

## Food Security in Kenya During Covid-19: The Before, During, and After

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### ABSTRACT

Kenya, like the rest of the world, faced significant challenges in responding to the Covid-19 pandemic. Measures were enacted to curb the transmission of the virus while resulting in macroeconomic impacts such as food security and nutrition. In the pre-pandemic era, a significant proportion of the Kenyan population was food insecure, with Covid-19 further aggravating this situation. Factors such as climate change, food price volatility, and crop pests contributed to food insecurity before the pandemic, and losses of income and supply chain disruptions made it worse during Covid-19. Since the lifting of all restrictions in 2022, the government has taken measures like fertilizer subsidies to boost food production and reduce undernutrition.

**Keywords:** Food Security; Global Hunger Index; Food Prices; Undernourishment; Inflation

### Dear Editor,

The World Health Organization (WHO) first declared Covid-19 a global pandemic in mid-March 2020, with Kenya reporting its first case on March 13th, 2020.<sup>[1]</sup> Within the first 10 months of the pandemic, Kenya recorded over 97,000 cases and 1690 deaths.<sup>[2]</sup> The measures taken to control the spread of the coronavirus significantly affected macroeconomic outcomes such as food security and nutrition. Even before Covid, approximately 30% of the Kenyan population was undernourished in the period between 2016 and 2018.<sup>[3]</sup> Hence, exploring the food security situation in Kenya before, during, and after Covid-19 is crucial in assessing how the pandemic worsened food system shocks for the vulnerable populations.

### Food Security during the Pre-pandemic Era

Kenya is reported to have approximately 10 million individuals ravaged by food insecurity, with the Global Hunger Index (GHI) showing a score of 23.0 between 2014 and 2019.<sup>[4]</sup> This is evidence enough that even in the pre-pandemic era, a significant proportion of the Kenyan population was food insecure. The country has experienced severe droughts and high levels of hunger and undernutrition, which doubled the number of food insecure people from 1.3 million to 2.7 million.<sup>[5]</sup> A surge in the costs of food has also exacerbated the situation, and pests like the fall army worm (FAW) further contribute to crop losses.

Farmers in Kenya rely on rain-fed agriculture for food production, which makes climate change an important factor for food security. Based on a study conducted in 2015 in Yatta District, farmers had to implement adaptation strategies, with 76.5% planting drought resistant crops, 20.2% harvesting rain water, and 13.2% using irrigation agriculture.<sup>[6]</sup> Another study conducted in Alego-Usonga and Ugenya sub-counties in Siaya County showed the adoption level of climate-smart agricultural practices (CSAPs) ranged between 30% for agroforestry to 78% for crop diversification as 98% of the smallholder farmers also practiced at least one CSAP.<sup>[7]</sup> Further, in Kilifi County, from the 4 years since 2018 to 2022, the increasingly unpredictable rainfall dropping from as high as 100 mm to as low as 0-20 mm a month reduced the household milk production to a low of 1 liter per day in 2021 from the long-term average of 7 liters a day.<sup>[8]</sup>

Regarding increases in and volatility of food prices and food insecurity, the consumer price index (CPI) for food has increased rapidly from closer to 200 in 2006 to approximately 500 in 2010.<sup>[9]</sup> This surge in food costs is concerning to the impoverished individuals who spend a significant proportion of their household income on food. The country's food prices have been high and volatile relative to global figures, and Kenya's food price inflation from 2007 to 2011 rose from 100 to closer to 150.<sup>[10]</sup> Since 63% of crop and livestock producers are net buyers and food purchases make up about 60% total household expenditure among farming households, increases in food prices adversely affect their food security.

Another crucial factor affecting food security in Kenya is the attack by crop pests that results in lost crop yields. The results of a study estimating crop losses due to pest attacks confirmed that FAWs affected 63% of farmers from the long rains of 2017, which increased to 83% in 2018, with a maize yield loss percentage of 54% during the long rains of 2017, 53% during the short rains of 2017, and 42% in the long rains of 2018.<sup>[11]</sup> Desert locusts also affect crop yields, with data showing that during the locust upsurge in the 2019-2021 period, the infestation affected maize the most (267 kt), vegetables (186 kt), and potato crops (143 kt).<sup>[12]</sup>

