictions and quarantine/lockdown measures were likely the primary reasons for food insecurity, and as

these measures were eased or even lifted, food insecurity improved. However, in the later pandemic period, increased food prices and lack of affordability likely played a more important role, as adverse economic impacts, such as loss of employment and income, affected the population, leading to more pronounced and severe food insecurity.

**Table 2.** Food Insecurity in Uganda based on the Uganda’s HFP Surveys

Survey Round	In the last 30 day, you or others in your households ...						
	Unable to eat healthy and nutritious foods	Ate only a few kinds of foods	Had to skip a meal	Ate less than you should	Ran out of food	Were hungry without access to food	Went without eating for an entire day
R1 (06/03-06/16, 2020)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
R2 (07/30-09/19, 2020)	51.34	46.61	26.67	32.59	17.11	19.89	7.24
R3 (09/14-10/16, 2020)	41.71	41.87	15.43	21.64	10.52	10.43	3.35
R4 (10/27-11/17, 2020)	41.41	40.02	12.83	19.72	8.81	8.62	2.15
R5 (02/02-02/18, 2021)	39.04	36.63	12.68	18.67	9.57	9.52	3.39
R6 (03/22-08/09, 2021)	40.45	40.02	15.82	21.77	9.72	11.01	3.91
R7 (09/20-10/15, 2021)	64.46	62.72	38.10	48.85	27.4	31.59	15.13
R8 (06/21-07/15, 2022)	63.03	65.80	41.60	54.04	33.14	32.94	14.15
R9 (08/05-08/29, 2022)	60.82	62.48	38.00	48.58	30.52	29.66	14.80

Data source: Calculated by the author based on the Uganda’s HFP Survey supported by the World Bank.

## Recommendations

### *Recommendation 1: Improve household income*

Table 3 shows that a significant percentage of households (31-60%) reported a decrease in their household income compared to both the previous survey and the average income during the 12 months period before the pandemic. The decline in income is closely link to a lack of affordability, which subsequently contributes to food insecurity. To address this issue, two primary approaches have been identified:

1. **Diversifying Income Sources:** A crucial step in improving household income involves creating diverse income streams, including both farming and non-farming activities. By encouraging and supporting households to engage in various economic pursuits, such as agriculture and small businesses, they can reduce their dependency on a single income source and improve their overall financial resilience.
2. **Providing Income Subsidies during the Pandemic:** In response to the economic challenges posted by the pandemic, income subsidies can play a pivotal role in supporting vulnerable households. Targeted financial assistance and welfare programs can alleviate immediate financial burdens, ensuring family have access to essential resources, including food and necessities.

By implementing these strategies, policymakers and communities can work together to bolster household income, alleviate food insecurity, and promote greater economic stability during the challenging times of the pandemic.

**Table 3:** Household Income and Income Changes

Survey Round	Percent of Households indicated a decrease in household income	
	Compared with the last survey	Compare with the average income during the 12 months period prior to the pandemic
R1 (06/03-06/16, 2020)	55.50	N/A
R2 (07/30-09/19, 2020)	45.72	N/A

R3 (09/14-10/16, 2020)	30.74	N/A
R4 (10/27-11/17, 2020)	34.45	48.60
R5 (02/02-02/18, 2021)	31.56	44.84
R6 (03/22-08/09, 2021)	31.34	31.78
R7 (09/20-10/15, 2021)	N/A	N/A
R8 (06/21-07/15, 2022)	54.10	58.58
R9 (08/05-08/29, 2022)	N/A	N/A

Data source: Calculated by the author based on the HFP Survey in Uganda supported by the World Bank.

*Recommendation 2: Improve food supply chain and Stabilize Food Prices*

Based on data from Round 8 of the HFP survey (June to July 2022), it is evident that food prices for commonly consumed food items available in local markets have experienced a significant increase. Table 3 shows these price hikes, with the lowest price increase observed for sugar (5.99%) and the highest price increase for tomatoes (24.64%). Notable, food staples in Uganda, including cassava, potatoes, and dry beans, also witnessed substantial price increase by 13.38%, 11.83%, and 13.22%, respectively.