### **Kenya's Food Insecurity During Covid**

Food security is tied to the household income evolution during and after the lockdown, which represent the demand-side effect, as well as the supply-side effect related to the capacity of food systems to produce foodstuff within the constraints of social distancing implemented to manage the virus spread.<sup>[13]</sup> In a study targeting 313 random respondents in Kenya, 73% of the participants indicated the pandemic affected their regular source of income.<sup>[14]</sup> The number of food-insecure households in Kenya also increased by 38%, and compared to a normal period, Covid-19 exacerbated severe levels of food insecurity by 20 percentage points. There were further implications on dietary quality as the pre-pandemic era saw approximately 60% of the participants normally consuming fruits at least 10 times a month, which reduced to less than 30% during the pandemic. Another study in Nairobi showed that over 65% of all the respondents faced reduced food security, with 90% of the households in the slums unable to eat their preferred food compared to 56% in non-slum households.<sup>[15]</sup> Notably, 95% of those in slums indicated their earnings had reduced while the middle-income households said fruits and vegetables had become expensive. Job losses were reported among 16% of households in slum areas and 5% in non-slum areas. The results of the Hungry Cities Partnership (HCP) city-wide household food insecurity survey targeting Nairobi further showed that only 29% of the households sampled were completely food secure while the rest experienced some degree of food insecurity (36% mild to moderate food insecurity; 25% severely food insecure).

<sup>[16]</sup> Further, 48% of the respondents had experienced reducing income from a household member, and 24% had a household member who lost their job during Covid.

Access to food is another important aspect in the food insecurity concern. In one phone survey study in three African countries, the results showed that Kenya experienced a high rate of food access disruptions (86%), with rising food prices ranked as the most reported disruption (91%), and the inability to travel to markets due to lockdowns ranking as the second most prominent food disruption (92%).<sup>[17]</sup> Such disruptions meant that households would run out of food or worry about running out of food and would be concerned about food affordability. In this study, panic selling of perishable produce was another contributing factor to food insecurity as the imminent closure of markets made households sell their food items at unfavorable prices. In Nairobi and Uasin Gishu Counties, food vendors indicated substantial rises in food prices up to a two-fold (over 2,000 Kenya shillings).<sup>[18]</sup>

### **Kenya's Food Insecurity Post Covid**

In the post-Covid Kenya since all the restrictions were lifted in 2022, the effects of the fertilizer supply shocks originating from the 2020 supply chain disruptions, high input prices, and lower production in Europe are still witnessed. Notably, the global increases in fertilizer prices have been witnessed in Kenya where prices rose by 50—60% in 2020-2021.<sup>[19]</sup> Consequently, maize production dropped by approximately 550,000 metric tons (MT) as the cost implications meant lower application rates, accompanied by persistent rainfall failures. The resultant price increase for a kilogram of maize flour of 30-65% in 2022 meant heightened food insecurity for many households, and the Government of Kenya (GoK) responded with a subsidy from July to August 2022. Further post-pandemic impacts on food security are linked to the Russia-Ukraine conflict that has impacted high energy prices, fertilizer costs, as well as grain imports. The government of Kenya has responded as part of a long-standing policy to provide subsidized fertilizers to farmers, which saw a drop in the costs from KES 6,550 in September 2022 to retail at KES 3,500 per 50 kg bag.<sup>[20]</sup> This would increase use of fertilizers and subsequent yields by 50% as farmers can access inputs, thereby enhancing food security.

Kenya has been suffering undernourishment of the population, and the Covid-19 pandemic heightened the food insecurity challenges. Severe droughts and high levels of hunger and undernutrition meant the number of food insecure individuals continue to grow. Factors like surging food prices, pest infestation leading to crop losses, and climate change factors all contribute to the food insecurity situation.

### **LIST OF ABBREVIATIONS**

WHO- World Health Organization

GHI- Global Hunger Index

FAW- Fall Army Worm

CSAP- Climate-Smart Agricultural Practice

CPI- Consumer Price Index

HCP- Hungry Cities Partnership

MT- Metric Tons

GoK- Government of Kenya

### Author Contributions

C.R.W and G.C.L prepared and edited the manuscript. All authors have read and agreed to the final version of the manuscript

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Not Applicable

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### Conflict of Interest

The authors confirm and declare that the research was conducted without any commercial or financial relations that could be construed as potential conflict of interest.

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