**Table 3:** Food prices collected by the Uganda's HFP Survey in Round 8 (06/21-07/15 2022)

Food Item	Current Price	Last Month Price	Price Increase (%)	Food Item	Current price	Last Month price	Price increase (%)
Maize flour	3471.81	2810.96	23.51	Pounded groundnuts	5848.13	5107.05	14.51
Rice	4113.32	3539.98	16.20	Onions	1148.37	973.20	18.00
Bread	5156.16	4681.13	10.15	Tomatoes	5435.52	4361.01	24.64
Beef	13361.13	12472.97	7.12	Egg plants	891.79	798.77	11.65
Fresh milk	1605.47	1434.91	11.89	Dodo/Nakati	744.28	638.46	16.57
Eggs	2165.22	1852.87	16.86	Sugar	4102.82	3870.94	5.99
Silverfish	1698.04	1449.42	17.15	Refined cooking oil	9480.87	8240.41	15.05
Potatoes	12058.87	10782.88	11.83	Tea leaves/green tea	302.46	260.50	16.11
Cassava	10205.02	9000.83	13.38	Salt	910.09	797.87	14.06
Dry beans	3415.04	3016.33	13.22				

Data source: Calculated by the author based on the HFP Survey in Uganda supported by the World Bank.

To address the challenges posted by soaring food prices and their detrimental impact on food security, it is crucial for the Ugandan government to prioritize and take action in two key areas:

1. **Improve Food Supply Chain:** Strengthening the food supply chain is paramount to ensure a smooth and efficient flow of food from farmers to consumers. By enhancing transportation, storage, and distribution systems, the government can mitigate potential disruptions along the supply chain. Strategic investments in infrastructure and technology can facilitate the timely and cost-effective movement of food products, helping to stabilize food prices and enhance food accessibility.
2. **Stabilize Food Prices:** In the face of price fluctuations and inflationary pressures, implementing measures to stabilize food prices become imperative. The government can consider implementing price controls or intervening in the market to prevent unjustified price hikes and ensure fair and affordable pricing. Additionally, promoting agricultural productivity and supporting local farmers can contribute to increased food availability, consequently reducing price volatility.

*Recommendation 3: Improve Electricity Connection and Household Appliance*

Various organizations, including the US World Food Program (WFP), have been providing relief funds and aids to Uganda. The World Food Program, as an international organization, plays a crucial role in offering food assistance worldwide. In Uganda, the WFP has extended support through initiatives focused on nutrition, school meals, agriculture and market support, and emergency assistance. While the WFP has provided food aids to 26,000 mothers and children, there remains a need for additional essential items.

The further enhance food security and empower Uganda households, the WFP should consider expanding access to electricity and providing refrigerators to households in need. As shown in Table 1, less than one in five households have access to electricity, and less than 1% have a refrigerator. By introducing household appliances such as refrigerators, even community fridges, the WFP can help prevent food spoilage and reduce food waste. Families can store surplus crops or food in the refrigerators, ensuring that they remain fresh and accessible for others to utilize. Such initiatives can significantly contribute to better food planning, storage, and distribution, ultimately enhancing food security in the region.

### **Conclusion**

This utilizes data from the 9 rounds of the HFP survey, conducted by the Uganda Bureau of Statistics from June 2020 to August 2022, to examine food insecurity in Uganda during the pandemic. Through graphic and statistical analyses, several key findings emerge. First, even before the pandemic, food security was a critical problem for Uganda. Second, the pandemic exacerbated food insecurity, leading to profound and enduring impacts on economic and health outcomes. Third, income shocks and food price inflation were identified as major drivers of the worsening food insecurity and dietary challenges.

In response to these findings, the Uganda government should adopt two primary strategies. First, efforts should be made to expand income generation sources for households and provide income subsidies to those in need. These measures can help alleviate immediate financial pressures and strengthen the economic resilience of vulnerable households. Second, addressing the issues of food supply chain and stabilize food prices, especially for daily food staples, should be prioritized. By enhancing the efficiency and reliability of food supply chain and implementing measures to control price fluctuations, the government can improve food accessibility and affordability for its citizens.

Additionally, international organizations such as the WFP can play a crucial role in supporting Uganda's food security efforts. The WFP should consider initiatives to improve electricity connection and provide household appliances like refrigerators. These improvements can significantly enhance households' coping capacity and increase their resilience to maintain food security, ensuring that essential resource remain accessible and well-utilized.

Overall, the combination of government-led strategies and international support is essential in combatting food insecurity in Uganda during and beyond the pandemic. By addressing the root causes and implementing targeted interventions, Uganda can work towards building a more secure and sustainable food system for its population.

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